June 2011

Rainy River Gold Project
Baseline Report 2008 – 2010

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Acronyms and Abbreviations

a.m.	Ante meridiem
A	Auger holes
AB	Alberta
ABA	Acid base accounting
Ag	Silver
Al	Aluminum
ANSI	American National Standards Institute
Alk	Alkaline
AP	Acid potential
Apr	April
AQ 1, AQ 2	Air quality sampling station 1, 2,...
AQI	Air Quality Index
ARD	Acid rock drainage
As	Arsenic
ATV	Acoustic Televiewer
Avg	Average
Aug	August
B	Boron
Ba	Barium
Be	Beryllium
Bi	Bismuth
BP	Barometric pressure
C	Cemi
ºC	Degrees Celsius
Ca	Calcium
$CaCl_2$	Calcium chloride
$CaCO_3$	Calcium carbonate
$CaCO_3$ NP	Calcium carbonate neutralization potential
CCME	Canadian Council of Ministers of the Environment
Cd	Cadmium
CDWAG	Canadian Drinking Water Quality Guideline
CEC	Cation exchange capacity
Ck	Creek
Cl	Chloride
CLI	Canada Land Inventory
cm	Centimetres
cm/s	Centimetres per second
CN	Cyanide
CN	Canadian National
Co	Cobalt
COD	Chemical oxygen demand

Col./100mL	Coliforms per 100 milliliters
CPT	Cone penetration test
Cr	Chromium
Cu	Copper
Cyanide-WAD	Weak acid dissociable cyanide
dBA	Decibels with an A weighting filter
Dec	December
DO	Dissolved oxygen
DOC	Dissolved organic carbon
DH	Drillholes
E.coli	*Escherichia coli*
EC	Electrical conductivity
EC	Environment Canada
e.g.	Example gratia
EIA	Environmental Impact Assessment
F	Fluoride
FDR	Fault disturbed rocks
Fe	Iron
Feb	February
FeS_2	Pyrite
FMP	Forest Management Plan
FRI	Forest Resource Inventory
FWR	Footwall rocks
GARD	Global acid rock drainage
GCDWQ	Guidelines for Canadian Drinking Water Quality
GCT#3	Grand Council of Treaty #3
GW1, GW2, GW3, GW4	Groundwater quality sampling stations 1, 2, 3, 4
Gov.	Government
GPM	Gallons per minute
GPS	Global positioning system
Gr.	Grade
Ha	Hectares
HC	Humidity cell
HCI	Hydrochloric acid
HCO_3	Bicarbonate
Hg	Mercury
HWR	Hanging wall rocks
Hwy	Highway
IBA	Impact and Benefits Agreement
ID	Identification
IDF	Intensity duration frequency
IEC	International Electrotechnical Commission

IJC	International Joint Commission
INAC	Indian and Northern Affairs Canada
Inc.	Incorporated
Jan	January
Jun	June
Jul	July
K	Potassium
KCB	Klohn Crippen Berger
KCl	Potassium chloride
km	Kilometre
km/hr	Kilometre per hour
kPa	kilopascal
KT	Keewatin Till
Li	Lithium
LT	Labradorean Till
Ltd.	Limited
m	Meter
m^3/s	Cubic meters per second
m/s	Meters per second
m.a.s.l	Meters above sea level
Mar	March
max	Maximum
MB	Manitoba
MDL	Method detection limit
meq/L	Milliequivalents per liter
meq/100g	Milliequivalents per 100 grams
mg	Milligrams
Mg	Magnesium
mg/L	Milligrams per liter
mg/kg	Milligrams per kilogram
ML	Metal leaching
min	Minimum
ml	Millilitres
mm	Millimetres
mm/d	Millimetres per day
mm/yr	Millimetres per year
Mn	Manganese
MN	Minnesota
MNDM	Ministry of Northern Development and Mines
MNO	Métis Nation of Ontario
MNR	Ministry of Natural Resources
Mo	Molybdenum

MOE	Ministry of Environment
MOU	Memorandum of Understanding
MP	Minipiezometers
MPCA	Minnesota Pollution Control Agency
MPa	Mega pascals
MTO	Ministry of Transportation of Ontario
MW	Monitoring wells
N	Number
N	Nitrogen
N1, N2	Noise sampling station 1, 2
Na	Sodium
NaCl	Sodium chloride
NAG	Net acid generation
NaOH	Sodium hydroxide
NCIR	Northern Communities Investment Readiness Program
ND	Non-detectable
NE	Northeast
NNE	North northeast
NH_4	Ammonium
NH_4F	Ammonium fluoride
NH_4OAC	Ammonium acetate
NHIC	Natural Heritage Information Centre
Ni	Nickel
Nov	November
No.	Number
$N0_3$	Nitrate
NP	Neutralization potential
NPAG	Non-potentially acid generating
NTU	Nephelometric turbidity unit
O_2	Oxygen
OB	Overburden
Oct	October
ODM	Overburden drilling management
ODWS	Ontario Drinking Water Standards
OH-	Hydroxide
OIP	Ontario Institute of Pedology
OLL	Ontario's Living Legacy
MNR	Ontario Ministry of Natural Resources
ON	Ontario
OPEG	Ojibway Power and Energy Group
OPSQG	Ontario Provincial Sediment Quality Guidelines
OTV	Optical televiewer

P	Phosphorus
PAG	Potentially acid generating
Pb	Lead
pH	Potential of hydrogen
p.m.	Post meridiem
PM	Particulate matter
PO	Post Office
Ppm	Parts per million
PTB	Physikalisch-Technische Bundesanstalt
PWQO	Provincial Water Quality Objectives
QA/QC	Quality Assurance/Quality Control
RC	Recirculation drilling
RDL	Reliable detection limit
RH	Relative humidity
RIC	Resources Inventory Committee
RMR	Rock mass rating
RPD	Relative percent difference
RQD	Rock quality designation
RR	Rainy River
RRFDC	Rainy River Future Development Corporation
RRW-1, RRW-,...	Rainy River Surface water stations 1, 2, ...
RV	Recreational vehicles
S	Sulfur
Sb	Antimony
SCWG	Soil Classification Working Group
SD	Standard deviation
Se	Selenium
SED1, SED2, SED 3	Sediment sampling stations 1,2 and 3
Sep	September
SFE	Shake flask extraction
Si	Silicon
SLM	Sound level meter
s/m	Second per metre
Sn	Tin
Sndy Cl Lo	Sandy clam loam
SO_4	Sulphate
SOM	Soil organic matter
Spp.	Species
SR	Solar radiation
SR	Schistose rocks
Sr	Strontium
SSW	South southwest

SW	Southwest
SW	2008 to 2010 Surface water quality sampling station
Te	Tellurium
TDS	Total Dissolved Solids
Th	Thorium
Ti	Titanium
TIC	Total Inorganic Carbon
TKN	Total Kjeldahl Nitrogen
Tl	Thallium
TLE	Treaty Land Entitlement
TNTC	Too numerous to count
TOC	Total organic carbon
TOC-COMB	Total organic carbon, combined
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TW	Test wells
U	Uranium
UC	Uncertain
UCS	Unconfined compressive strength
µs/cm	Microsiemens per centimeter
µg/g	Microgram per gram
Mm	Micrometer
µmhos/cm	micromhos per centimeter
USA	United States of America
uS/cm	Microsiemens per centimeter
UTM	Universal Transverse Mercator
V	Vanadium
W	Tungsten
W/m^2	Watts per square meter
WAD	Weak acid dissociable
WSC	Water Survey of Canada
XRD	X-Ray Diffraction
Zn	Zinc
Zri	Zirconium

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1. INTRODUCTION

1.1 Project Overview

The Rainy River Gold Project (the Project) is an advanced stage gold exploration project located in Richardson Township approximately 50 kilometers (km) northwest of Fort Frances, approximately 162 km south of Kenora, and approximately 418 km west of Thunder Bay in northwest Ontario, Canada. The property has year-round road access and is located in close proximity to powerlines and a railway.

The Rainy River area has been heavily explored over the past few decades. Rainy River acquired 100% interest in the project from Nuinsco Resources Ltd. in June of 2005. Since this acquisition, Rainy River has actively explored its holdings, adding approximately 3.4 million ounces to the measured and indicated resource category, and approximately 2.7 million ounces to the inferred resource category of the deposit.

1.2 Baseline Study Overview and Objective

In November of 2008, Klohn Crippen Berger Ltd. (KCB) was retained by Rainy River Resources Ltd. to conduct a scoping level socio-environmental assessment for the proposed Rainy River Gold Project. A preliminary socio-environmental baseline and scoping study report (KCB 2009) was prepared upon completion of the scoping study and, based on the findings, the program was expanded to a full baseline in May 2009. The objective of the baseline program was to provide information on the existing socio-environmental conditions within the Project study areas (Section 1.3) to provide a strong foundation for the potential environmental impact assessment and mine permitting phases, should the project proceed to those stages.

The Rainy River Gold Project Baseline Report 2008 to 2010 (Baseline Report) presents the results of the baseline studies conducted from May 2009 to December 2010. Relevant

information from the November 2008 scoping assessment has also been included in the Baseline Report. The studies presented in this report include:

- Physiography
- Climate
- Hydrology and Water Balance
- Surface Water Quality
- Hydrogeology
- Ground Water Quality
- Soils
- Air Quality
- Noise
- Aquatic Environment
- Wildlife
- Vegetation
- Socio-Economic
- First Nations and Métis

At the request of Rainy River Resources, the geochemistry baseline been compiled as a separate, standalone report entitled, "The Rainy River Gold Project: Geochemical Baseline Report 2008 to 2010" (Geochemistry Baseline). Although the Geochemistry Baseline is provided in separate document, the interaction between the geochemistry, water quality, hydrogeology, and geology are important in understanding the overall Rainy River Gold Project baseline conditions and potential environmental affects.

At the request of the Ministry of Natural Resources (MNR), and in respect of the Data Sharing Agreement (DSA) between MNR and Rainy River Resources, a separate species at risk report has been prepared. The "Rainy River Gold Project: Species at Risk Baseline Report 2008 to 2010" is a confidential report that contains detailed species at risk information. The species at risk information presented in the wildlife section of this Baseline Report (Section 12.2.5) provides an overview of species at risk but does not provide site specific information on species or habitat.

1.3 Study Areas

The Project study areas are located within Rainy River catchment in the Pinewood River Watershed. The topography of the Rainy River area is generally flat or slightly undulating, consisting of mostly barren and scattered poplar forest with some bedrock outcrops, and wetlands. The regional area is characterized by glacial and recent soils overlying bedrock, including marshland grading into upland grasslands, and forests.

There are numerous tributaries within the study areas ranging in length from less than 1 km to 7 km. These tributaries feed the Pinewood River which empties into the Rainy River. The Rainy River forms part of the U.S. – Canada border separating northern Minnesota and Northwestern Ontario and empties into the southern end of Lake of the Woods. The main stem of the Pinewood River is approximately 54 km long, and the Project is located approximately 45 km upstream of Rainy River.

The Local and Regional Study Areas identified for the Rainy River Baseline were refined as project studies and project definition advanced. The information presented in the Baseline Report is based on the current project understanding and includes the proposed advanced exploration site, the Local Study Area, and the Regional Study area as defined below:

- **Proposed Advanced Exploration Site:** The proposed advanced exploration site includes the proposed advanced exploration portal and surface facilities within its boundary. The proposed advanced exploration site is shown in Figure 1.1 and Figure 1.2.

- **Local Study Area:** The Local Study Area, shown in Figure 1.2, is a 5 km radius circle centered on the proposed advanced exploration portal location. As the Local Study

Area is expected to encompass the entirety of the mine facility footprint, the majority of baseline study effort was spent within the Local Study Area.

- **Regional Study Area:** The Pinewood River Watershed comprised the Regional Study Area and is provided in Figure 1.1. This Regional Study Area is the general Study Area for the Project as is applicable across most areas of study; however, as required, study specific Regional Study Areas have been developed and are defined individually within the applicable baseline sections.

390,000 400,000 410,000 420,000 430,000 440,000

5,420,000 5,410,000 5,400,000

Pinewood River

Rainy River

Highway 71

N

Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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0 5,000 m

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PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

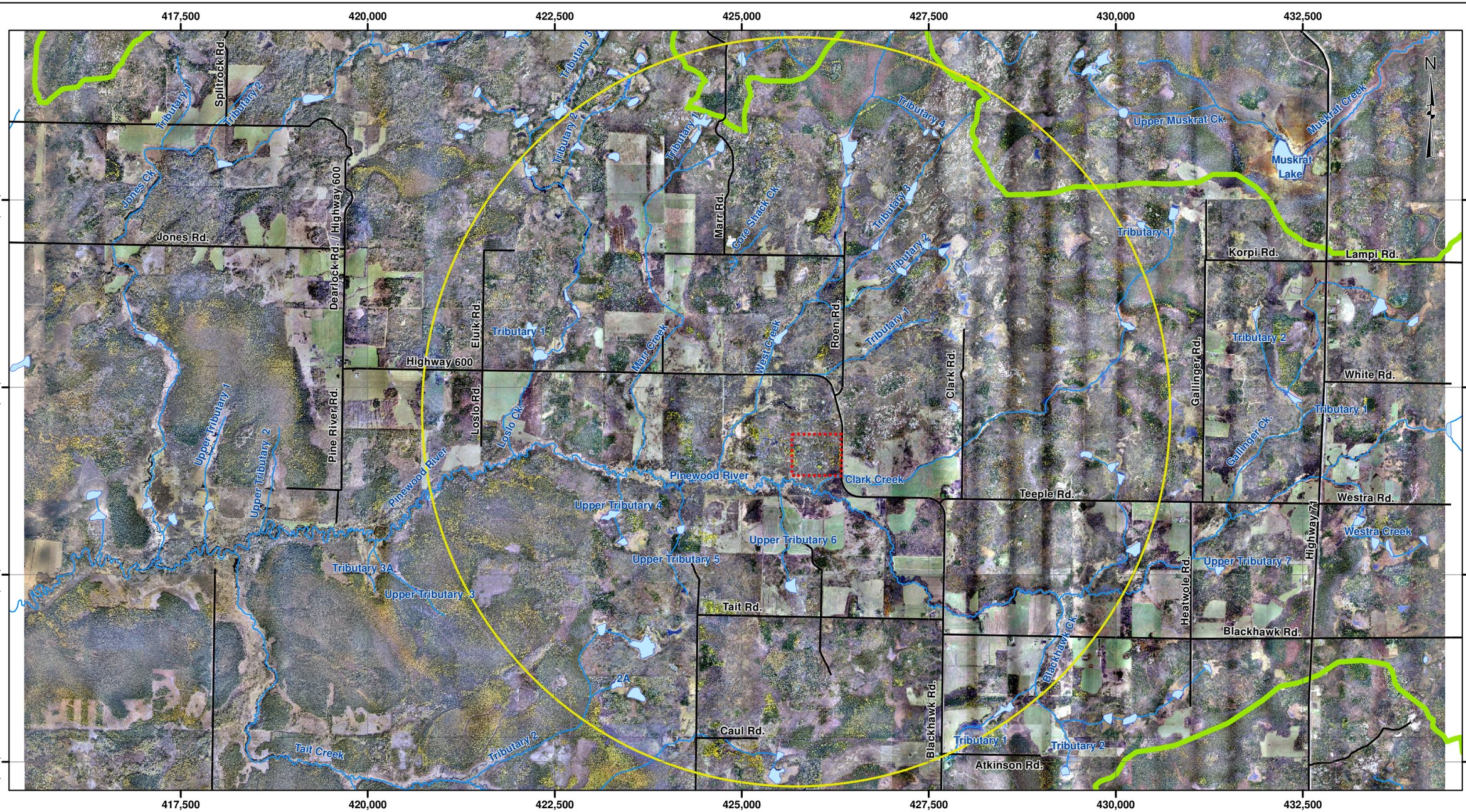
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REGIONAL STUDY AREA

PROJECT No. M09559A04

FIG No. 1.1

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Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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2008 - 2010 BASELINE

TITLE

LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 1.2

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2. PHYSIOGRAPHY

2.1 Study Objectives

The objectives of the physiography baseline studies were to document the physiography, bedrock and surficial geology, and geologic hazards present in the Local Study Area and, in particular, in the area around the Proposed Advanced Exploration Site.

2.2 Methodology

The physical geology and physiography baseline was developed based on the following:

- Assessment of topography, satellite imagery, and ground surveys;
- Review of Rainy River exploration drill logs;
- Results of reverse circulation overburden drilling, conducted between 2005 and 2008 by Overburden Drilling Management Inc. for exploration purposes;
- Cone Penetration Testing (CPT) of the overburden;
- Test pits to assess overburden properties;
- Geotechnical overburden drilling;
- Bedrock geotechnical drilling;
- Acoustic (ATV) and optical (OTV) televiewer surveys of select exploration and geotechnical drill holes, and
- Review of regional seismicity data.

2.3 Results

2.3.1 Physiography

Topography of the Local Study Area is generally flat or slightly undulating, consisting of mostly wetland and scattered pine forest. The Local Study Area is characterized by glacial and recent soils overlying bedrock with low lying areas having large areas of wetland and the upland areas grading into grasslands and forests. Photo 2.1 shows a typical view looking north towards the proposed advanced exploration site. The Pinewood River is shown at the bottom of Photo 2.1 and drains southwest.



Photo 2.1 Aerial Photo Showing General Physiography

Photo 2.2 shows a typical view of local wetlands and pine forest. Occasional beaver dams are also present.



Photo 2.2 Wetland of the Local Study Area

2.3.2 Surficial Geology

The surficial geology comprises a sequence of glacial tills, recent lacustrine soils, and peat. Overburden thickness can range from 30 m to 100 m. The main soil units are described, from recent to oldest, in the following subsections.

2.3.2.1 Peat

Peat and organic rich soils are encountered through much of the lowland areas of the Local Study Area and are typically less than 1.5 m thick.

2.3.2.2 Lacustrine Deposits

Recent deposits, possibly deposited as part of Lake Agassiz, consist of lacustrine clay. The extent of the clay is difficult to quantify because the reverse circulation could not distinguish between the Keewatin till and clays and it is uncertain if they are interglacial deposits or post glacial deposits.

2.3.2.3 Till

Overburden soils in the Local Study Area generally comprise two major lilthological till units deposited in the Late Winsconsinan Quaternary period.

2.3.2.3.1 Keewatin Till

The Keewatin till is a bluish-grey, clay rich material with medium to high plasticity and low permeability (Photo 2.3). No evidence of fissuring or slickensides was observed. In situ vane and CPT penetration data suggests the consistency of the clay is typically stiff to depths of approximately 20 m and increases in stiffness with depth below 20 m.

The low permeability Keewatin till forms an aquitard over the more permeable underlying Labradorean Till, often creating confined groundwater units. The ponding of surface water observed is also likely a result of the low permeability Keewatin Till.

2.3.2.3.2 Labradorean Till

The older Labradorean till is well-graded silty sandy gravel (Photo 2.3). The silt materials generally have a low plasticity. Penetration test data suggests the till may be medium dense to dense. The Labradorean till is discontinuous and locally thins and thickens.The unit acts as a local aquifer and overlies bedrock.



Photo 2.3 Examples of Labradorean Till (left) and Keewatin Till (right)

Total overburden depths and thicknesses of the Keewatin and Labradorean tills were contoured using Surfer 8. Data was based on reverse circulation drill logs from Phase III, Phase IV, and Phase V of the drilling program conducted by Overburden Drilling Management Ltd. Table 2.1 summarizes the maximum, minimum, and average till distributions. The Keewatin till is a consistently present unit and is the thickest till layer. The Labradorean till is thinner and less prevalent.

Table 2.1 Overburden Till Distribution

	KEEWATIN TILL	LABRADOREAN TILL	TOTAL OVERBURDEN
Minimum Thickness (m)	11.3	0	12
Maximum Thickness (m)	34.5	11.5	39.3
Average Thickness (m)	22.8	2.7	27.7
Average % Distribution	89%	10%	100%

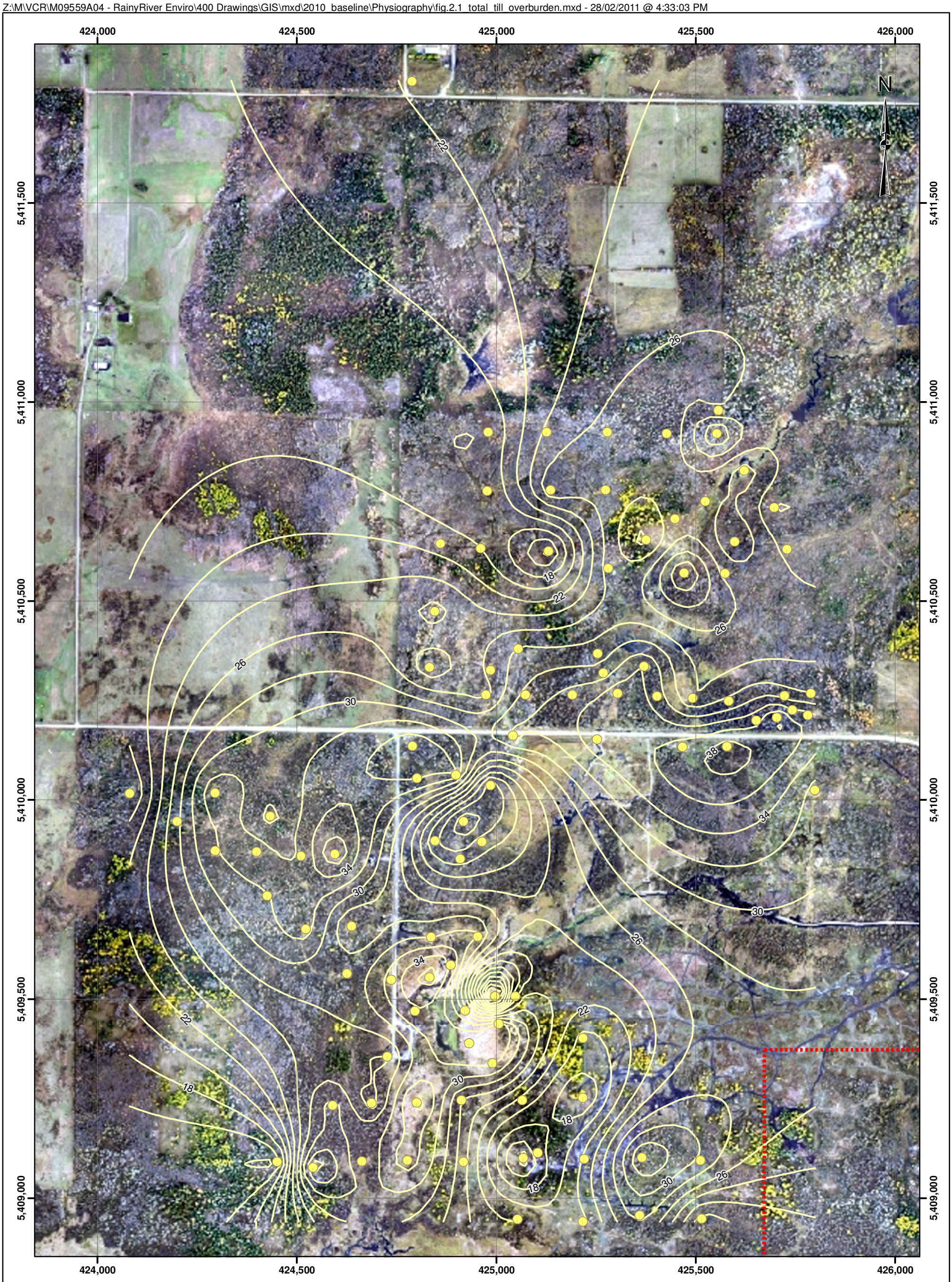
Keewatin till accounts for approximately 89% of the total overburden material, while Labradorean till makes up 10%. Surficial organic peat accounts for the remaining 1%

with depths ranging from 0.1 m to 1.5 m at the surface. Contour maps of total overburden, Keewatin till, and Labradorean till are shown in Figure 2.1, Figure 2.2, and Figure 2.3 respectively.

The total overburden contour map extends farther west than the till thickness contour maps because till thickness data was not available from the drill logs.

In situ falling head tests, CPT dissipations, and pump tests indicate the permeabilities of the Keewatin and Labradorean tills range from low (10^{-8} m/s) to moderate (10^{-5} m/s), respectively.

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Overburden Sampling Locations

Total Till Overburden Depth

Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84

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0 250 m

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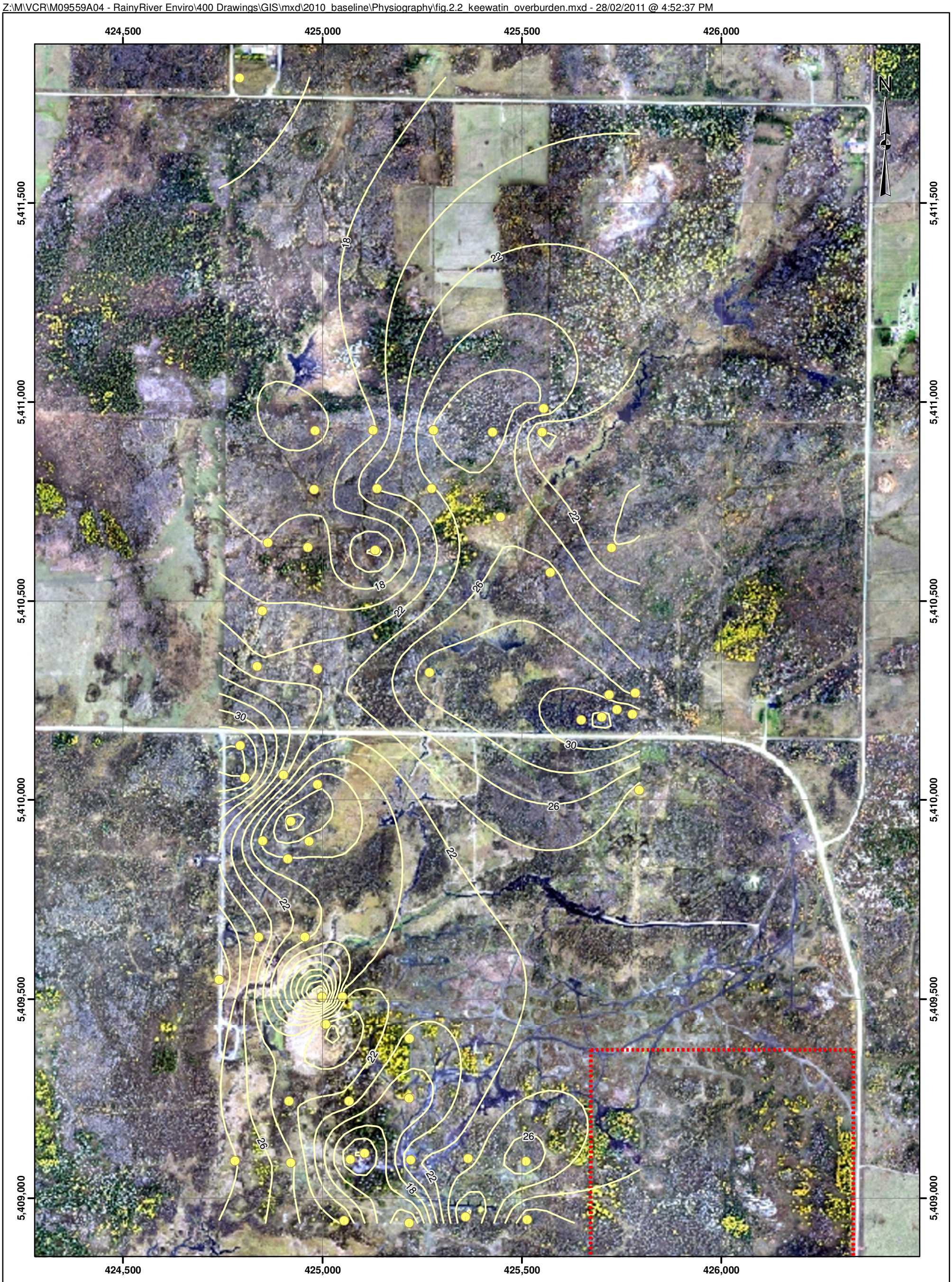
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RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
TOTAL TILL OVERBURDEN THICKNESS

PROJECT No. M09559A04

FIG No. 2.1

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Overburden Sampling Locations

Keewatin Till Overburden Depth

Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84

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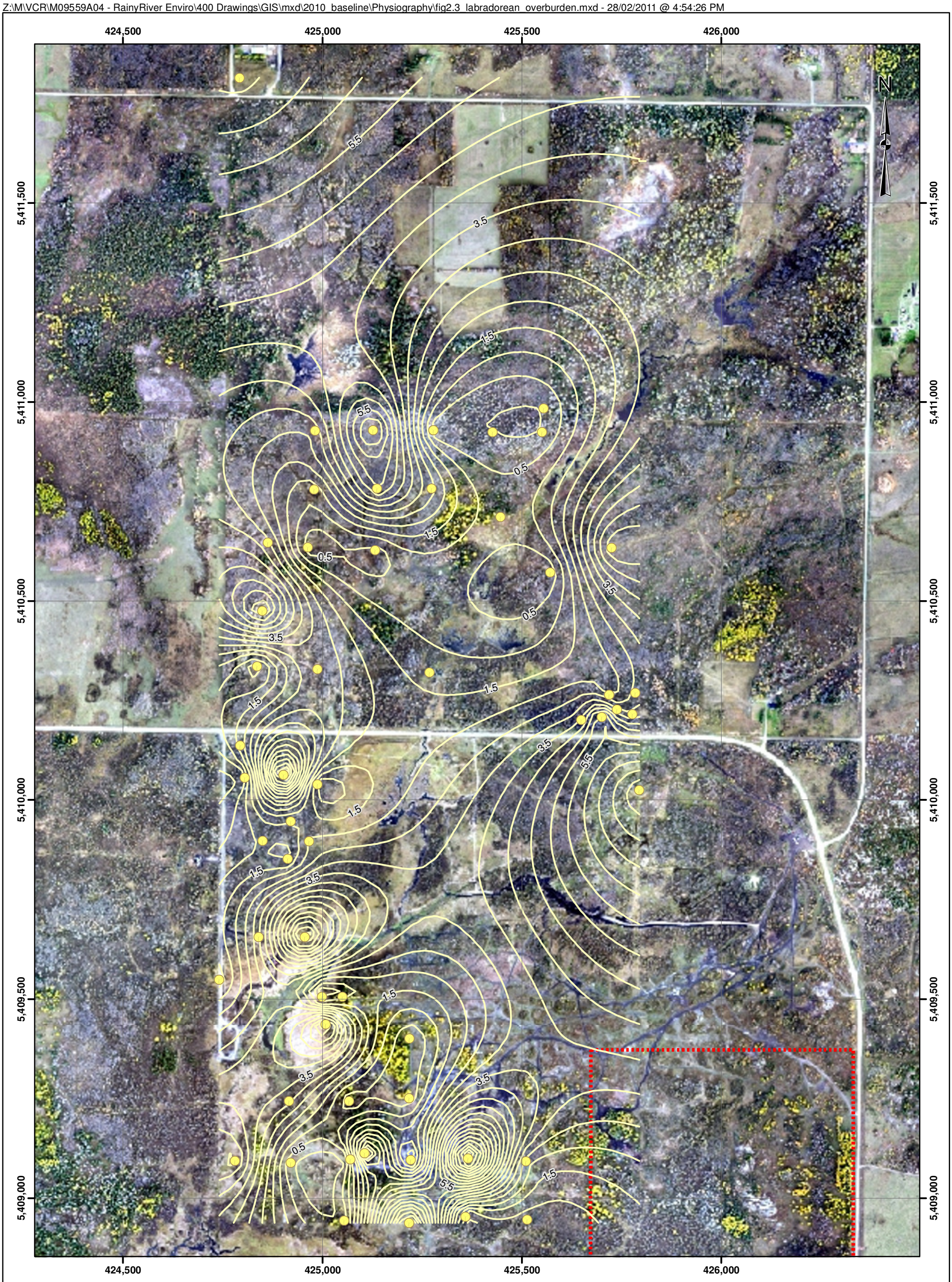
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KEEWATIN TILL OVERBURDEN THICKNESS

PROJECT No. M09559A04

FIG No. 2.2

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Overburden Sampling Locations

Labradorean Till Overburden Depth

Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84

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PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: LABRADOREAN TILL OVERBURDEN THICKNESS

PROJECT No. M09559A04

FIG No. 2.3

2.3.3 Bedrock Geology

The Local Study Area is located in the greenstone belt of the Archean Canadian Shield. The deposit is situated in a package of older mafics infolded with younger intermediate felsic metavolcanics with minor metasediments. The majority of the property is metamorphic grade greenschist.

As stated earlier, the deposit is overlain by 30 m to 100 m of overburden. Sporadic rock outcrops are present across the Local Study Area.

A series of near vertical strike slip faults trending north to south and NNE to SSW exist within the Local Study Area. The main fault strikes NE to SW and is thought to be a left lateral strike slip fault. The deposit is generally planar and probably follows regional foliation which appears to be a later imprint (post mineralization) as it is sub-parallel to the lithological contacts. The deposit is dipping approximately 50° southwards. Below and directly adjacent to the deposit is a tabular, inferred fault zone of weakened rock approximately 20 m thick. This inferred fault zone appears to be discontinuous, but will need to be more accurately defined.

Felsic to intermediate metavolcanics exist to the north of the east to west striking deposit while folded pillow lavas and metavolcanics exist to the south. Some brittle faults with slickensides occur within the pillow lavas. Some examples of these faults are exposed in the field, indicated by offset of a small mafic dyke (Photo 2.4).



Photo 2.4 Local Faulting Causing Offset of a Small Mafic Dyke

A geological map of the area produced by SRK is shown in Figure 2.4. This map includes the compilation of regional geological information surrounding the deposit and interpreted geophysical data to characterize the geological setting since there is little outcrop in the Local Study Area.



Figure 2.4 Structural and Lithological Interpretation of Regional Geology

2.3.4 Bedrock Geotechnics

2.3.4.1 General

This section outlines the geotechnical properties of the rock mass in the deposit area. The data used in this analysis comes from the following sources:

- Desk study review of available geological information;
- Mapping of surface exposures by KCB during a four day site visit in November 2008;
- Televiewer program undertaken in existing boreholes in March 2009. Seven holes were logged using optical televiewers (OTV), three of which were also logged using acoustic televiewers (ATV). All boreholes are inclined approximately 56° northwards; and
- Site investigation work completed in summer 2010 for geotechnical characterisation of bedrock by KCB (KCB 2010).

2.3.4.2 Rock Mass Quality and Structure

Metavolcanics at the proposed advanced exploration site have a defined ***incipient*** foliation that dips 45° to 60° southwards, i.e., the minerals show a pronounced alignment but the rock is intact. RQD is generally >85% and fracture frequency is low (1 per metre to 5 per metre). ATV data suggest a lower bound foliation dip of 50° and a mean of 55°. Tensile testing and point load testing suggests this incipient foliation has a high "bond strength" of approximately 1 MPa to 8 MPa.

The foliation causes a strength anisotropy to exist in the intact rock mass. Point load testing estimates an Unconfined Compressive Strength (UCS) parallel to foliation of 20 MPa to 70 MPa, and a UCS normal to foliation of 75 MPa to 200 MPa.

In addition to the incipient foliation, more persistent existing foliation planes may also exist in the rock mass.

Moderate sericitic alteration is commonly observed throughout the metavolcanics. Sericite is common on discontinuity surfaces, but does not appear to significantly alter the rock intact strength. Localized carbonate alteration is found along veinlets and on discontinuity surfaces. Chlorite alteration occurs locally, particularly in fault zones where the degree of alteration can be strong. Chlorite altered rocks have a relatively lower intact strength and very smooth discontinuity surfaces.

Overall results indicate relatively high rock strengths, particularly within the hanging wall.

The character of a rock mass is determined by the properties of the intact blocks of rock, the size of blocks and the nature of the discontinuities forming the blocks. Rock mass quality has been classified using the Rock Mass Rating system (RMR) proposed by

Bieniawski (1979). Results indicate rock mass across the site is generally good (RMR >60). In hole KCB-104 the rock mass becomes poor to fair below approximately 150 m depth. This is likely indicative of a fault zone.

2.3.4.3 Geotechnical Units

KCB has developed four geotechnical units based on the Local Study Area geology, specifically the area near the deposit and results of the rock mass characterization. These units are summarized below:

Hanging Wall Rocks (HWR): This unit lies south of the ODM 17 ore zone and is mafic to intermediate metavolcanics and contains moderately pronounced foliation dipping at approximately 55° southwards. Some micro-scale ductile deformation is evident. Rocks are greenschist to amphibolite facies, as indicated by the presence of garnet. The unit has a high UCS of generally greater than 100 MPa normal to foliation and 50 MPa to 75 MPa parallel to foliation.

Footwall Rocks (FWR): This unit lies north of the ODM 17 deposit and comprises felsic metavolcanics. The rocks are relatively massive and tend to break along the foliation when struck. The primary foliation dips approximately 55° southwards behind the ODM 17 zone. Further north in the 433 zone, the average foliation dip is approximately 50° southwards. The rock exhibits a high UCS of generally greater than 100 MPa normal to foliation and 40 MPa to 75 MPa parallel to foliation.

Fault Disturbed Rocks (FDR): This unit comprises rocks with low RQD (20 to 45) that have been broken due to faulting. The faulting observed is not recent and clay gauge not always observed. Typically high chlorite alteration and high fracture frequency are observed.

Well defined FDR zones occur striking north to south, dipping 50º through the eastern margin of the potential pit area. A less well pronounced zone exists behind the ODM 17 deposit (SRK refer to this as a high strain zone). Fault zones have often been "healed" and therefore Solid Core Recovery (SCR) is relatively high and intact strength is moderate to good (UCS 25 MPa to 50 MPa).

Schistose Rocks (Mafic Tuffs) (SR): This unit is similar to the HWR except with a more pronounced foliation and schistocity (less massive than HWR). The outcrops in the centre of the potential pit area occur within the hanging wall and may occur locally across the potential pit area.

2.3.5 Geohazards

2.3.5.1 Slope Stability

Existing natural slope gradients across the Local Study Area are generally less than 15°. Walkovers and inspection of aerial photographs indicate little to no evidence of previous slope failures in the area.

2.3.5.2 Seismic Hazard

The Regional Study Area lies within the Central Canadian Shield, well away from any active plate margins. This area is one of the least seismically active regions in Canada with earthquakes of magnitude greater than 4.0 occurring only two to three times per decade. On a local scale, there are considered to be no active faults on or near the Local Study Area. The seismic hazard, therefore, is considered very low.

2.3.5.3 Liquefaction

Liquefaction involves the application of cyclic shear stresses to a soil body causing an increase in pore water pressures such that the effective stress becomes close to zero. Cyclic stresses may be a result of seismic activity or vibrations from heavy machinery.

The glacial tills, Keewatin and Labradorean, are medium dense to dense and have a low likelihood of liquefaction. The Lake Aggazis lacustine clays, however, are soft and, while they may not liquefy, they may generate pore pressures during seismic loading.

3. CLIMATE

3.1 Study Objectives

The objective of the climate baseline study is to characterize climate conditions in the Local and Regional Study Areas (Figure 3.1) and to determine if the historical regional climate data is representative of the climate in the area of the proposed advanced exploration site.

Station Number	STATION NAME	Elevation (m)	Data Range
Daily Precipitation			
6020559	Barwick	335	1978 - 2011
602K300	Emo-Radbourne	350	1978 - 2002
6022475	Fort Frances	343	1978 - 1995
6028128	Stratton-Romyn	366	1978 - 2004
Precipitation IDF			
6036904	Rawson Lake	358	1969 - 2010
6034075	Kenora A	410	1938 - 2010
6020379	Atikokan	395	1966 - 1988
Barometric Pressure			
KBDE (US)	Baudette	330	1932 - 2011
Stream Flow			
05PC023	Pinewood River near Highway No	338	2007 - 2009
05PC011	Pinewood River near Pinewood	334	1952-1998
05PC019	Rainy River at Fort Frances	330	1905-2009
05PC018	Rainy River at Manitou Rapids	331	1928-2009

Study Area
Pinewood River Watershed

Local Study Area Climate Station
Barometric Pressure Climate Station
Daily Precipitation Climate Station
Precipitation IDF Climate Station
Stream Flow Climate Station

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

0 20 km

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CLIENT
Rainy River Resources Ltd.
Klohn Crippen Berger

PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
LOCAL AND REGIONAL
STUDY AREA CLIMATE STATIONS

PROJECT No. M09559A04

FIG No. 3.1

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3.2 Methodology

Climate data was compiled using both regional and local data. Local data refers to climate data from the Local Study Area while regional data refers to climate data collected from climate stations located in the Regional Study Area. Data were collected from the following sources:

- Regional climate data collected by Environment Canada (EC) at several stations in the Regional Study Area. The nearest station operated by EC is in Barwick, Ontario (EC ID 6020559), 23 km south of the proposed advanced exploration site. This station has temperature, precipitation and wind speed records;
- The nearest station where Intensity-Duration-Frequency (IDF) data was collected by EC is Rawson Lake, Ontario (EC station ID 6036907), approximately 90 km north of the proposed advanced exploration site. Data from two other stations in the region were also collected to assess the spatial variability of precipitation intensity in the region;
- Barometric pressure was collected from Baudette Airport in Minnesota, US, located 45 km southwest of the proposed advanced exploration site;
- A Campbell Scientific climate station was installed near the proposed advanced exploration site in June 2009 (Local Study Area climate station). Climate data recording at this station is ongoing and includes:
    - Air temperature (minimum and maximum daily and average hourly);
    - Precipitation (hourly; rain gauge was covered from November 1, 2009 through April 8, 2010 and was covered again in November 20, 2010.);
    - Relative humidity (minimum and maximum daily and average hourly);
    - Wind speed and direction (maximum daily and average hourly measured approximately 7 m above the ground surface);
    - Barometric pressure (minimum and maximum daily and average hourly); and
    - Solar radiation (maximum daily and average hourly).

3.3 Results

3.3.1 Regional Data

Table 3.1 summarizes the regional data collected to assess or compare precipitation, temperature, IDF curves, and barometric pressure.

Table 3.1 Regional Climate Stations

STATION NAME	STATION NUMBER	LOCATION (UTM)	ELEVATION (m)	DATA RANGE	DISTANCE FROM PROPOSED ADVANCED EXPLORATION SITE (km)	AVERAGE ANNUAL PRECIPITATION (mm)	STATION INFORMATION USED FOR
Barwick	6020559	428,807 m E; 5,387,043 m N	335	1978 - 2011	23	695	Daily Precipitation and Temperature
Emo-Radbourne	602K300	438,679 m E; 5,392,532 m N	350	1978 - 2002	22	749	Daily Precipitation
Fort Frances	6022475	469,256 m E; 5,384,941 m N	343	1978 - 1995	50	710	
Stratton-Romyn	6028128	414,271 m E; 5,394,750 m N	366	1978 - 2004	20	711	
Rawson Lake	6036904	531,205 m E; 5,470,901 m N	358	1969 - 2010	90	689	IDF Data
Kenora A	6034075	400,177 m E; 5,514,191 m N	410	1938 - 2010	105	662	
Atikokan	6020379	601,674 m E; 5,400,577 m N	395	1966 - 1988	175	740	
Baudette	KBDE (US)	381,434 m E; 5,398,330 m N	330	1932 - 2011	45	N/A	Barometric Pressure

3.3.1.1 Regional Temperature and Precipitation

Average monthly temperature and precipitation at Barwick ON are presented in Table 3.2 and Table 3.3 respectively, and shown in Figure 3.2.

Table 3.2 Average Monthly Temperature (˚C) at Barwick ON

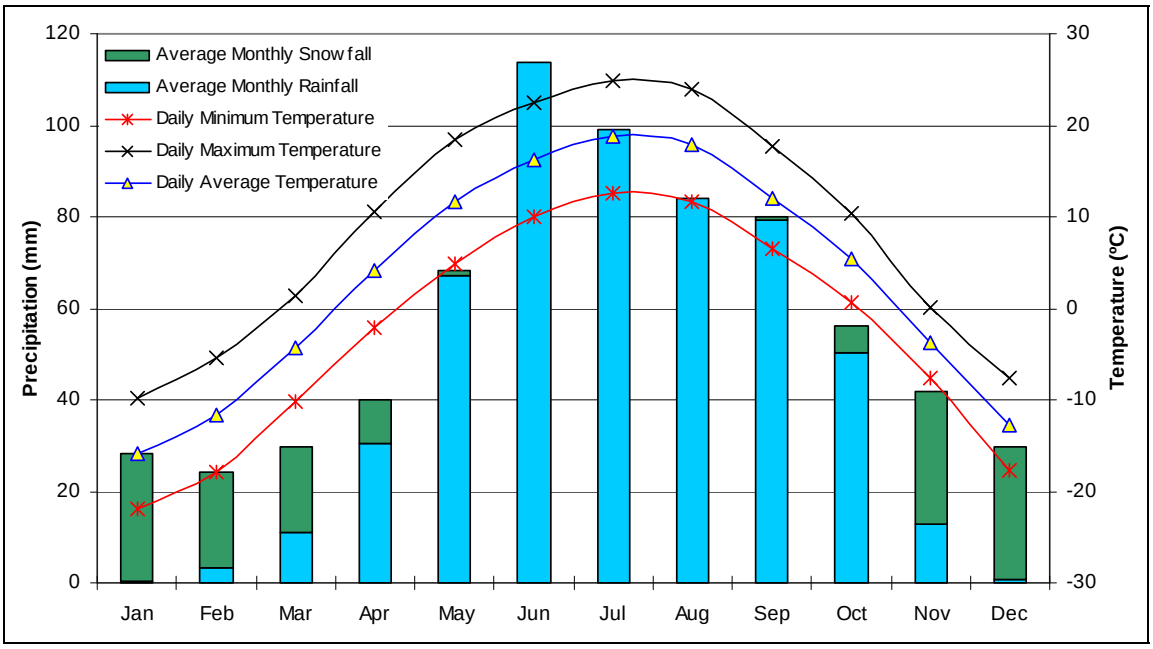
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	AVG
Daily Average	-15.9	-11.6	-4.4	4.2	11.7	16.2	18.8	17.8	12.1	5.5	-3.8	-12.7	**3.2**
Daily Max	-9.9	-5.4	1.4	10.5	18.5	22.5	24.8	24.0	17.7	10.4	0.1	-7.7	**8.9**
Daily Min	-22	-17.8	-10.2	-2.1	4.9	10.0	12.6	11.6	6.5	0.7	-7.7	-17.7	**-2.6**

Source: Barwick, Ontario (EC Climate Normals for station ID 6020559) 1971 to 2000.

Table 3.3 Average Monthly Precipitation (mm) at Barwick ON

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Rainfall	0.3	3.3	11.0	30.4	67.3	113.8	99	84	79.4	50.4	12.8	0.8	**552.4**
Snowfall	28.0	20.8	18.7	9.6	1.0	0.0	0.0	0.0	0.6	5.8	28.9	28.9	**142.3**
Total Precipitation	28.3	24.1	29.7	40	68.3	113.8	99.0	84.0	80.0	56.2	41.7	29.7	**694.7**

Source: Barwick, Ontario (EC Climate Normals station ID 6020559) 1971 to 2000.

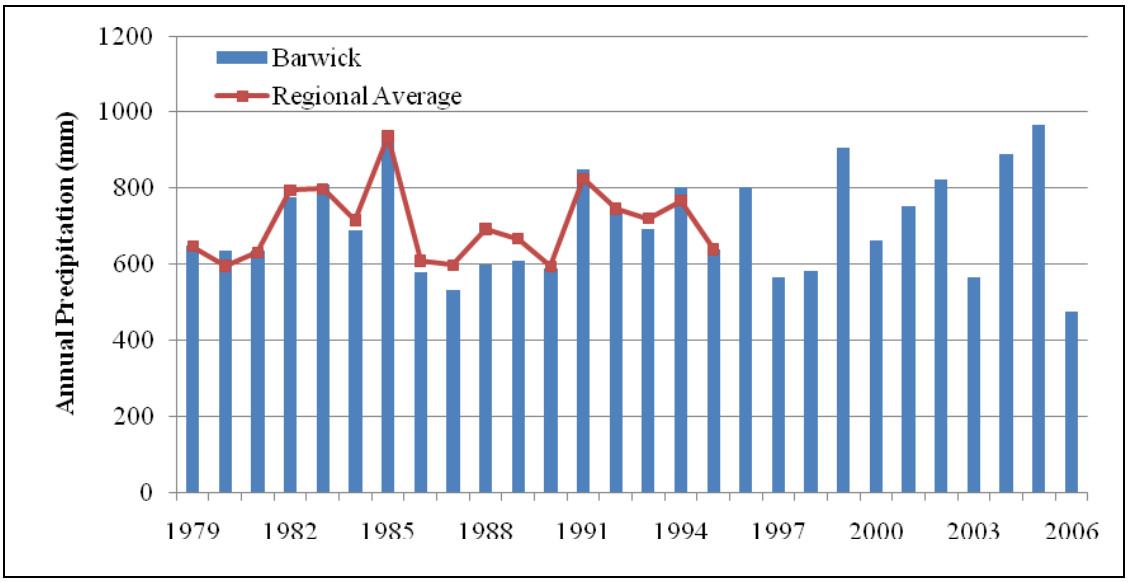


Source: Barwick, Ontario (EC Climate Normals station ID 6020559) 1971 to 2000.

Figure 3.2 Monthly Temperature and Precipitation at Barwick ON

Average monthly temperatures at Barwick range from approximately 19ºC in July to -16ºC in January. It is common for temperatures to exceed 30˚C in summer months and to fall below -30˚C in winter. Mean annual precipitation at Barwick is 695 mm, occurring mainly as rainfall from April to October and snowfall from November to March. Mean monthly precipitation is highest in June and July and lowest in January and February.

Figure 3.2 compares mean annual precipitation at Barwick with a regional annual precipitation value averaged using Barwick, Stratton-Ramyn, Emo-Radbourne, and Fort Frances totals. Average annual precipitation based on climate normals from 1971 to 2000 for these EC climate stations is listed in Table 3.1. The data indicates that annual precipitation at Barwick has varied by up to 270 mm from the mean (695 mm) over the 20 year period. Data shown in Figure 3.3 suggests that average annual precipitation does not vary significantly within 50 km of the proposed advanced exploration site.



Source: Environment Canada

Figure 3.3 Mean Annual Precipitation in the Regional Study Area

3.3.2 Local Climate Data

Climate in the Local Study Area is classified as Warm Summer Continental, having mild summers with some periods of extreme heat, and long cold winters (Peel et al., 2007).

3.3.2.1 Temperature

Average, maximum, and minimum daily temperatures recorded at the Local Study Area climate station between June 2009 and January 2011 are shown in Figure 3.4. Average daily temperature ranges between -10˚C and 20˚C in the spring, 10˚C and 25˚C in the summer, 15˚C and -20˚C in the fall, and 0˚C and -30˚C in the winter. Extreme daily temperatures reached over 30˚C and below -35˚C a number of times over the data collection period. Hourly temperatures and average temperatures for each hour of the day are shown in Figure 3.5.

Typically, temperature at the Local Study Area climate station begins to increase at sunrise, reaching a maximum around 3 p.m. to 5 p.m., and then falls overnight.

Maximum daily temperature is typically around 10˚C warmer than minimum daily temperature.

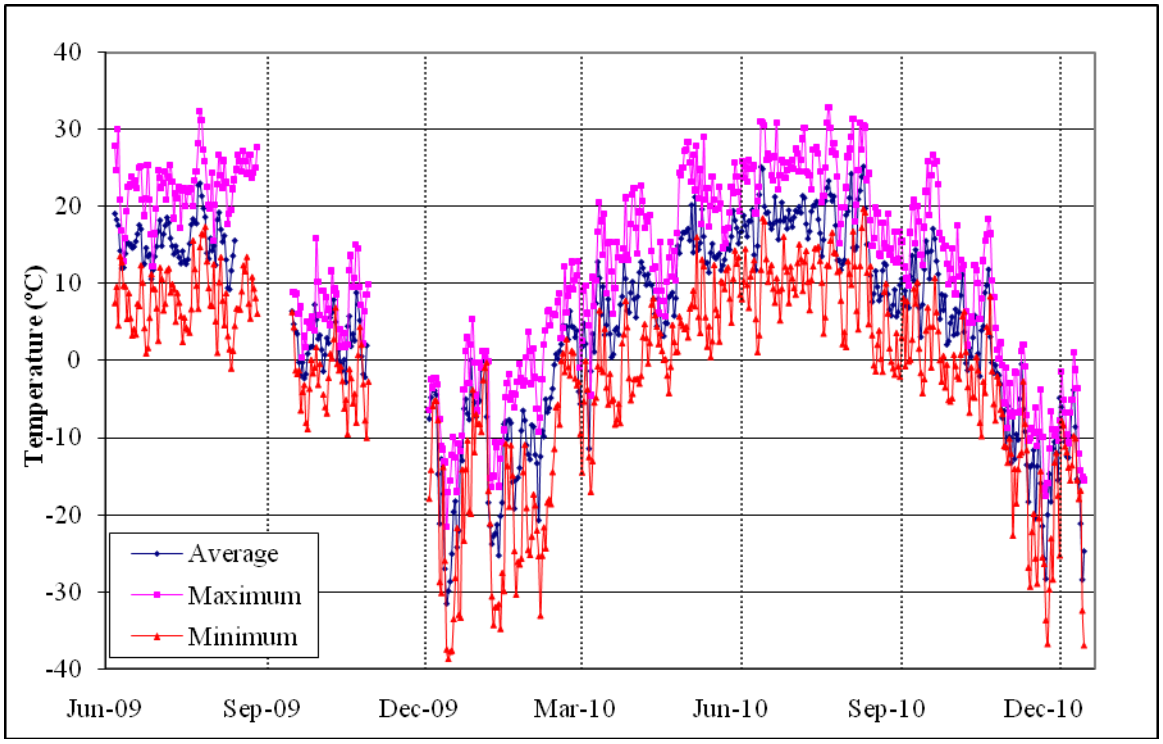
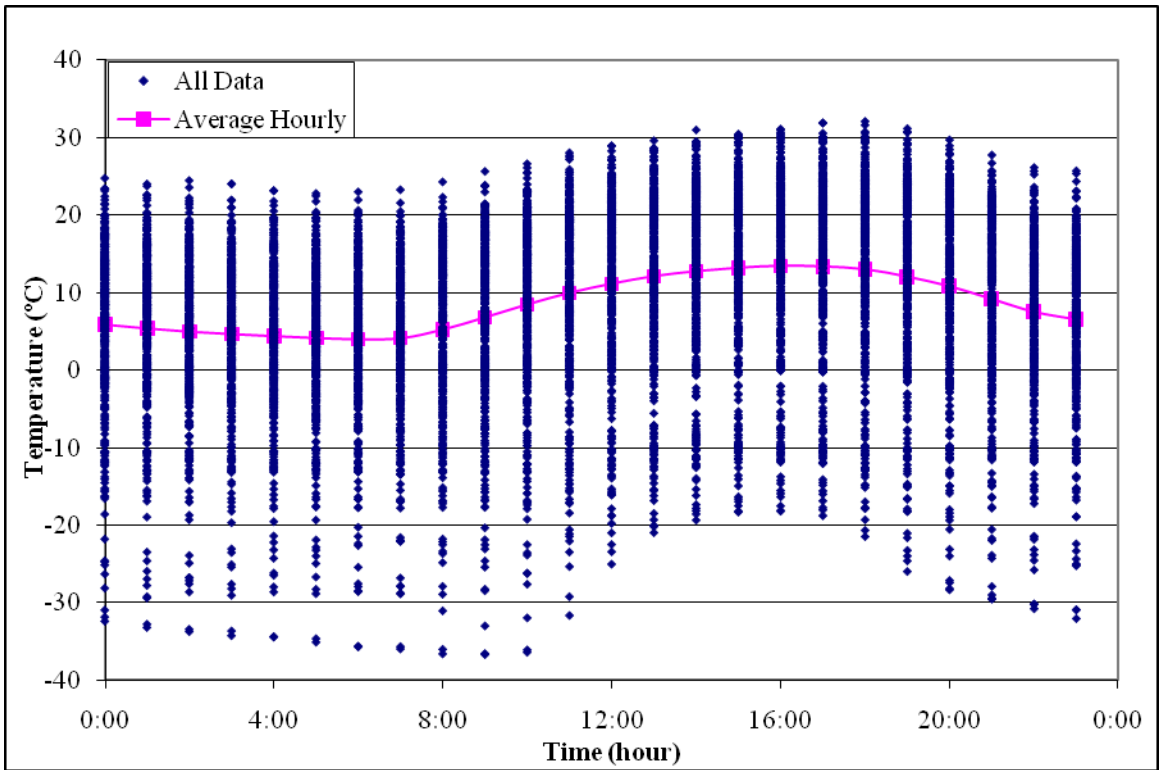


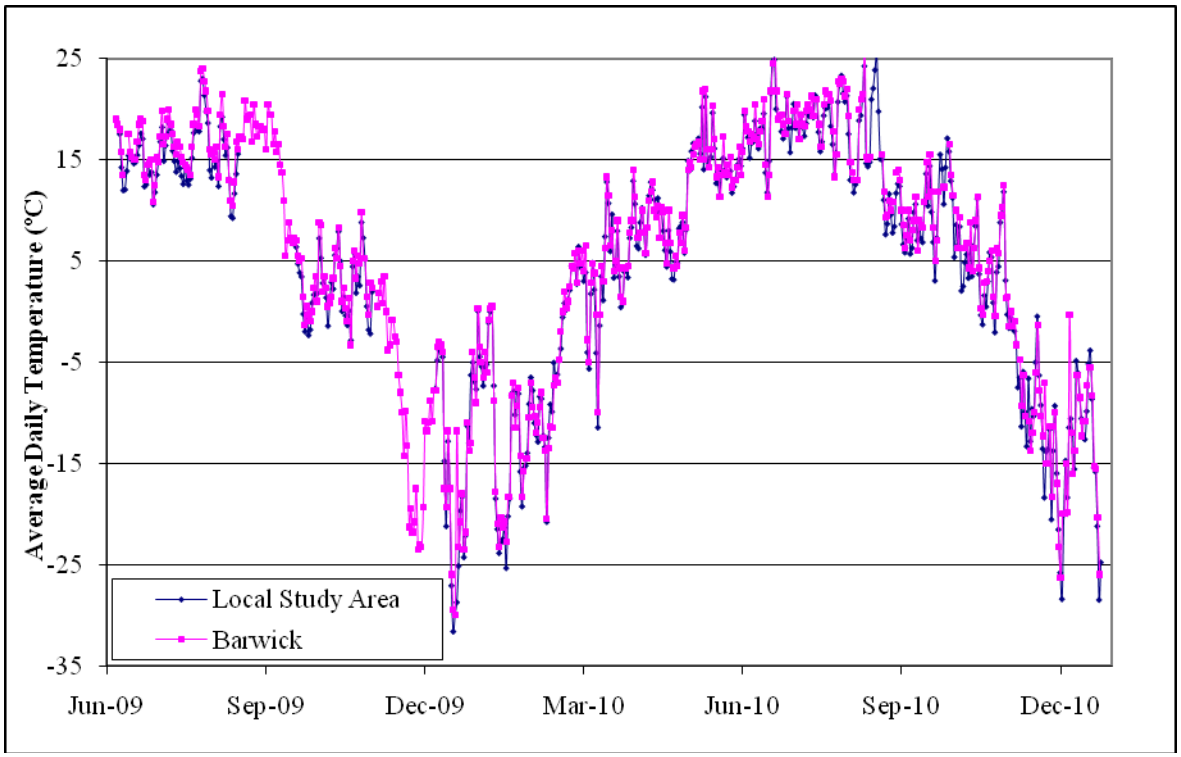
Figure 3.4 Local Study Area Climate Station Temperature Data



Source: Barwick, Ontario (EC Daily Temperature Data, Station ID 6020559)

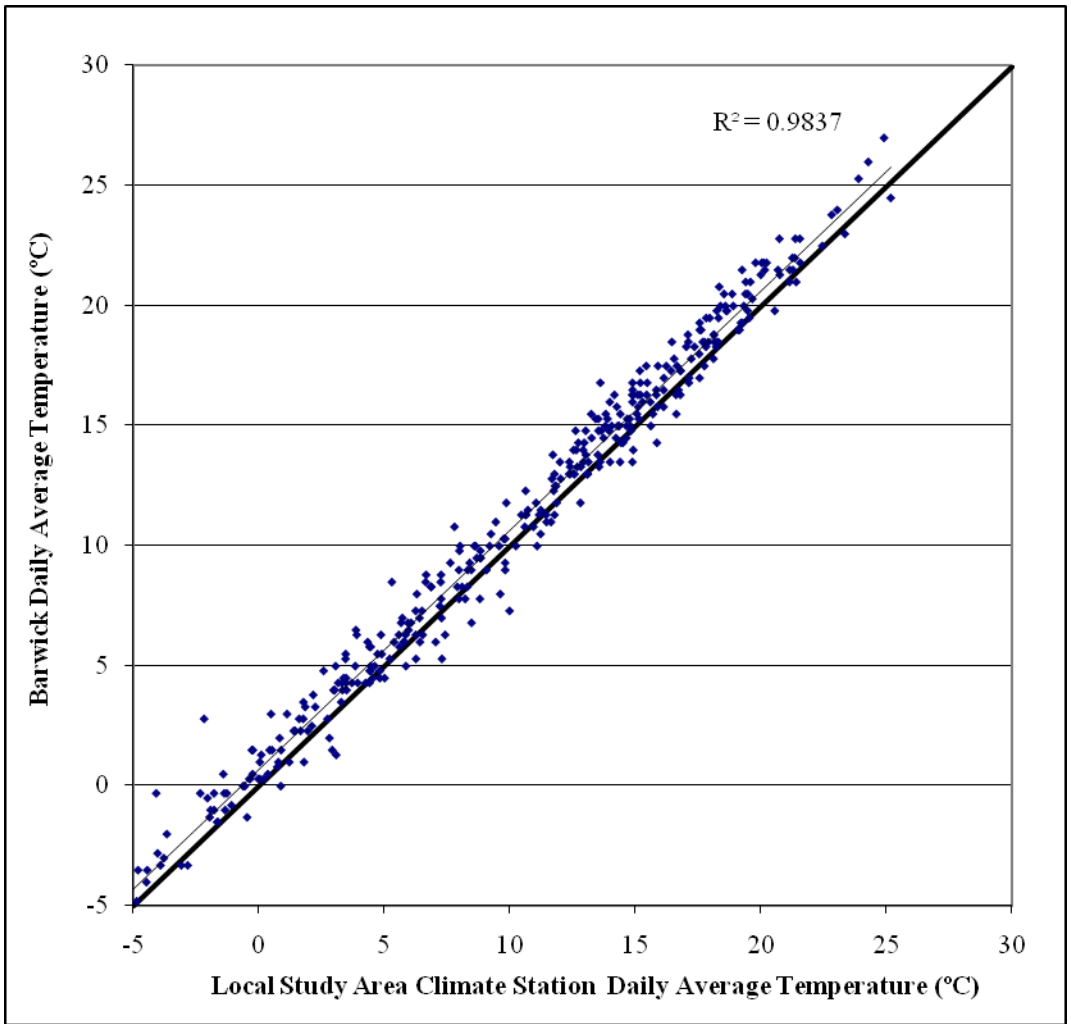
Figure 3.5 Local Study Area Average Hourly Temperature

Figure 3.6 and Figure 3.7 show the average daily temperature at the Local Study Area climate station plotted against the average daily temperature at Barwick. Temporal variations in temperature at the two stations follow a similar pattern over the data period, with a correlation coefficient of 0.98. Temperatures at Barwick were typically warmer than the Local Study Area by 1°C to 2°C. This suggests that the long-term temperature data collected at Barwick is likely representative of temperatures in the Local Study Area.



Source: Barwick, Ontario (EC Daily Temperature Data, Station ID 6020559)

Figure 3.6 Average Daily Temperature at the Local Study Area Climate Station and at Barwick ON



Source: Barwick, Ontario (EC station ID 6020559)

Figure 3.7 Temperature at the Local Study Area Climate Station versus Barwick ON

3.3.2.2 Precipitation

Daily rainfall precipitation recorded at the Local Study Area climate station from June 2009 to November 2009 and from April 2010 until November 2010 is shown in Figure 3.8. Histograms showing the distribution of daily and hourly rainfall over the data periods are shown in Figure 3.9 and Figure 3.10. Maximum daily rainfall was 56.5 mm and maximum hourly rainfall was 17.1 mm over the period. The Local Study Area climate station does not have a snow gauge.

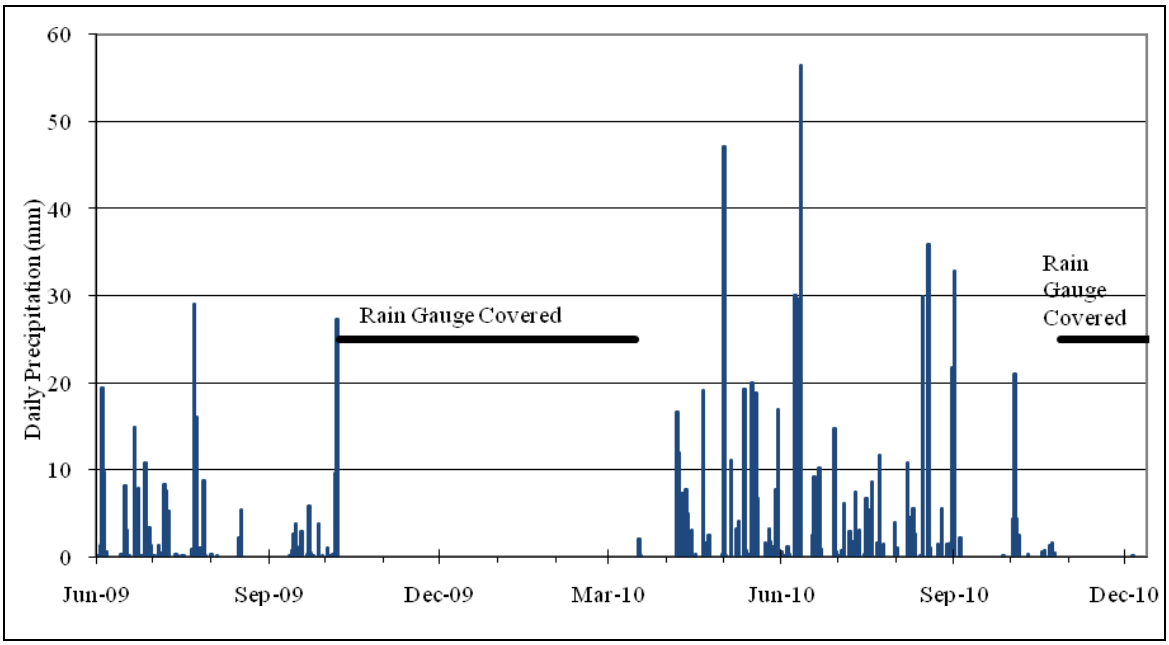


Figure 3.8 Daily Rainfall at the Local Study Area Climate Station

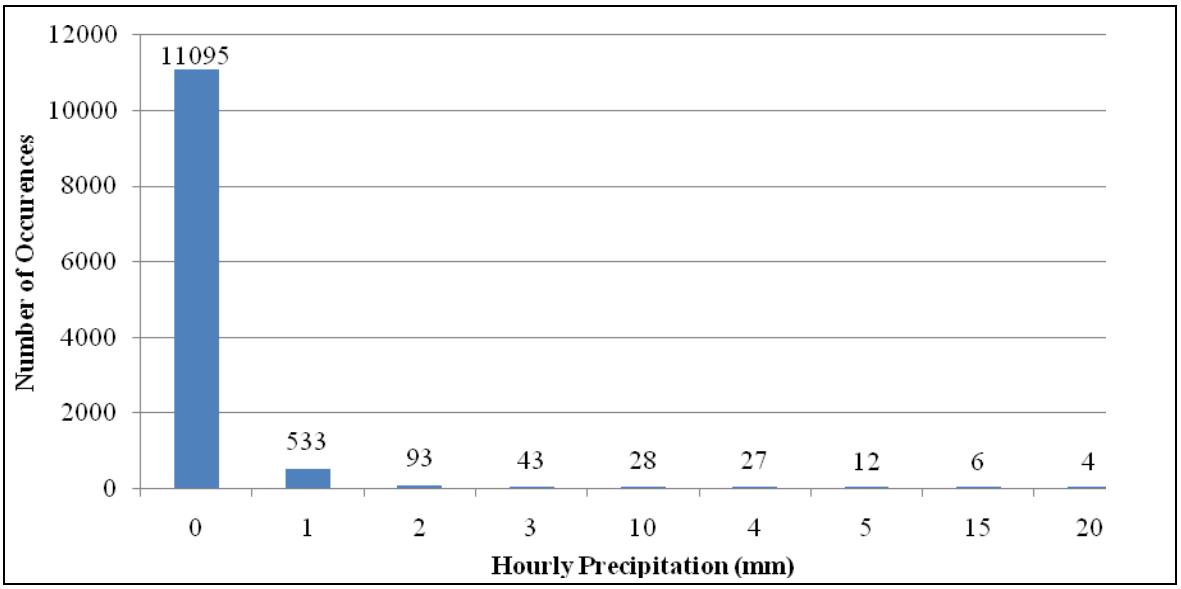


Figure 3.9 Histogram of Daily Rainfall at the Local Study Area Climate Station

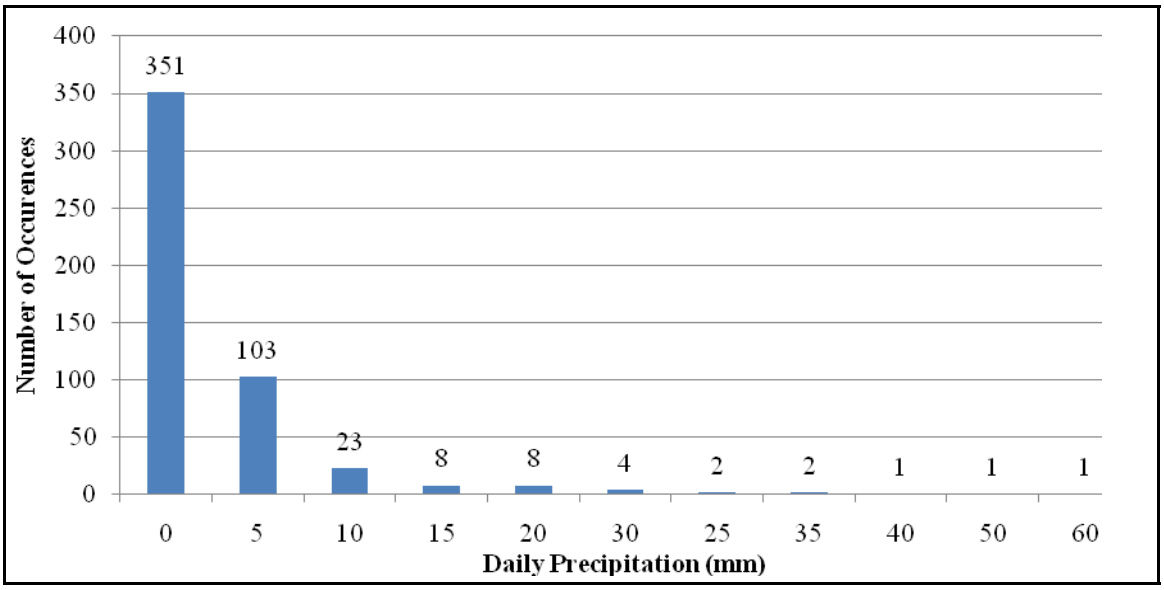


Figure 3.10 Histogram of Hourly Rainfall at the Local Study Area Climate Station

Figure 3.11 shows cumulative monthly rainfall at the Local Study Area climate station and at Barwick ON. The total rainfall measured at the two stations had an overall correlation coefficient of 1.06. Figure 3.12 shows daily rainfall at the Local Study Area climate station and at Barwick ON. These observations suggest that daily rainfall at the two sites is similar. Accordingly, the long-term rainfall data collected at Barwick ON is expected to be representative of rainfall in the Local Study Area.

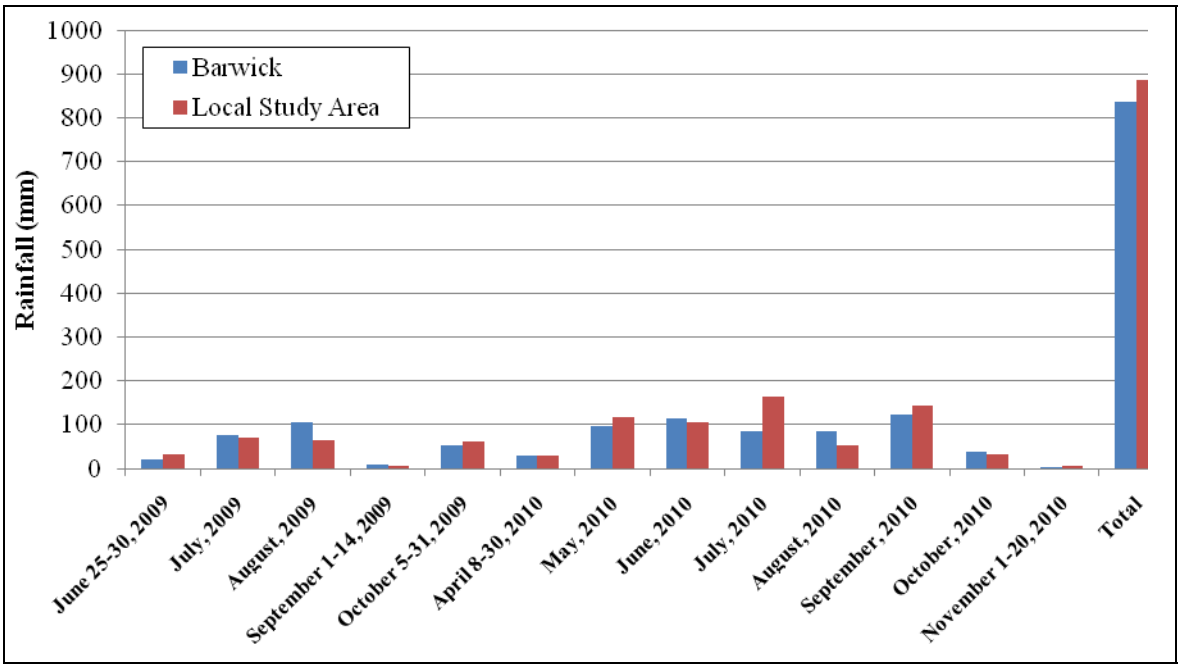


Figure 3.11 Comparison of Rainfall Accumulation at Barwick and the Local Study Area Climate Station

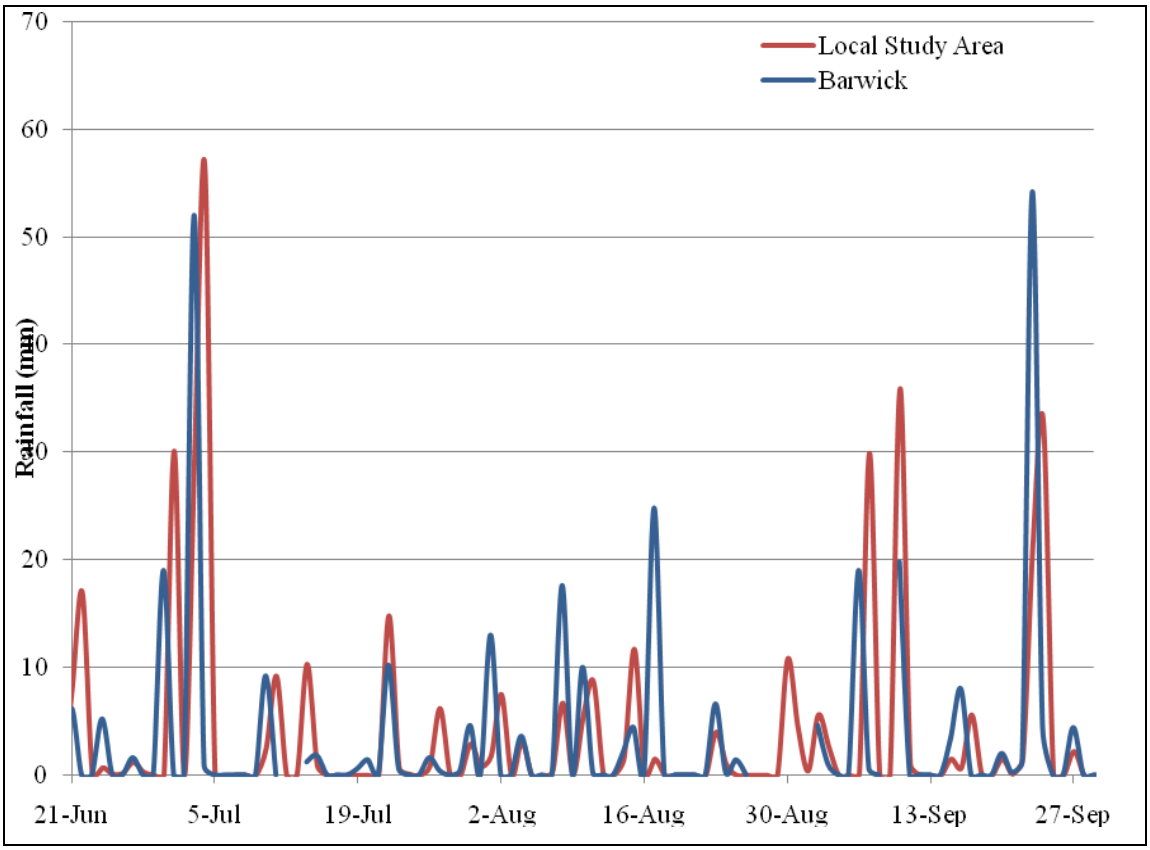


Figure 3.12 Daily Rainfall at Barwick and the Local Study Area Climate Station

3.3.2.3 Relative Humidity

Average, maximum, and minimum daily relative humidity (RH) values recorded at the Local Study Area climate station are shown in Figure 3.13. Average daily RH ranged from 35% to 98% over the period of record. Most days reached a maximum RH at or near 100% overnight, while a minimum RH of less than 20% was recorded on a number of days over this period.

Hourly RH and average RH for each hour of the day are shown in Figure 3.14. On average, RH at the Local Study Area climate station begins to decrease around 8 a.m. reaching a minimum around 4 p.m. and then increases through the night. Minimum daily RH is typically around 35% less than maximum daily RH.

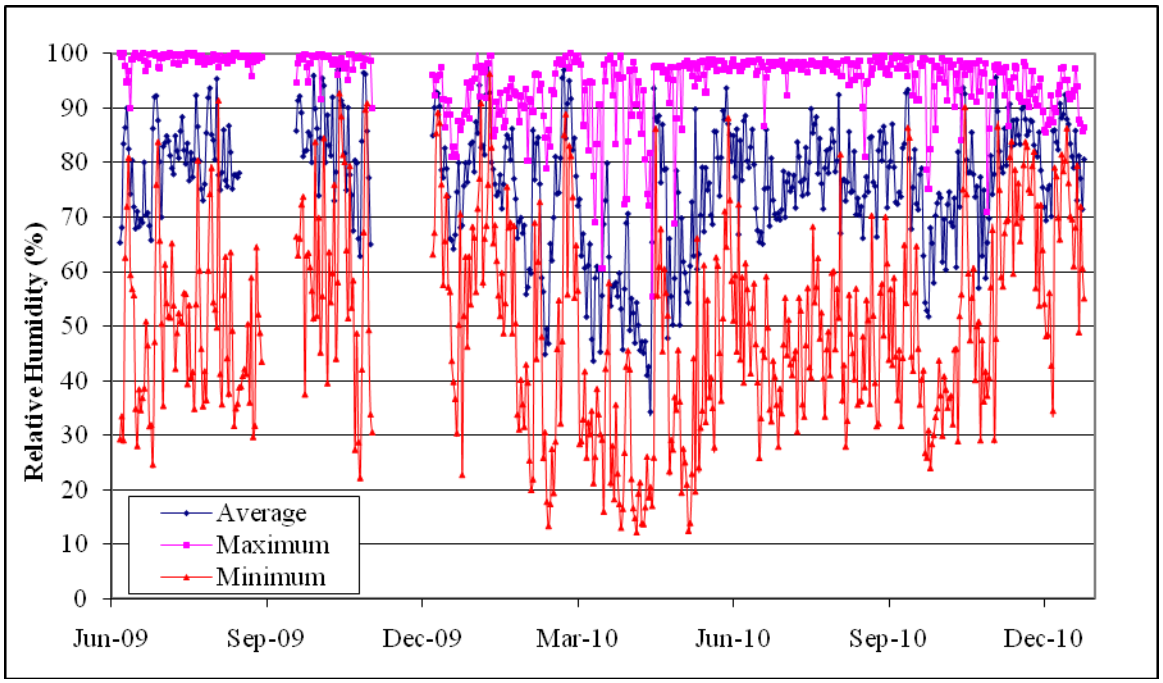


Figure 3.13 Daily Relative Humidity at the Local Study Area Climate Station

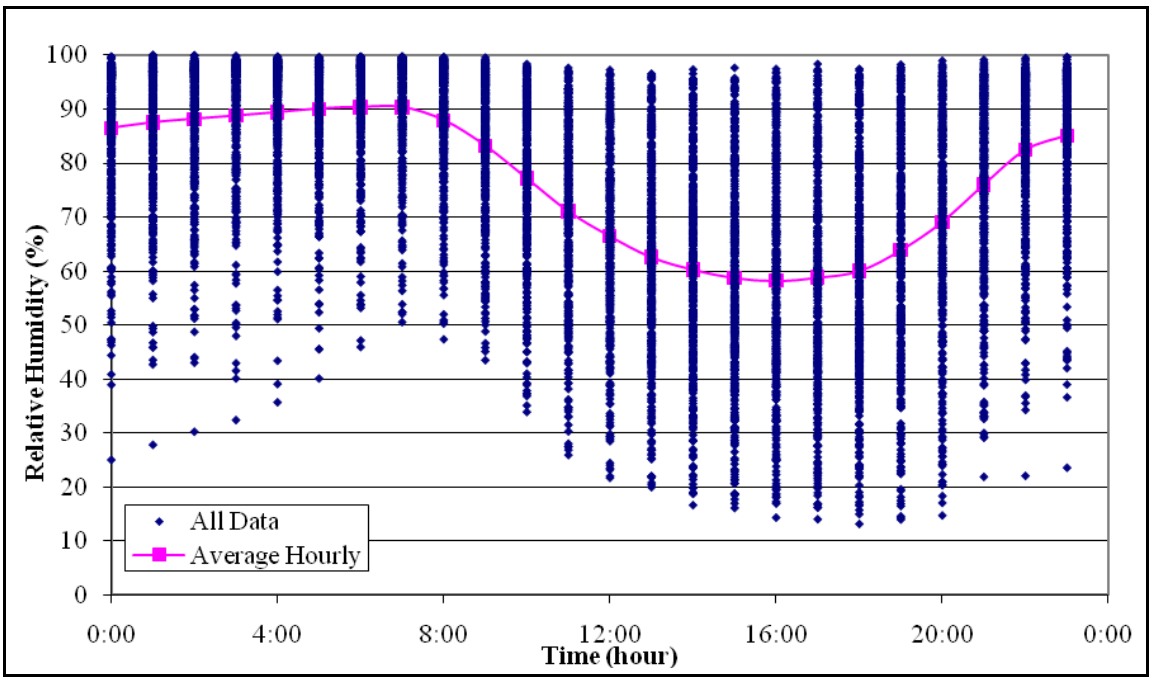


Figure 3.14 Average Hourly Relative Humidity at the Local Study Area Climate Station

3.3.2.4 Wind

Average and maximum daily wind speeds recorded at the Local Study Area climate station are shown in Figure 3.15. Average daily wind speed was typically between 2 km/hr and 15 km/hr over the period of record. Maximum daily wind speeds ranged from 10 km/hr to 80 km/hr. Average wind speed at the Local Study Area climate station was around 4 km/hr from 9 p.m. to 7 a.m., increasing through the day to an average of around 10 km/hr from noon to 5 p.m. Average hourly wind speed is shown in Figure 3.16.

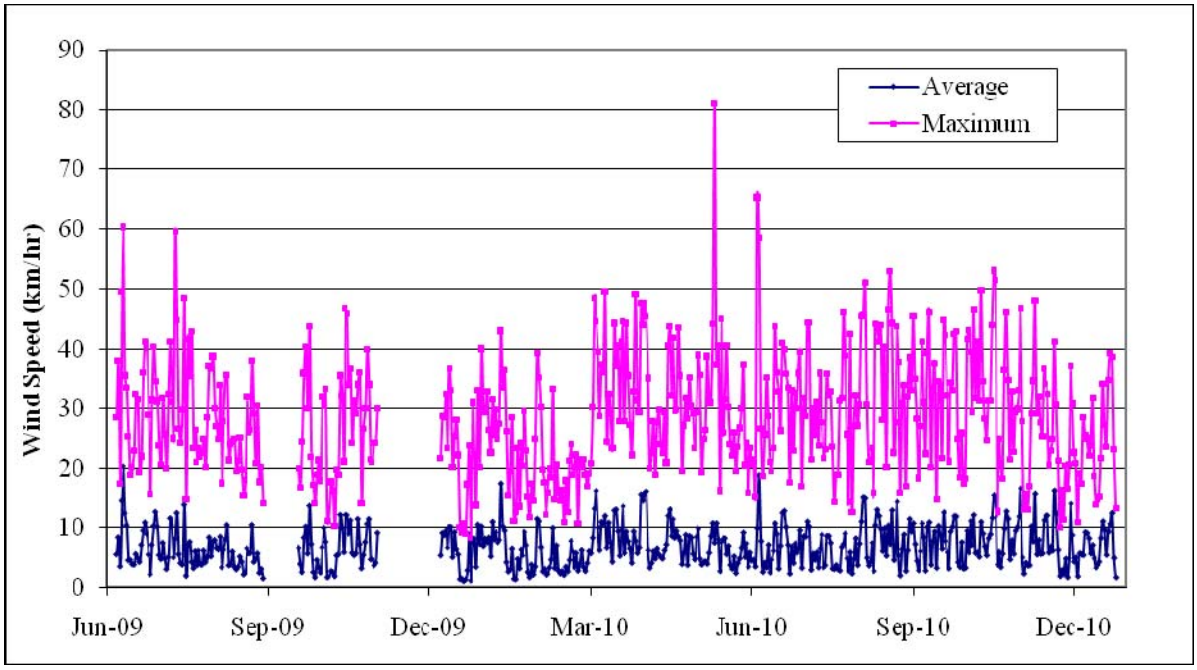


Figure 3.15 Daily Wind Speed at the Local Study Area Climate Station

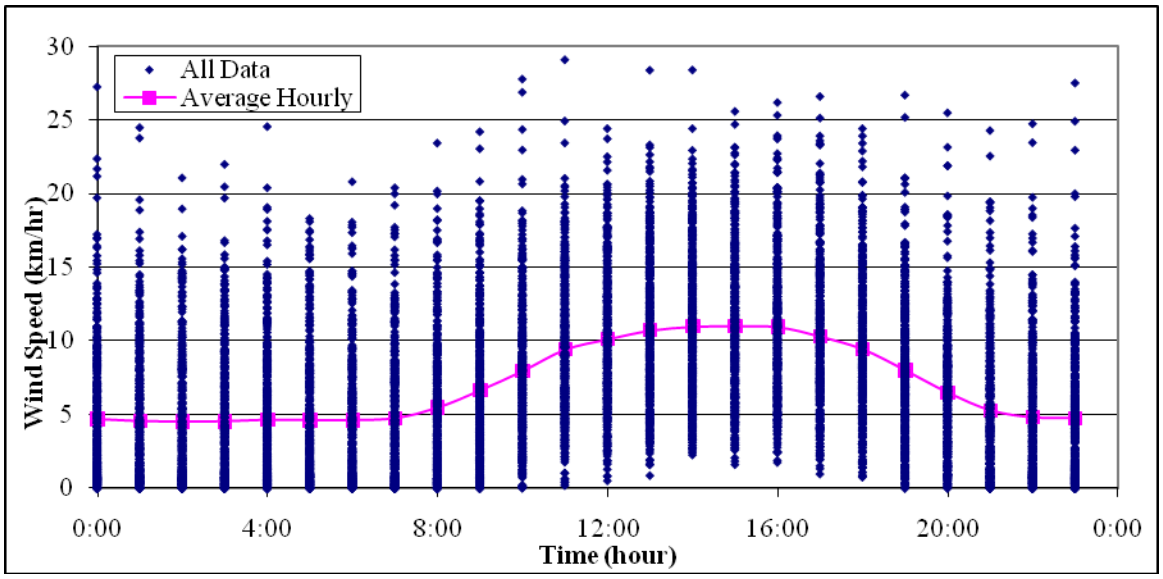


Figure 3.16 Average Hourly Wind Speed at the Local Study Area Climate Station

A wind rose diagram, showing the distribution of wind speed and direction at the Local Study Area climate station is presented in Figure 3.17. Over the period of record, there was no strongly predominant wind direction. However, the strongest sustained winds generally prevailed from the northwest or southeast. All sustained winds over 20 km/hr were from the southeast. Light winds, under 5 km/hr, were most often prevailed from the southwest to the northeast.

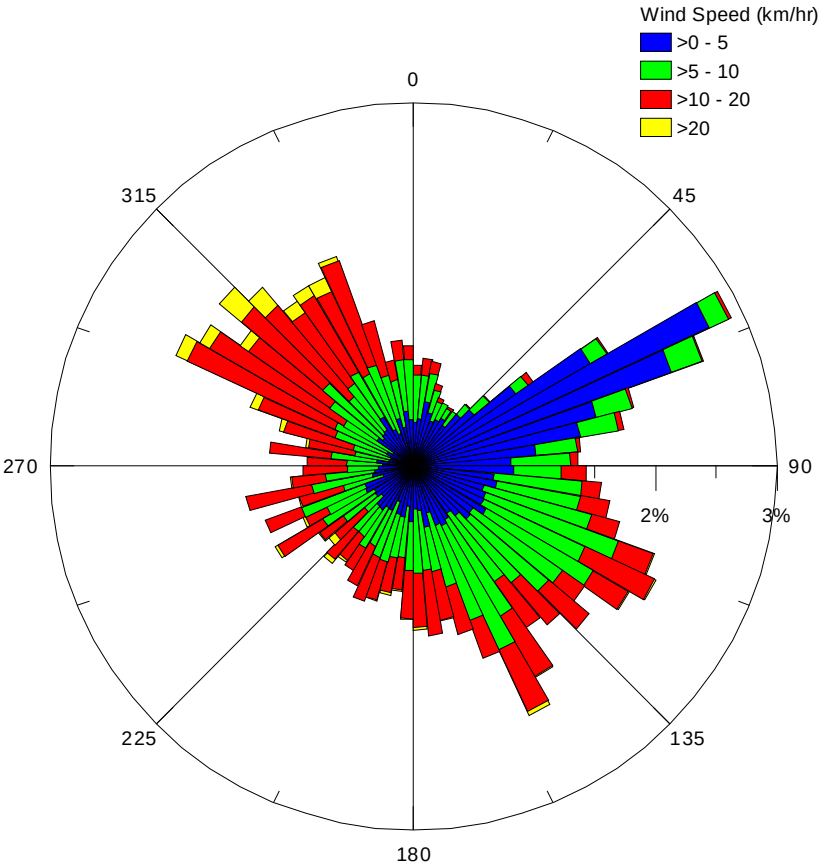


Figure 3.17 Wind Rose Diagram for the Local Study Area Climate Station

3.3.2.5 Barometric Pressure

Maximum and minimum daily barometric pressure (BP) data recorded at the Local Study Area climate station are shown in Figure 3.18. Maximum daily BP ranged from 94.3 kPa to 99.2 kPa, and minimum daily BP ranged from 91.7 kPa to 99.0k Pa over the period or record. The difference between daily maximum and minimum BP was generally less than 1 kPa. Small BP fluctuations were more common in the summer months than the rest of the year. Figure 3.19 illustrates the correlation between data from the Local Study Area climate station and Baudette, Minnesota. The correlation coefficient between the two data sets was 0.98, suggesting that data from Baudette MN would be representative of barometric pressure at the Local Study Area climate station site.

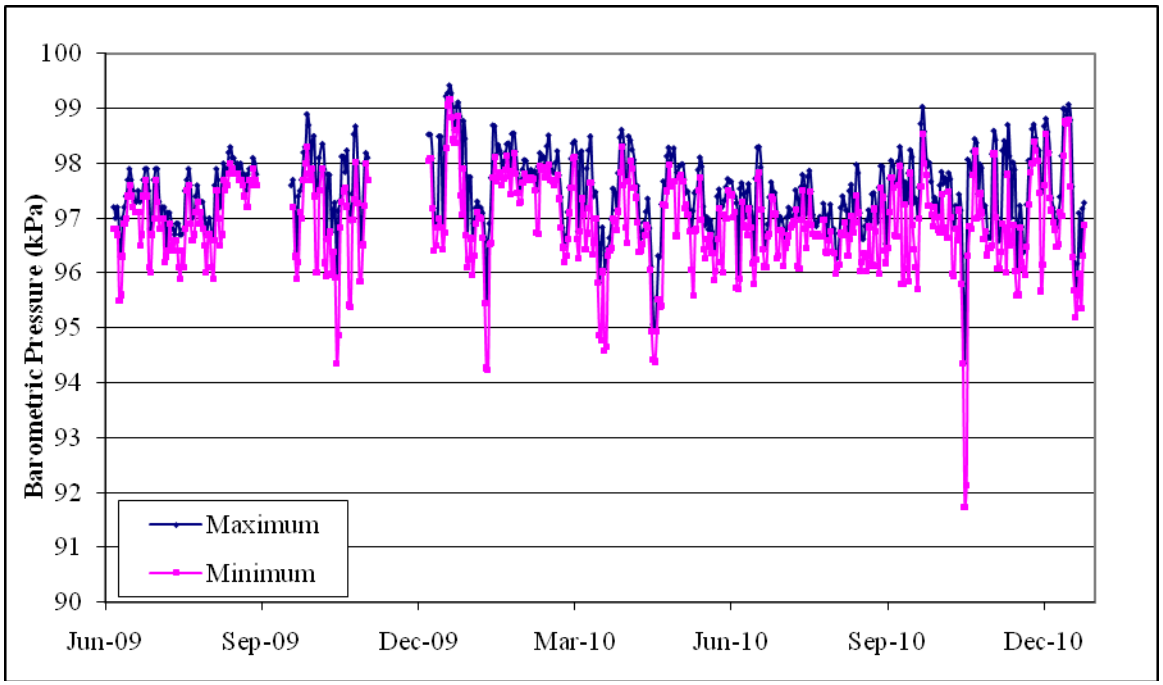


Figure 3.18 Daily Barometric Pressure at the Local Study Area Climate Station

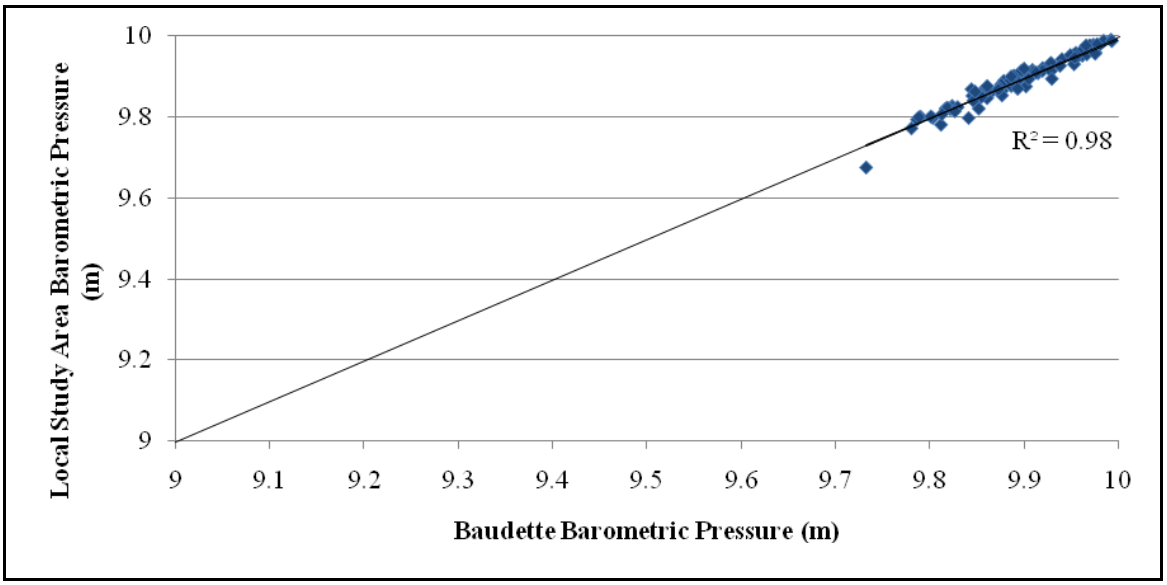


Figure 3.19 Daily Barometric Pressure at the Local Study Area Climate Station and Baudette MN

3.3.2.6 Solar Radiation

Average and maximum daily solar radiation (SR) recorded at the Local Study Area climate station are shown in Figure 3.20. Average daily SR ranged from 40 W/m^2 to 350 W/m^2 in the summer months and from 10 W/m^2 to 100 W/m^2 in the winter months. Maximum SR fluctuated greatly over the data period, but followed a seasonal cycle similar to the average SR.

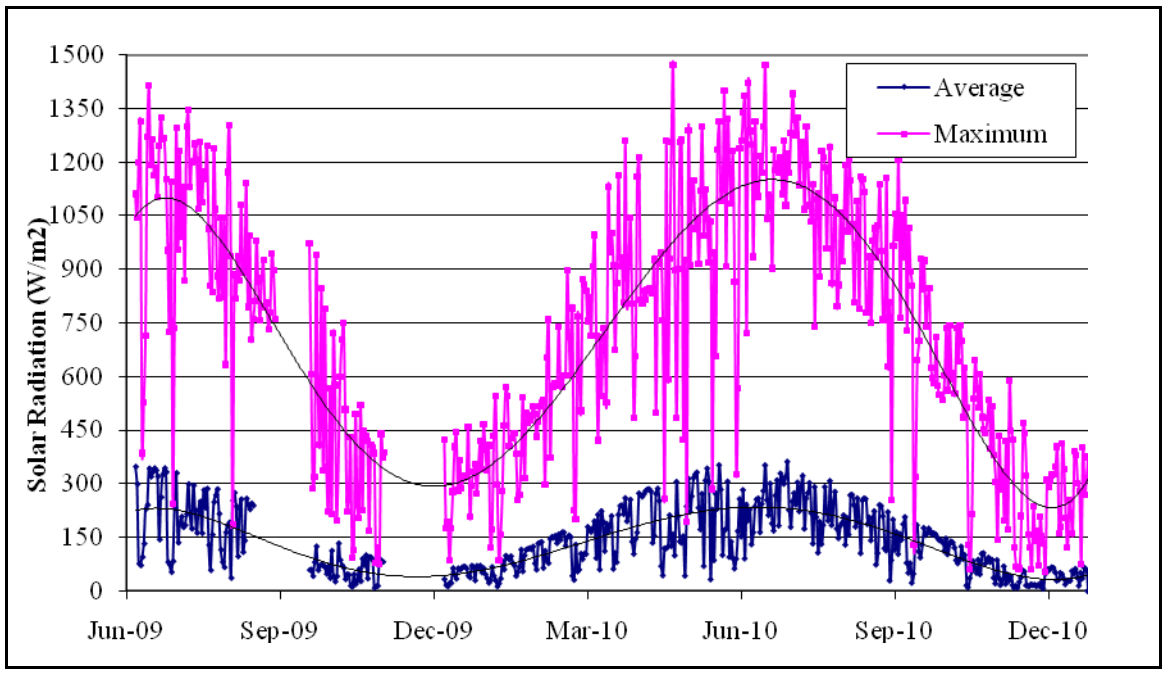


Figure 3.20 Solar Radiation at the Local Study Area Climate Station

Hourly SR at the Local Study Area climate station is illustrated for five days in Figure 3.21 to show the typical daily progression of SR on relatively clear days. On clear days, maximum SR typically occurred between 1 p.m. and 3 p.m. Over the period of record, the number of daylight hours per day ranged from 14 in June to eight in November. All available SR observations and average hourly SR records are shown on Figure 3.22.

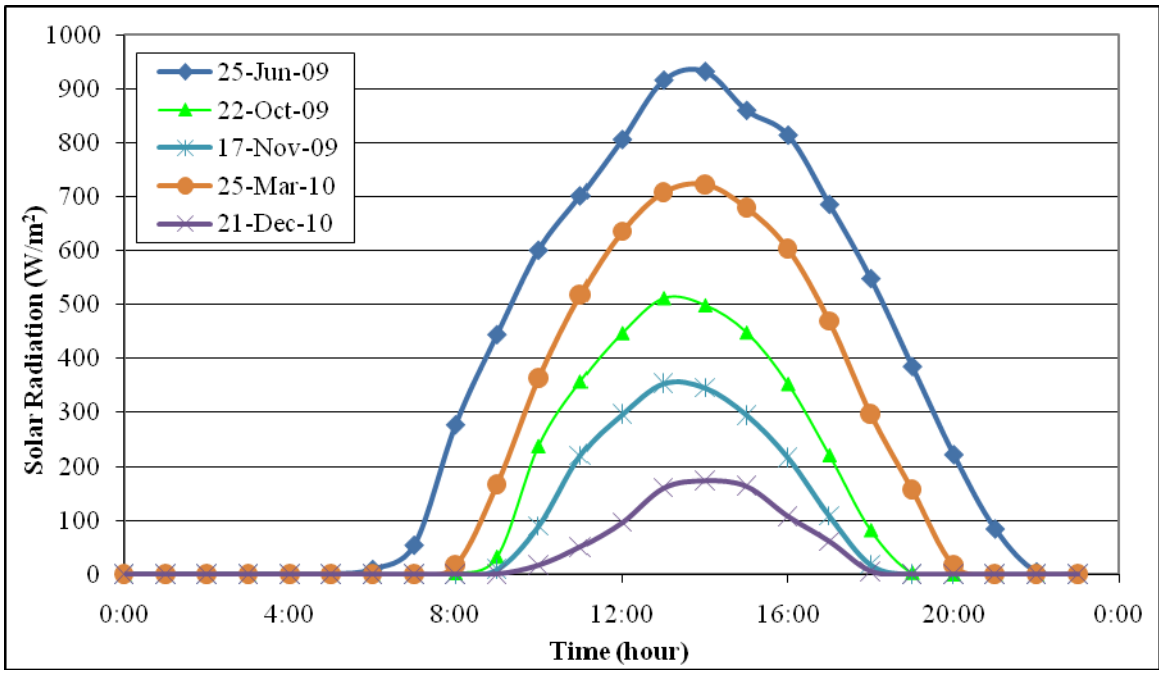


Figure 3.21 Local Study Area Average Hourly Solar Radiation for Select Days

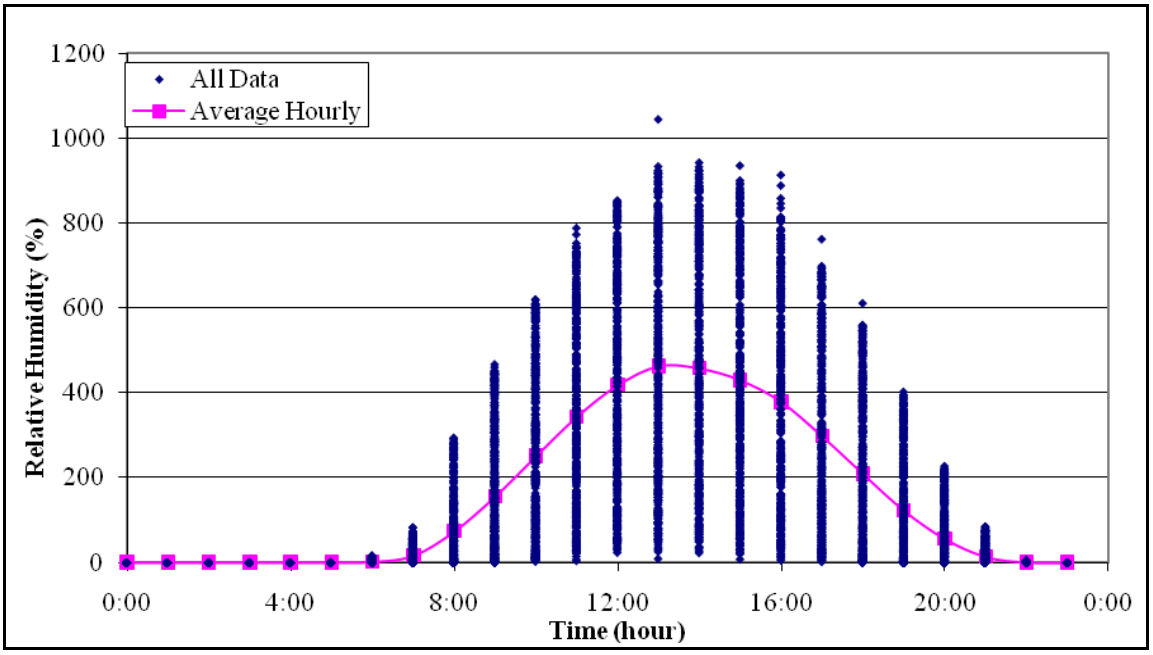


Figure 3.22 Local Study Area Climate Station Average Hourly Solar Radiation

3.4 Summary

Comparison of the local and regional data indicates that climate data collected at Barwick Ontario is expected to be representative of temperature and precipitation at the Local Study Area climate station site. Based on concurrent records, average daily temperatures at Barwick were typically 1˚C to 2˚C warmer than those recorded at the Local Study Area climate station. Correlation of rainfall data between the Local Study Area climate station and Barwick was very strong and suggests that the Local Study Area may be slightly wetter.

Average wind speed recorded at the Local Study Area climate station was around 4 km/hr from 9 p.m. to 7 a.m., increasing through the day to an average of around 10 km/hr from noon to 5 p.m. There was no a predominant wind direction at the Local Study Area climate station site. The strongest sustained winds at the site were generally in a northwest or southeast direction. Lighter winds, under 5 km/hr, were most often towards the northeast.

Barometric pressure recorded at Baudette MN can be used with confidence to correct historic pressure transducers installed on site to record stream depth. Now that barometric pressure is recorded at the Local Study Area climate station, BP recordings from the local climate station can be used for future corrections.

4. HYDROLOGY AND WATER BALANCE

4.1 Study Objective

The objectives of the hydrologic baseline studies were to determine baseline hydrologic characteristics for the Regional Study Area and Local Study Area.

4.2 Methodology

Collection of baseline hydrologic information for the Local Study Area and Regional Study Area included:

- Flow data from the EC website for the following regional stations:
  - Pinewood River at Highway No. 617 (ID 05PC023)
  - Pinewood River at Pinewood (ID 05PC011)
  - Rainy river at Fort Frances (ID 05PC019)
  - Rainy River at Manitou Rapids (ID 05PC018)
- Discrete field flow measurements at a number of locations within the Project catchment and just north of this catchment using the velocity-area method;
- Continuous stream depth measurements, averaged and logged on 30 minute intervals, using five submerged pressure transducers, of which three were installed within the Project catchment and two just north of this catchment;
- Barometric pressure data from a station in Baudette, Minnesota;
- Precipitation data collected by EC for Barwick and Fort Frances, ON;
- IDF data from the following climate stations:
  - Rawson Lake (ID 6036904)
  - Kenora (ID 6034075)

- Atikokan (ID 6020379).

- Precipitation data collected at the Local Study Area climate station.

4.3 Results

4.3.1 Regional Hydrology

4.3.1.1 General

The study areas are located within the Rainy River Drainage Basin which covers an area of 55,100 km^2 and ultimately drains into Lake of the Woods. The Rainy River Drainage Basin comprises three sub-basins, including the Rainy River Catchment (16,800 km^2), the Rainy Lake Catchment (19,400 km^2), and the Namakan Lake Catchment (18,900 km^2) as shown in Figure 4.1. Flow in the Rainy River at Lake of the Woods typically ranges from 200 m^3/s to 600 m^3/s. The Local Study Area is located in the Pinewood River catchment, which drains into the Pinewood River which flows into the Rainy River (Figure 4.2).

The Project catchment covers approximately 115 km^2 (Figure 4.2)and is characterized by gently undulating topography ranging from 350 m to 410 m above sea level (m.a.s.l.). There is an average basin slope of approximately 0.3% to the southwest. The Project catchment is located approximately 24 km upstream of the Pinewood and Rainy River confluence. The tributaries draining to the Pinewood River in the Project catchment range in length from less than 1 km to 7 km.

Pinewood River flow is highly variable throughout the year. The highest flows typically occur during freshet and low flows typically occur in the winter months. The Pinewood River headwaters are at approximate elevation 380 m.a.s.l. The Pinewood River discharges into Rainy River at approximate elevation 325 m.a.s.l. The average channel slope from the Pinewood headwaters to confluence with Rainy River is less than 0.1%. The Pinewood River is typically meandering, and varies in width, with its widest point

being approximately 40 m near its discharge into Rainy River. Within the Project catchment, Pinewood River and its tributaries generally range in width from 1 m to 15 m.

There are a number of small lakes and ponds in the Local Study Area, formed by either topographic relief and beaver dams and poor drainage conditions. Ephemeral streams within the Project catchment can carry significant runoff during freshet or following heavy rainfall. The ephemeral streams can be dry or have very low flows at other times of the year. Lower elevation areas of the Local Study Area are characterized by marshy conditions or standing water for much or all of the year.

Lake of the Woods
Warroad
Baudette
Rainy River
Rainy River
Rapid River
Manitou Rapids
FORT FRANCES
INAL FALLS
ID 05PC023
ID 05PC011
ID 6020559
ID 05PC018
ID 05PC019
Rainy
Turtle River
Mine Centre
Sturgeon Falls
Seine
Atikokan
Marmion Lake
River
Lac des Milles Lacs
Upsala
Lake
Kettle Falls Dam
Kabetogama Lake
Little Fork
Big Fork River
Big Falls
Namakan Lake
Lac la Croix
Maligne River
Basswood Lake
THUNDER BAY
ONTARIO
Pigeon River
MINNESOTA
Kawishiwi River
Ely
Vermilion Lake
Little Fork River
Orr
Virginia
Hibbing
Grand Marais
Lake Superior
Bemidji
1
2
3
N

Legend

- Project Location
- Namakan Lake Catchment
- Rainy Lake Catchment
- Rainy River Catchment
- Cities and Towns
- Stream Flow Gauge
- Water Level Gauge
- Precipitation Gauge
- Baudette Climate Station
- Rainy River Drainage Basin
- Catchment Boundary
- International Border

Notes:
1. UTM Zone 15N, WGS84
2. Map source: International Rainy Lake Board of Control (IRLBC)

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

0 50 km

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

CLIENT: RainyRiver Resources Ltd.

Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: RAINY RIVER DRAINAGE BASIN

PROJECT No. M09559A04

FIG No. 4.1

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010_baseline\Hydrology_and_Water_Balance\Fig.4.1_drainage_basin_map_28feb11.mxd - 28/02/2011 @ 8:52:26 AM

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010 baseline\Hydrology and Water Balance\Fig.4.2_Pinewood_Watershed_23eb11.mxd - 23/02/2011 @ 4:36:53 PM

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N

Pinewood River

05PC023

05PC011

Rainy River

390,000 400,000 410,000 420,000 430,000 440,000

5,420,000 5,410,000 5,400,000

Environment Canada Flow Measurement Station

Ground Elevation Contours (10 m)

Advanced Exploration Project Facility Boundary

Pinewood River Watershed

Project Catchment

Station 05PC023 Catchment

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

0 5 Km

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

PINEWOOD RIVER WATERSHED

PROJECT No. M09559A04

FIG No. 4.2

4.3.1.2 Streamflows

The Water Survey of Canada (WSC) has collected flow and river stage data at a number of hydrometric stations in the Rainy River drainage basin for several decades. Historical flow data from two points on the Pinewood River and two points on the Rainy River are summarized in Table 4.1 and shown on Figure 4.1. Using data from these regional stations, mean annual runoff was calculated to range from 230 mm/yr to 270 mm/yr. Due to size and proximity, the Pinewood River stations are expected to best represent runoff conditions in the Local Study Area.

Table 4.1 Regional Hydrometric Data Summary

STATION	LOCATION (m)		DATA RANGE	CATCHMENT AREA (km^2)	FLOW (m^3/s)			MEAN RUNOFF (mm/yr)
	Easting	Northing			Mean	Max	Min	
Pinewood River near Pinewood	409290	5400720	1952 to 1998	461	4.0	104	0.001	270
Pinewood River at Highway No. 617	413017	5405653	2007 to 2009	229	1.7	34	0.001	235
Rainy River at Fort Frances	470270	5384000	1905 to 2009	38600	280	1360	1	230
Rainy River at Manitou Rapids	432680	5387200	1928 to 2009	50200	370	2020	26	230

The Pinewood River near the Pinewood hydrometric station (EC station ID 05PC011) is located approximately 25 km downstream of the Local Study Area. The Pinewood River at the Highway No. 617 hydrometric station (EC station ID 05PC023) is approximately 14 km downstream of the Local Study Area. Median, upper decile, and lower decile flows from March through October at these station are presented in Figure 4.3 and Figure 4.4. These data were calculated using daily data collected from 1952 to 1998 for 05PC011 and from 2007 to 2009 for 05PC023.

Flow data from 1952 through 1997 for Station 05PC011 data are shown in Figure 4.5. Concurrent flow data from Station 05PC011 and Station 05PC023 are shown alongside precipitation records from Barwick ON in Figure 4.6 and Figure 4.7 to represent typical rainfall/runoff characteristics in the Local Study Area.

From this data, it is clear that snowmelt and spring rains lead to rapidly increasing flows during freshet which typically occurs in April. Freshet flows can vary significantly from year to year. Average flows generally decrease through the summer months, though significant flow increases can occur following large storm events. Smaller storm events do not tend to cause significant flow increases in the Pinewood River, presumably due to attenuation. The lowest recorded flows following freshet generally occur during August and September when evapo-transpiration is typically high relative to precipitation. There is limited data from the Pinewood River near Pinewood (WSC ID 05PC011) from November to February due to ice formation; however, base flows may also be low during this period.

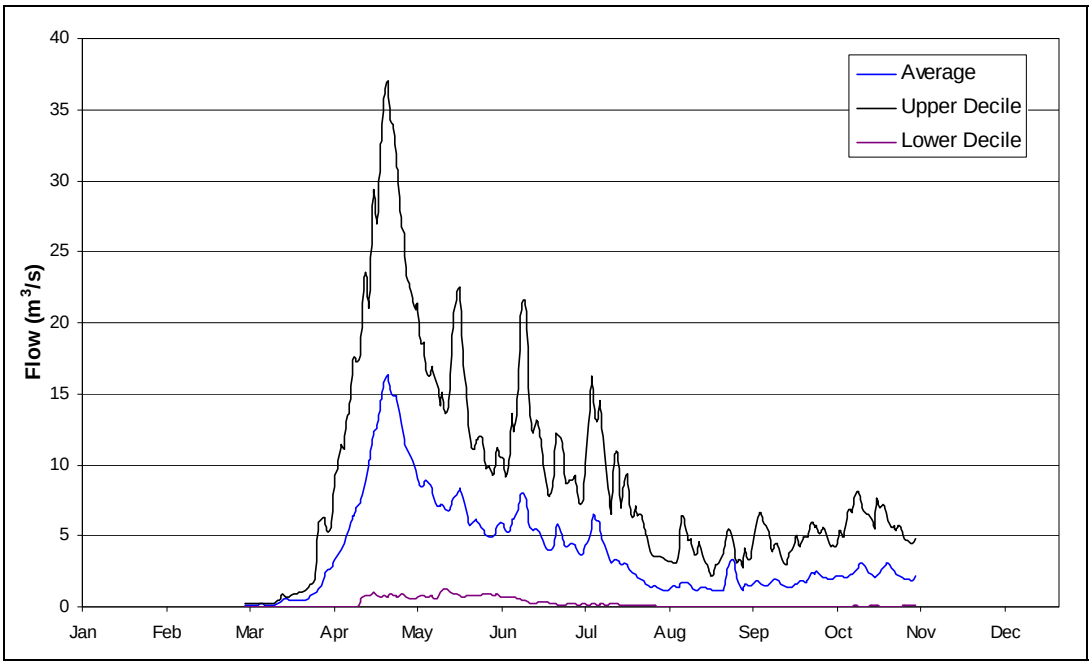


Figure 4.3 Pinewood River near Pinewood (05PC011) Flow Summary

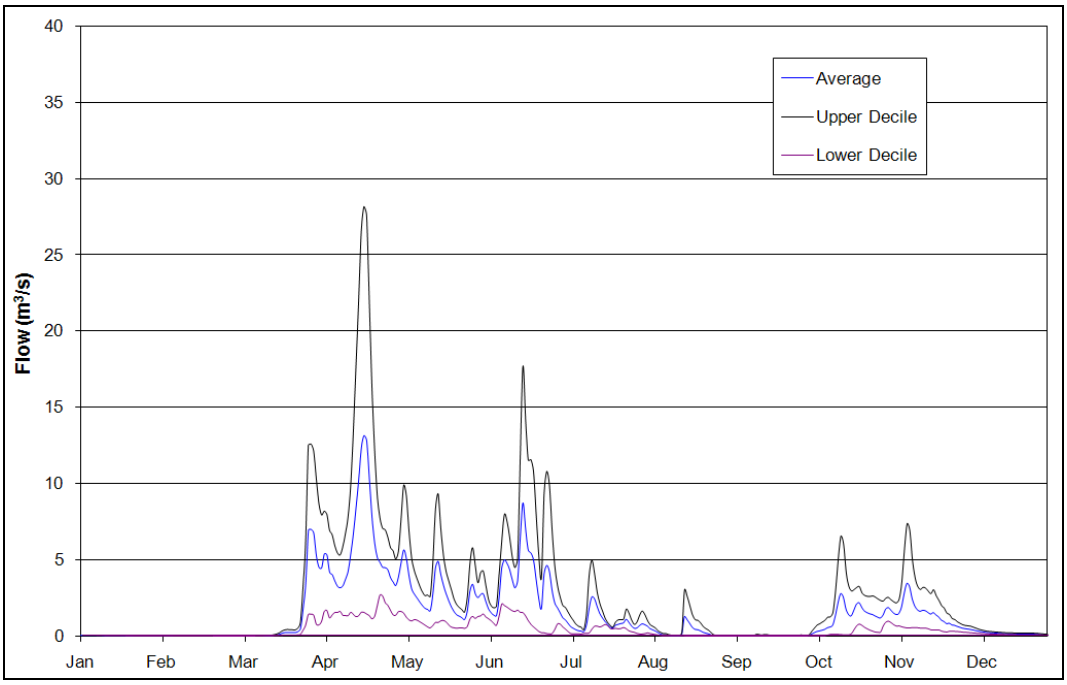


Figure 4.4 Pinewood River at Highway No. 617 (05PC023) Flow Summary

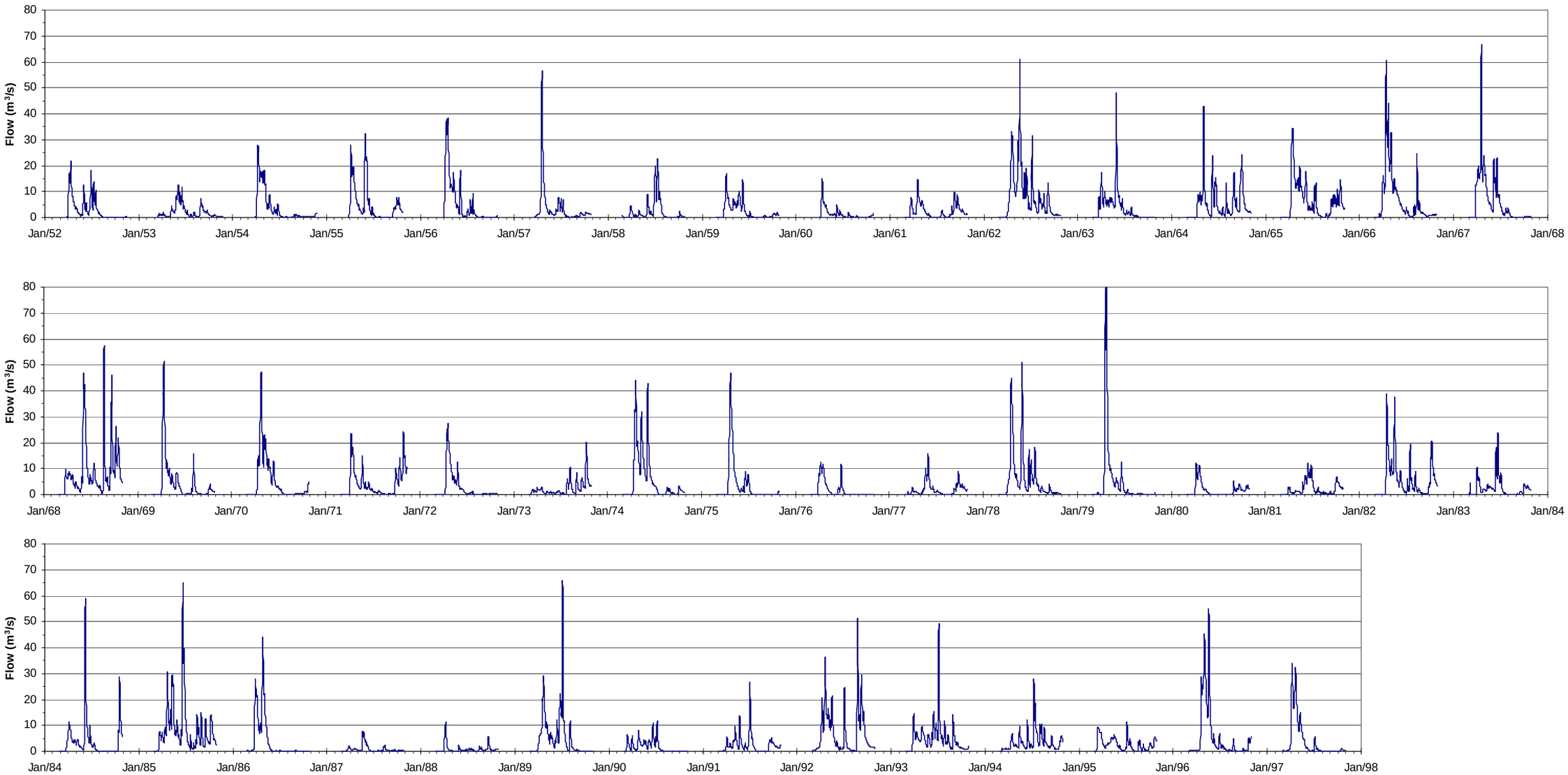


Figure 4.5 Pinewood River near Pinewood (05PC011) Flow History 1952 to 1997

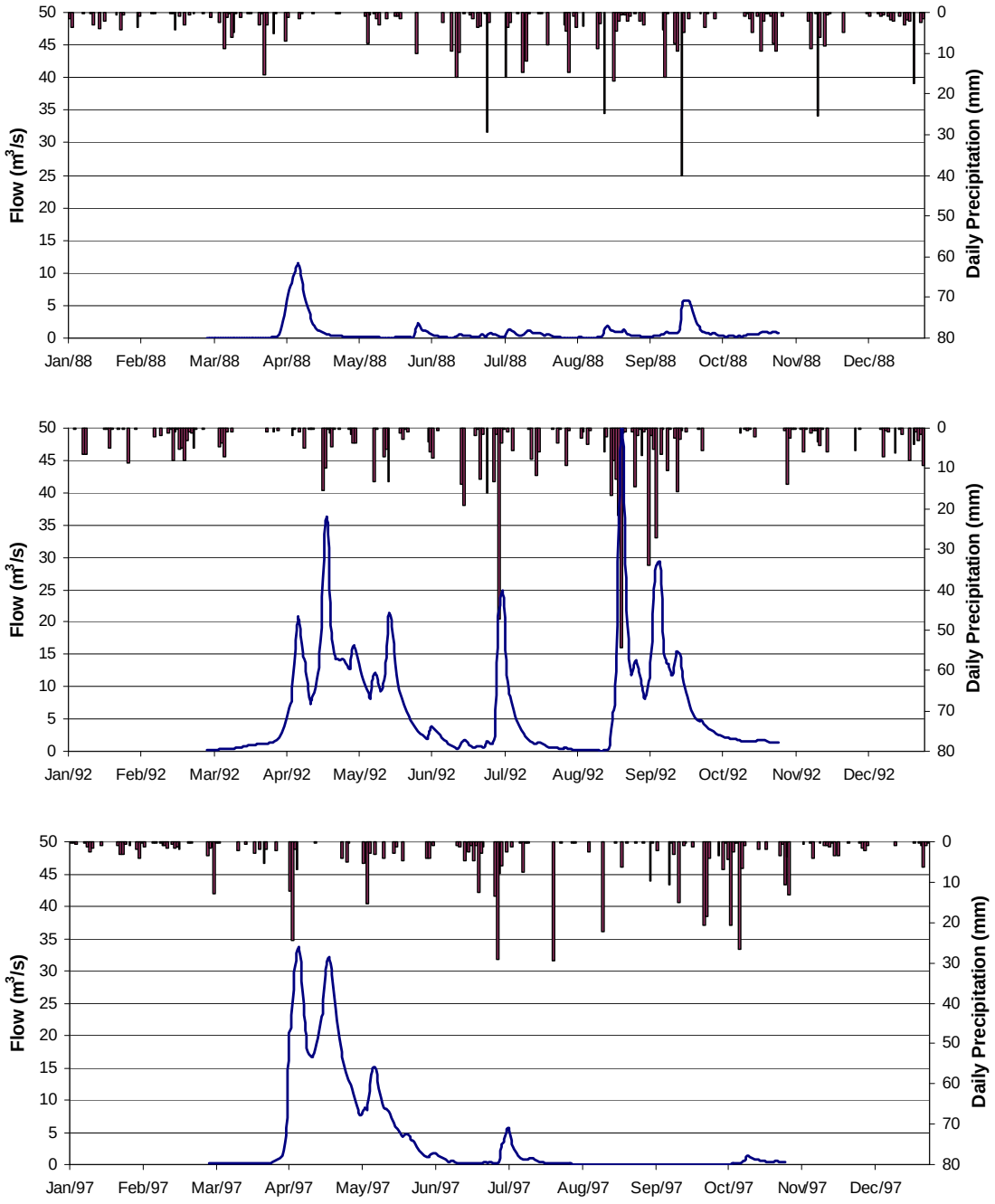


Figure 4.6 Pinewood River near Pinewood (05PC011) Flows and Barwick Precipitation - 1988, 1992, and 1997

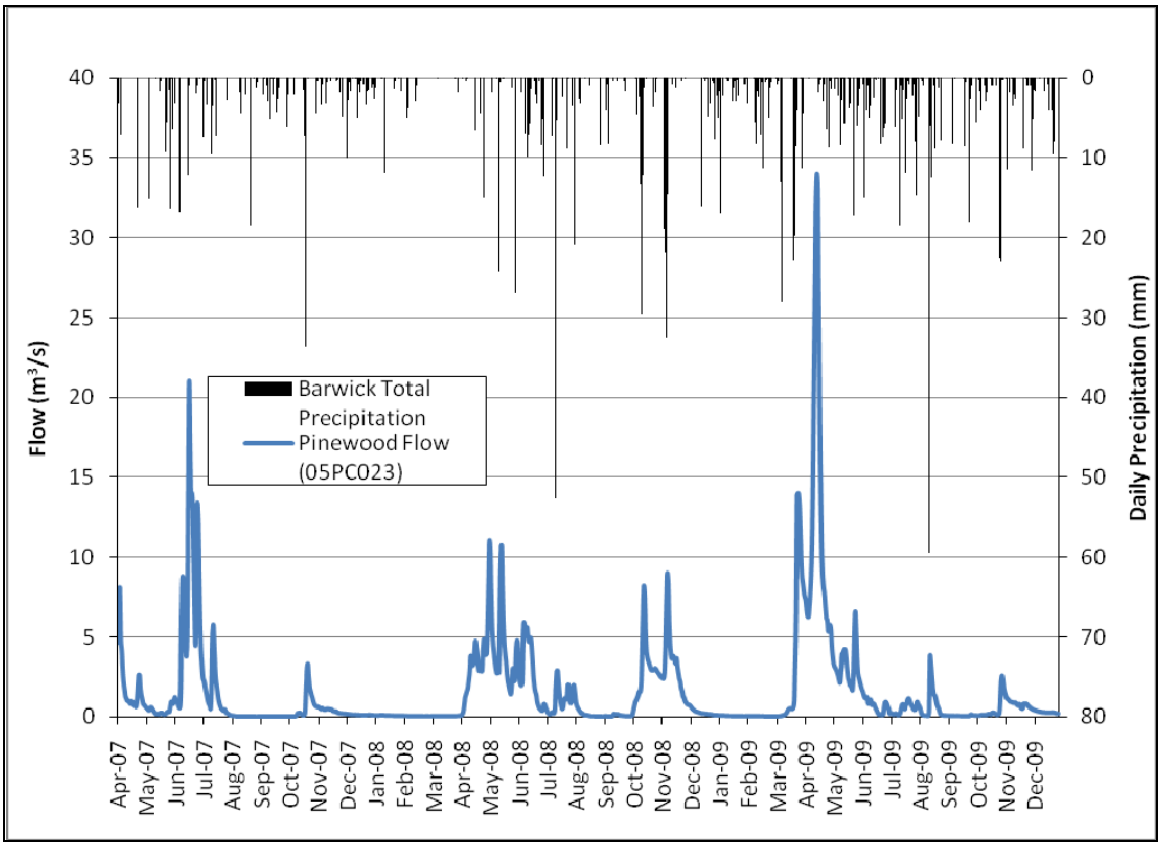


Figure 4.7 Pinewood River at Highway No. 617 (05PC023) Flows and Barwick Precipitation (2007 to 2009)

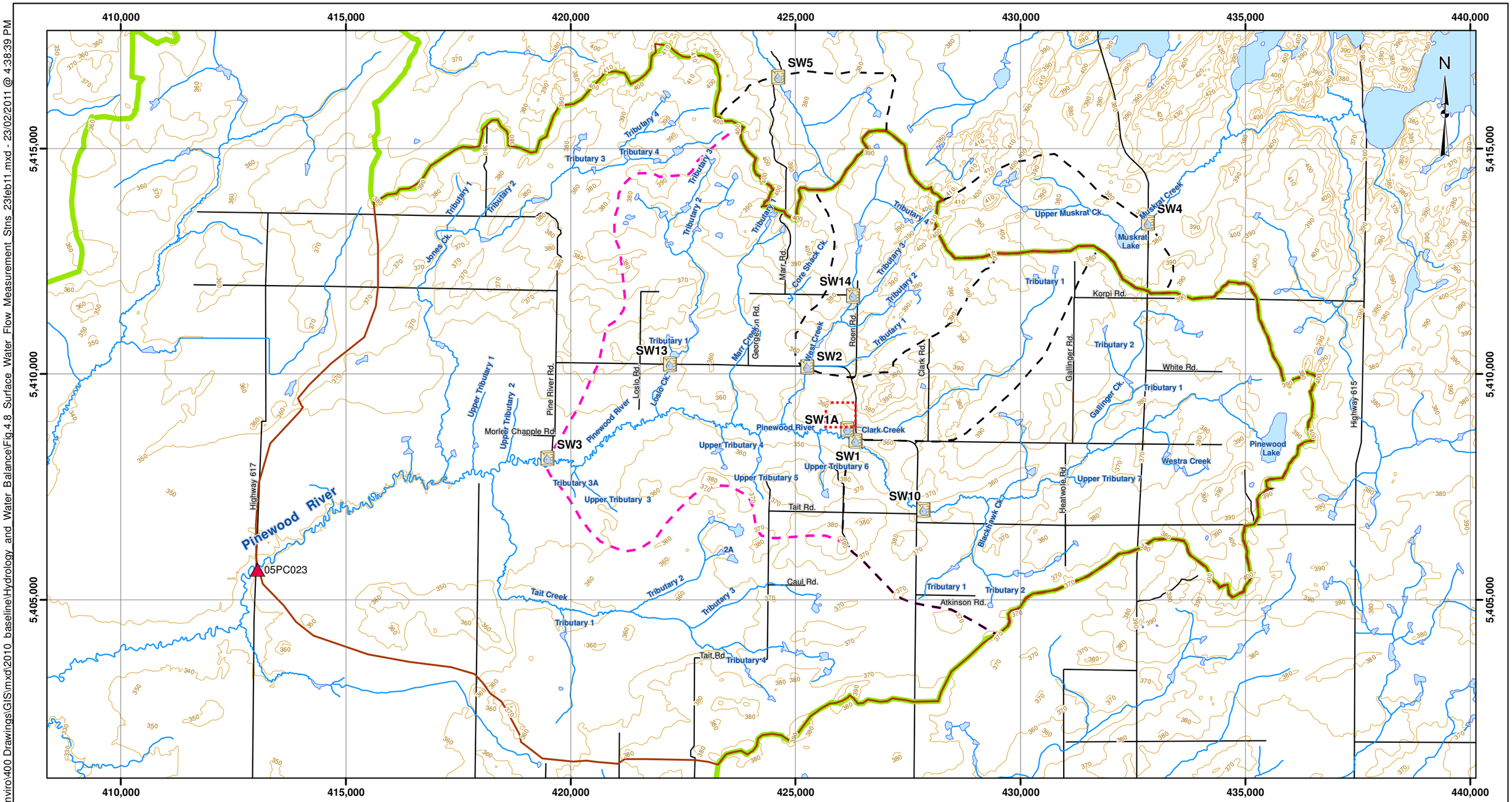
4.3.2 Local Hydrology

4.3.2.1 Flow Monitoring Stations

Continuous flow monitoring stations (Table 4.2) were established at five locations in the Local Study Area in 2008 and 2009 as shown in Figure 4.8.

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Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010 baseline\Hydrology and Water Balance\Fig.4.8 Surface Water Flow Measurement Stns 23feb11.mxd - 23/02/2011 @ 4:38:39 PM


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SW5
SW4
SW14
SW13
SW2
SW1A
SW1
SW3
SW10
05PC023
Pinewood River
Tributary 1
Tributary 2
Tributary 3
Tributary 4
Jones Ck.
Upper Tributary 1
Upper Tributary 2
Upper Tributary 3
Upper Tributary 4
Upper Tributary 5
Upper Tributary 6
Upper Tributary 7
Tributary 3A
Pine River Rd.
Loslo Rd.
Loslo Ck.
Marr Rd.
Marr Creek
Georgeson Rd.
West Creek
Roen Rd.
Core Shack Ck.
Clark Rd.
Clark Creek
Gallinger Rd.
Gallinger Ck.
Korpi Rd.
White Rd.
Muskrat Creek
Upper Muskrat Ck.
Muskrat Lake
Pinewood Lake
Westra Creek
Heatwole Rd.
Blackhawk Ck.
Tait Rd.
Tait Creek
Caul Rd.
Atkinson Rd.
Morley Chapple Rd.
Highway 617
Highway 615
2A
4
Tributary 1
Tributary 2
Tributary 3
Tributary 4
Tributary 1
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SW1, SW2, and SW3 are located on the Pinewood River and its tributaries. SW4 is located in the Rainy Lake Catchment, north-east of the Local Study Area, and SW5 is located in the Lake of the Woods Catchment, north of the Local Study Area. Discrete flow measurements, using velocity-area method, have been collected between two and eight times at these stations.

Table 4.2 Continuous Flow Monitoring Stations

STATION	LOCATION (m)		CATCHMENT AREA (km^2)
	Easting	Northing	
SW1	426335	5408522	49.0
SW2	425259	5410167	13.1
SW3	419489	5408128	114.6
SW4	432831	5413284	8.5
SW5	424616	5416590	7.5

Submerged pressure transducers were installed at all five hydrometric stations to allow continuous monitoring of stream depth. Pressure transducer recordings were subsequently corrected for barometric pressure changes using data from Baudette, Minnesota located approximately 43 km southwest of the Local Study Area. In the future, data collected using these pressure transducers will be corrected using barometric pressure data from the Local Study Area climate station.

4.3.2.2 Flow Monitoring Results

Stream depth (i.e., stage) at the five hydrometric stations is plotted alongside local precipitation records in Figure 4.9. Precipitation data shown were collected from the Local Study Area climate station and from the Barwick ON station. These data generally indicate that stream depth or stage rises following long-duration or heavy rainfall events. Light rainfall and/or short precipitation duration events appear to have little effect on local stream stage.

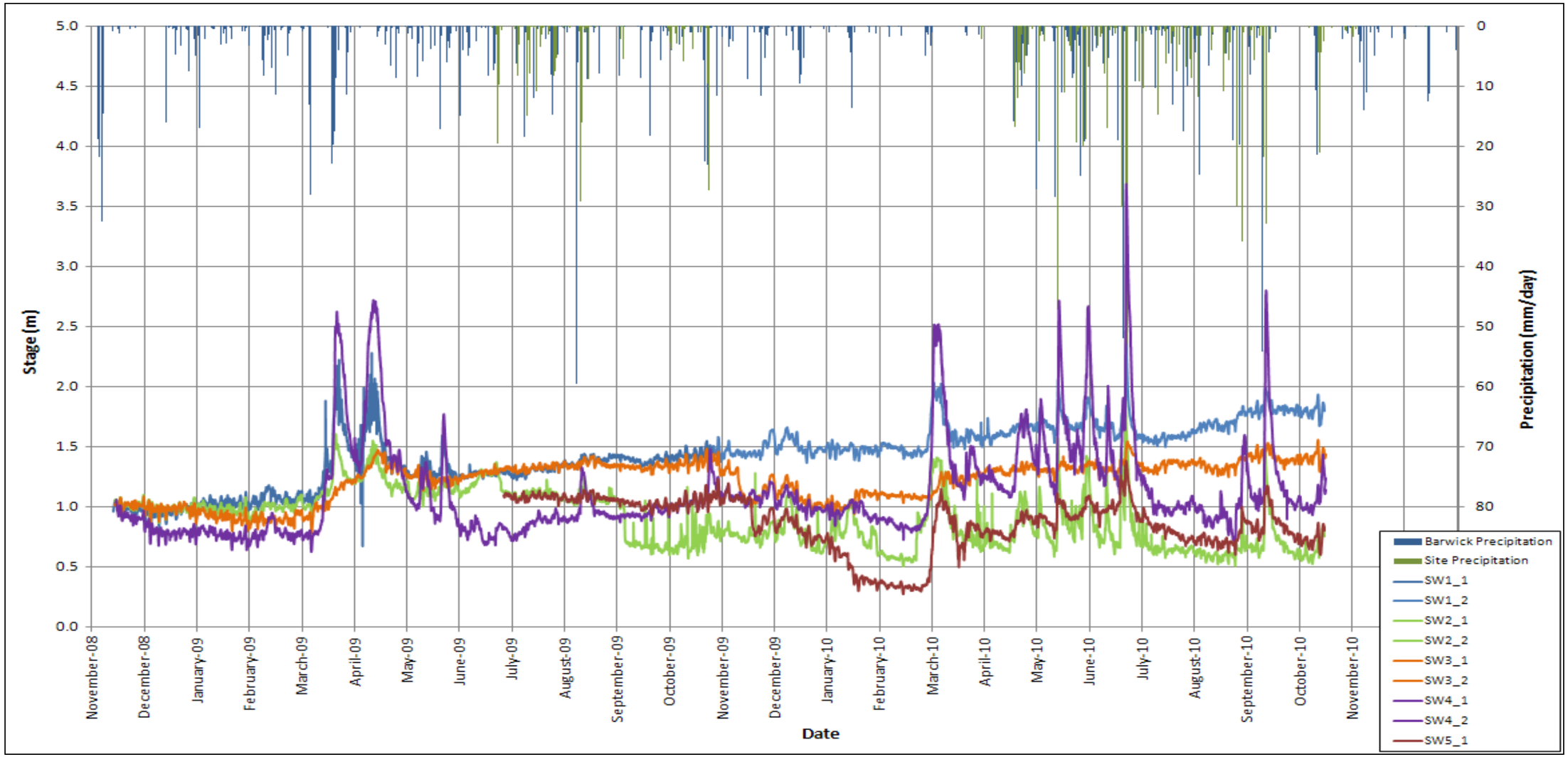


Figure 4.9 Stream Stage and Precipitation

Discrete flow measurements from the five hydrometric stations (SW1, SW2, SW3, SW4 and SW5) are summarized in Table 4.3. As shown in the Table, runoff from the Local Study Area which passes through station SW3, ranged from 0.00 m^3/s to 1.36 m^3/s over the monitoring period.

Table 4.3 Manual Flow Measurement Results

STATION	FLOW (m^3/s)								
	2008	2009				2010			
	Nov	May	Jun	July	Nov	Mar	Jun	Jul	Oct
SW1	0.66	0.09	NR	0.03	0.02	0.19	NR	NR	0.00
SW2	0.11	NR	0.12	NR	0.02	NR	NR	0.01	0.02
SW3	1.34	0.74	0.00	0.00	0.35	0.82	1.36	NR	0.36
SW4	0.10	NR	NR	0.00	0.03	NR	NR	NR	NR
SW5	NR	NR	NR	0.00	0.00	NR	NR	NR	NR

NR – Not recorded

Additional discrete flow measurements were carried out at four other local stations as summarized in Table 4.4.

Table 4.4 Additional Flow Measurements at the Site

STATION	FLOW (m^3/s)				
	Year 2010				
	May	June	July	August	October
SW1A	NR	0.10	NR	NR	NR
SW10	NR	NR	NR	0.00	0.04
SW13	0.20	NR	0.006	NR	0.06
SW14	NR	0.07	NR	NR	NR

NR – Not recorded

It is not possible to generate meaningful stage-discharge curves for SW1 to SW4 using discrete flow measurements summarized in Table 4.3. Several discrepancies between the measured water depth and measured flows were apparent at different times. For example, on October 6 2010 although the stream depth at station SW1 was over 1 m, there was no

discharge as the flow velocity was zero or too low to measure. However, at the same location, on November 13, 2008 the discharge in the stream was calculated to be 0.66 m^3/s for a water depth of less than 1 m. Similarly anomalous measurements were recorded on July 29, 2010 at SW3 and on July 1, 2009 at SW4. Possible reasons for these anomalous rating curve relationships include:

- Changes in backwater conditions during the monitoring period, due to the removal of beaver dams and/or debris at culverts, or the establishment of new beaver dams; and
- Inaccuracy, inherent when measuring very low stream velocity (i.e., less than 0.02 m/s).

Accordingly, stream flow and runoff volume from the local hydrometric stations have not been estimated using the continuous stream depth records collected to date.

4.3.3 Hydrological Design Parameters

4.3.3.1 Precipitation and Design Floods

Based on regional climate data (Section 3), average precipitation in both the Local Study Area and Regional Study Area is approximately 695 mm/yr. Over the same period, annual precipitation varied from approximately 450 mm/yr to approximately 950 mm/yr.

As stated earlier, the closest climate station with a long term record is Barwick, ON. Average monthly precipitation at Barwick from 1971 to 2000 is summarized in Table 4.5.

Table 4.5 Barwick Average Monthly Precipitation

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Average Monthly Precipitation (mm)	28.3	24.1	29.7	40	68.3	113.8	99	84	80	56.2	41.7	29.7	**694.7**
Month Distribution (%)	4.0	3.5	4.3	5.8	9.8	16.4	14.3	12.1	11.5	8.0	6.0	4.3	**100**

Data collected at Barwick, Ontario, 1971 to 2000.

Frequency analysis of 24-hour rainfall events, observed at Barwick, is summarized in Table 4.6.

Table 4.6 Maximum 24-Hour Precipitation Events at Barwick ON

RETURN PERIOD (years)	24 HOUR PRECIPITATION (mm)
2	49
5	89
10	86
20	107

Data collected at Barwick, Ontario, 1971 to 2000

Frequency analysis of long duration rain-only and rain plus snowmelt events, computed by the Canadian Climate Centre based on observations at Fort Frances (1977 to 2006), are summarized in Table 4.7 and Table 4.8, respectively.

Table 4.7 Long Duration Rain-Only Events at Fort Frances ON

RETURN PERIOD (years)	10-DAY PRECIPITATION (mm)	20-DAY PRECIPITATION (mm)	30-DAY PRECIPITATION (mm)
2	104	143	175
5	135	181	217
10	155	207	245
25	181	238	279

Canadian Climate Centre based on observations at Fort Frances (1977 to 2006)

Table 4.8 Long Duration Rain and Snowmelt Events at Fort Frances, ON

RETURN PERIOD (years)	10-DAY PRECIPITATION (mm)	20-DAY PRECIPITATION (mm)	30-DAY PRECIPITATION (mm)
2	72	88	99
5	110	134	151
10	134	164	186
25	166	202	231

Canadian Climate Centre based on observations at Fort Frances (1977 to 2006)

IDF analyses by EC is available for three precipitation gauges near the Local Study Area: Rawson Lake, Kenora and Atikokan. The available IDF stations are listed in Table 4.9 and shown on Figure 3.1.

Table 4.9 IDF Stations Near the Local Study Area

STATION	STATION ID NUMBER	YEARS OF DATA	AVERAGE ANNUAL PRECIPITATION (mm)	DISTANCE DIRECTION FROM PROJECT AREA (km)
Rawson Lake	6036904	1971 to 2002	689	122
Kenora	6034075	1966 to 2003	662	107
Atikokan	6020379	1967 to 1988	740	175

IDF statistics from the Rawson Lake, Kenora, and Atikokan stations are similar and for this level of study can be considered to be representative for the Local Study Area. Of the stations of interest, Kenora has the longest data record. IDF statistics for Kenora are summarized in Table 4.10 and Figure 4.10.

Table 4.10 Kenora Return Period Rainfall Amounts

RAINFALL (mm)						
Duration/ARI	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
5 min	9.7	13.1	15.3	18.0	20.1	22.1
10 min	13.3	18.0	21.1	25.0	27.8	30.7
15 min	16.2	22.5	26.6	31.8	35.7	39.5
30 min	21.2	30.0	35.8	43.2	48.6	54.0
1 hour	26.2	37.6	45.1	54.6	61.7	68.7
2 hour	32.1	49.8	61.4	76.2	87.1	98.0
6 hour	45.4	66.7	80.9	98.7	112.0	125.1
12 hour	54.1	80.1	97.4	119.1	135.2	151.3
24 hour	59.9	87.1	105.1	127.8	144.7	161.4

Reference: Environment Canada, Water Survey of Canada

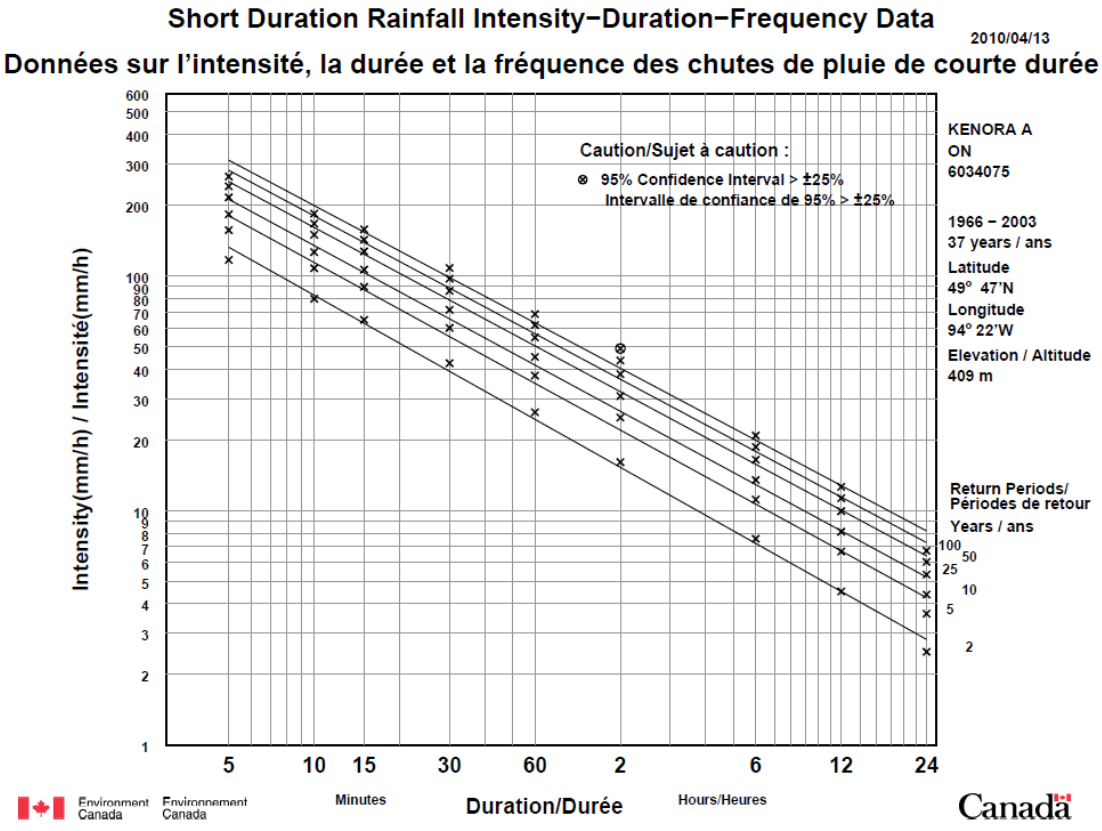


Figure 4.10 IDF Statistics for Kenora Ontario (1966-2003)

4.3.3.2 Regional Runoff Coefficient and Flows

Stream flow includes both direct runoff and seepage base flow through highly permeable surficial soils. Regional hydrometric stations were used to estimate runoff coefficients in the Local Study Area. Based on hydrometric data collected on the Pinewood River (Section 4.3.1.2), mean annual runoff varies between 210 mm/yr and 315 mm/yr, which equates to about 30% to 45% of mean annual precipitation in the Local Study Area.

The Pinewood River near Pinewood (05PC011) station has data from approximately February to November for 46 years. These flows were averaged and the winter months were assumed to have the same baseflow (low flow) values as the February data. The annual average flow was compared with the average annual Barwick precipitation to find an annual average coefficient of 0.39. The Pinewood River at Highway No. 617 has flow data from April 2007 to December 2009. Hydrologic years of data (October 1, 2007 to October 1, 2008 and October 1, 2008 to October 1, 2009) were compared with the corresponding precipitation from the Barwick station to find annual runoff coefficients of 0.36 and 0.40. The 2007 to 2008 year was drier than the 2008 to 2009 year.

Locally, the annual runoff coefficient is expected to be closer to the high side of this range, and is assumed to be in the order of 0.40 to 0.45.

The average distribution of monthly runoff for the Pinewood at Highway No. 617 station is shown in Figure 4.11.

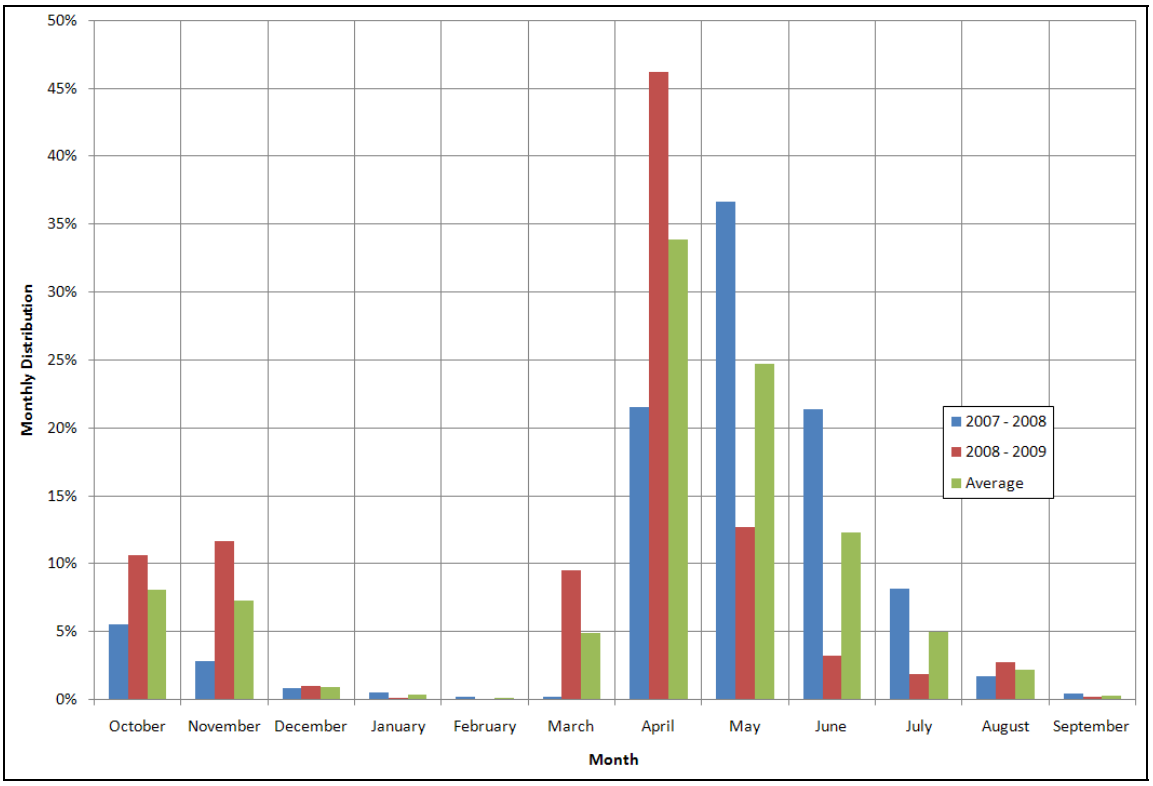


Figure 4.11 Average Monthly Runoff in the Pinewood River at Highway No. 617

4.3.3.3 Evapotranspiration

Based upon regional information (National Resources of Canada Evaporation Atlas and streamflow stations) and data from the Local Study Area climate station, average evapotranspiration in the Local Study Area is likely between 315 mm/yr and 560 mm/yr, or 45% to 80% of average annual precipitation. Evapotranspiration varies temporally throughout the year, and spatially as surface water, soil, and vegetation conditions change across the Local Study Area.

4.3.3.4 Infiltration

Infiltration can be either positive (i.e., infiltration into till or bedrock), or negative (i.e., exfiltration from till or bedrock into stream beds). Vertical hydraulic gradients, infiltration and exfiltration are discussed in more detail in Section 6. The direction and

magnitude of infiltration varies temporally and spatially across the Local Study Area, as determined by groundwater heads, overburden hydraulic conductivity, and surface water flow conditions.

4.3.3.5 Water Balance

The hydrologic water balance for the proposed Project can be characterized by the following equation:

Precipitation – Runoff – Groundwater Recharge - Evapotranspiration = Change in Soil Moisture

Given variations in topography, precipitation, vegetation, soils, and drainage patterns across the Local Study Area and between seasons, water balance parameters vary both spatially and temporally. Based on available information, estimated annual values for precipitation, runoff and combined water balance losses are summarized in Table 4.11.

Estimates of total precipitation, runoff and other losses in an average year are presented in Figure 4.12, based on climate and runoff data and assumptions presented in preceding sections. Figure 4.12 is a conceptual model of the Local Study Area water balance for average annual conditions. Infiltration, lumped with other water balance losses in Figure 4.12 is expected to be low relative to evapotranspiration, due to the typically low permeability nature of surficial l soils in the area.

Table 4.11 Estimated Average Annual Water Balance Parameters

PARAMETER	ESTIMATED VALUE (mm/yr)
Precipitation	695
Runoff	315
Evaporation, Transpiration and Other Losses	380
Change in Soil Moisture	0

Note: Infiltration is considered positive into the ground and negative out of the ground.

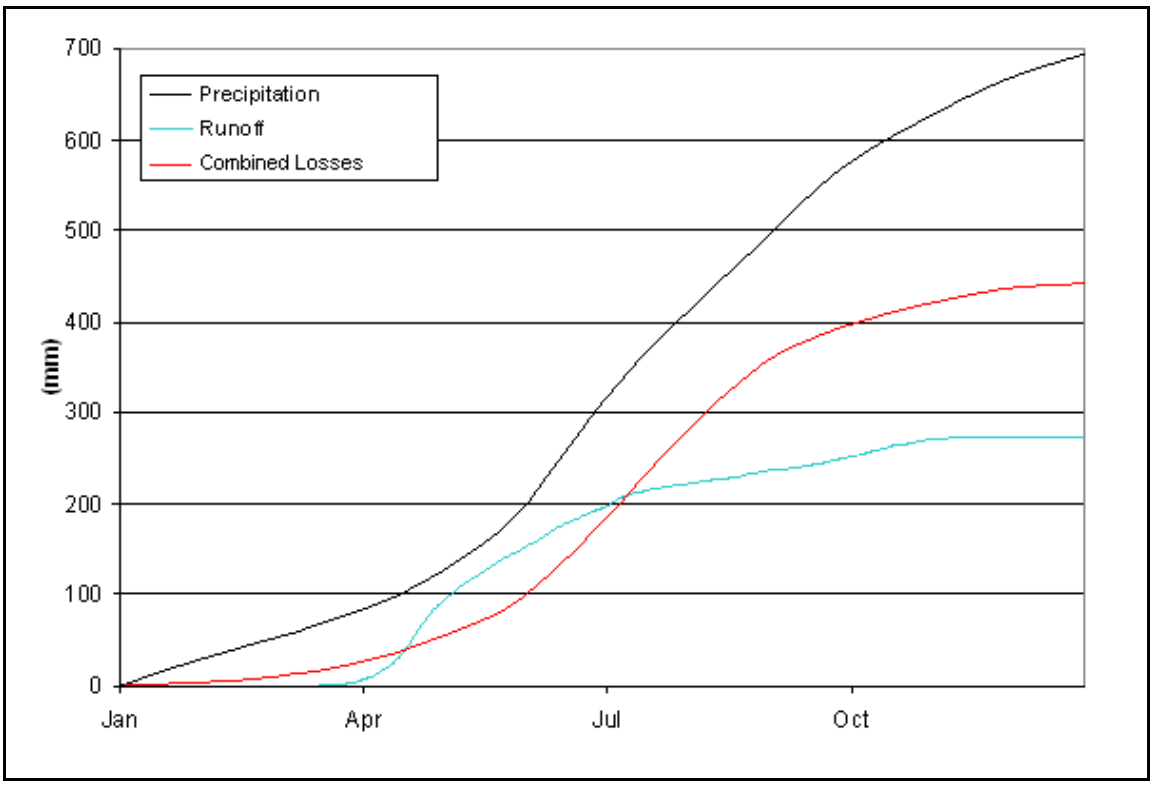


Figure 4.12 Estimated Average Annual Water Balance for the Local Study Area

4.4 Summary

The proposed Project is located in a catchment covering an area of approximately 115 km^2 with topography ranging from 350 m to 410 m above sea level and an average slope of approximately 0.3% to the southwest. Runoff from the proposed Project

catchment discharges to the Pinewood River via a series of tributaries ranging in length from less than 1 km to 7 km.

Pinewood River flow is highly variable throughout the year with the highest flows typically occurring during freshet and low flows typically occurring in the winter months. The Water Survey of Canada has collected flow data at a number of hydrometric stations in the Rainy River drainage basin, of which the most relevant for this Project are Pinewood River near Pinewood (ID 05PC011) and Pinewood River at Highway No. 617 (ID 05PC023). Analysis of data from the Pinewood River near Pinewood station indicates freshet typically produces the highest monthly flows. The lowest recorded flows occur during August and September. Low flows likely also occur in the winter months when ice cover precludes accurate measurement.

As part of the baseline studies, hydrometric stations were established at five locations (See Section 4.3.2.1) to characterize local runoff characteristics, and in particular low flow characteristics. Rating curves need to be established for these locations in order to calculate flow discharge using collected flow depth data.

Based upon the regional climate data, average precipitation in the Local Study Area is approximately 695 mm/yr, and typically varies from around 450 mm/yr to 950 mm/yr. Based on data from Kenora, 24-hour rainfall intensities vary between 2.5 mm/hr for a 1:2-year return period to 6.7 mm/hr for a 1:100-year return period event. However, the 5-min rainfall intensities vary from 116 mm/hr for a 2-year average return period event to 265 mm/hr for a 100-year return period event.

Based on flow data from the Pinewood River and precipitation data from the Barwick ON, a mean annual runoff coefficient for the area was estimated to be in the order of 0.40 to 0.45.

The sum of all water balance losses (i.e., evaporation, transpiration, infiltration, groundwater recharge) were estimated to total about 380 mm/yr for average annual conditions.

5. SURFACE WATER QUALITY

5.1 Study Objectives

The objective of the surface water quality baseline studies was to characterize the seasonal (i.e., temporal) and spatial variations in water quality in the Local Study Area and the Regional Study Area.

5.2 Methodology

Baseline data collection included a desktop literature review and a water quality sampling program. Surface water quality baseline data in the Local Study Area was collected from:

- Eight sampling stations established by Rainy River Resources in 2007; and
- Fourteen sampling stations established by KCB between 2008 and 2010, including three of the stations initially sampled by Rainy River in 2007.

Surface water quality data for the Regional Study Area were collected from:

- The 1998 Rainy River Watershed program which included a "Stream Assessment" program to assess the "health" of streams in the watershed;
- The International Rainy River Water Pollution Board (IRRWPB) and International Rainy Lake Board of Control (IRLBC) studies, which included sampling in the Rainy River watershed in 2005. The nearest IRRWPB and IRLBD sampling point was located approximately 30 km downstream of the Regional Study Area; and
- Five Regional Study Area water quality sampling stations established by KCB between 2008 and 2010.

A total of nineteen stations were sampled by KCB during the 2008 to 2010 sampling program. Fifteen stations were located within the Local Study Area and / or Regional

Study Area. Four stations were outside the Regional Study Area (i.e., on the Rainy River upstream and downstream of the confluence with the Pinewood River, in the Lake of the Woods watershed, and in the Rainy Lake watershed). Therefore, for the purposes of this surface water quality characterization program, the term 'regional' applies to the one station located outside of the Local Study Are but within the Pinewood River watershed as well as the four stations that are outside of the Pinewood River watershed. All the results from the KCB program are discussed in Section 5.3.2.3.

5.2.1 Water Quality Guidelines

The surface water quality guidelines for Ontario are contained within the Provincial Water Quality Objectives (PWQO). The use of PWQO was confirmed to be appropriate based on discussion with MOE representative (MOE, 2009). In the absence of specific PWQO criteria, water quality data was also compared to the Canadian Council for Ministers of the Environment (CCME) guidelines, as summarized in Table 5.1

Water quality objectives for metal concentrations were compared to total metals concentrations in surface water samples, with the exception of aluminum which was compared to dissolved metals concentrations water quality objectives.

Table 5.1 Surface Water Quality Guideline Criteria

PARAMETER	UNITS	PWQO[1]	CCME[2]
pH	pH	6.5-8.5	6.5-9
Total Ammonia as N	mg/L		0.35-73
Un-ionized ammonia	mg/L	0.02	
Fluoride (F-)	mg/L		0.12
Nitrate as N	mg/L		2.9
Nitrite as N	mg/L		0.2
Total Cyanide (CN)	mg/L	0.005	0.005
E. Coli	Col/100mL	100	
Aluminum (Al)	mg/L	0.075	
Antimony (Sb)	mg/L	0.02	
Arsenic (As)	mg/L	0.1	0.05
Beryllium (Be)	mg/L	0.011-1.1	
Cadmium (Cd)	mg/L	0.0001-0.0005	0.000017
Chromium (Cr)	mg/L	0.001	0.001
Cobalt (Co)	mg/L	0.0009	
Copper (Cu)	mg/L	0.005	0.002-0.004
Iron (Fe)	mg/L	0.3	0.3
Lead (Pb)	mg/L	0.001-0.005	0.001-0.007
Mercury (Hg)	mg/L	0.0002	0.000004
Molybdenum (Mo)	mg/L	0.04	0.073
Nickel (Ni)	mg/L	0.025	0.025-0.15
Selenium (Se)	mg/L	0.1	0.001
Silver (Ag)	mg/L	0.0001	0.0001
Thallium (Tl)	mg/L	0.0003	0.0008
Uranium (U)	mg/L	0.005	
Vanadium	mg/L	0.006	
Zinc (Zn)	mg/L	0.02	0.03

Notes:
1. Ontario Ministry of the Environment (1994)
2. Canadian Council of Ministers of the Environment (2007)

5.2.2 Parameters Tested

Parameters analyzed in the laboratory during the 2008 to 2010 sampling program are detailed in Table 5.2. Note that due to the adaptive management strategy employed for the sampling program, not all parameters were collected at all stations or during all sampling sessions. Parameters tested during all sampling programs from 2008 to 2010 included pH, conductivity (EC), total suspended solids (TSS), some dissolved ions, nutrients (excluding total Kjeldahl nitrogen (TKN)), biochemical oxygen demand (BOD), chemical oxygen demand (COD), total cyanide (CN), and total metals.

Microbiology samples were collected eight times in 2009 and 2010 from five stations (SW1 to SW5). *E.Coli* samples were also collected in 2008 from all five stations sampled (SW1 to SW5).

Appendix I contains a record of all the surface water quality data collected.

Table 5.2 Surface Water Quality Parameters

TYPE	PARAMETER	
Conventional Variables	• pH • Conductivity (EC) • Total Organic Carbon (TOC) • Colour	• Total Suspended Solids (TSS) • Turbidity • Total Alkalinity (as $CaCO_3$) • Acidity (as $CaCO_3$)
Ions	• Dissolved Chloride (Cl) • Fluoride (F^-)	• Total Dissolved Solids (TDS) • Sulphate (SO_4)
Nutrients	• Total Ammonia as N • Nitrate as N • Nitrite as N • Nitrate + Nitrite	• Total Kjeldahl Nitrogen (TKN) • Orthophosphate • Dissolved Organic Carbon (DOC) • Dissolved Phosphorus
Oxygen Demand	• Biochemical Oxygen Demand (BOD)	• Chemical Oxygen Demand (COD)
Microbiology	• Total Coliforms • Fecal Coliforms	• *Escherichia coli* • Heterotrophic Plate Count
Oil and Grease	• Animal and Vegetable Oil & Grease • Mineral / Synthetic Oil & Grease	• Total Oil & Grease
Cyanide	• Total Cyanide	• WAD Cyanide
Total and Dissolved Metals	• Aluminum • Antimony • Arsenic • Barium • Beryllium • Bismuth • Boron • Cadmium • Calcium • Chromium • Cobalt • Copper • Iron • Mercury • Lead • Lithium • Magnesium • Manganese	• Molybdenum • Nickel • Potassium • Selenium • Silicon • Silver • Sodium • Strontium • Tellurium • Thallium • Thorium • Tin • Titanium • Tungsten • Uranium • Vanadium • Zinc • Zirconium

Data for several field parameters (i.e., pH, temperature, EC, and dissolved oxygen (DO)) were collected during the 2010 program.

5.2.3 Site Selection

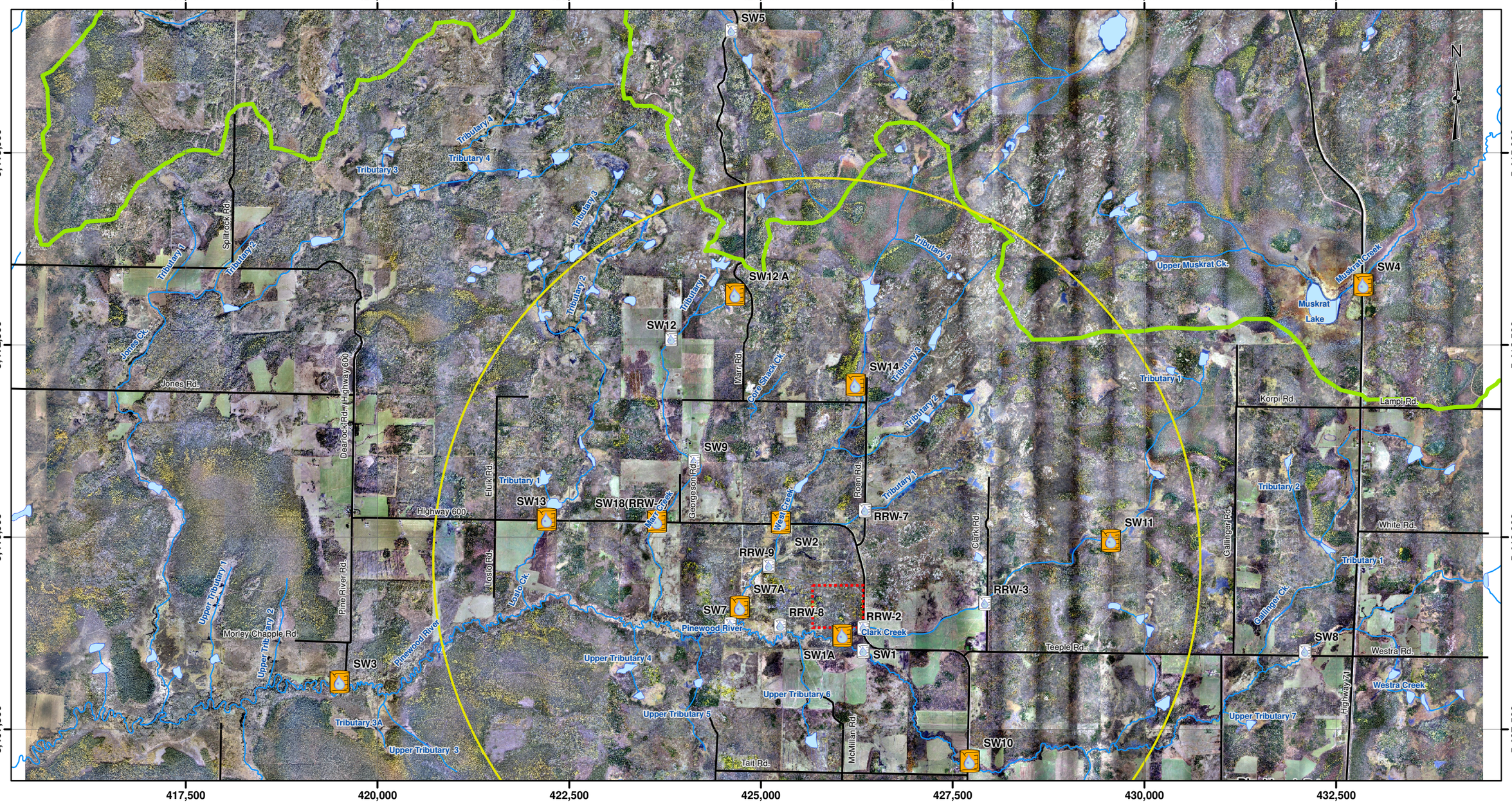
The 2007 water quality sampling program consisted of a single sampling round at eight surface water quality stations in August. The 2008 water quality sampling program consisted of a single sampling round at five surface water quality stations in November. In 2010, nineteen stations were sampled at least once during the year. Since June 2010, fourteen stations have been sampled on a monthly basis and this sampling is continuing.

The location of the sampling stations is shown on the Local Study Area map (Figure 5.1) and the Regional Study Area map (Figure 5.2). A description of the location, the purpose of the station, and the status of sampling activities is provided in Table 5.3.

Stations SW4 and SW5 were established to determine a control site outside the Pinewood River watershed. Station SW4 is located in the Rainy Lake watershed while Station SW5 is located in the Lake of the Woods watershed. Sampling at SW5 was discontinued after the first quarter of 2010 and SW4 was selected as the control site to compare water quality results within the Pinewood River sub-watershed. Sampling at SW4 is ongoing as of Decemeber 2010.

Pictures of active water quality sampling stations active at the time this report was written (as of January 2011) are shown in Photo 5.1 to Photo 5.14.

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Will provide map inset when required

SW6 = site and lab duplicate

SW16 - Pinewood West EEM Station

SW17/SW18 - upstream and downstream from P.S. on Rainy River

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

Water Quality Sampling Location Status

- Active
- Discontinued

- Advanced Exploration Project Facility Boundary
- Local Study Area
- Pinewood River Watershed

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN CRIPPEN BERGER REPORT DATED JULY 9, 2010

0 2,500 m

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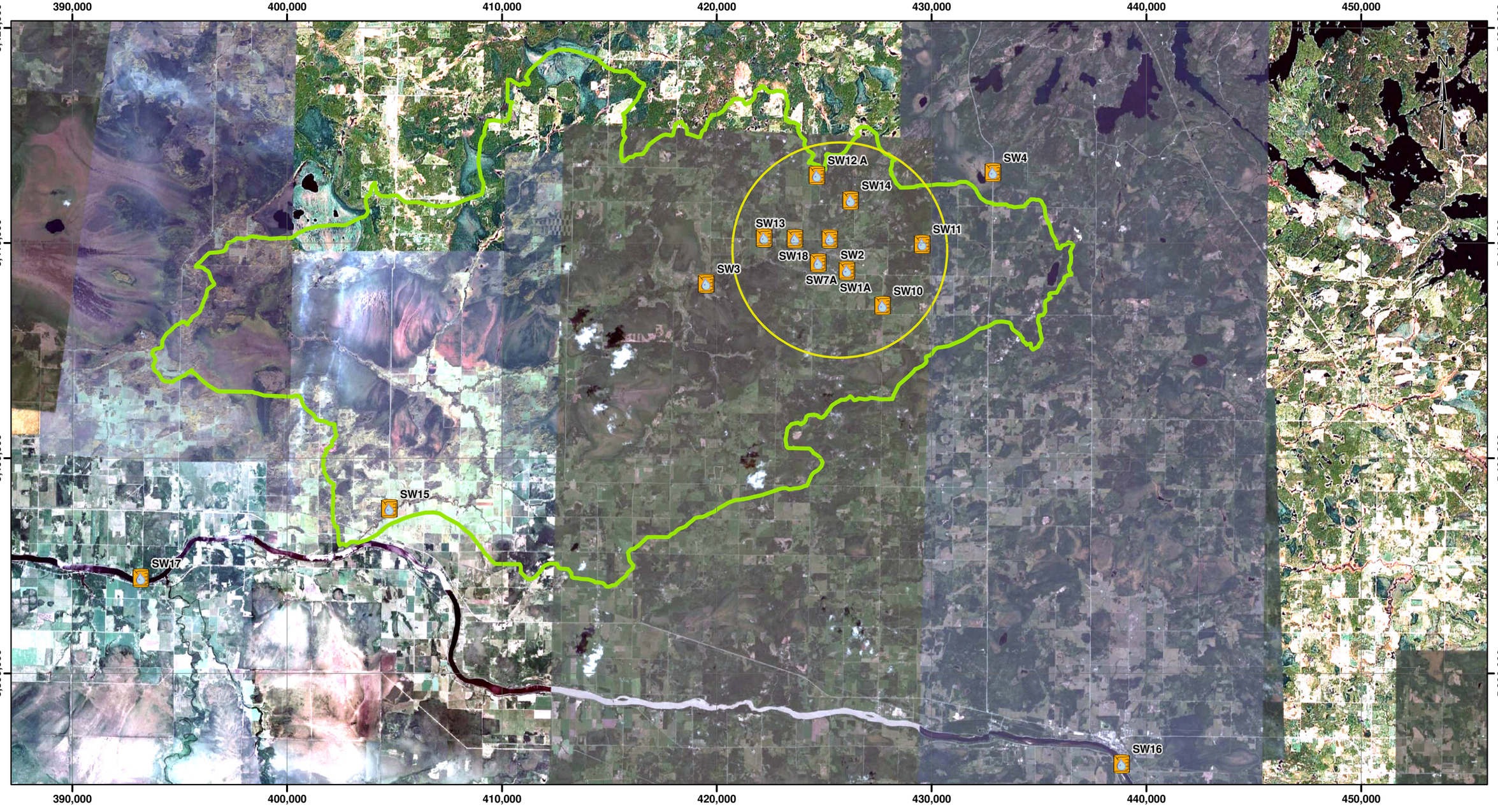
Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: BASELINE SURFACE WATER QUALITY SAMPLING STATIONS - LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 5.1



Water Quality Sampling Locations

Local Study Area

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Imagery from Google Earth

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TO BE READ WITH KLOHN CRIPPEN BERGER REPORT DATED JULY 9, 2010

0 10 km

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CLIENT

Rainy River Resources Ltd.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

BASELINE SURFACE WATER QUALITY SAMPLING STATIONS - REGIONAL STUDY AREA

PROJECT No. M09559A04

FIG No. 5.2

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010_baseline\Surface_Water_Quality\fig5.2_regional_swq_stations_01mar11.mxd - 01/03/2011 @ 9:24:45 AM

Table 5.3 Active Surface Water Quality Sampling Stations (December 2010)

SAMPLE ID	LOCATION DESCRIPTION	DATE INITIATED	PURPOSE OF SAMPLING STATION	EASTING (m)	NORTHING (m)	WATERSHED
SW1/1A (RRW-1)	Pinewood River 1.5 km upstream of confluence with West Creek	Nov.15, 2008	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	426335	5408522	Pinewood River
SW2 (RRW-6)	West Creek above District Road 600	Nov 15. 2008	Background within Local Study Area, adjacent to the proposed advanced exploration site boundary	425259	5410167	Pinewood River
SW3	Pinewood River 6 km downstream of confluence with West Creek	Nov. 15, 2008	Background, downstream of Local Study Area.	419489	5408128	Pinewood River
SW4	Muskrat Creek, Rainy Lake Catchment	Nov. 15, 2008	Control site outside of project influence.	432831	5413284	Rainy Lake
SW6	Field Duplicate	Nov. 15, 2008	Blind sample for laboratory QA/QC.	varies	varies	varies
SW7A	West Creek above confluence with Pinewood Creek	June 2, 2010	Background within the Local Study Area, monitor water quality of West Creek downstream of the proposed advanced exploration site boundary	424723	5409088	Pinewood River
SW10	Pinewood River at Blackhawk Road	May 3, 2010	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	427719	5407085	Pinewood River
SW11	Clark Creek 1.5 km north of the Township Landfill	May 3, 2010	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	429563	5409956	Pinewood River
SW12A	Marr Creek 3.8 km above District Road 600	June 2, 2010	Background within the Local Study Area, tributary to Pinewood Creek.	424664	5413156	Pinewood River
SW13	Loslo Creek above District Road 600	May 3, 2010	Background within the Local Study Area, tributary to Pinewood Creek.	422205	5410230	Pinewood River
SW14	West Creek 2.5 km above District Road 600	June 2, 2010	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	426234	5411982	Pinewood River
SW15	Pinewood River approximately 2 km upstream of the confluence with Rainy River	June 2, 2010	Background within the Regional Study Area, Environmental Effects Monitoring Station	404752	5397653	Pinewood River
SW16	Rainy River approximately 40 km upstream of the confluence with Pinewood River	June 2, 2010	Background within the Regional Study Area, upstream of the confluence with the Pinewood River	438854	5385789	Rainy River
SW17	Rainy River approximately 12 km downstream of the confluence with Pinewood River	June 2, 2010	Background within the Regional Study Area, downstream of the confluence with the Pinewood River	393194	5394424	Rainy River

Table 5.4 Currently Discontinued Surface Water Quality Sampling Stations

SAMPLE ID	LOCATION DESCRIPTION	DATE INITIATED	PURPOSE OF SAMPLING STATION	EASTING (m)	NORTHING (m)	WATERSHED
SW5	Unnamed Creek, Lake of the Woods Catchment	Nov. 15, 2008	Control site outside of project influence.	424618	5416589	Lake of the Woods
SW7	Pinewood Creek at confluence with West Creek	May 3, 2010	Background within the Local Study Area, Pinewood River downstream of the proposed advanced exploration site boundary – moved to 7A	426366	5408815	Pinewood River
SW8	Pinewood Creek at Teeple Road	May 3, 2010	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	432779	5408802	Pinewood River
SW9	Marr Creek 1.5 km above District Road 600	May 3, 2010	Background within the Local Study Area, tributary to Pinewood Creek.	422212	5410228	Pinewood River
SW12	Marr Creek 3 km above District Road 600	May 3, 2010	Background within the Local Study Area, tributary to Pinewood Creek – moved to 12A	423831	5412575	Pinewood River
RRW-2	Clark Creek at District Road 600	Aug. 16, 2007	Background within the Local Study Area, adjacent to the proposed advanced exploration site boundary			Pinewood River
RRW-3	Clark Creek at Clark Road	Aug.16, 2007	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	427920	5409145	Pinewood River
RRW-7	Tributary 1 to West Creek at Roen Road	Aug.16, 2007	Background within the Local Study Area, upstream of the proposed advanced exploration site boundary	426359	5410349	Pinewood River
RRW-8	Pinewood River upstream of confluence with West Creek	Aug.16, 2007	Background within the Local Study Area, adjacent to the proposed advanced exploration site boundary	425253	5408854	Pinewood River
RRW-9	West Creek at the Project site	Aug.16, 2007	Background within the Local Study Area, adjacent to the proposed advanced exploration site boundary	425106	5409628	Pinewood River



Photo 5.1 Water Quality SW1/1A



Photo 5.2 Water Quality SW2



Photo 5.3 Water Quality SW3



Photo 5.4 Water Quality SW4



Photo 5.5 Water Quality SW7A



Photo 5.6 Water Quality SW10



Photo 5.7 Water Quality SW11



Photo 5.8 Water Quality SW12A



Photo 5.9 Water Quality SW13



Photo 5.10 Water Quality SW14



Photo 5.11 Water Quality SW18



Photo 5.12 Water Quality SW15



Photo 5.13 Water Quality SW16



Photo 5.14 Water Quality SW17

The dates of sample collection are summarized in Table 5.5 for active sampling stations (as of January 2011) and in Table 5.6 for discontinued sampling stations.

Table 5.5 Surface Water Quality Sampling Dates for Currently Active Water Quality Stations

	SAMPLING DATE																				
	2007	2008	2009							2010											
STATION	Aug. 16	Nov. 15	May 12/13	Jul. 4	Aug. 10	Sep. 9	Oct. 8	Nov. 5	Dec. 21	Feb. 8	Feb. 22	Mar. 25	Apr. 3	Jun. 2	Jun. 24	Jul. 26	Aug. 23	Sep. 30	Nov. 4	Dec. 6	Dec. 28
SW1/1A (RRW-1)	x	xD	x	X	x	x	x	X	xD	X	x	x	x	x	x	x	x	x	x	x	x
SW2 (RRW-6)	x	X	x	X	x	x	x	xD	x	X	x	x	x	x	x	xD	x	x	x	x	x
SW3		X	x	X	xD	x	x	X	x	X	x	x	x	x	x	x	x	x	x	x	x
SW4		X	x	xD	x	xD	x	X	x	X	xD	x		x	x	x	x	x	x	x	xD
SW7A														x	x	x	x	x	x	x	x
SW10													xD	x	x	x	x	x	x	x	x
SW11													x	x	x	x	xD	x	x	x	x
SW12A														x	x	x	x	x	xD	x	x
SW13													x	x	x	x	x	xD	x	x	x
SW14														x	x	x	x	x	x	x	x
SW15														x	xD	x	x	x	x	x	x
SW16														x	x	x	x	x	x	xD	x
SW17														x	x	x	x	x	x	x	x
SW18 (RRW-4)	X											x		xD	x	x	x	x	x	x	x

Notes: 'x' indicates a sample was collected
'D' indicates the location duplicate (SW6) collected

Table 5.6 Surface Water Quality Sampling Dates for Discontinued Water Quality Stations

	SAMPLING DATE												
	2007	2008	2009							2010			
STATION	Aug. 16	Nov. 15	May 12/13	Jul. 4	Aug. 10	Sep. 9	Oct. 8	Nov. 5	Dec. 21	Feb. 8	Feb. 22	Mar. 25	Apr. 3
SW5			x	x	x	x	xD	X	X	xD	x	x	
SW7													x
SW8													x
SW9													x
SW12													x
RRW-2	x												
RRW-3	x												
RRW-7	x												
RRW-8	x												
RRW-9	x												

5.2.4 Sampling Procedure

Sampling in 2007 was carried out by Rainy River staff and the exact details of sampling methodology are not available.

From 2008 to 2010, bottles were pre-dosed for samples requiring preservative. All other sample bottles were rinsed three times with well water prior to sample collection. Prior to June 24, 2010 dissolved metals were field-filtered, after which they were collected as part of the General Parameters sample and filtered in the lab. Field filters for dissolved metal samples were triple rinsed prior to use. Ice packs were placed in coolers and they coolers were delivered to Maxxam Analytics in Winnipeg for analysis within the specified holding time(s).

Sampling procedures were as follows:

- For parameters requiring no preservative, sample bottles were triple-rinsed with water from the sampling location, prior to filling.
- For samples requiring preservation, samples were filled using one of the General Parameter bottles to transfer the collected sample to the bottle with pre-loaded preservative. Prior to sampling collection, the General Parameter bottle was triple-rinsed with water from the sampling location.

Table 5.7 summarizes the sample bottle types, analysis, preservative (if applicable), and the maximum hold time for the samples.

Table 5.7 Surface Water Quality Sampling Details

BOTTLE LABEL	BOTTLE SIZE (mL)	BOTTLE TYPE	PRESERVATIVE	NUMBER OF BOTTLES REQUIRED PER STATION	SAMPLING INSTRUCTIONS	MAXIMUM HOLD TIME
BOD	500	Plastic	None	1	No treatment	4 days
Cyanide	250	Plastic	Sodium hydroxide	2	Preservation	7 days
Dissolved Metals*	250	Plastic	Nitric acid	1	Preservation and filtration	6 months
DOC	120	Plastic	None	1	No treatment	4 days
General	500	Plastic	None	1	No treatment	28 days
General	250	Plastic	None	1	No treatment	4 days
Mercury	125	Clear glass	Potassium dichromate	1	Preservation	7 days
Total Metals	250	Plastic	Nitric Acid	1	Preservation	6 months
Microbiology	300	Sterilized bottle	Sodium thiosulphate	1	Preservation	30 hours
Nutrients	250	Plastic	Sulphuric acid	1	Preservation	28 days
Oil and Grease	1000	Amber glass	Hydrochloric acid	2	Preservation; fill to line	28 days
Solids	500	Plastic	None	2	No treatment	7 days

*As of June 24 2010, dissolved metal samples were no longer field filtered.

5.2.5 Analytical Procedures

Standard laboratory analytical procedures were adopted for all samples submitted to Maxxam Analytics from 2008 to 2010. Note, due to certain matrix interferences, the method detection limits (MDL) for some parameters varied. Appendix I-4 contains the test results and MDL for each parameter reported (see Maxxam Analytics laboratory data).

The precise analytical procedure details for 2007 samples are not available.

5.2.6 Quality Assurance / Quality Control

Field QA/QC measures adopted for each sampling campaign included the trip blank and the blind duplicate as described below.

5.2.6.1 Trip Blank

The trip blank bottles were filled with de-ionized water in the laboratory and remained sealed throughout the field trip. Trip blank data allows contamination associated with the laboratory procedures to be assessed. The trip blanks were kept cool and dark (i.e. kept in a cooler with the lid shut) and were transported to the various sampling stations in the cooler they were shipped in. The trip blank data results are included in Appendix I - 4 (see Maxxam Analytics laboratory data)

5.2.6.2 Blind Duplicate

The purpose of the blind duplicate was to assess variability in reported results due to laboratory procedure. The blind duplicate is obtained by filling two sets of bottles simultaneously. One set of bottles was labelled with the appropriate station name (e.g. SW3), while the other set of bottles was always labelled SW6. The location where the blind duplicate was taken is summarized in Table 5.5 and Table 5.6.

Blind duplicate sampling results are discussed in Section 5.4 and included in Appendix I-4 (see RPD spreadsheet).

5.2.6.3 Laboratory procedures

Standard QA/QC procedures were followed for each round of samples submitted to the laboratory. Standard laboratory QA/QC procedures included laboratory duplicates (i.e., repeated analysis of the of the same sample), a matrix spike (i.e., a known amount of the analyte of interest added and used to evaluate the sample matrix interference), a spiked blank (i.e., a known amount of the analyte of interest added and used to evaluate analyte recovery), and a method blank (i.e., a blank matrix containing all reagents used in the analytical procedure, used to identify possible laboratory contamination). All laboratory QA/QC results are included in Appendix I-4 (Maxxam Analytics laboratory data).

5.3 Results

5.3.1 Literature Review

5.3.1.1 Rainy River Watershed Program

In 1998, Rainy River First Nation community members established the Rainy River Watershed Program. These ecological projects were eventually expanded from the reserve lands into Rainy River First Nation traditional territory including the Rainy River Watershed both in Canada and the United States. These programs included:

- Collaboration with Health Canada to conduct bacteriological surveys along the Rainy River (from the dam at Fort Frances/International Falls, to its mouth near the Rainy River/Baudette, both in Canada and the United States); and
- Collaboration with the Ontario Ministry of Natural Resources to conduct a study of three Rainy River tributaries, including five sites on the Pinewood River, five sites on La Vallee River, and six sites on Sturgeon Creek to establish a baseline water quality data set.

Sampling was conducted in accordance with the Stream Assessment Protocol for Ontario, Version 1.1. Data were collected on fish communities, benthic invertebrate communities, channel morphology, thermal conditions, and site features. The assessment was repeated in 1999 and 2000 but was not repeated in 2001 since a preliminary analysis of data indicated no significant variation in the indicators collected (Rainy River First Nation, 2008).

Rainy River Resources Ltd. has been in contact with Ms. Hansen of the Rainy River Watershed Program since May of 2010 and has extended an open invitation to Ms. Hansen to join the monthly water quality sampling program. Ms. Hansen joined Stacey Jack, Rainy River Resources' First Nations Engagement Specialist on the October 2010 water quality sampling trip. Rainy River Resources will continue to coordinate and share baseline environmental monitoring information with representatives of both the Rainy River Watershed Program as well as other First Nations communities within the Regional Study Area.

5.3.1.2 International Rainy River Water Pollution Board and International Rainy Lake Board of Control

The IRRWPB and the IRLBC report jointly to the International Joint Commission (IJC) in the spring and the fall of each year. The IRRWPB and the IRLBC are each made up of four members, two representing Canada and two representing the United States.

At the direction of the IRRWPB, the Minnesota Pollution Control Agency (MPCA) monitors water quality at several long-term sampling stations on the main stem of the Rainy River and on five tributaries to the Rainy River in Minnesota. All of these monitoring stations are part of the Minnesota Milestone sampling program. The MPCA Milestone sites are sampled monthly for ten months of two non-consecutive years in a five-year period. Water samples collected from main stem Rainy River stations and

tributaries are analyzed for temperature, electrical conductivity, turbidity, DO, pH, nitrogen, total phosphorus, TSS, and ammonia (IRRWPB-IRLBC, 2007).

The IRRWPB and the IRLBC sampling stations on the Rainy River are approximately 100 km upstream (Station 06RN002) and 30 km downstream (Station 06RN001) of the Rainy River-Pinewood River confluence. These stations can help to characterize the far-field receiving environment. These sites were last monitored in 2005 and were reported on in the fall of 2006. The two sites closest to the Pinewood River confluence (i.e. station 06RN002 and 06RN001) were not sampled in 2008 or 2009 (IRLBC, 2010).

The 2006 water chemistry data for the station upstream and the station downstream of the confluence with the Pinewood River are shown in Table 5.8.

Table 5.8 MPCA Milestone Sites Water Quality Data (August 30 2006)

PARAMETER	UNIT	MPCA MILESTONE SITE	
		06RN001	06RN002
Water Temperature	°C	21.2	20.4
Conductivity	µS/cm	92.0	86.0
Turbidity	NTU	1.74	1.9
Dissolved Oxygen	mg/L	7.97	8.25
pH	pH	7.7	7.7
Nitrogen	mg/L	<0.05	<0.05
Total Phosphorus	mg/L	0.039	0.039
Total Suspended Solids	mg/L	2.8	2.0
Ammonia	mg/L	<0.05	<0.05

Source: MPCA (2006)

The results from the 2006 MPCA sampling appear to be comparable with results from the two sites on the Rainy River sampled for the current baseline program (i.e., SW16 and SW17) in August 2010. SW16 is located approximately 40 km upstream of the

confluence with Pinewood River and SW17 is located approximately 12 km downstream of the confluence with the Pinewood River. The results of the KCB sampling are shown in Table 5.9.

Table 5.9 KCB Water Quality Data – August 23 2010

PARAMETER	UNIT	KCB SAMPLING SITE	
		SW16	SW17
Conductivity	µS/cm	85	91
Turbidity	NTU	4.7	4.4
Dissolved Oxygen	mg/L	8.98	9.16
pH		7.6	7.7
Nitrogen	mg/L	<0.1	<0.1
Dissolved Phosphorus	mg/L	<0.1	<0.1
Total Suspended Solids	mg/L	4	4
Ammonia	mg/L	<0.05	0.05

EC initiated sampling on the Rainy River in 2009 as part of the IRRJPB mandate. Station 920 was located on the Rainy River below Long Sault Rapids, approximately 15 km upstream of the confluence with the Pinewood River. The parameters sampled included mercury, nitrate/nitrite, ammonia, phosphorous and major ions (IRLBC, 2010). All parameters were reportedly within established limits (IRLBC, 2010).

5.3.2 Surface Water Quality Sampling Results

5.3.2.1 General

Results presented in this section cover the August 2007 sampling program as well as the sampling undertaken from 2008 to the end of 2010 for the Regional Study Area and the Local Study Area. Results for selected parameters of interest are summarized and are compared to PWQO or CCME criteria (where applicable) in Table 5.10. Exceedences of PWQO or CCME criteria are highlighted in red. Results for beryllium, mercury, selenium

and silver were below the method detection limit (MDL) in all samples; and therefore are not included in Table 5.10.

Note that the MDL for chromium (0.005 mg/L) is above the PWQO of 0.001 mg/L. The majority of samples were at or below the current MDL. One sample in 2007 returned a value of 0.002 mg/L. A lower MDL for chromium could be considered in the 2011 sampling program in order to further assess baseline chromium levels in the Local Study Area and the Regional Study Area.

Table 5.10 Summary of Surface Water Quality Results, 2007 to 2010

		pH	Conductivity	TSS	Total Ammonia-N	Fluoride	Nitrate	Nitrite	Total Cyanide	E. Coli	Aluminum - Dissolved	Antimony - Total	Arsenic - Total	Boron - Total	Cadmium - Total	Chromium - Total*	Cobalt - Total	Copper - Total	Iron - Total	Lead - Total	Mercury	Molybdenum - Total	Nickel - Total	Thallium - Total	Uranium - Total	Vanadium - Total	Zinc - Total
PWQO		6.5-8.5							0.005	100	0.075	0.02	0.1	0.2	0.0001-0.0005	0.001	0.0009	0.005	0.3	0.001-0.005	0.0002	0.04	0.025	0.0003	0.005	0.006	0.02
CCME		6.5-9			0.35-73	0.12	2.9	0.2	0.005				0.05		0.000017	0.001		0.002-0.004	0.3	0.001-0.007	0.000004	0.073	0.025-0.15	0.0008			0.03
		pH units	uS/cm	NTU	Mg/L	mg/L	mg/L	mg/L	Mg/L	Col./100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SW1/1A (RRW1)	Max	8.0	452	24	0.280	0.100	0.200	0.100	0.0019	374	0.100		0.0040	0.028		0.001	0.00120	0.002	2.50	0.00090	0.0002		0.0040		0.0010	0.0040	0.027
	Min	7.1	177	2	ND	ND	ND	ND	ND	ND	0.005	ND	ND	ND	ND	ND	ND	ND	0.16	ND	ND	ND	ND	ND	ND	ND	ND
	Median	7.7	271	8	0.030	ND	ND	ND	ND	20	0.043		0.0010	0.018		ND	ND	0.0015	0.57	ND	ND		0.0020		0.0007	0.0010	0.0060
	Mean	-	298	9	0.092	0.055	0.06	0.011	0.0023	57	0.046		0.0015	0.016		0.00243	0.00039	0.0014	0.76	0.00030	0.00006		0.0019		0.0007	0.0018	0.0069
	St. Dev.	-	85.7	5.84	0.089	0.015	0.0344	0.0219	0.0005	120.58	0.031	N/A	0.0011	0.006	N/A	N/A	0.000271	0.0006	0.626	0.00016	0.000034	N/A	0.00098	N/A	0.00021	0.00127	0.00611
	N	21	21	21	21	20	19	19	19	9	18	20	21	20	20	21	21	21	21	20	20	20	21	20	20	21	21
SW2 (RRW6)	Max	8.0	445	4	0.260	0.100			0.0016	10	0.150		0.0030	0.030		0.0050	0.00340	0.0040	8.00	0.00240			0.0060	0.000070	0.0011	0.0110	0.033
	Min	7.2	136	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Median	7.8	243	4.5	ND	ND			ND	2	0.026		0.0010	0.008		ND	ND	0.0010	0.48	ND			0.0010	ND	0.00040	0.0005	0.0030
	Mean	-	271	8.95	0.083	0.053			0.0023	3	0.040		0.0010	0.010		0.0026	0.00047	0.0012	0.90	0.00036			0.0017	0.000029	0.00048	0.0014	0.0090
	St. Dev.	-	93.5	10.87	0.08146	0.01118	N/A	N/A	0.0006	3.47	0.038	N/A	0.0008	0.0069	N/A	0.0006	0.000709	0.0010	1.670	0.00048	N/A	N/A	0.00134	0.0000124	0.00029	0.00233	0.01015
	N	21	21	21	20	20	0	20	20	9	18	20	21	20	20	20	20	20	21	20	20	20	21	20	20	20	21
SW3	Max	7.9	513	18.00	0.280	0.100			0.0017	26	0.300		0.0030	0.026			0.00140	0.0040	1.80				0.0020		0.0009	0.0020	0.0420
	Min	7.2	180	1.00	ND	ND	ND	ND	ND	2	0.007	ND	ND	ND	ND	ND	ND	ND	0.13	ND	ND	ND	ND	ND	0.0003	ND	ND
	Median	7.7	275	7.00	ND	ND			ND	8	0.037		0.0010	0.014			ND	0.0010	0.38				0.0020		0.0005	0.0010	0.0038
	Mean	-	286	7.55	0.083	0.053			0.00230	10	0.057		0.0011	0.014			0.00038	0.0013	0.55				0.0016		0.00055	0.0011	0.0084
	St. Dev.	-	90.4	4.43	0.088	0.011	N/A	N/A	0.00052	7.858	0.067	N/A	0.0008	0.0058	N/A	N/A	0.000294	0.0009	0.450	N/A	N/A	N/A	0.00058	N/A	0.00019	0.00060	0.00968
	N	20	20	20	20	20	20	20	20	9	18	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
SW4	Max	7.7	159	12.00	0.340				0.0015	8	0.037			0.013			0.00060	ND	1.20	0.00060			0.0920				0.034
	Min	6.7	80	0.50	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	ND	ND	0.0010	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Median	7.1	109	2.00	0.090				ND	2	0.018			ND			ND	ND	0.21	ND			ND				0.0060
	Mean	-	114	3.82	0.115				0.0022	3	0.020			0.006			0.00028	ND	0.32	0.00027			0.0053				0.0084
	St. Dev.	-	18.5	3.48	0.095	N/A	N/A	N/A	0.00067	2.804	0.007	N/A	N/A	0.0022	N/A	N/A	0.000096	0.00011	0.312	0.00008	N/A	N/A	0.02099	N/A	N/A	N/A	0.00834
	N	19	19	19	19	19	19	19	19	9	17	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
SW5	Max	7.1	141	4.00	0.700		0.050	0.010	0.0024	6	0.210	0.00060	0.0010	0.013			0.00120		1.70	0.00060			0.0010				0.45
	Min	6.0	59	0.50	ND	ND	0.020	ND	ND	ND	0.093	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND
	Median	6.7	77	1.00	0.225		0.050	ND	ND	2	0.110	ND	ND	ND			0.00038		0.65	ND			ND				0.0070
	Mean	-	85	1.40	0.267		0.047	0.007	0.0022	2	0.132	0.00029	0.0006	0.006			0.00057		0.75	0.00029			0.0006				0.0575
	St. Dev.	-	27.5	1.13	0.224	N/A	0.009	0.0024	0.00060	2.357	0.045	0.00011	0.0002	0.003	N/A	N/A	0.000392		0.495	0.00011	N/A	N/A	0.00021	N/A	N/A	N/A	0.13894
	N	10	10	10	10	10	10	10	10	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
SW7/7A	Max	8.2	472	25.00	0.170						0.086		0.0030	0.022			0.00100	0.0030	1.90	0.00090		0.0020	0.0030		0.0013	0.0040	0.0140
	Min	7.7	220	2.00	ND	ND	ND	ND	ND	N/A	0.009	ND	ND	ND	ND	ND	ND	ND	0.48	ND	ND	ND	ND	ND	0.0004	ND	ND
	Median	7.9	302	8.00	ND						0.010		0.0010	0.013			ND	0.0020	0.63	ND		ND	0.0010		0.0006	0.0010	0.0050
	Mean	-	316	12.44	0.045						0.026		0.0011	0.012			0.00041	0.0017	0.88	0.00038			0.0007		0.0007	0.0017	0.0060
	St. Dev.	-	81.6	9.42	0.048	N/A	N/A	N/A	N/A		0.029	N/A	0.0009	0.005	N/A	N/A	0.000310	0.0010	0.582	0.00027	N/A	0.00050	0.00085	N/A	0.00028	0.00120	0.00423
	N	9	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
SW8	3/05/2010	7.7	241	ND	0.18	ND	ND	ND	ND	N/A	0.04	ND	ND	0.012	ND	ND	ND	0.0010	0.18	ND	ND	ND	0.001	ND	0.0004	ND	0.005
SW9	3/05/2010	7.8	221	1.00	0.19	ND	ND	ND	ND	N/A	0.053	ND	ND	0.012	ND	ND	ND	0.0020	0.12	ND	ND	ND	0.002	ND	0.0007	ND	ND
SW10	Max	8.0	314	23.00	0.180						0.110	0.00070	0.0020	0.025				0.0020	0.88			0.0010	0.0030		0.0006	0.0020	0.0070
	Min	7.4	186	2.00	ND	ND	ND	ND	ND	N/A	0.008	ND	ND	ND	ND	ND	ND	ND	0.40	ND	ND	ND	ND	ND	0.0003	ND	ND
	Median	7.7	246	4.00	ND						0.025	ND	0.0010	0.016				0.0010	0.50			ND	0.0020		0.0005	ND	ND
	Mean	-	243	7.33	0.042						0.038	0.00030	0.0010	0.015				0.0010	0.53			0.0006	0.0016		0.0004	0.0009	0.0037
	St. Dev.	-	38.3	7.26	0.052	N/A	N/A	N/A	N/A		0.035	0.00015	0.0006	0.006	N/A	N/A	N/A	0.0004	0.162	N/A	N/A	0.00017	0.00078	N/A	0.00014	0.00063	0.00182
	N	9	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9

Table 5.10 Summary of Surface Water Quality Results, 2007 to 2010 (cont'd)

		pH	Conductivity	TSS	Total Ammonia-N	Fluoride	Nitrate	Nitrite	Total Cyanide	E. Coli	Aluminum - Dissolved	Antimony - Total	Arsenic - Total	Boron - Total	Cadmium - Total	Chromium - Total*	Cobalt - Total	Copper - Total	Iron - Total	Lead - Total	Mercury	Molybdenum - Total	Nickel - Total	Thallium - Total	Uranium - Total	Vanadium - Total	Zinc - Total
PWQO		6.5-8.5							0.005	100	0.075	0.02	0.1	0.2	0.0001-0.0005	0.001	0.0009	0.005	0.3	0.001-0.005	0.0002	0.04	0.025	0.0003	0.005	0.006	0.02
CCME		6.5-9			0.35-73	0.12	2.9	0.2	0.005				0.05		0.000017	0.001		0.002-0.004	0.3	0.001-0.007	0.000004	0.073	0.025-0.15	0.0008			0.03
		pH units	uS/cm	NTU	Mg/L	mg/L	mg/L	mg/L	mg/L	Col./100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SW11	Max	7.5	216	10.00	0.060	ND	ND	ND	ND	N/A	0.046	ND	0.0030	0.013	ND	ND	0.0032	ND	3.10	ND	ND	ND	0.0020	ND	ND	ND	0.0060
	Min	7.1	126	1.00	ND						0.020		ND	ND			ND		0.34				ND				ND
	Median	7.4	136	2.00	ND						0.029		ND	ND			ND		0.55				0.0005				ND
	Mean	-	152	3.44	0.029						0.032		0.0010	0.007			0.00095		1.03				0.0007				0.0038
	St. Dev.	-	30.6	3.32	0.012	N/A	N/A	N/A	N/A		0.009	N/A	0.0009	0.003	N/A	N/A	0.001105	N/A	0.975	N/A	N/A	N/A	0.00051	N/A	N/A	N/A	0.00162
	N	9	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
SW12	Max	7.8	174	46.00	0.220	ND	ND	ND	ND	N/A	0.120	0.00080	0.0010	ND	ND	ND	0.0032	0.0030	4.60	ND	ND	ND	0.0020	ND	0.00020	0.0030	0.0090
	Min	6.7	58	1.00	ND						0.045	ND	ND				ND	ND	0.15				ND		ND	ND	ND
	Median	6.94	78	11.00	ND						0.071	ND	ND				0.00050	0.0010	0.78				0.0010		0.00010	ND	0.0050
	Mean	-	88	15.33	0.077						0.074	0.00034	0.0006				0.001	0.0012	1.38				0.0010		0.00011	0.0008	0.0049
	St. Dev.	-	35.0	13.28	0.072	N/A	N/A	N/A	N/A		0.020	0.00019	0.0002	N/A	N/A	N/A	0.001157	0.0009	1.412	N/A	N/A	N/A	0.00043	N/A	0.00006	0.00083	0.00250
	N	9	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9
SW13	Max	7.9	322	25.00	0.200	ND	ND	ND	ND	N/A	0.070	0.60000	0.0020	0.015	ND	ND	0.00050	0.0150	1.20	ND	ND	ND	0.0020	ND	0.00060	0.0010	0.0060
	Min	7.5	215	0.50	ND						ND	ND	ND	ND			ND	ND	0.12				ND		0.00010	ND	ND
	Median	7.8	232	4.00	ND						0.007	ND	ND	0.012			ND	ND	0.28				0.0010		0.00030	ND	ND
	Mean	-	254	6.44	0.044						0.015	0.06689	0.0008	0.011			0.00028	0.0023	0.36				0.0011		0.00032	0.0006	0.0029
	St. Dev.	-	37.0	8.01	0.058	N/A	N/A	N/A	N/A		0.021	0.19992	0.0005	0.003	N/A	N/A	0.000083	0.0048	0.327	N/A	N/A	N/A	0.00070	N/A	0.00017	0.00017	0.00117
	N	9	9	9	9	9	9	9	9	0	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
SW14	Max	7.6	141	17.00	0.060	ND	ND	ND	ND	N/A	0.046	0.00130	0.0020	ND	ND	ND	0.00050	ND	0.91	ND	ND	ND	0.0010	ND	ND	ND	0.0100
	Min	7.0	93	ND	ND						0.017	ND	ND				ND		0.18				ND				ND
	Median	7.18	113	3.00	ND						0.033	ND	ND				ND		0.31				ND				ND
	Mean	-	115	5.13	0.029						0.032	0.00038	0.0008				0.00028		0.37				0.0006				0.0034
	St. Dev.	-	18.0	5.71	0.012	N/A	N/A	N/A	N/A		0.009	0.00037	0.0005	N/A	N/A	N/A	0.000088	N/A	0.232	N/A	N/A	N/A	0.00018	N/A	N/A	N/A	0.00265
	N	8	8	8	8	8	8	8	8	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
SW15	Max	8.0	251	33.00	0.080	ND	ND	ND	ND	N/A	0.200	0.00120	0.0020	0.016	0.00020	ND	0.001	0.0030	2.00	0.00100	ND	0.0020	0.0040	ND	0.00060	0.0050	0.0090
	Min	7.4	154	5.00	ND						0.027	ND	ND	ND	ND		ND	ND	0.67	ND		ND	ND		0.00030	0.0010	ND
	Median	7.535	183	14.50	ND						0.058	ND	0.0015	0.012	ND		ND	0.0020	0.94	ND			0.0020		0.00045	0.0020	0.0050
	Mean	-	192	18.63	0.032						0.074	0.00037	0.0013	0.011	0.00007		0.00034	0.0018	1.05	0.00044		0.0007	0.0022		0.00046	0.0024	0.0054
	St.Dev.	-	37.8	11.35	0.019	N/A	0	N/A	N/A		0.055	0.00034	0.0008	0.004	0.00005	N/A	0.00027	0.0008	0.41	0.00029	N/A	0.0005	0.0011	N/A	0.00011	0.0013	0.0029
	N	8	8	8	8	8	8	8	8	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
SW16	Max	7.6	106	33.00	ND	ND	ND	ND	ND	N/A	0.100	ND	ND	0.011	0.00100	ND	ND	0.0020	0.42	ND	ND	ND	0.0020	ND	0.00020	0.0010	0.0120
	Min	6.8	68	2.00							0.020			ND	ND			ND	ND				ND		ND	ND	ND
	Median	7.3	84	7.00							0.024			ND	ND			0.0015	0.23				ND		0.00008	ND	ND
	Mean	-	85	9.63							0.037			0.006	0.00017			0.0014	0.25				0.0008		0.00009	0.0006	0.0049
	St. Dev.	-	15.2	10.07	N/A	N/A	N/A	N/A	N/A		0.027	N/A	N/A	0.002	0.00034	N/A	N/A	0.0007	0.127	N/A	N/A	N/A	0.00053	N/A	0.00005	0.00018	0.00373
	N	8	8	8	8	8	8	8	8	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
SW17	Max	7.7	130	16.00	ND	ND	ND	ND	ND	N/A	0.073	ND	0.0010	0.012	ND	ND	ND	0.0020	0.57	ND	ND	ND	0.0020	ND	0.00020	0.0010	0.0110
	Min	6.8	74	2.00							0.021		ND	ND				ND	0.14				ND		ND	ND	ND
	Median	7.4	93	5.00							0.039		ND	ND				0.0015	0.33				0.0008		0.00010	ND	ND
	Mean	-	99	6.75							0.043		0.0006	0.007				0.0014	0.35				0.0009		0.00012	0.0007	0.0048
	St. Dev.	-	18.7	4.98	N/A	N/A	N/A	N/A	N/A		0.022	N/A	0.0002	0.003	N/A	N/A	N/A	0.0006	0.149	N/A	N/A	N/A	0.00052	N/A	0.00007	0.0003	0.0034
	N	8	8	8	8	8	8	8	8	0	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
SW18 (RRW4)	Max	7.9	349	12.00	0.010	ND	ND	ND	ND	N/A	0.043	0.00100	0.0030	0.022	ND	ND	0.0041	0.001	2.97	ND	ND	ND	0.0030	ND	0.00050	0.0010	0.0110
	Min	7.1	135	ND	ND						ND	ND	ND	ND			ND	ND	0.15				ND		ND	ND	ND
	Median	7.6	234	1.00	ND						0.014	ND	0.001	0.013			ND	ND	0.32				0.0020		0.00025	ND	ND
	Mean	-	246	3.10	0.023						0.0161875	0.00034	0.0012	0.013			0.0009	0.00063	0.90				0.0017		0.000281	0.0006	0.0046
	St. Dev.	-	67.5	3.94	0.005	N/A	N/A	N/A	N/A		0.012	0.00027	0.00091	0.00628	N/A	N/A	0.001276	0.000231	1.129	N/A	N/A	N/A	0.00083	N/A	0.0001731	0.000177	0.003100
	N	10	10	10	9	8	8	8	9	0	8	9	9	8	9	9	9	9	9	9	8	9	9	9	9	9	9

Table 5.10 Summary of Surface Water Quality Results, 2007 to 2010 (cont'd)

		pH	Conductivity	TSS	Total Ammonia-N	Fluoride	Nitrate	Nitrite	Total Cyanide	E. Coli	Aluminum - Dissolved	Antimony - Total	Arsenic - Total	Boron - Total	Cadmium - Total	Chromium - Total*	Cobalt - Total	Copper - Total	Iron - Total	Lead - Total	Mercury	Molybdenum - Total	Nickel - Total	Thallium - Total	Uranium - Total	Vanadium - Total	Zinc - Total
PWQO		6.5-8.5							0.005	100	0.075	0.02	0.1	0.2	0.0001-0.0005	0.001	0.0009	0.005	0.3	0.001-0.005	0.0002	0.04	0.025	0.0003	0.005	0.006	0.02
CCME		6.5-9			0.35-73	0.12	2.9	0.2	0.005				0.05		0.000017	0.001		0.002-0.004	0.3	0.001-0.007	0.000004	0.073	0.025-0.15	0.0008			0.03
		pH units	uS/cm	NTU	Mg/L	mg/L	mg/L	mg/L	mg/L	Col./100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RRW-2	8/16/2007	7.9			0.01	-	-	-	ND	-	-	ND	0.004	-	ND	0.002	0.0011	0.002	1.61	ND	ND	0.001	0.005	ND	ND	0.005	0.007
RRW-3	8/16/2007	8.0			0.01	-	-	-	ND	-	-	ND	0.001	-	ND	ND	ND	ND	0.45	ND	ND	ND	0.003	ND	ND	0.001	ND
RRW-7	8/16/2007	8.2			0.01	-	-	-	ND	-	-	ND	0.002	-	ND	ND	ND	ND	0.49	ND	ND	ND	0.004	ND	ND	ND	ND
RRW-8	8/16/2007	7.6			0.03	-	-	-	ND	-	-	ND	0.002	-	ND	ND	0.0006	ND	0.98	ND	ND	ND	0.003	ND	ND	0.002	0.003
RRW-9	8/16/2007	8.0			0.01	-	-	-	ND	-	-	ND	0.002	-	ND	ND	0.0009	0.001	1.17	ND	ND	ND	0.004	ND	ND	0.001	0.011

Note: Samples below detection (ND) were set at half the detection limit to calculate statistics

Discussion regarding some of the parameters that exceeded the PWQO or CCME criteria is included in the following sections. The parameters discussed below are temperature, pH, conductivity, TSS, nutrients (i.e., phosphorous, orthophosphate, ammonia), *E.Coli*, aluminum, antimony, cobalt, copper, cyanide, iron, lead, nickel, vanadium, and zinc.

5.3.2.2 Temperature

Temperature data is important for baseline characterization since temperature plays an important role in the development, growth and reproduction of aquatic organisms. Daily and seasonal fluctuations in temperature establish the biological cycles critical to the survival of aquatic organisms; however, long-term changes in temperature can affect the development and survival of individual organisms, as well as affect the overall community structure and function across all trophic levels (Oliver & Fidler, 2001). Individual aquatic populations exhibit minimum, maximum and optimal temperatures for growth and reproduction. Changes to these temperatures beyond the normal daily and seasonal averages can have negative effects to spawning timing, egg survival, and fry emergence (Oliver & Fidler, 2001). Other potential effects of temperature changes include increased susceptibility to disease and toxic effects of pollutants, changes in predator-prey relationships, community composition, and susceptibility to parasites.

Decreases in temperature, for example accelerated freezing, can lead to the physical entrapment of juvenile fish in streams which are unsuitable for overwintering. Less extreme decreases in temperature can also lead to changes in growth and reproduction.

Submerged pressure transducers were also used to collect temperature data at five stations (SW1/1A, SW2, SW3, SW4 and SW5) from November 2008 to October 2010, as was discussed in Section 4 and data collection is ongoing. The temperature data collected is shown in Figure 5.3. Water temperature was less than 4 ˚C at the above stations from November to mid-April, after which it began to rise. Maximum temperatures of between

15 ˚C and 26 ˚C were recorded in the summer months. Temperature at these stations correlated strongly throughout the period of record.

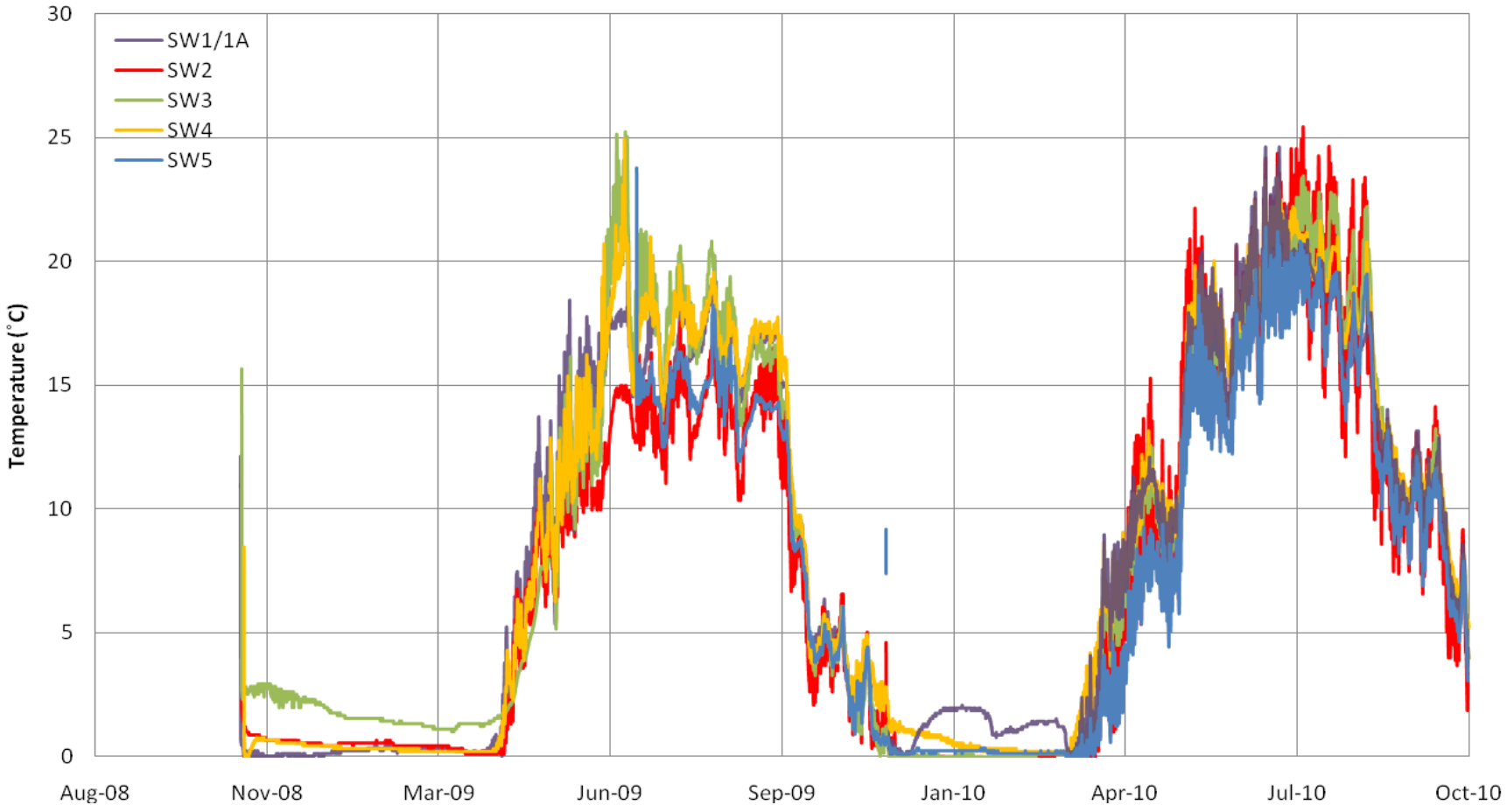


Figure 5.3 Water Temperature at SW1/1A through SW5

5.3.2.3 pH

The pH of water is a measure of the hydrogen ion activity, more commonly referred to as the measurement of alkalinity or acidity. The range of pH in surface water is influenced by the amount of precipitation and weathering of the bedrock and soils (McKean and Nagpal, 1991). Baseline characterization of pH values is important, since the effect of pH change on aquatic organisms can include reproduction impairment or direct toxicity (McKean and Nagpal, 1991). Lethal effects of pH on aquatic life can occur below pH 4.5 and above pH 9.0 (MELP, 1998). The effect of high pH on fish can result in mortality from ammonia toxicity in the blood as ammonia transfer across the gills is impeded, while low pH, or acidification, can affect growth rates, reproductive success and long-term survival; however, some species exhibit adaptations to low pH. Bacteria, zooplankton, phytoplankton and benthic invertebrates are all sensitive to changes in pH (McKean and Nagpal, 1991). Low pH is reported to decrease the diversity with many species eliminated in phytoplankton and zooplankton communities, and undesirable algal species can dominate algal communities under these conditions (McKean and Nagpal, 1991).

The PWQO range for pH is 6.5 to 8.5. Laboratory pH ranged from 6.0 to 8.2 at all stations, with the lowest value occurring at SW5, which is within the Rainy Lake watershed and outside the Local Study Area. Laboratory pH values at stations on the Pinewood River (SW1/1A, SW3, SW8, SW10 and SW15) ranged from 7.1 (SW1/1A) to 8.0 (SW1/1A, SW10, and SW15). Laboratory pH values at stations on West Creek and its tributaries (SW2, SW7A, SW14, and RRW-9) ranged from 7.0 (SW14) to 8.2 (SW7A and RRW-9). Figures showing all pH values recorded are included in Appendix I-2 (Surface water quality graphs).

The pH at RRW-2 through RRW-9 ranged from 7.4 to 8.2 when sampled in 2007.

5.3.2.4 Conductivity

Conductivity refers to the ability of water to conduct an electric current which is directly related to the amount of ions in the water; the higher the ion content, the more current the water can conduct. Ions in the water column include dissolved metals and other dissolved solids. Natural freshwater environments generally range in conductivity from between 50 µS/cm and 1500 µS/cm (MELP, 1998). Changes in conductivity can occur from a variety of sources. Anthropogenic sources can include industrial and municipal effluents, mining effluents and de-icing salts used on roads (MELP, 1998). Conductivity is highly variable in natural systems and, as a result, there is no water quality criterion adopted for this parameter.

Mean conductivity values in the Pinewood River were highest at SW1/1A, SW3 and SW7A (296 µS/cm, 286 µS/cm, and 316 µS/cm respectively). Conductivity values in the Rainy River (SW16 and SW17) were relatively low compared with the rest of the sampling stations.

Mean conductivity results for samples taken at SW1/1A through SW18 are shown in Figure 5.4.

Conductivity at RRW-2 through RRW-9 ranged from 270 µS/cm to 400 µS/cm when sampled in 2007.

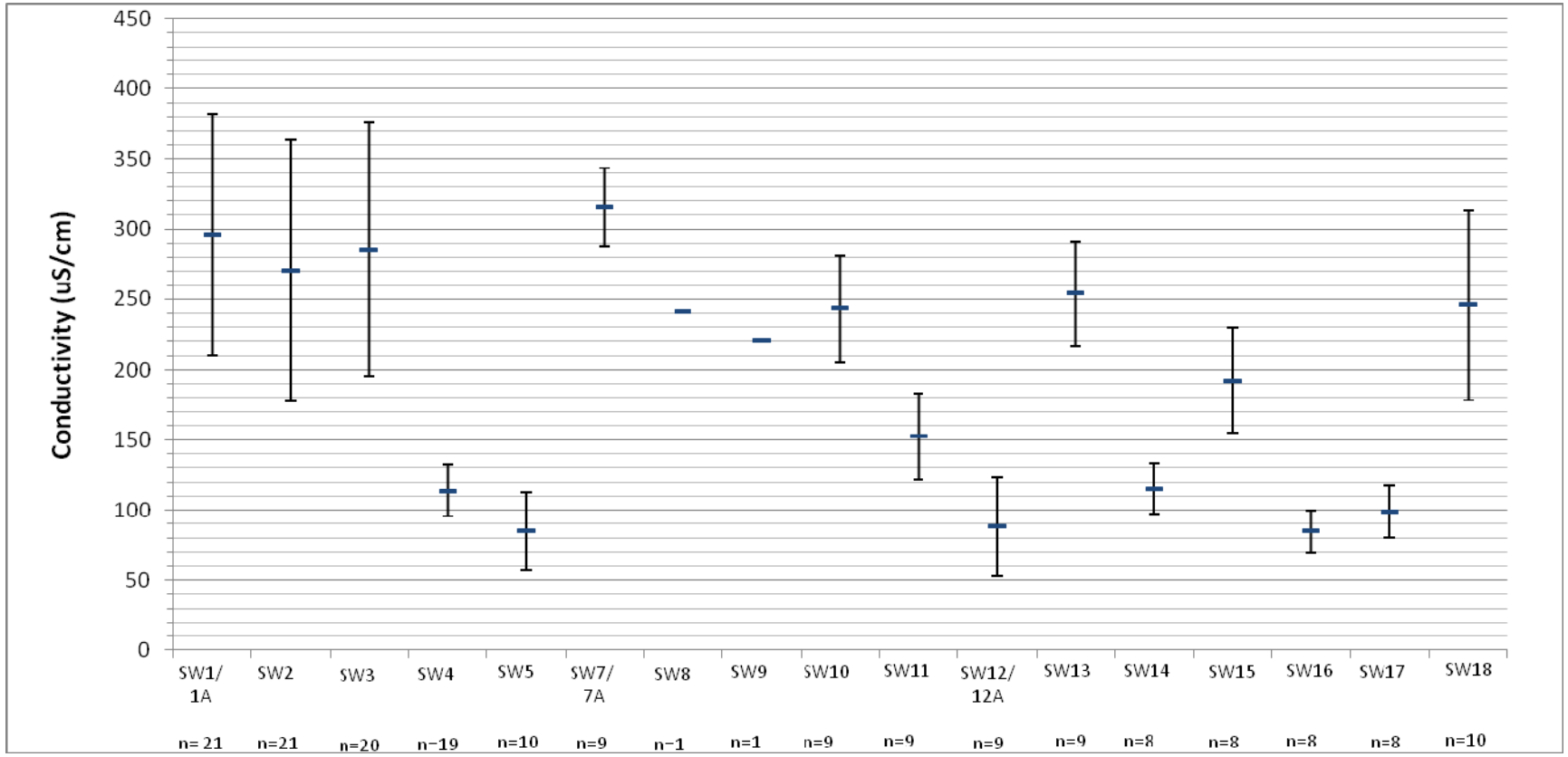


Figure 5.4 Mean Conductivity Values (+/- SD)

5.3.2.5 Total Suspended Solids (TSS)

TSS is a measure of the particulate matter suspended in the water column, and can include silt, clay and fine particles of organic and inorganic matter, plankton and other microscopic organisms (CCME, 2002). There are several documented effects of high TSS levels in the water column, including physical damage to organisms (e.g., damage to fish gills), behavioural changes (e.g., changes to movement and migration patterns), and habitat destruction (e.g., the smothering of spawning substrates with fine-grained sediment). Short-term exposure to increased TSS (i.e., a 25 mg/L change to background levels over 24 hours) is likely to cause reversible behavioural changes and sub-lethal effects on fish; however, long-term changes (i.e., changes lasting more than one month) can cause fish egg mortality from smothering of sediments (CCME, 2002). Benthic invertebrates are also susceptible to high levels of suspended sediments, which can affect their food sources (i.e., periphyton) and reduce their microhabitat within the gravels, cobble and boulders.

TSS was observed to be relatively low at all stations tested, ranging from below MDL (1 mg/L) to 48 mg/L (SW2). The mean TSS values are shown in Figure 5.5.

TSS at RRW-2 through RRW-9 ranged from 2 mg/L to 44 mg/L when sampled in 2007.

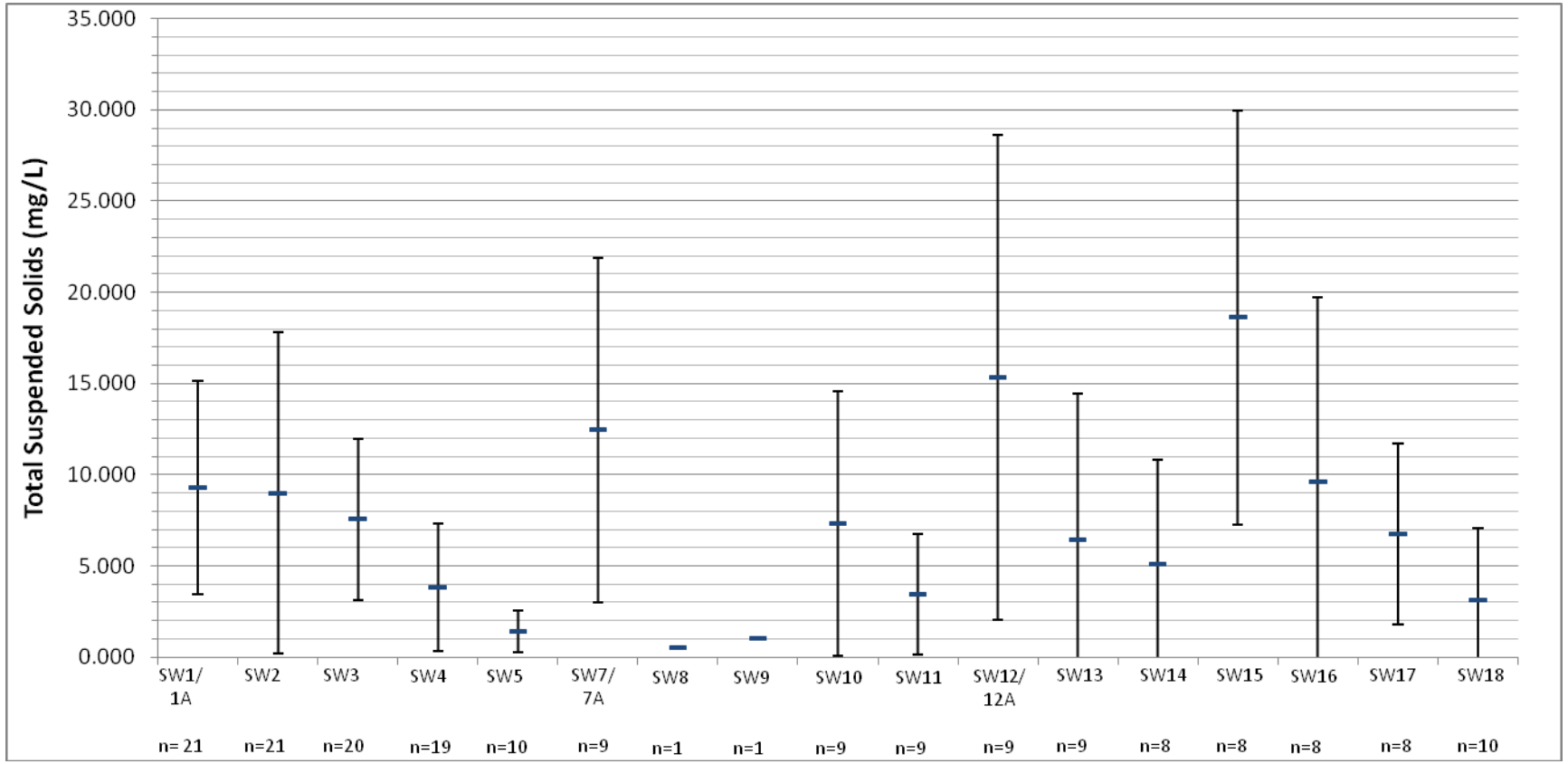


Figure 5.5 Mean Total Suspended Solids (+/- SD)

5.3.2.6 Nutrients

Nutrients such as phosphorous, orthophosphate and ammonia are essential to aquatic life systems; however, high levels can have deleterious effects on aquatic life.

Phosphorous is an essential plant nutrient and is often the most limiting nutrient available for plant growth in freshwater (MELP, 1998). However, high phosphorous inputs into freshwater environments can result in excessive algal growth. In Ontario, average total phosphorous should not exceed 0.020 mg/L, with the elimination of excessive plant growth in rivers and streams with total phosphorus concentrations below 0.030 mg/L (MEE, 1994). Dissolved phosphorous values at the surface water quality stations that were measured above the MDL of 0.002 mg/L ranged from 0.009 mg/L (SW12A) to 0.1 mg/L (SW1/1A).

Orthophosphate is the measure of the inorganic oxidized form of soluble phosphorus (MELP, 1998). This form of phosphorus is the most readily available nutrient for uptake during photosynthesis, and high levels of orthophosphate generally occur with algal blooms which can have deleterious effects to aquatic life (MELP, 1998). Orthophosphate values at the surface water quality stations ranged from below the MDL (0.01 mg/L) to 0.1 mg/L (SW1/1A).

Ammonia is an important component of the nitrogen cycle in the water column; however, it is toxic to aquatic life at high concentrations (CCME, 2010). Excessive ammonia in water bodies can result in prolific algal blooms which can have deleterious impacts on other aquatic life, drinking water supplies, and recreation activities. The toxicity of ammonia is directly influenced by both pH and temperature, with higher toxicity seen with higher temperatures and pH (CCME, 2010). The PWQO for un-ionized ammonia is 0.02 mg/L and the CCME guideline for total ammonia ranges from 0.35 mg/L to 73 mg/L, dependant on pH and temperature.

Un-ionized ammonia values are calculated from the total ammonia values and based on pH and temperature. The highest combination of pH and water temperature, which would give the most conservative un-ionized ammonia value, was recorded at SW2 on August 26, 2010, with a pH of 8 and a temperature of 23°C. The total ammonia sampled on that day was less than the MDL (0.05 mg/L). The calculation of the un-ionized ammonia value, based on the MDL and recorded conditions, is 0.00235 mg/L, which is an order of magnitude lower than the PWQO of 0.02 mg/L.

Conversely, the highest recorded total ammonia value within the Pinewood River watershed was 0.28 mg/L, recorded at SW1/1A on December 21, 2009. The laboratory pH was 7.6 and the highest recorded water temperature that day was 1.7°C. Based on the recorded pH and temperature conditions, the un-ionized ammonia value would be 0.000728 mg/L, which is also well below the PWQO of 0.02 mg/L.

Total ammonia values ranged from below the MDL (0.05 mg/L) to 0.7 mg/L. The highest total ammonia value was recorded at SW5, which is outside of the Pinewood River watershed. The CCME guideline for total ammonia ranges from 0.35 mg/L to 73 mg/L, depending on pH and temperature. Based on the pH and temperature conditions recorded on August 26, 2010, the CCME guideline for total ammonia is 0.035 mg/L, which is the lowest limit in the range. Based on the pH and temperature conditions recorded on December 11, 2009, the corresponding CCME guideline for total ammonia is 6 mg/L, which could be considered a maximum acceptable guideline for total ammonia.

Based on the highest observed summer and winter values, ammonia values in the area of the proposed advanced exploration site are well-below the PWQO and maximum CCME guidelines.

The mean values for total ammonia-N for SW1/1A to SW18 are shown in Figure 5.6. Figures showing all the total ammonia values recorded are included in Appendix I-4 (Surface water quality graphs).

Total ammonia at RRW-2 through RRW-9 ranged from 0.01 mg/L to 0.03 mg/L when sampled in 2007.

Nitrate and nitrite values were below the MDL (0.1 mg/L and 0.01 mg/L, respectively) in the majority of samples. No sample exceeded the CCME guideline for nitrate (2.9 mg/L) or nitrite (0.2 mg/L).

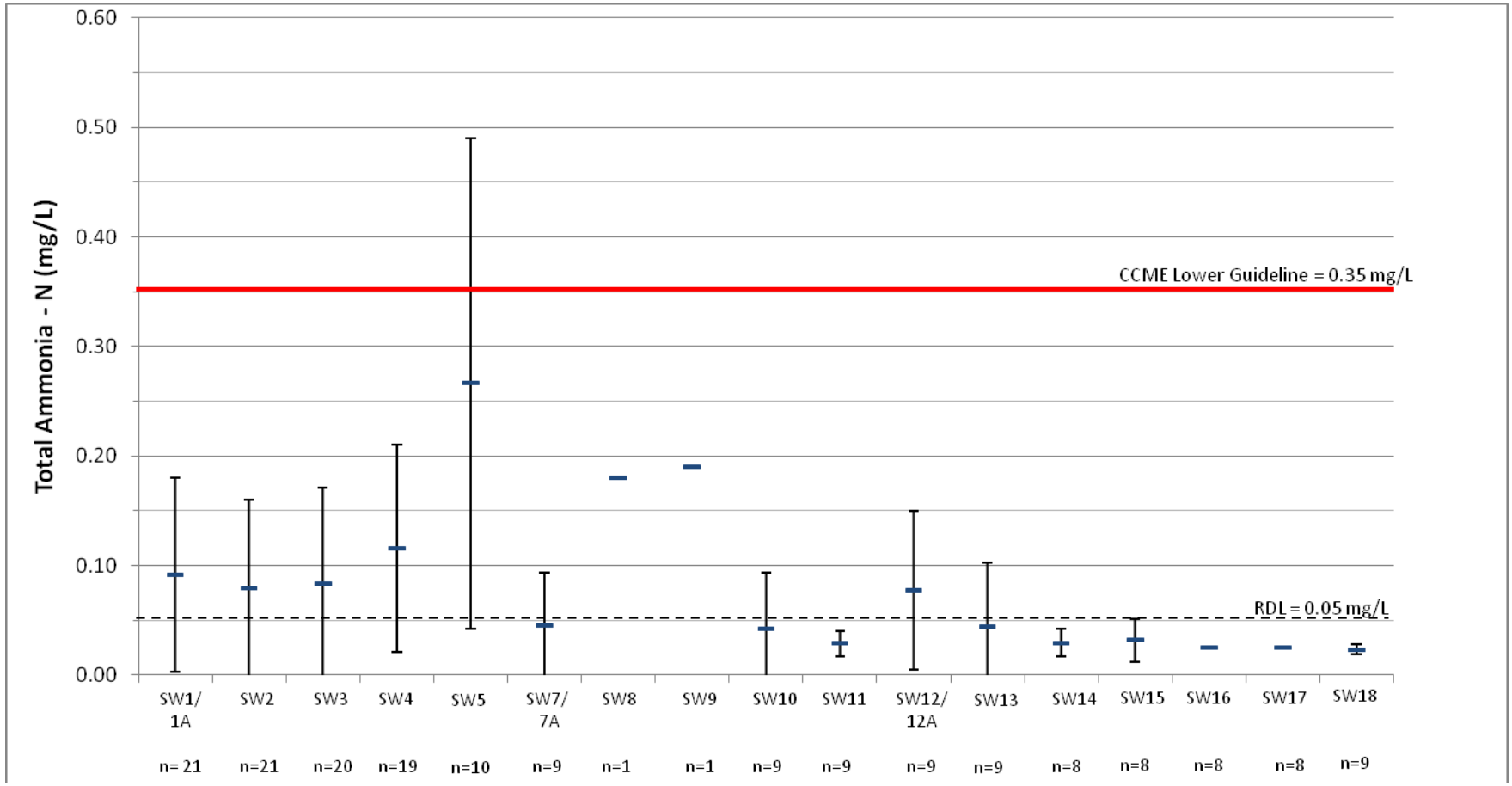


Figure 5.6 Mean Total Ammonia Concentrations (+/-SD)

5.3.2.7 Microbiological Parameters

Coliform levels indicate the degree of fecal contamination from human and animal wastes in a water column and it is generally accepted that if fecal contamination in the water has occurred then other pathogenic organisms may also be present (MELP, 1998). Increased levels of coliforms are generally linked to the health risks to humans, which are of concern in recreational areas, for drinking water sources, and in harvesting shellfish. Exposure to coliforms can result in various degrees of gastrointestinal illness. There is no PWQO for the protection of freshwater aquatic life for total or fecal coliforms. Total coliforms ranged from less than 1 Col./100 mL to 'too numerous to count' (TNTC) at SW1/1A through SW5, varying greatly between stations and at individual stations between sampling periods. Fecal coliforms ranged from less than 1 Col./100 mL to 384 Col. /100 mL, with the highest concentrations typically observed at SW1/1A.

E.coli ranged from less than 1 Col./100 mL to 374 Col./100 mL, with the highest concentrations typically observed at SW1/1A. Elevated *E.Coli* levels are most likely associated with livestock activity within and near the Pinewood River.

The PWQO for *E.coli* is 100 Col./100 mL, and this was exceeded in one sample from SW1/1A. Figure 5.7 shows the mean *E.coli* concentrations at SW1/1A to SW5.

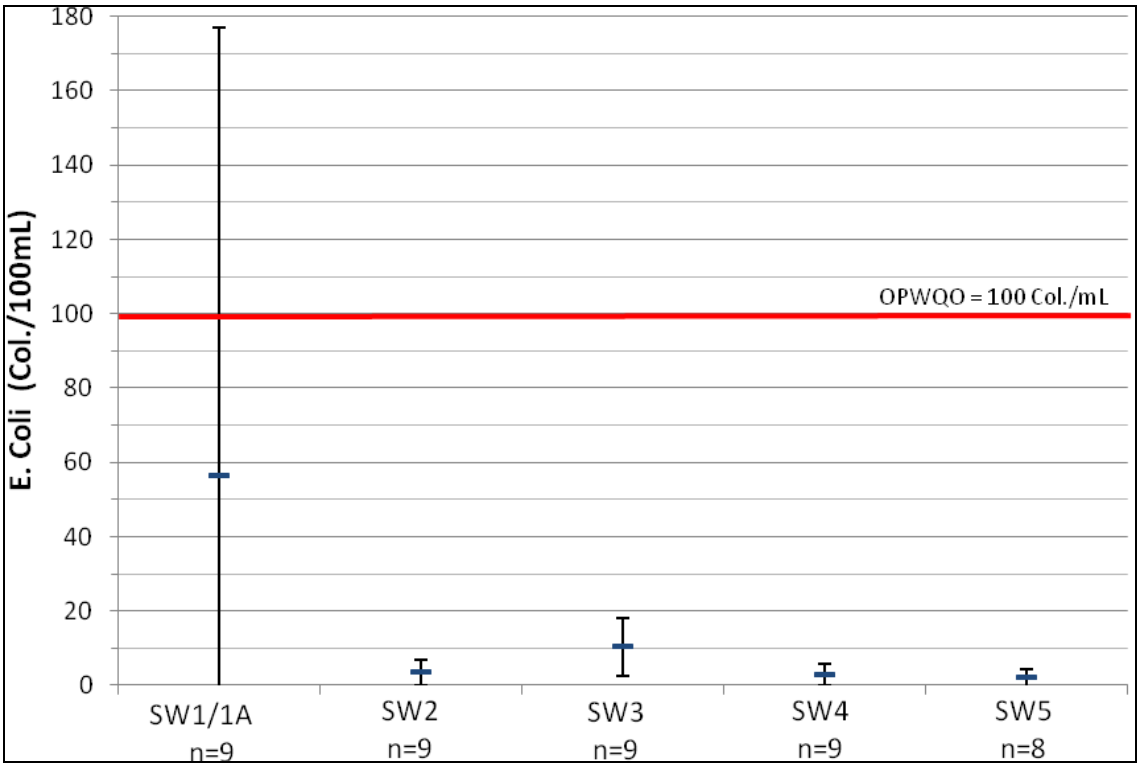


Figure 5.7 Mean *E. coli* concentrations (+/- SD) at SW1/1A to SW5 (2008 to 2010)

5.3.2.8 Aluminum

Aluminum (Al) is generally present in low concentration in natural waterways; however the type of Al as well as the types of biological species present has a substantial effect on the toxicity of Al (Butcher, 1998). For example, white sucker fry have shown high sensitivity to increased Al in laboratory conditions, whereas minnows were relatively tolerant (Butcher, 1998). Fish sensitivity to Al also increases with age; eggs are tolerant of Al levels that can be lethal to fry (Butcher, 1998). Elevated Al levels can also affect adult fish, including reduced feeding activity, increased metabolism, increased respiration and liver and kidney damage, and changes to skin coloration. Long-term exposure to elevated Al can result in death from starvation (Butcher, 1988).

Dissolved Al concentrations varied considerably between sampling stations; however, the mean values for all sites are below the PWQO of 0.075 mg/L, with the exception of SW5 (mean value = 0.13 mg/L) which is located outside of the Pinewood River watershed.

The highest recorded dissolved Al mean values within the Pinewood River watershed were at SW12A (Marr Creek at a beaver pond outflow) and at SW15 (Pinewood River upstream of the confluence with the Rainy River). The mean values recorded at these sites were each 0.074 mg/L. The lowest dissolved Al mean values were at SW13 (Loslo Creek at District Road 600) and SW18 (Marr Creek at District Road 600), and were 0.015 mg/L and 0.018 mg/L, respectively.

The mean dissolved Al concentrations at SW1/1A through SW18 are shown in Figure 5.8. Figures showing all the dissolved Al values are included in Appendix I-4 (Surface water quality graphs).

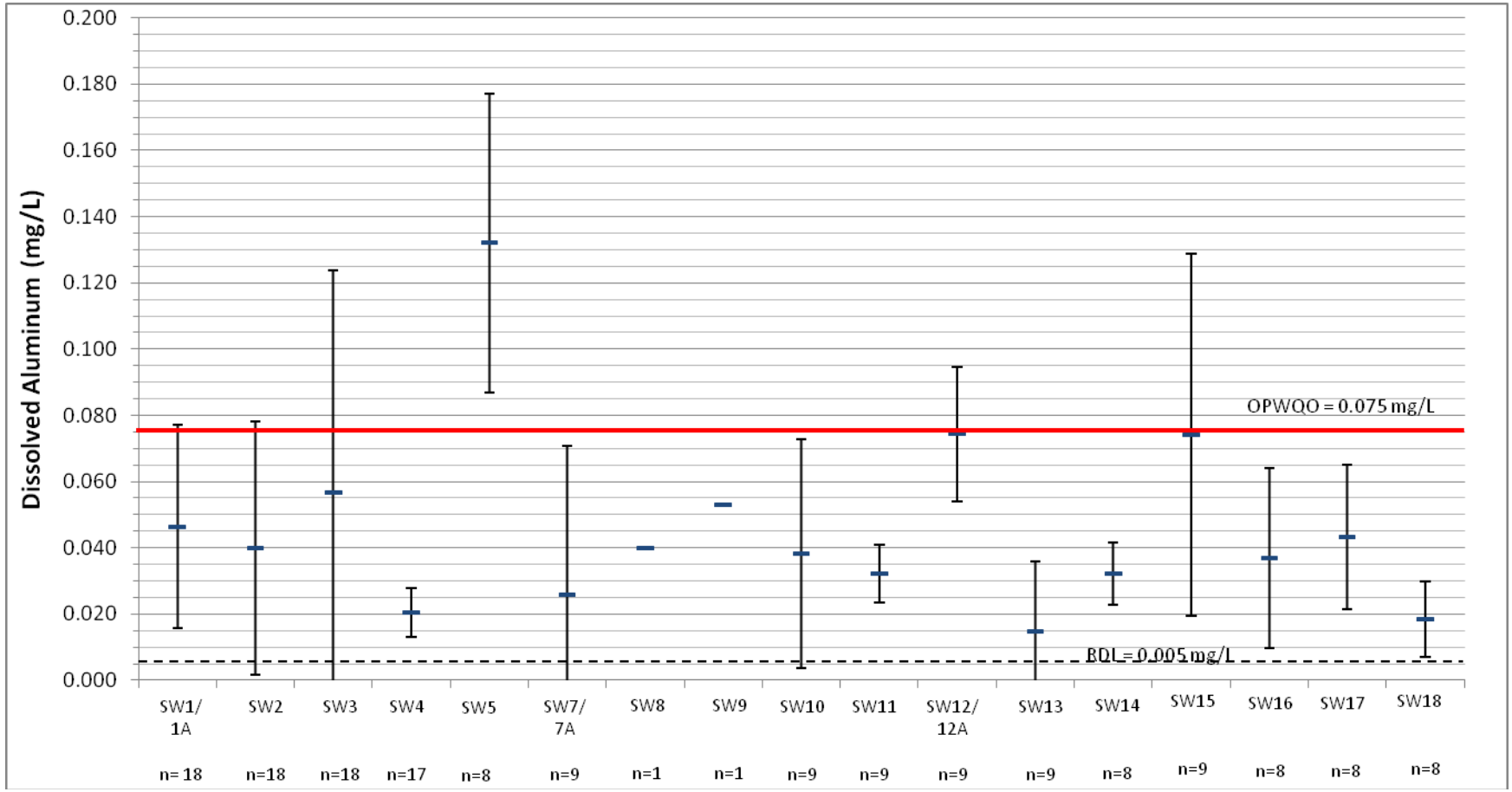


Figure 5.8 Mean Dissolved Aluminum Concentrations (+/- SD)

5.3.2.9 Antimony

Antimony (Sb) occurs naturally in the environment, and is also an element used in alloys, paint and rubber manufacturing (Cooper and Harrison, 2009). There is limited information available on the toxicity of antimony to freshwater organisms; however, it is not known to accumulate through the food chain.

The PWQO for total Sb is 0.02 mg/L was exceeded in one sample at SW13 (0.6 mg/L). All other total Sb samples at SW13 (n = 9) were below the MDL of 0.0005 mg/L, and so the single high value may be considered an anomaly. All total Sb samples from SW1/1A, SW2, SW3, SW4, SW7A, SW8, SW9, SW11, SW16 and SW17 were below the MDL.

5.3.2.10 Cobalt

Cobalt (Co) is an essential element for the growth of many marine algal species and has also been shown to enhance growth of some plants at low concentrations; however, in higher concentrations Co is toxic to humans and to terrestrial and aquatic animals and plants (Nagpal, 2004). The PWQO for the protection of aquatic life is 0.0009 mg/L in freshwater. Aquatic invertebrates are reported to show the highest sensitivity to exposure of elevated Co, followed by fish and aquatic plants (Nagpal, 2004). The toxicity of Co in freshwater environments may be influenced by water hardness; acute toxic effects of cobalt can be seen at maximum concentrations of 0.110 mg/L, with chronic toxic effects seen at exposures levels of 0.004 mg/L (Nagpal, 2004).

Total Co concentrations ranged from below the MDL (0.0005 mg/L) to 0.003 mg/L (SW2 and SW11). Cobalt values were below detection in the majority of samples taken at each location, and were below the MDL in samples taken from SW8 and SW9 (sampled only one time each), SW10, SW16 and SW17.

The highest mean total Co values were at SW11 (0.00095 mg/L) and SW12A (0.001 mgL), which are above the PWQO. Mean total Co values for SW1/1A to SW18 are shown in Figure 5.9. Figures showing all the total Co values are included in Appendix I-4 (Surface water quality graphs).

Cobalt values at RRW-2 through RRW-9 ranged from below the MDL to 0.001 mg/L when sampled in 2007.

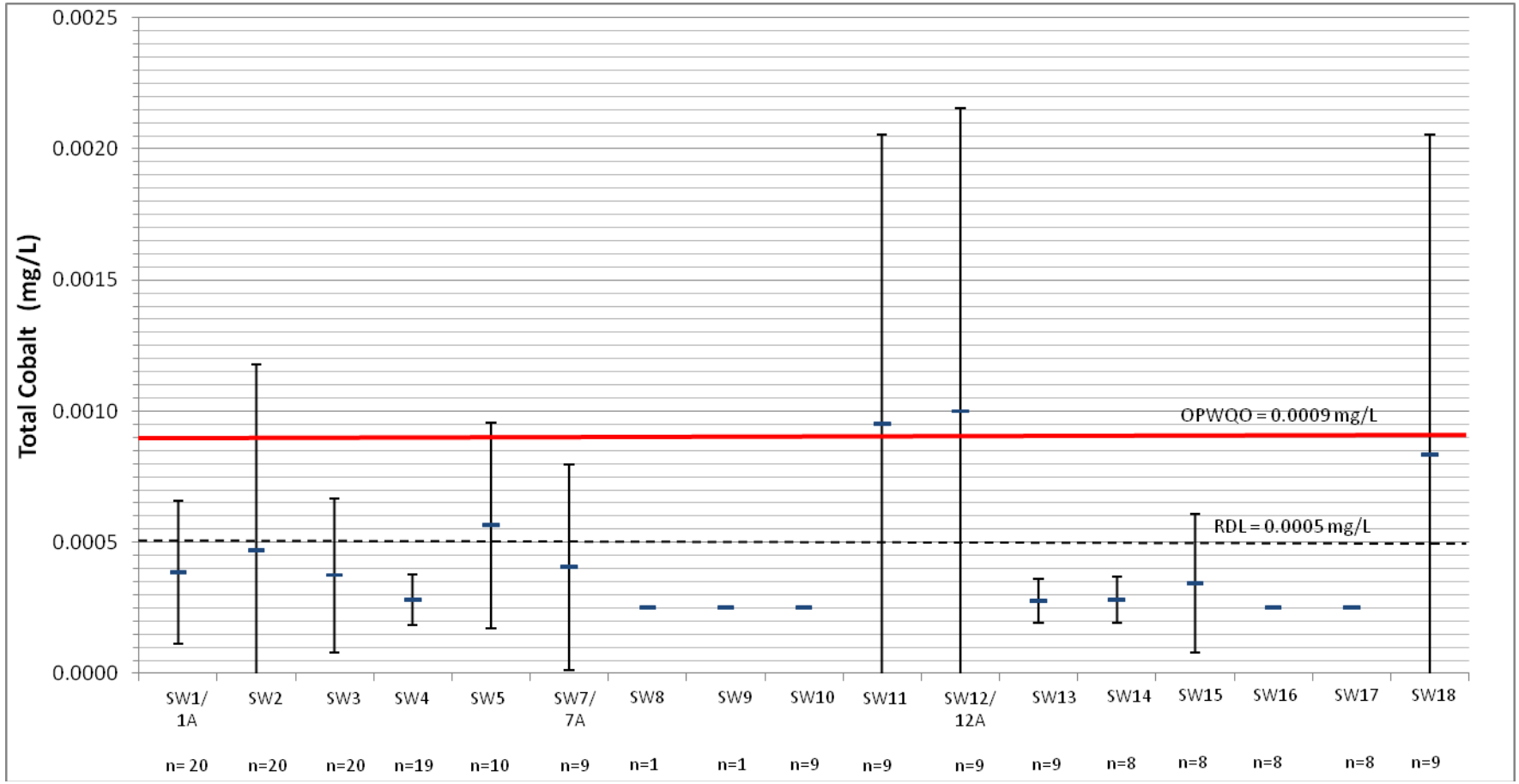


Figure 5.9 Mean Total Cobalt Concentrations (+/- SD)

5.3.2.11 Copper

Copper (Cu) is essential for plant and animal nutrition; however it is acutely toxic to most forms of aquatic life at relatively low concentrations (MELP, 1998). Elevated Cu levels can result in reduced growth and photosynthesis in algae, and aquatic invertebrates show behavioural, reproductive, and growth effects (Singleton, 1987). Fish mortality can occur if exposed to chronic Cu levels, with sub-lethal effects on reproduction, behaviour, growth, osmoregulation, blood chemistry, olfactory, respiration and metabolism and resistance to disease (Singleton, 1987). Cu concentrations are reported to affect spawning in freshwater fish (e.g., fathead minnows) at concentrations ranging from 0.0106 mg/L to 0.0184 mg/L (Singleton, 1987).

One Cu sample value from SW13 (0.015 mg/L) exceeded the PWQO of 0.005 mg/L.

Mean total Cu concentration data from SW1/1A to SW18 are shown in Figure 5.10. Figures showing all the Cu values are included in Appendix I-4 (Surface water quality graphs).

Copper values at RRW-2 through RRW-9 ranged from below the MDL to 0.002 mg/L when sampled in 2007.

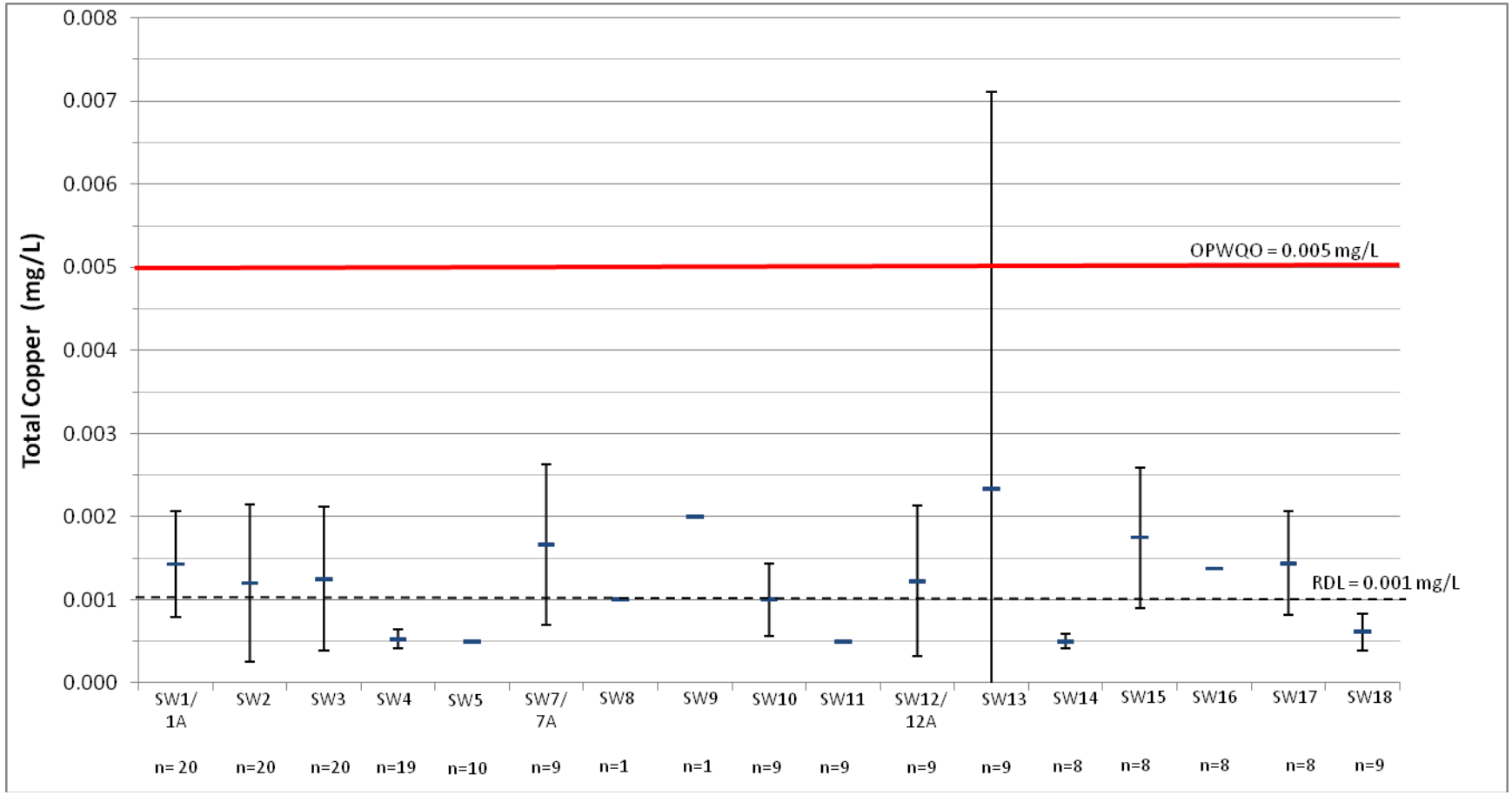


Figure 5.10 Mean Total Copper Concentrations (+/- SD)

5.3.2.12 Cyanide

Cyanide (CN) is naturally present in the aquatic environment in small amounts and is toxic to aquatic life at high levels. The form of CN in water is largely influenced by several physical parameters including pH, temperature and DO (Singleton, 1986). The pathway of exposure to CN for fish is from uptake through their gills. Exposure to CN levels of 0.2 mg/L is fatal to most fish species, with exposure as low as 0.01 mg/L reported to cause adverse effects (Singleton, 1986). Elevated levels of CN can result in liver tissue damage, interference with respiration, growth, reproduction, early life stage development, swimming ability, and osmotic regulation (Singleton, 1986).

All samples for total CN were below the PWQO of 0.005 mg/L. The majority of samples were below the MDL (MDLs ranged from 0.0005 mg/L to 0.005 mg/L based on colour interference in the sample). Total CN concentrations were below the MDL (0.005 mg/L) in all of the samples from SW7A, SW8, SW9, SW10, SW11, SW12A, SW13, SW14, SW15, SW16, SW17 and SW18. The highest CN value was recorded at SW3 (0.0017 mg/L).

Weak Acid Dissociable (WAD) cyanide concentrations ranged from below MDL (0.0005 mg/L) to 0.12 mg/L. One sample at SW3 had a concentration of 0.12 mg/L. There is no PWQO for WAD Cyanide.

5.3.2.13 Iron

Iron (Fe) is essential for all forms of life; however, it has the potential to be toxic in high concentrations (Phippen et al., 2008). Fe is naturally abundant in the environment, and occurs in the aquatic environment in a dissolved or in a suspended state (measured as total Fe).

If Fe is free within an organisms cell it can form free radicals which can cause damage to a wide variety of cellular structures and can ultimately kill the cell (Phippen et al., 2008). To prevent this, Fe is often bound to proteins which allow the cells to benefit from the Fe without any associated harm. At elevated levels, total Fe can cause direct damage to gills as well as cellular and DNA damage (Phippen et al., 2008). Conversely, low Fe concentrations (<0.0015 mg/L) have been shown to reduce the hatchability of fathead minnows. Iron toxicity is also reported to occur in aquatic plants (Phippen et al., 2008).

The majority of total iron (Fe) values in the samples exceeded the PWQO of 0.3 mg/L. Sample values ranged from below the MDL of 0.1 mg/L (SW2, SW4 and SW16) to 8 mg/L (SW4). Mean concentrations (+/- SD) for SW1/1A through SW18 are shown in Figure 5.11. Figures showing all the Fe values are included in Appendix I-4 (Surface water quality graphs).

Iron values at RRW-2 through RRW-9 ranged from 0.5 mg/L to 3.0 mg/L when sampled in 2007.

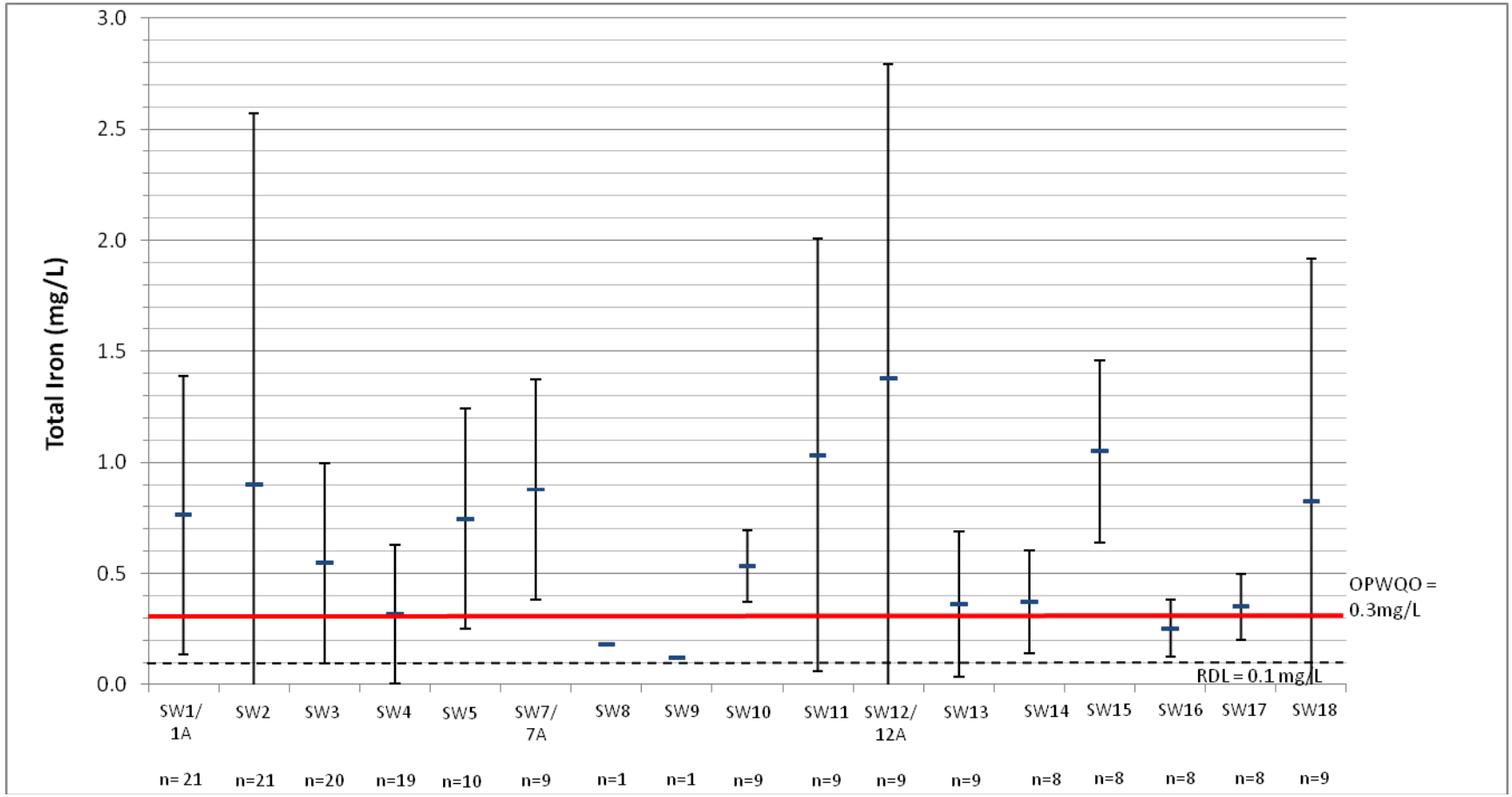


Figure 5.11 Mean Total Iron Concentrations (+/- SD)

5.3.2.14 Lead

Lead (Pb) is a non-essential element for all plants and animals; however, it is naturally present in the environment. Pb is toxic to all animals (MELP, 1998). Fish exposure to elevated Pb levels can result in spinal deformities across all life stages (Nagpal, 1987). The toxic effects of lead decrease with increasing DO and water hardness, with lethal tests on fish demonstrating higher tolerance in hard water than soft (Nagpal, 1987). In toxicity tests, Pb water concentrations of 0.027 mg/L resulted in one-third of the fish having spinal deformities (Nagpal, 1987). Other negative recorded effects have included the decline of red blood cell volume. The PWQO for the protection of aquatic life for lead corresponds with water hardness, and ranges between 0.001 mg/L and 0.005 mg/L.

All of the samples were below the PWQO minimum of 0.001 mg/L for Pb, with the exception of one value of 0.001 mg/L at SW15, and one value of 0.0024 mg/L at SW2. All other Pb values at SW2 were below the MDL of 0.0005 mg/L, as were the majority of the samples from the other stations.

Lead values at RRW-2 through RRW-9 were below the MDL when sampled in 2007.

5.3.2.15 Nickel

Nickel (Ni) is a dietary requirement for many organisms that can be toxic in higher concentrations. However, limited information is available on the toxic effect of Ni on aquatic organisms.

The PWQO for Ni is 0.025 mg/L, which was exceeded one time, at SW4 (0.092 mg/L). All other sample values were below PWQO criteria, and the majority of samples were below the MDL (0.001 mg/L).

The mean values are shown on Figure 5.12. Figures showing all the Ni values are included in Appendix I-4 (Surface water quality graphs).

Nickel values at RRW-2 through RRW-9 ranged from 0.003 mg/L to 0.005 mg/L when sampled in 2007.

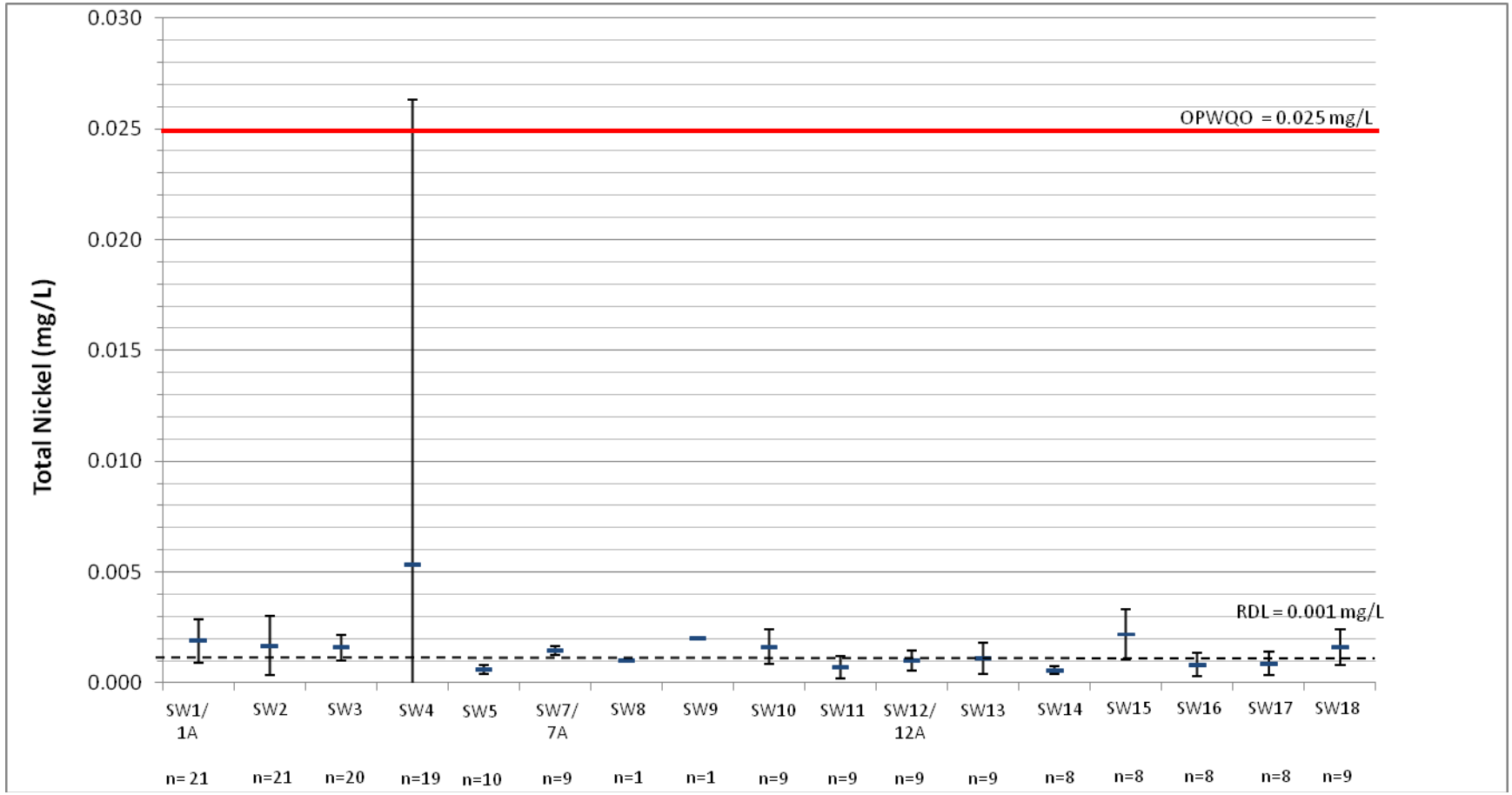


Figure 5.12 Mean Total Nickel Concentrations (+/-SD)

5.3.2.16 Vanadium

Vanadium (V) is present in the freshwater environment at low concentrations. Vanadium can be toxic to aquatic animals at relatively low levels following short term and long term exposure (Environment Canada, 2010). However, limited information is available regarding the toxic effects to aquatic organisms from exposure to vanadium.

The PWQO for vanadium is 0.006 mg/L which was exceeded one time at SW2 (0.011 mg/L). All other sample values were below the guideline limit, and the majority of samples were at or below the MDL (0.001 mg/L).

Vanadium values at RRW-2 through RRW-9 ranged from below the MDL (0.0005 mg/L) to 0.005 mg/L when sampled in 2007.

5.3.2.17 Zinc

Zinc (Zn) is an essential element in trace amounts for plants and animals. High levels of Zn are often found in contaminated waters and can be both chronically and acutely toxic to aquatic organisms. Conversely, Zn removal from the environment can also be detrimental due to Zn deficiency (Nagpal, 1999). Zn deficiency in fish can result in growth retardation, reproduction and survival (Nagpal, 1999). Several factors influence the toxicity of Zn, including water hardness, salinity, temperature, and the presence of other contaminants (MELP, 1998).

The PWQO for Zn is 0.02 mg/L, which was exceeded in at least one sample from SW1/1A, SW2, SW3, SW4, and SW5. Exceedances at stations within the Pinewood River watershed (SW1/1A, SW2, and SW3) ranged from 0.021 mg/L to 0.042 mg/L (both from SW2). Exceedances at SW4 (Rainy Lake watershed) were 0.024 mg/L and 0.032 mg/L, and at SW5 (Lake of the Woods watershed) were 0.021 mg/L to 0.45 mg/L.

Total Zn values at all other stations were below the PWQO, and the majority of samples were below the MDL (0.005 mg/L).

The mean values for total Zn concentrations for SW1/1A through SW18 are shown in Figure 5.13. Figures showing all the Zn values are included in Appendix I-4 (Surface water quality graphs).

Total Zn at RRW-2 through RRW-9 ranged from below the MDL (0.0015 mg/L) to 0.01 mg/L.

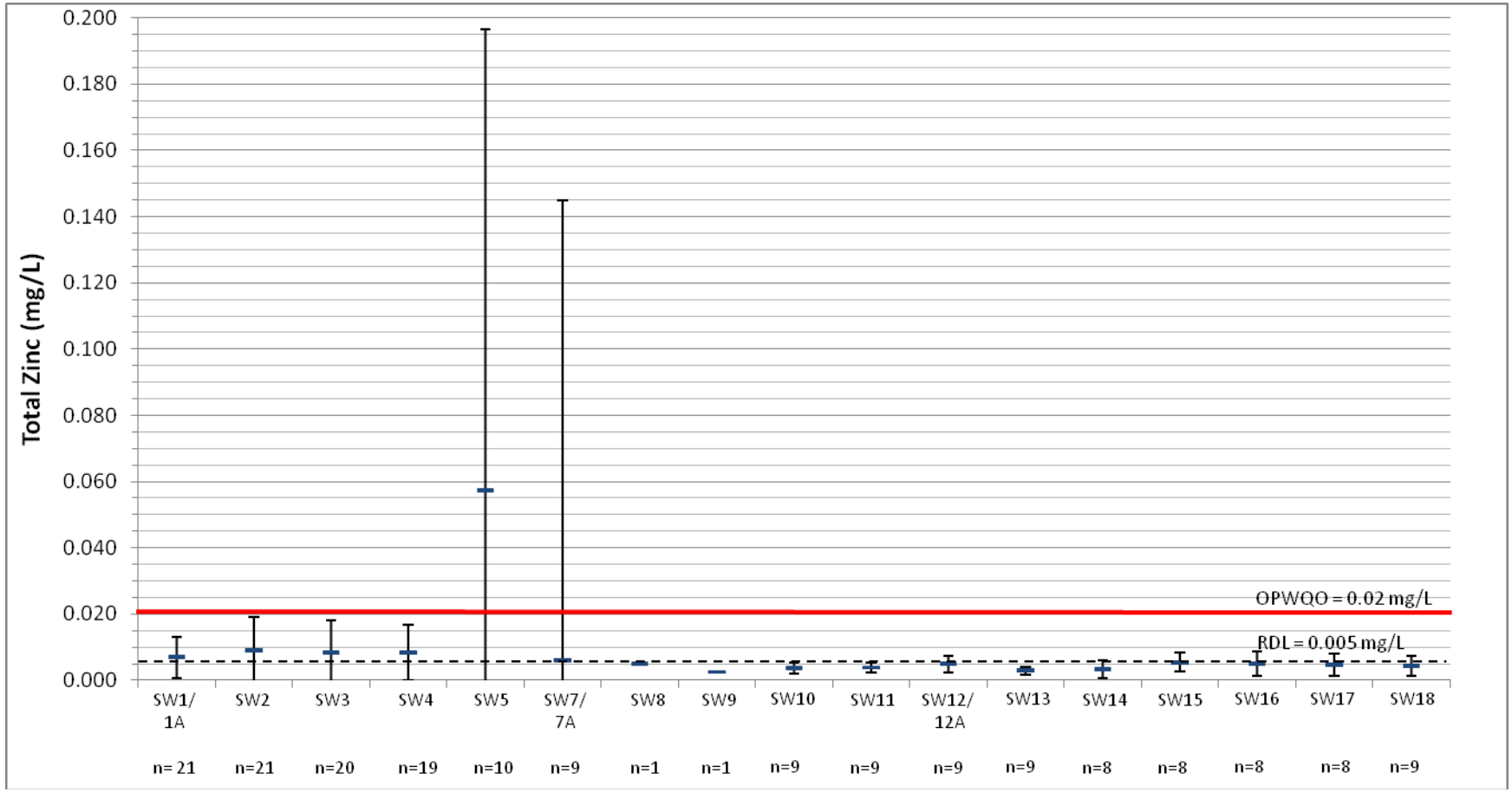


Figure 5.13 Mean Total Zinc Concentrations (+/- SD)

Other Water Quality Sampling Results

Several elements tested below or nearly below the MDLs at SW1/1A through SW18. These include:

- Total Arsenic: All samples from SW4, SW8, SW9, and SW16 were below the MDL (0.001 mg/L), and at least one or more samples from each of the other stations were below the MDL. The highest recorded value of 0.004 mg/L was recorded in 2007 (at SW1/1A (RRW-1) and RRW-2), which is below the PWQO of 0.1 mg/L;
- Total Beryllium: All samples were below the MDL (0.0005 mg/L);
- Total Boron: All samples were below the OPQWO of 0.2 mg/L;
- Total Chromium: The MDL was 0.005 mg/L for the 2008 to 2010 sampling, which is above the PWQO of 0.001 mg/L. All samples were below the MDL, except for one sample at SW2 (0.005 mg/L). The samples taken in 2007 were analyzed with a lower MDL (0.0005 mg/L), and two samples were above the PWQO: SW1/1A (RRW-1, 0.001 mg/L) and RRW-2 (0.002 mg/L);
- Mercury (Hg): All samples were below the MDL (0.0001 mg/L) and the PWQO (0.0002 mg/L).
- Total Molybdenum (Mo): All sample results were below the PWQO of 0.04 mg/L. The majority of samples were below the MDL (0.001 mg/L);
- Total Selenium (Se): All 2008 to 2010 samples were below the MDL (0.002 mg/L). Samples taken in 2007 ranged from below the MDL (0.0002 mg/L) to 0.0005 mg/L. The PWQO for selenium is 0.1 mg/L;
- Total Silver (Ag): All samples were below the MDL (0.0001 mg/L), which is equal to the PWQO;
- Total Thallium (Tl): All samples were below the MDL (0.00005 mg/L) with the exception of two values at SW2 (0.00006 mg/L and 0.00007 mg/L). All samples were below the PWQO criteria of 0.0003 mg/L; and

- Total Uranium (U): All samples were below the PWQO of 0.005 mg/L. Sample values ranged from below the MDL (0.000 mg/L to 0.0025 mg/L) to a maximum 0.0013 mg/L (SW7A).

5.4 Quality Assurance / Quality Control

The QA/QC protocol for the water sampling program included trip blanks, field duplicates, and laboratory QA/QC procedures as discussed in Section 5.2.6. QA/QC results were generally within the typical and acceptable ranges. All QA/QC documentation is included in Appendix I-4 (Maxxam Analytics Lab Data) and Appendix I-3 (RPD Spreadsheet).

The Relative Percent Difference (RPD) between the blind duplicate (SW6) and existing surface water quality station was calculated for all values that were greater than 5 times the MDL. RPD values less than 20% are considered acceptable, RPD values between 20% and 50% are considered significant, and RPD values greater than 50% are classified as very significant (BC MOE, 2009).

The results of the calculations show some RPD values within the range of 20% to 50%, and some RPD values greater than 50%. Information on the RPD values that were above 20% is shown in Table 5.11. Parameters that have more than one RPD exceedance include TSS, turbidity, calculated carbon dioxide, dissolved aluminum, total aluminum, dissolved barium, total barium, dissolved iron, total manganese, dissolved phosphorous, total titanium and dissolved zinc.

Field filtration was identified as a potential source of sample variability. Accordingly, field filtration was discontinued as of the June 24, 2010, in favour of lab filtration for dissolved metals analysis.

Sources of sample variability could be occurring at the sampling stage (local source variation) or they could be occurring at the laboratory stage. The 2011 water sampling program should focus on identifying and minimizing the potential sources of sample variability.

Table 5.11 RPD Exceedances (%)

	November 15, 2008	July 4, 2009	August 10, 2009	September 9, 2009	October 9, 2009	November 5, 2009	December 21, 2009	February 2, 2010	February 22, 2010	April 3, 2010	May 2, 2010	June 24, 2010	July 26. 2010	August 23, 2010	September 30, 2010	October 4, 2010	December 6, 2010
E.coli	100																
TSS		127	86									27	81				
Turbidity				27	29				22		33	32	117		20		
COD			68														
Colour												77					
Carbon Dioxide														29			
Calculated Carbon Dioxide													22	32			
Dissolved Oxygen														125			
Orthophosphate													67				
Ammonia					27												
Dissolved Aluminum			51						48	49							
Total Aluminum			69	55		25				38							22
Dissolved Barium			88				30	38									
Total Barium			88			108											
Dissolved Cadmium																	75
Total Cadmium																	50
Dissolved Iron							20		31					23			
Total Iron																34	

Table 5.11 RPD Exceedances (%) (cont'd)

	November 15, 2008	July 4, 2009	August 10, 2009	September 9, 2009	October 9, 2009	November 5, 2009	December 21, 2009	February 2, 2010	February 22, 2010	April 3, 2010	May 2, 2010	June 24, 2010	July 26. 2010	August 23, 2010	September 30, 2010	October 4, 2010	December 6, 2010
Dissolved Manganese			23														
Total Manganese			25	102						97		34					
Dissolved Phosphorous												22			27	38	
Total Phosphorous														38			
Dissolved Potassium	29																
Dissolved Sodium								20									
Total Titanium							23					33					
Total Uranium											22						
Dissolved Zinc			135	22				55		89	64						

5.5 Summary

Water quality within the Pinewood River watershed is generally good, and the majority of sample parameters fall below PWQO criteria. Some of the exceptions include total iron, total zinc, and dissolved aluminum.

Specifically, parameters that have exceeded PWQO criteria include:

- *E. Coli* at SW1 (one of nine samples);
- Dissolved aluminum at SW1/1A (three of 18 samples), SW2 (two of 18 samples), SW3 (four of 18 samples), SW5 (eight of eight samples), SW7A (one of nine samples), SW10 (two of nine samples), SW12/12A (three of nine samples), SW15 (two of eight samples) and SW16 (one of eight samples);
- Antimony at SW13 (one of nine samples);
- Chromium at SW1 (one of 18 samples), SW2 (one of 21 samples) and RRW-2;
- Cobalt at SW1 (two of 21 samples), SW2 (one of 21 samples), SW3 (one of 20 samples), SW5 (three of 10 samples), SW7A (two of nine samples), SW11 (three of nine samples), SW15 (one of eight samples), SW18 (three of 10 samples, RRW-2 and RRW-9;
- Iron at SW1/1A (15 of 21 samples), SW2 (16 of 21 samples), SW3 (12 of 20 samples), SW4 (seven of 19 samples), SW5 (five of six samples), SW7A (nine of nine samples), SW10 (nine of nine samples), SW11 (nine of nine samples), SW12A (eight of nine samples), SW13 (four of nine samples), SW14 (four of eight samples), SW15 (eight of eight samples), SW16 (three of eight samples), SW17 (four of eight samples), SW18 (five of 10 samples), RRW-2, RRW-3, RRW-7, RRW-8, and RRW-9; and
- Zinc at SW1 (one of 21 samples), SW2 (five of 21 samples), SW3 (two of 20 samples), SW4 (two of 20 samples) and SW5 (three of 10 samples).

The PWQO for total iron was exceeded in the majority of samples, indicating that iron is elevated in the Local Study Area, the Regional Study Area, as well as within the two neighbouring watersheds.

The PWQO for zinc was also exceeded several times at the SW stations within the Local Study Area, as well as the two neighbouring watersheds.

Dissolved aluminum also appears to be elevated within the Pinewood River and the Lake of the Woods watersheds. Dissolved aluminum values above the PWQO were recorded at some stations in the Pinewood River and its tributaries (West Creek and Marr Creek). Elevated dissolved aluminum values were also recorded at the upstream Rainy River sampling station (SW16).

The Lake of the Woods watershed (SW5) exhibits more variations in water chemistry from the Pinewood River watershed than the Rainy Lake watershed (SW4), thus SW4 was selected as the control site, and sampling SW5 was discontinued.

6. HYDROGEOLOGY

6.1 Study Objectives

The objective of the hydrogeology baseline studies was to characterize the baseline hydrogeologic conditions based on past studies and data collected during a number of KCB field investigations in 2008 through 2010. This section of the report also presents a conceptual hydrogeologic model of the Local Study Area. Groundwater quality is discussed in Section 7, Groundwater Quality.

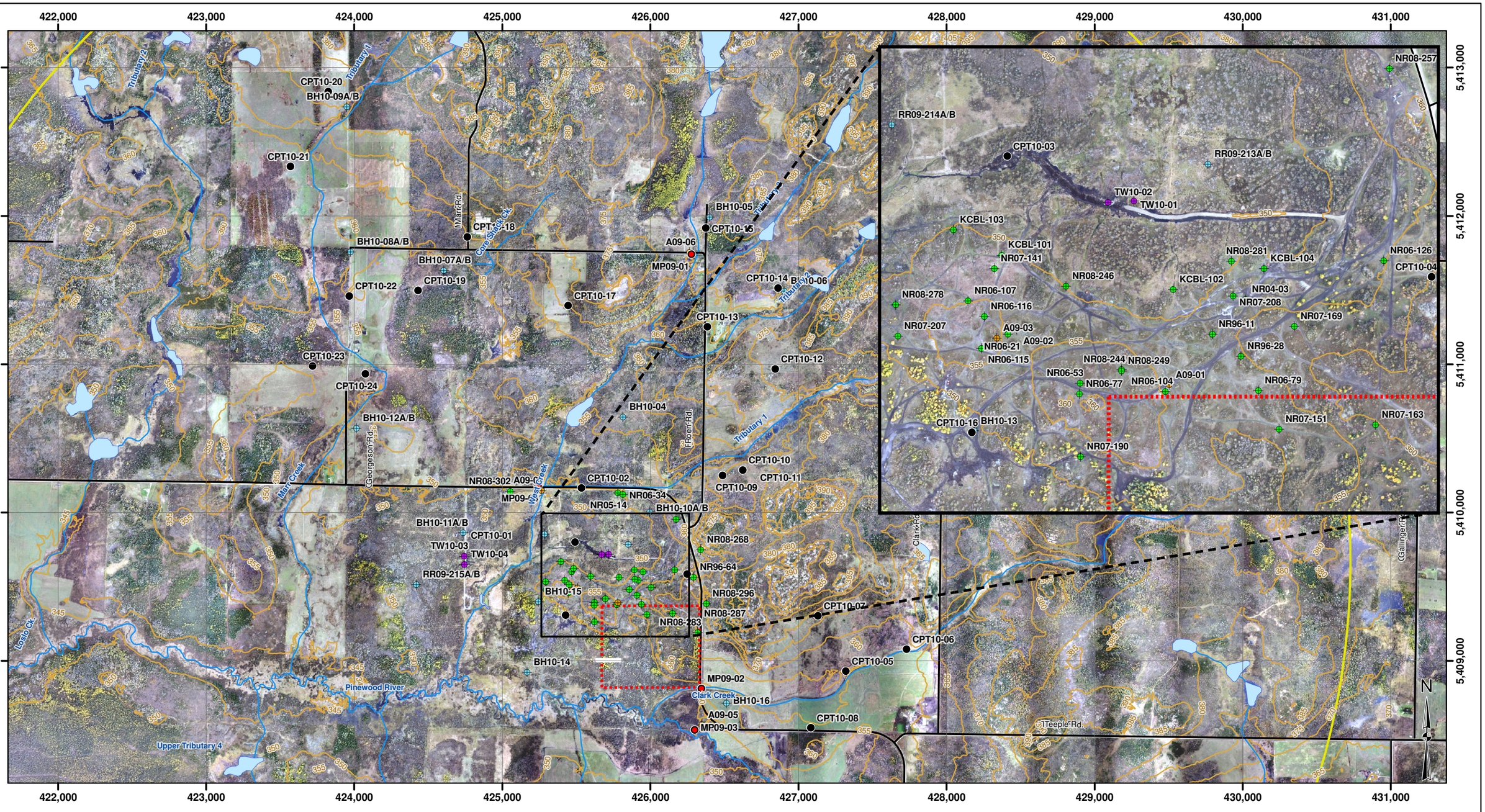
6.2 Methodology

Collection of baseline hydrogeology information from the Local Study Area and Regional Study Area included:

- Review of the regional hydrogeology study performed by KGS Group (2003) for the Township of Chapple;
- Review of overburden and bedrock drilling logs from the area surrounding the deposit;
- Field investigations by KCB as follows:
- May 2009 to observe general conditions in the Local Study Area, such as, hydrology, measure groundwater levels and perform slug tests in drillholes, and estimate hydraulic conductivity and gradients in shallow overburden;
- November 2009 to test the hydraulic properties of overburden and shallow bedrock in the area surrounding the deposit;
- May 2010 through July 2010 to test geotechnical and hydrogeologic properties of overburden, shallow and deep bedrock in the area surrounding the deposit, and potential waste storage areas; and
- June 2010 to test the hydraulic properties of the Labradorean Till in the area surrounding the deposit.

- Ongoing weekly measurement of water levels in a number of drillholes and monitoring wells by Rainy River personnel.

- KCB investigations from 2008 through 2010 utilized several dozen monitoring wells (MW), test wells (TW), open drillholes (DH), shallow hand-dug auger holes (A), minipiezometers (MP), and Cone Penetration Test (CPT) holes for measuring water levels and estimating hydraulic parameters, as shown on Figure 6.1 and detailed in Table 6.1. Geological logs for all drillholes and monitoring wells utilized by KCB are provided in Appendix II-1.



Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

- Auger Hole
- Drillhole
- Monitoring Well
- Large Diameter Well
- CPT
- Minipiezometer
- Contours (5m)
- water_labels
- road_labels
- Advanced Exploration Project Facility Boundary
- Local Study Area

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CLIENT
RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
LOCAL STUDY AREA GROUNDWATER INVESTIGATION LOCATIONS

PROJECT No. M09559A04

FIG No. 6.1

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010_baseline\Hydrogeology\Fig6.1_Local_Study_Groundwater_Investigation.mxd - 22/02/2011 @ 11:58:15 AM

Table 6.1 Local Study Area Groundwater Investigation Locations

LOCATION	TYPE	COORDINATES (M)		GROUND ELEVATION (M)	INCLINATION (°)	LENGTH (M)	DEPTH (M)	HOLE DIAMETER (M)	RISER DIAMETER (M)	SCREEN/ OPEN LENGTH (M)	SCREENED MATERIAL	INVESTIGATION METHODS					
		Easting	Northing									Water Level	Slug Test	Pumping Test	CPT Dissipation	Packer Test	Stream Gradient
NR04-03	DH	425917	5409545	352	-88	210	210	0.076	0.076	194	Bedrock	✓	✓				
NR05-14	DH	425781	5410134	350	-50	218	167	0.076	0.076	164	Bedrock	✓					
NR06-104	DH	425774	5409381	354	-61	500	437	0.076	0.076	433	Bedrock	✓	✓				
NR06-107	DH	425422	5409543	355	-61	349	305	0.076	0.076	339	Bedrock	✓	✓				
NR06-115	DH	425446	5409458	357	-65	480	435	0.076	0.076	428	Bedrock	✓					
NR06-116	DH	425451	5409515	356	-55	452	370	0.076	0.076	442	Bedrock	✓					
NR06-126	DH	426164	5409614	355	-61	254	222	0.076	0.076	208	Bedrock	✓					
NR06-21	DH	425493	5409483	354	-70	374	351	0.076	0.076	354	Bedrock	✓	✓				
NR06-34	DH	425815	5410124	350	-51	257	200	0.076	0.076	213	Bedrock	✓					
NR06-53	DH	425622	5409396	359	-51	401	312	0.076	0.076	397	Bedrock	✓					
NR06-77	DH	425621	5409377	359	-61	416	364	0.076	0.076	413	Bedrock	✓					
NR06-79	DH	425940	5409383	352	-61	401	351	0.076	0.076	382	Bedrock	✓					
NR07-141	DH	425469	5409600	352	-61	350	306	0.076	0.076	334	Bedrock	✓	✓				
NR07-151	DH	425977	5409314	351	-69	489	457	0.076	0.076	465	Bedrock	✓					
NR07-163	DH	426149	5409322	360	-61	583	510	0.076	0.076	579	Bedrock	✓					
NR07-169	DH	426004	5409497	358	-55	398	326	0.076	0.076	392	Bedrock	✓					
NR07-190	DH	425623	5409265	351	-61	593	519	0.076	0.076	574	Bedrock	✓					
NR07-207	DH	425297	5409480	351	-61	503	440	0.076	0.076	496	Bedrock	✓					
NR07-208	DH	425895	5409551	351	-90	304	304	0.076	0.076	269	Bedrock	✓	✓				
NR08-244	DH	425696	5409420	359	-51	416	323	0.076	0.076	412	Bedrock	✓					
NR08-246	DH	425597	5409569	350	-51	350	272	0.076	0.076	316	Bedrock	✓					
NR08-249	DH	425696	5409418	359	-65	500	453	0.076	0.076	496	Bedrock	✓					
NR08-257	DH	426174	5409956	358	-72	792	753	0.076	0.076	784	Bedrock	✓	✓				
NR08-268	DH	426340	5409749	360	-54	500	405	0.076	0.076	496	Bedrock	✓					
NR08-278	DH	425293	5409536	351	-45	Unknown	Unknown	0.076	0.076	Unknown	Bedrock	✓					
NR08-281	DH	425892	5409613	350	-51	401	312	0.076	0.076	346	Bedrock	✓					
NR08-283	DH	426320	5409193	360	-61	550	481	0.076	0.076	531	Bedrock	✓					
NR08-287	DH	426320	5409253	361	-61	548	479	0.076	0.076	511	Bedrock	✓					
NR08-296	DH	426378	5409387	366	-60	Unknown	Unknown	0.076	0.076	Unknown	Bedrock	✓					
NR08-302	DH	425054	5410143	350	-60	Unknown	Unknown	0.076	0.076	Unknown	Bedrock	✓					
NR96-11	DH	425858	5409483	352	-60	286	248	0.076	0.076	264	Bedrock	✓					
NR96-28	DH	425909	5409444	354	-60	243	211	0.076	0.076	233	Bedrock	✓					
NR96-64	DH	426291	5409564	364	-50	276	211	0.076	0.076	272	Bedrock	✓	✓				
A09-01	A	425781	5409393	353	-90	0.4	0.4	0.051	-	0.4	Clay	✓	✓				
A09-02	A	425509	5409492	354	-90	0.6	0.6	0.051	-	0.6	Clay	✓	✓				

LOCATION	TYPE	COORDINATES (M)		GROUND ELEVATION (M)	INCLINATION (°)	LENGTH (M)	DEPTH (M)	HOLE DIAMETER (M)	RISER DIAMETER (M)	SCREEN/ OPEN LENGTH (M)	SCREENED MATERIAL	INVESTIGATION METHODS					
		Easting	Northing									Water Level	Slug Test	Pumping Test	CPT Dissipation	Packer Test	Stream Gradient
A09-03	A	425473	5409476	356	-90	0.92	0.92	0.051	-	0.92	Clay	✓	✓				
A09-04	A	425266	5410148	350	-90	0.9	0.9	0.051	-	0.9	Clay	✓	✓				
A09-05	A	426347	5408569	349	-90	0.95	0.95	0.051	-	0.95	Clay	✓	✓				
A09-06	A	426264	5411755	371	-90	0.85	0.85	0.051	-	0.85	Clay	✓	✓				
A09-07	A	432890	5413209	381	-90	0.9	0.9	0.051	-	0.9	Clay	✓	✓				
RR09-213A	MW	425850	5409786	350	-90	46.5	46.5	0.076	0.025	3.5	Bedrock	✓	✓				
RR09-213B	MW	425850	5409790	350	-90	16.9	16.9	0.076	0.025	5.3	Clay	✓	✓				
RR09-214A	MW	425286	5409856	348	-90	40.5	40.5	0.076	0.025	3.6	Sand and Gravel	✓	✓				
RR09-214B	MW	425286	5409860	348	-90	13.5	13.5	0.076	0.025	4.8	Clay	✓	✓				
RR09-215A	MW	424420	5409514	348	-90	28.5	28.5	0.076	0.025	7.8	Sand and Gravel	✓	✓				
RR09-215B	MW	424420	5409519	348	-90	11	11	0.076	0.025	4.4	Clay	✓	✓				
MP09-01	MP	426277	5411741	370	-90	1	1	-	0.013	-	Clay						✓
MP09-02	MP	426345	5408814	349	-90	1	1	-	0.013	-	Clay						✓
MP09-03	MP	426299	5408535	348	-90	0.5	0.5	-	0.013	-	Clay						✓
MP09-04	MP	425241	5410178	350	-90	1	1	-	0.013	-	Clay						✓
MP09-05	MP	419528	5408103	341	-90	1	1	-	0.013	-	Clay						✓
TW10-01	TW	425718	5409720	349	-90	28.0	28.0	0.165	0.159	1.1	Sand and Gravel	✓	✓	✓			
TW10-02	TW	425672	5409718	349	-90	23.1	23.1	0.165	0.159	-	Sand and Gravel	✓		✓			
TW10-03	TW	424744	5409707	348	-90	29.3	29.3	0.165	0.159	1.0	Sand and Gravel	✓	✓				
TW10-04	TW	424745	5409651	348	-90	32.3	32.3	0.165	0.159	-	Sand and Gravel	✓		✓			
KCBL-101	DH	425482	5409624	351	-80	400	394	0.094	0.096	382	Bedrock					✓	
KCBL-102	DH	425788	5409563	350	-80	400	394	0.094	0.096	348	Bedrock		✓				
KCBL-103	DH	425396	5409669	350	-80	350	345	0.094	0.096	315	Bedrock		✓				
KCBL-104	DH	425950	5409600	351	-70	400	376	0.094	0.096	338	Bedrock					✓	
BH10-04	MW	425815	5410646	358	-90	23.3	23.3	0.10	0.025	3.0	Sand and Clay	✓	✓				
BH10-05	MW	426400	5411993	373	-90	11.3	11.3	0.10	0.025	3.0	Clay	✓					
BH10-06	MW	426904	5411494	375.5	-90	7.2	7.2	0.10	0.025	3.0	Clay	✓					
BH10-07A/B	MW	424605	5411633	353	-90	26.6	26.6	0.10	0.025/0.025	3.0/3.0	Clay/Clay	✓	✓				
BH10-08A/B	MW	423975	5411756	357	-90	16.8	16.8	0.10	0.025/0.025	3.0/3.0	Clay/Clay	✓					
BH10-09A/B	MW	423950	5412736	367.5	-90	2.2	2.2	0.10	0.025/0.025	1.5/1.5	Gravel/Bedrock	✓	✓				
BH10-10A/B	MW	425995	5410003	351	-90	34.1	34.1	0.10	0.025/0.025	3.0/3.0	Sand/Clay	✓					
BH10-11A/B	MW	424735	5409864	349	-90	30.2	30.2	0.10	0.025/0.025	5.0/3.0	Clay/Sand	✓	✓				

LOCATION	TYPE	COORDINATES (M)		GROUND ELEVATION (M)	INCLINATION (°)	LENGTH (M)	DEPTH (M)	HOLE DIAMETER (M)	RISER DIAMETER (M)	SCREEN/ OPEN LENGTH (M)	SCREENED MATERIAL	INVESTIGATION METHODS					
		Easting	Northing									Water Level	Slug Test	Pumping Test	CPT Dissipation	Packer Test	Stream Gradient
BH10-12A/B	MW	424015	5410568	352	-90	22.7	22.7	0.10	0.025/0.025	3.0/3.0	Clay/Sand	✓	✓				
BH10-13	MW	425433	5409311	350	-90	19.5	19.5	0.10	0.025	3.0	Clay and Sand	✓	✓				
BH10-14	MW	425168	5408924	347	-90	20.4	20.4	0.10	0.025	3.0	Sand and Gravel	✓					
BH10-15	MW	425244	5409401	350	-90	19.2	19.2	0.10	0.025	3.0	Clay	✓					
CPT10-01	CPT	424748	5409780	348	-90	27.5	27.5	-	-	-	-				✓		
CPT10-02	CPT	425535	5410165	350	-90	34.8	34.8	-	-	-	-				✓		
CPT10-03	CPT	425492	5409800	348	-90	25.9	25.9	-	-	-	-				✓		
CPT10-04	CPT	426249	5409585	360	-90	8.6	8.6	-	-	-	-				✓		
CPT10-05	CPT	427320	5408931	355	-90	18.2	18.2	-	-	-	-				✓		
CPT10-06	CPT	427730	5409078	358	-90	22.2	22.2	-	-	-	-				✓		
CPT10-07	CPT	427131	5409304	367	-90	16.8	16.8	-	-	-	-				✓		
CPT10-08	CPT	427084	5408549	357	-90	10.9	10.9	-	-	-	-				✓		
CPT10-09	CPT	426488	5410250	366	-90	1.5	1.5	-	-	-	-				✓		
CPT10-10	CPT	426624	5410286	368	-90	4.2	4.2	-	-	-	-				✓		
CPT10-11	CPT	426701	5410168	366	-90	14.5	14.5	-	-	-	-				✓		
CPT10-12	CPT	426843	5410968	377	-90	4.0	4.0	-	-	-	-				✓		
CPT10-13	CPT	426385	5411252	364	-90	20.2	20.2	-	-	-	-				✓		
CPT10-14	CPT	426862	5411513	377	-90	6.1	6.1	-	-	-	-				✓		
CPT10-15	CPT	426375	5411918	374	-90	9.1	9.1	-	-	-	-				✓		
CPT10-16	CPT	425429	5409308	350	-90	19.1	19.1	-	-	-	-				✓		
CPT10-17	CPT	425446	5411395	365	-90	7.2	7.2	-	-	-	-				✓		
CPT10-18	CPT	424764	5411858	360	-90	14.6	14.6	-	-	-	-				✓		
CPT10-19	CPT	424432	5411497	353	-90	30.7	30.7	-	-	-	-				✓		
CPT10-20	CPT	423825	5412838	373	-90	6.3	6.3	-	-	-	-				✓		
CPT10-21	CPT	423570	5412333	358	-90	29.2	29.2	-	-	-	-				✓		
CPT10-22	CPT	423967	5411459	355	-90	16.9	16.9	-	-	-	-				✓		
CPT10-23	CPT	423719	5410988	354	-90	27.4	27.4	-	-	-	-				✓		
CPT10-24	CPT	424076	5410935	351	-90	28.4	28.4	-	-	-	-				✓		

6.3 Results

6.3.1 Hydrostratigraphic Units

Six hydrostratigraphic units consisting of Quaternary geologic deposits (overburden) and bedrock units were identified in the Local Study Area. Detailed lithological descriptions of the overburden units are provided in Section 2.4, Surficial Geology, which also includes maps showing the thickness of overburden units. Detailed lithological descriptions of bedrock units are provided in Section 2.5, Bedrock Geology, which also includes a regional geologic map.

Peat

Peat covers much of the Local Study Area to a depth of up to approximately 1.5 m. The hydraulic conductivity (K) of peat is typically between 10^{-6} m/s and 10^{-4} m/s (Bear, 1972).

Recent Deposits

Recent deposits, which appear to be floodplain deposits associated with the Pinewood River, occur near surface and comprise inter-layers of silt, silty clay, and fine sand. The hydraulic conductivity of these materials varies greatly with composition and thickness, and is typically between 10^{-8} m/s and 10^{-2} m/s (Freeze and Cherry, 1979).

Keewatin Till and Lake Agassiz Sediments

This unit comprises fine grained deposits ranging from a silt/sand/gravel glacial till to interbedded lacustrine silts, clays and fine sand. Interglacial deposits of lacustrine clays and silts associated with Lake Agassiz may be present within the unit. The unit covers most of the Local Study Area with an average thickness of approximately 23 m, with a maximum observed thickness of 35 m (see Figure 2.2). The hydraulic conductivity of this type of material varies greatly with composition and depth, and is typically between 10^{-11} m/s and 10^{-6} m/s (Freeze and Cherry, 1979).

Labradorean Till

The Labradorean till, a dense, well-graded, silty sandy gravel, overlies bedrock in most parts of the Local Study Area. It is the most conductive local hydrostratigraphic unit, and is the most important local aquifer, though is discontinuous and locally thins and thickens (Figure 2.3). Where present in the Local Study Area, this unit has an average thickness of approximately 3 m, with a maximum observed thickness of 12 m. The hydraulic conductivity of this type of material is typically between 10^{-6} m/s and 10^{-3} m/s (Freeze and Cherry, 1979).

Competent Bedrock

Bedrock in the Local Study Area consists primarily of intrusive igneous rock, which is exposed at higher elevations. Exploration and geotechnical drillholes indicate that bedrock is typically very competent, particularly at depth. Unfractured igneous bedrock is essentially impervious, having a typical hydraulic conductivity of between 10^{-13} m/s and 10^{-10} m/s (Freeze and Cherry, 1979).

Fractured Bedrock

Zones of fractured bedrock in the Local Study Area have been observed in drill core and televiewer data, particularly near the bedrock contact. Fractured bedrock is the source aquifer for a small number of local domestic wells as well as the Barwick municipal water system. Observed fracture patterns are complex, and the extent and connectivity of fracturing on the local and regional scale is not well understood. A more complete discussion of bedrock fracture zones in the Local Study Area is provided in Section 2.5, Bedrock Geology. Fractured igneous bedrock typically has a hydraulic conductivity of between 10^{-8} m/s and 10^{-4} m/s (Freeze and Cherry, 1979).

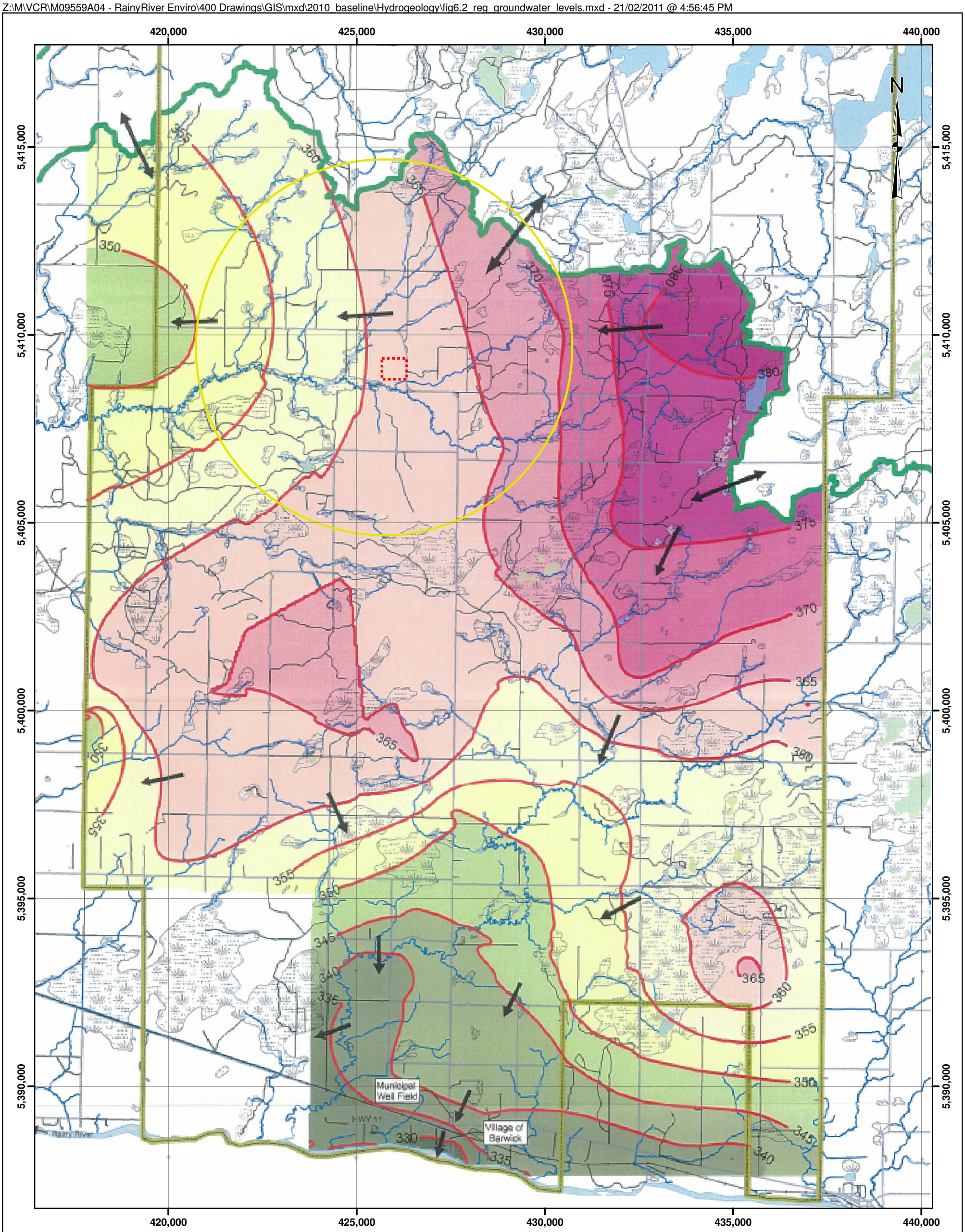
6.3.2 Groundwater Levels and Flow Directions

6.3.2.1 Regional Groundwater Levels

Figure 6.2 shows regional bedrock hydraulic head and flow directions produced using data collected by the Ontario Ministry of the Environment. Flow in bedrock across the region is usually confined by the lower permeability overburden layer. Bedrock groundwater flow roughly follows topography, flowing from higher elevations in the north and east to lower elevations in the southwest. In the Local Study Area, groundwater flow is to the southwest with a gradient of approximately 0.4% (KGS, 2003).

Hydraulic heads in overburden typically follow a similar pattern as in bedrock, but regional flow through overburden is typically limited by discontinuity in the lateral extent of permeable overburden deposits (KGS, 2003).

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Legend

Bedrock Groundwater Elevation (m, geodetic)

- 325 - 330 m
- 330 - 335 m
- 335 - 340 m
- 340 - 345 m
- 345 - 350 m
- 350 - 355 m
- 355 - 360 m
- 360 - 365 m
- 365 - 370 m
- 370 - 375 m
- 375 - 380 m
- 380 - 385 m

- Groundwater Divide
- Groundwater Flow Direction
- Groundwater Elevation Contour

General

- RM of Chapple
- Waste Disposal
- Pits and Quarry
- Waterbody Segment
- Wetland Area, Permanent
- Islands
- Rivers
- Paved Road
- Other Road
- Railway

- Advanced Exploration Project Facility Boundary
- Local Study Area

0 2,500 m

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Notes:
1. UTM Zone 15N, WGS84
2. Source: KGS Group, Chapple Groundwater Study (2003)

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PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: REGIONAL GROUNDWATER LEVELS IN BEDROCK

PROJECT No. M09559A04

FIG No. 6.2

6.3.2.2 Local Study Area Groundwater Levels

6.3.2.3 Bedrock

Water levels in bedrock were measured in 33 exploration drillholes in the area surrounding the deposit in the Local Study Area since May 2009, as listed in Table 6.1. Drillholes are typically cased to just below the bedrock contact, and are open below that depth. Most drillholes are inclined at approximately 60 degrees from vertical, and have lengths ranging from 210 m to 792 m, thereby reflecting a mixing of hydraulic conditions at different bedrock depths. Bedrock water levels were also measured in two monitoring wells. All measured water levels are provided in Appendix II-2.

Water levels in 10 drillholes were measured weekly from August 2009 to December 2010 (presumed collections will be on going in 2011). Figure 6.6 shows weekly water levels in 10 drillholes from August 2009 through October 2010 as well as excess or deficit of precipitation over this period calculated relative to average daily precipitation. Over this period, water levels in NR08-287 varied by almost 5 m, NR06-115 varied by almost 4 m, and all other drillholes varied by less than 3 m. NR08-287 varied by less than 2 m from August 2009 through March 2010, at which point it began to rise to a peak in early June, then fell again until it stabilized in September. NR08-287 did not show a rapid response to individual rainfall events. All other drillholes displayed a somewhat different behaviour, being relatively stable from August 2009 through January 2010, generally falling through April, rising to a peak in June, then falling through October. These drillholes often showed rapid increases of up to 1.5 m following rainfall events.

The water level response observed in different drillholes is a result of local recharge, regional flow pathways, and bedrock and overburden permeabilities. The slow and steady response to precipitation of NR08-287 likely indicates that permeabilities in this area are relatively low, and may indicate that recharge or regional flow to this location are high. The more rapid response of other drillholes may indicate that they are well connected to

the ground surface, and possibly to one another. It also likely means that they intersect fracture systems that can transport water relatively quickly.

Bedrock water levels and inferred contours on May 7, 2009, September 15, 2009, and March 5, 2010, are shown on Figure 6.3, Figure 6.4, and Figure 6.5, respectively. In May 2009, following freshet, hydraulic gradients are relatively large, and are typically from higher elevations to lower elevations. In September 2009 and March 2010, the phreatic surface is much flatter and flow is roughly to the east. Artesian conditions predominate in bedrock throughout the year at surface elevations less than 350 m in the area surrounding the deposit, and in some areas above this elevation. The magnitude of these artesian pressures has not been measured because custom well heads with a pressure gauge would need to be manufactured.

425,500 426,000 426,500

5,410,000 5,409,500

N

353 m
360.3 m
Artesian
352.2 m
353 m
349.9 m
350.3 m
350.9 m
350.3 m
351.3 m
352.3 m
352.2 m
350.3 m
350.2 m
351.1 m
352 m
350.9 m
352.9 m
354.9 m
354.4 m
354.7 m
352 m
Artesian
366.3 m
358.2 m
356.9 m

Drillholes
Groundwater Elevation Contours (0.5m)
Contours (5m)
Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 250 m

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2008 - 2010 BASELINE

TITLE
BEDROCK GROUNDWATER LEVELS
7 MAY 2009

PROJECT No. M09559A04

FIG No. 6.3

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425,500 426,000 426,500

5,410,000

5,409,500

352.6 m
350.6 m
352.3 m
349.8 m
350.7 m
350.8 m
351.4 m
350.8 m
350.2 m
355.8 m

N

Drillholes
Contours (5m)
Groundwater Elevation Contours (0.5m)
Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 250 m

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TITLE
BEDROCK GROUNDWATER LEVELS
15 SEPTEMBER 2009

PROJECT No. M09559A04

FIG No. 6.4

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425,500 426,000 426,500

5,410,000 5,409,500

N

351.8 m
349.3 m
349.7 m
349.6 m
350.6 m
350 m
349.7 m
352 m
354.9 m

Drillholes
Groundwater Elevation Contours (0.5m)
Contours (5m)
Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 250 m

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TITLE
BEDROCK GROUNDWATER LEVELS
5 MARCH 2010

PROJECT No. M09559A04

FIG No. 6.5

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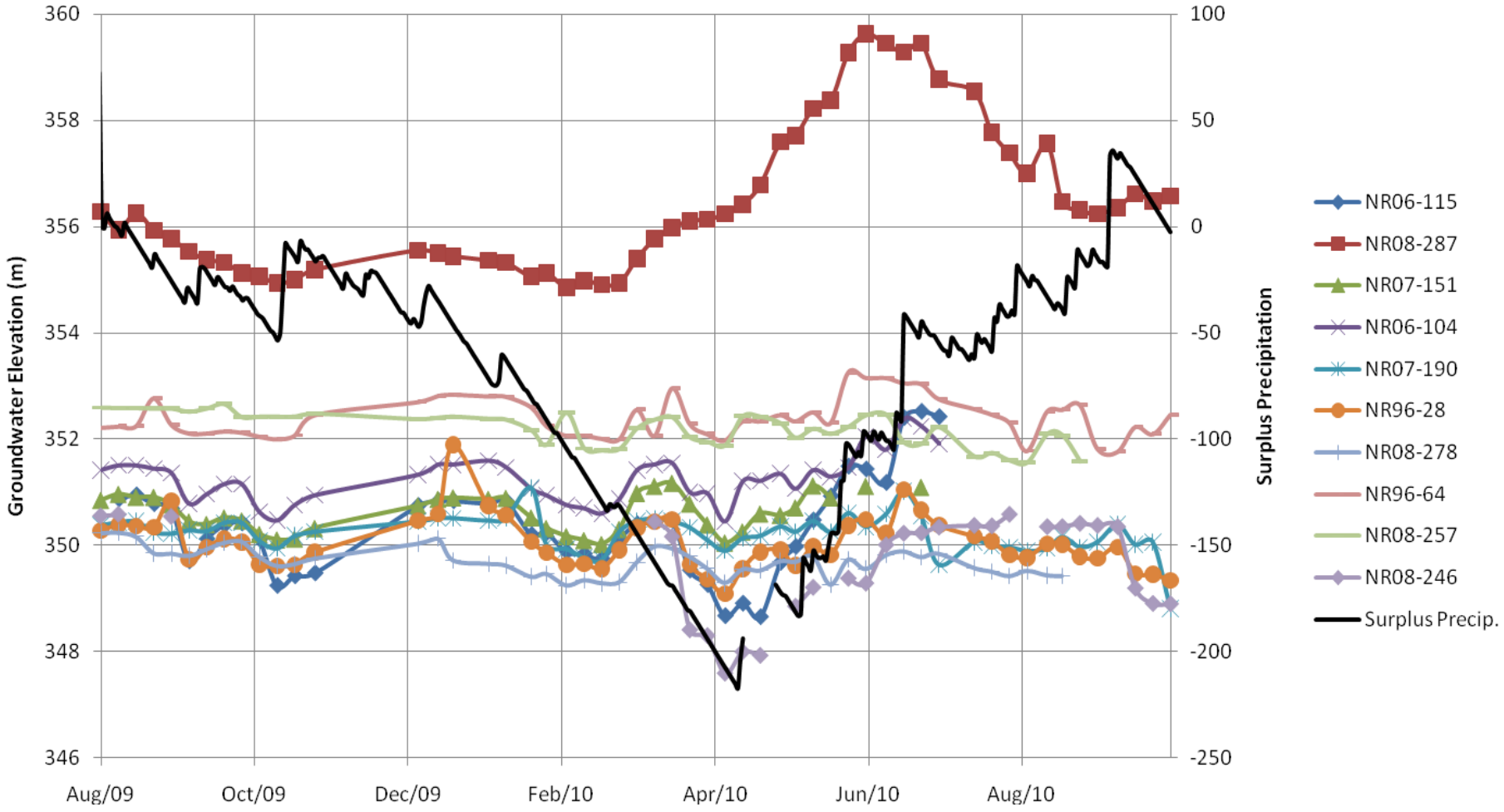


Figure 6.6 Bedrock Groundwater Level Fluctuations and Surplus Precipitation, August 2009 to October 2010

Overburden

Water levels in overburden were measured in 23 monitoring wells, four large-diameter wells, seven hand-dug auger holes, and five in-stream minipiezometers on different occasions since May 2009, as listed in Table 6.1. Water levels in 17 of the monitoring wells were measured weekly from September 2010 through December 2010. Average water levels over the period from September 2010 to October 2010 are shown in Figure 6.7, and fluctuations are shown in Figure 6.8. All recorded water levels in overburden are provided in Appendix II-2.

As in bedrock, artesian pressures are present in overburden at surface elevations less than 350 m and, in some areas, above this elevation. At four of the 36 points measured, the water level was between 1 m and 2 m from surface, while the water level was less than 1 m from surface or artesian at the other 32 points. Nested monitoring wells and minipiezometers indicate the presence of vertical hydraulic gradients in some areas, as discussed in Section 6.4.2.4. There is not enough information to accurately determine groundwater flow directions in overburden across the Local Study Area, though it is expected that flow roughly mirrors local topography, and either discharges in topographic lows or infiltrates into deeper strata.

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Large Diameter Well
Monitoring Well
Contours (5m)
Advanced Exploration Project Facility Boundary

TW10-04
349.2 m

Drillhole ID
Average Groundwater Elevation (m)

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 1,000 m

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TITLE
AVERAGE OVERBURDEN GROUNDWATER LEVELS

PROJECT No. M09559A04

FIG No. 6.7

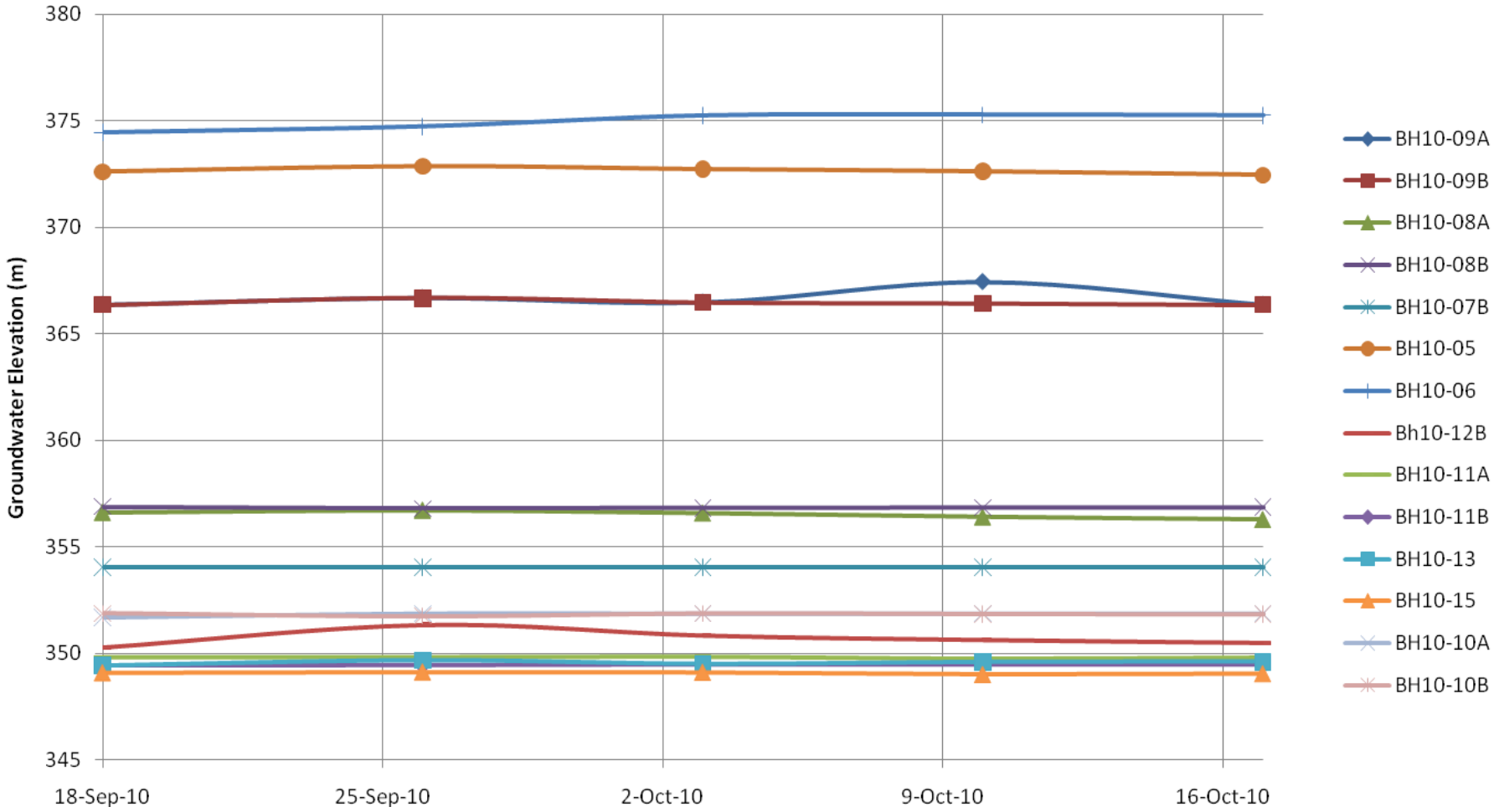


Figure 6.8 Overburden Groundwater Level Fluctuations, September 2010 to October 2010

6.3.2.4 Vertical Hydraulic Gradients

Data regarding vertical hydraulic gradients in the Local Study Area are available from nine sets of nested monitoring wells and five in-stream minipiezometers. These data are presented in Table 6.2 and Table 6.3. Photos illustrating one set of nested monitoring wells and an in-stream minipiezometer are provided in Photo 6.1 and Photo 6.2, respectively.

In May 2009, in-stream minipiezometers were installed using the method of Lee and Cherry (1978) at five locations in the Local Study Area to measure the hydraulic gradient between the streams and the streambed. Minipiezometers were installed in West Creek, Clark Creek, and the Pinewood River to a depth of between 0.5 m and 1 m below the riverbed. All streambed material consisted of approximately 0.1 m thick fine sand, overlying brown or grey silt or clay. Upwards gradients were observed at all five locations, indicating that these were gaining stream sections. The magnitude of these gradients ranged from 0.005 to 0.05.

Water levels measured in November 2009 at monitoring wells RR09-213 through RR09-215, indicated upwards vertical hydraulic gradients at all three of these nested monitoring well locations, suggesting that these were likely zones of groundwater discharge. The magnitude of these gradients ranged from 0.05 to 0.08.

Water levels measured weekly from September 2010 through October 2010 at BH10-07 through BH10-12, show upwards vertical gradients at five of the six locations. The average magnitude of these gradients ranged from 0.03 to 0.06 and gradients are not known at two locations that had flowing artesian conditions.

Table 6.2 Nested Monitoring Well Water Levels

MONITORING WELL	STATIC WATER ELEVATION (m)	MID-SCREEN DEPTH (m)	VERTICAL HYDRAULIC GRADIENT (m/m)
RR09-213A	351.7	46.8	-0.05
RR-09-213B	350.2	14.3	
RR-09-214A	349.5	32.8	-0.07
RR-09-214B	348.0	11.1	
RR-09-215A	349.2	24.6	-0.08
RR-09-215B	348.0	8.8	
BH10-07A	Flowing	23.5	Unknown (Negative)
BH10-07B	354.0	2.9	
BH10-08A	356.5	5.2	-0.04
BH10-08B	356.8	13.1	
BH10-09A	366.6	2.9	-0.06
BH10-09B	366.5	1.3	
BH10-10A	351.8	28.7	0
BH10-10B	351.8	11.4	
BH10-11A	349.8	27.2	-0.03
BH10-11B	349.4	10.9	
BH10-12A	Flowing	18.0	Unknown (Negative)
BH10-12B	350.7	7.5	

Note: Gradients are downwards positive.

Table 6.3 Minipiezometer Water Levels

MINIPIEZOMETER	MINIPIEZOMETER DEPTH BELOW RIVERBED (m)	STATIC WATER DEPTH (m)	VERTICAL HYDRAULIC GRADIENT (m/m)
MP09-01	1.0	-0.035	-0.035
MP09-02	1.0	-0.030	-0.030
MP09-03	0.5	-0.025	-0.050
MP09-04	1.0	-0.005	-0.005
MP09-05	1.0	-0.030	-0.030

Note: Static water depths are measured relative to the stream surface, and negative values indicate water levels above the stream surface. Gradients are downwards positive.

While all data collected from nested monitoring wells and minipiezometers indicate upwards vertical hydraulic gradients, this is unlikely to be the case in all parts of the Local Study Area. It is likely that at lower elevations, where hydraulic head in bedrock is greater than the ground surface elevation, upwards gradients predominate throughout the year. However, at higher elevations, where hydraulic head in bedrock is less than the ground surface elevation, it is likely that there are downward gradients present throughout some or all of the year. As precipitation and runoff change throughout the year, the magnitudes of vertical gradients vary across the Local Study Area, and it is likely that in some areas the direction of gradients change through the year. As more data is collected from the Local Study Area the changes in the temporal and spacial hydrogeologic regime will become more apparent.



Photo 6.1 RR09-215 Monitoring Well Nest



Photo 6.2 In-Stream Minipiezometer

6.3.3 Hydraulic Conductivity

The hydraulic conductivity of bedrock and overburden was estimated at 14 bedrock locations and 46 overburden locations using slug tests, packer tests, pumping tests, or CPT dissipation tests.

6.3.3.1 Bedrock

As bedrock primary porosity is very low, most bedrock groundwater flow in the Local Study Area occurs through fractures. In the area surrounding the deposit, zones of fractured bedrock have been observed in drill core and televiewer data, particularly near the bedrock contact, but also at depth. A detailed description of bedrock geology is provided in Section 2.5, which also presents information on the structural geology and

fault disturbed rocks. Groundwater in bedrock predominantly flows through fractures and along faults.

Slug Tests

Slug tests were performed on 10 open bedrock drillholes and two bedrock monitoring wells (RR-09-213A and BH10-09A). Initial water level changes were induced by pouring water down the drillholes for falling head tests, or by pumping down the water level with a Waterra inertial pump for the rising head tests. Recovery was measured either manually with a dipmeter or automatically with a submerged pressure transducer. K estimates were calculated using the Hvorslev method as outlined in Freeze and Cherry (1979). The screen length in open drillholes was assigned to be the entire open drillhole length, so the resulting K estimate is a bulk value over the entire length. Slug test analyses are provided in Appendix II-3. Slug test results are listed in Table 6.5. Calculated K ranged from 6.0×10^{-9} m/s to 2.0×10^{-7} m/s in the open drillholes, and from 1.7×10^{-6} m/s to 7.7×10^{-7} m/s in the two monitoring wells.

Table 6.4 Bedrock Slug Test Hydraulic Conductivities

LOCATION	MID-TEST DEPTH (m)	ESTIMATED HYDRAULIC CONDUCTIVITY (m/s)
NR-96-64	108	8.7×10^{-8}
NR-04-03	113	1.1×10^{-7}
NR-06-21	186	2.0×10^{-7}
NR-06-104	252	6.0×10^{-9}
NR-06-107	158	7.3×10^{-8}
NR-07-141	161	2.9×10^{-7}
NR-07-208	170	1.0×10^{-8}
NR-08-257	381	8.8×10^{-8}
RR-09-213A	44.5	7.7×10^{-7}
BH10-09A	2.9	1.7×10^{-6}
KCBL-102	92	1.4×10^{-8}
KCBL-103	40.6	1.7×10^{-7}
KCBL-103	188	2.1×10^{-9}

Packer Tests

Two packer tests were performed in open drillholes KCBL-101 and KCBL04 to estimate the hydraulic conductivity in fault and fracture zones. These tests were performed over drillhole sections where fracturing was observed, so are likely not representative of bulk bedrock properties. The fracture zones in drillholes KCBL-101 and KCBL-104 are likely related to faulting and the estimated hydraulic conductivity values from the packer tests are likely representative of the hydraulic conductivity for fault zones in the Local Study Area. Packer test analyses are provided in Appendix II-3, and results are listed in Table 6.5.

Table 6.5 Bedrock Packer Test Hydraulic Conductivities

LOCATION	MID-TEST DEPTH (m)	ESTIMATED HYDRAULIC CONDUCTIVITY (m/s)
KCBL-101	66.1	3.3×10^{-7}
KCBL-104	60	3.3×10^{-6}

6.3.3.2 Overburden

Slug Tests

Overburden slug tests were performed in 14 monitoring wells, two large-diameter wells, and seven shallow auger holes. Eight of these tested the Labradorean Till, while the remainder tested the overlying Keewatin and Lake Agassiz units. The slug tests were performed as described in Section 6.4.3.1. Slug test analyses are provided in Appendix II-3, and all results are listed in Table 6.6. Screen length in the shallow auger holes was assumed to be the average saturated depth over the period of the test.

Calculated K in the seven shallow auger holes ranged from 5.6×10^{-8} m/s to 3.6×10^{-6} m/s. K in wells ranged from 1.9×10^{-9} m/s to 2.2×10^{-7} m/s in the Keewatin and Lake Agassiz units, and from 2.3×10^{-7} m/s to 1.8×10^{-4} m/s in the Labradorean Till.

Table 6.6 Overburden Slug Test Hydraulic Conductivities

LOCATION	MID-TEST DEPTH (m)	LITHOLOGY	ESTIMATED HYDRAULIC CONDUCTIVITY (m/s)
Auger09-01	0.2	Clay	2.9×10^{-7}
Auger09-02	0.3	Clay	1.7×10^{-7}
Auger09-03	0.5	Clay	5.6×10^{-8}
Auger09-04	0.5	Clay	1.2×10^{-7}
Auger09-05	0.5	Clay	1.0×10^{-6}
Auger09-06	0.5	Clay	6.9×10^{-7}
Auger09-07	0.5	Clay	3.6×10^{-6}
RR-09-213B	16.9	Clay	2.2×10^{-7}
RR-09-214A	34.6	Sand/Gravel	3.1×10^{-5}
RR-09-214B	13.5	Clay	1.9×10^{-9}
RR-09-215A	21.1	Sand/Gravel	9.0×10^{-6}
RR-09-215B	11.0	Clay	9.2×10^{-8}
TW10-01	25.4	Sand/Gravel	1.8×10^{-4}
TW10-03	27.9	Sand/Gravel	1.8×10^{-4}
BH10-04	20.0	Clay	3.6×10^{-8}
BH10-07A	23.5	Clay	4.7×10^{-8}
BH10-07B	2.9	Clay	3.5×10^{-9}
BH10-09B	1.2	Sand/Gravel	7.1×10^{-6}
BH10-11A	27.2	Clay/Silt/Sand/Gr.	4.0×10^{-7}
BH10-11B	10.9	Clay	2.5×10^{-7}
BH10-12A	18.0	Sand	1.3×10^{-5}
BH10-12B	7.5	Clay	2.8×10^{-9}
BH10-13	17.7	Clay/Silt/Sand/Gr.	2.3×10^{-7}

Pumping Tests

Four wells were installed in the Labradorean Till in May 2010 and June 2010 for performing pumping tests to provide a more reliable estimate the hydraulic properties of this unit. These included TW10-01 through TW10-04, as shown in Figure 6.1 and detailed in Table 6.1. Wells were drilled by Mel's Well Drilling using an air-rotary drill rig. TW10-01 and TW10-03 were installed with continuous-slot stainless steel screens, while TW10-2 and TW10-04 were left open at the bottom of the casing, as the driller

indicated that screens in the Labradorean can be very susceptible to clogging with fines and are not necessary to achieve high flows.

These four wells were developed either by air injection using the drilling rig (Photo 6.3), or by pumping at 25 gallons per minute (GPM) to 40 GPM using a Honda suction pump. Development occurred until the produced water was reasonably clear of fine particles, which required between two hours and eight hours. Prior to testing each location, short duration test pumping was performed to determine appropriate pumping rates. It was found that drawdown varied highly non-linearly with pumping rate, indicating that the pumping wells may have low efficiencies, and relatively high well loss.

A total of five pumping tests were performed, including three pumping tests at TW10-01, and one test at each of TW10-02 and TW10-04. A three-inch diameter submersible pump was used, and the pumping rate was measured using a bucket and stop-watch (Photo 6.4) throughout the pumping tests. During each test, water levels were measured manually or automatically with a submerged pressure transducer at the pumping well and a number of other wells and open drillholes. Drawdown and recovery were interpreted with the software AquiferTest, using the method outlined in Kruseman and de Ridder (2000) and the method of Agarwal et al. (1970). K was not calculated for open drillholes used as observation wells as they are open over large lengths of bedrock and are not screened in the Labradorean, so their flow geometry is not known. Analyses are presented in Appendix II-3.

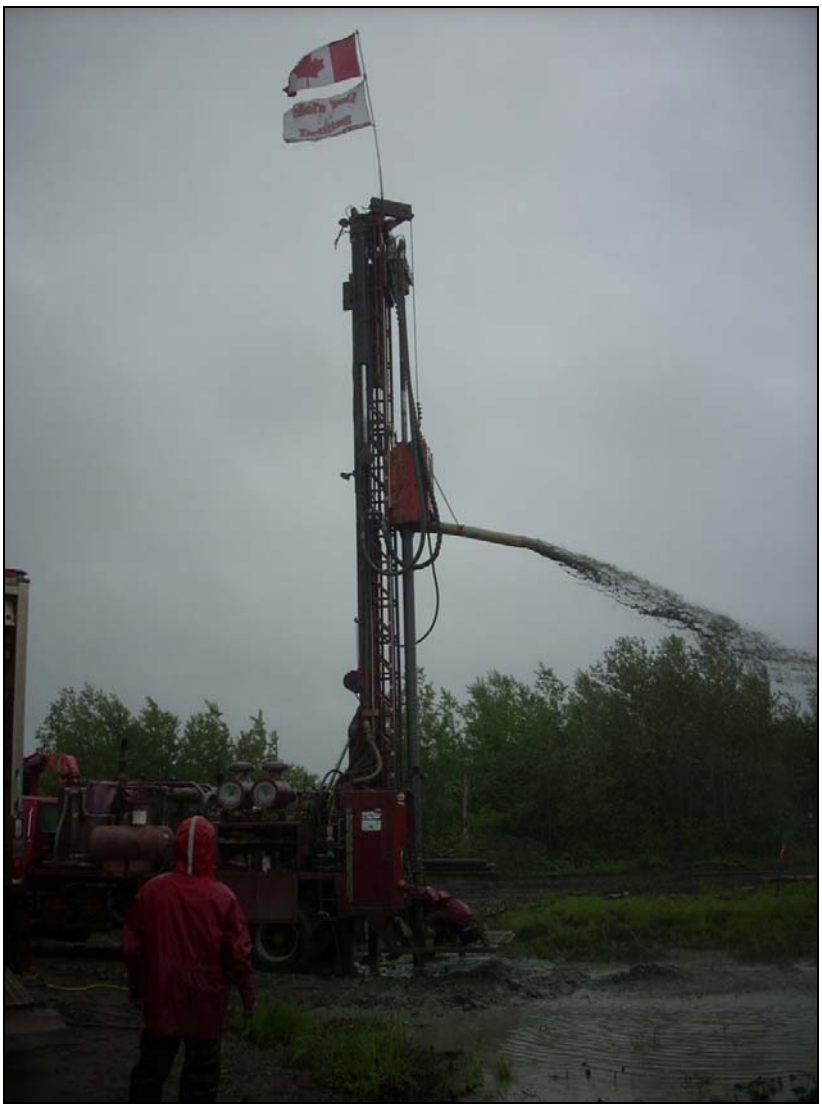


Photo 6.3 Developing TW10-03 by Air Injection



Photo 6.4 Measuring Pumping Rate at TW10-01

TW10-01 Pumping Test 1

Pumping Test 1 at TW10-01 consisted of 15 hours of pumping at 4.8 GPM and 12 minutes of recovery starting on May 31, 2010 and ending on June 1, 2010. Water levels were monitored at the pumping well and at the open drillhole NR09-331, as shown in Figure 6.9. Maximum drawdown and estimated K are listed in Table 6.7.

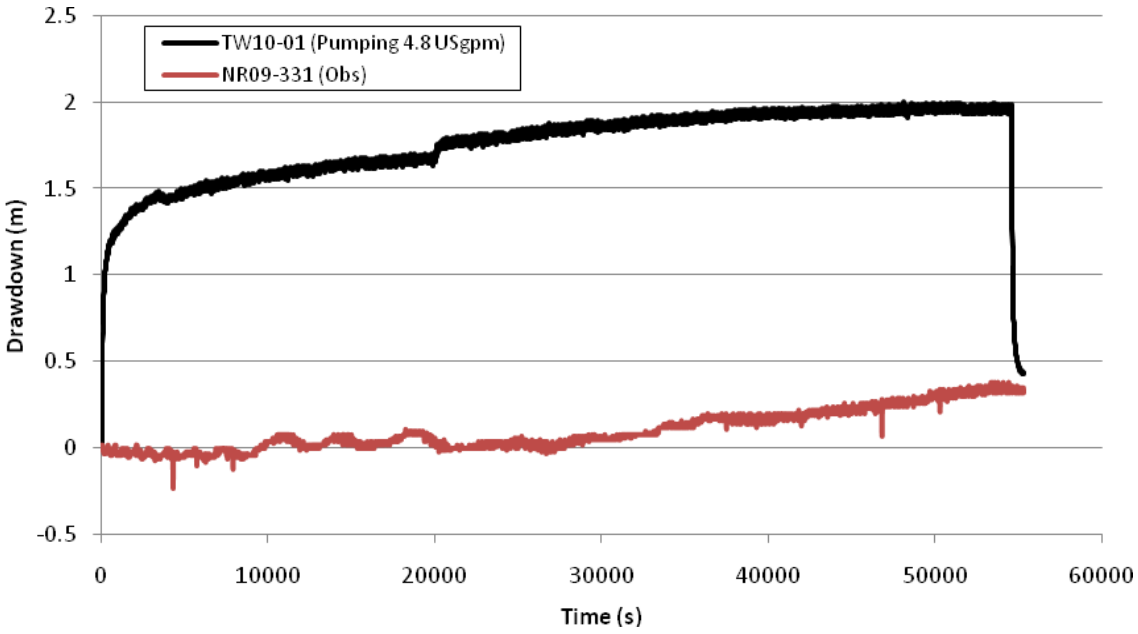


Figure 6.9 TW10-01 Pumping Test 1

Table 6.7 TW10-01 Pumping Test 1 Results

LOCATION	DISTANCE FROM PUMPING WELL (m)	MAXIMUM DRAWDOWN (m)	ESTIMATED PUMPING K (m/s)	ESTIMATED RECOVERY K (m/s)	LITHOLOGY
TW10-01	0	1.99	7.0×10^{-5}	9.4×10^{-5}	Sand and Gravel
NR09-331	31	0.38	-	-	Bedrock

TW10-01 Pumping Test 2

Pumping Test 2 at TW10-01 consisted of four hours of pumping at 7 GPM on June 2, 2010. Water levels were monitored at the pumping well, at TW10-02, RR09-213A, and at three open drillholes, as shown in Figure 6.10. Maximum drawdown and estimated K are listed in Table 6.8. K was not calculated for TW10-02 because this well had not yet been sufficiently developed, so well water levels did not correspond to aquifer conditions.

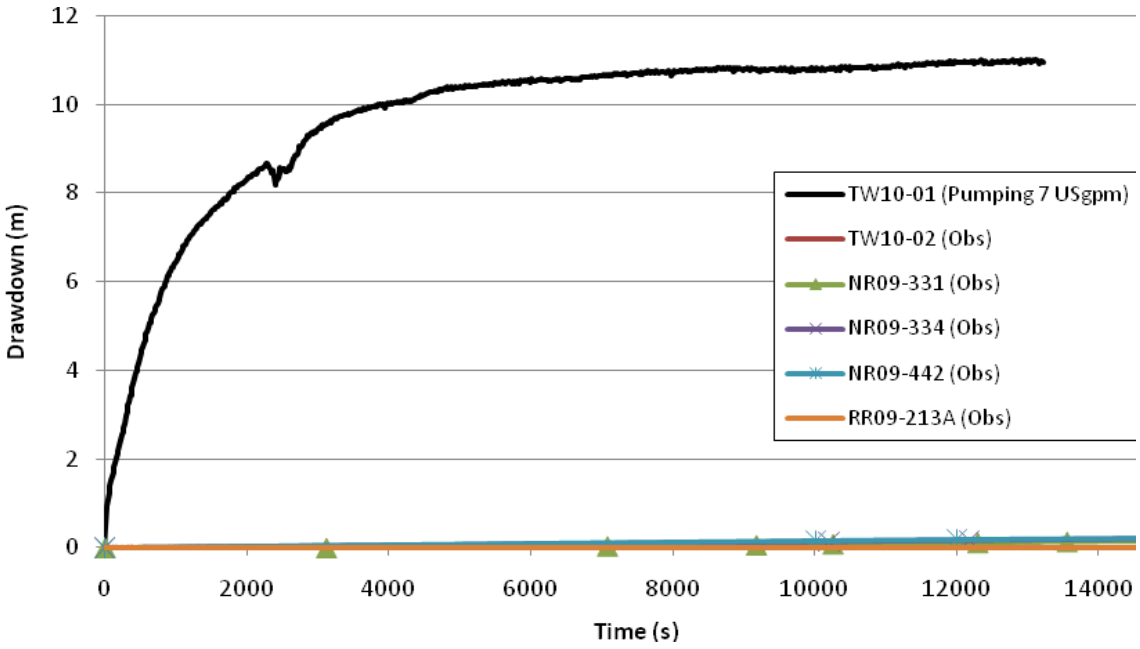


Figure 6.10 TW10-01 Pumping Test 2

Table 6.8 TW10-01 Pumping Test 2 Results

LOCATION	DISTANCE FROM PUMPING WELL (m)	MAXIMUM DRAWDOWN (m)	ESTIMATED PUMPING K (m/s)	LITHOLOGY
TW10-01	0	10.97	6.0×10^{-6}	Sand and Gravel
TW10-02	46	0.03[1]	-	Sand and Gravel
NR09-331	31	0.15	-	Bedrock
NR09-334	62	0.21	-	Bedrock
NR09-442	91	0.22	-	Bedrock
RR09-213A	148	0	-	Bedrock

[1] TW10-02 had not yet been sufficiently developed, so well conditions do not correspond to aquifer conditions.

TW10-01 Pumping Test 3

Pumping Test 3 at TW10-01 consisted of 14 hours of pumping at 8 GPM and 19 minutes of recovery on June 3, 2010. Water levels were monitored at the pumping well, at TW10-02, and at four open drillholes, as shown in Figure 6.11. Maximum drawdown and estimated K are listed in Table 6.9. Again, K was not calculated for TW10-02, as this

well had not yet been sufficiently developed, so well water levels did not correspond to aquifer conditions.

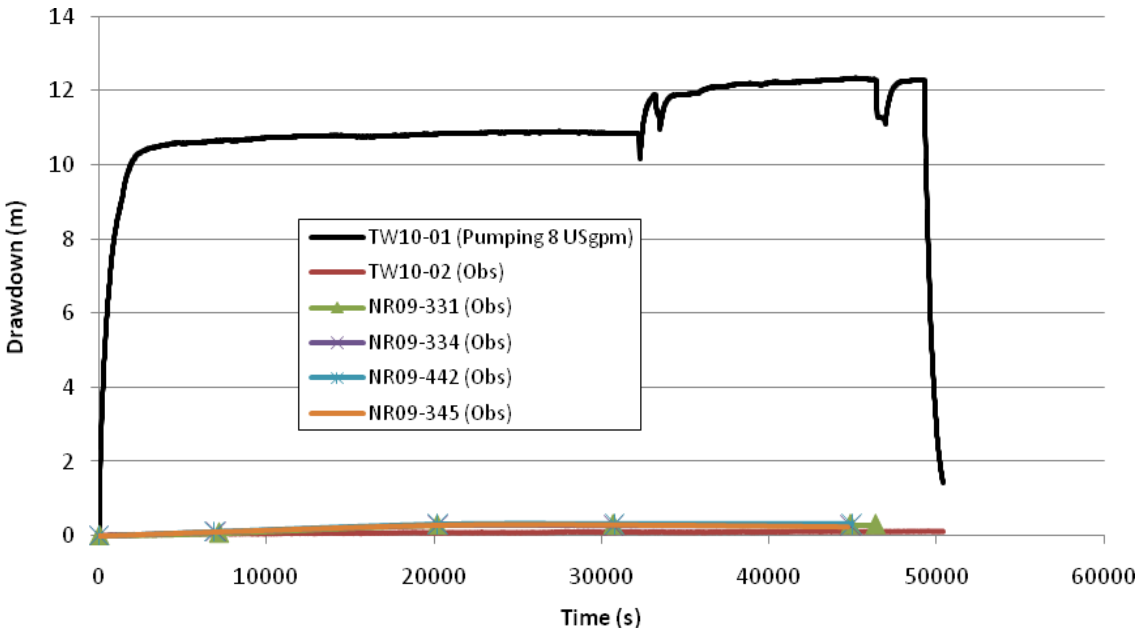


Figure 6.11 TW10-01 Pumping Test 3

Table 6.9 TW10-01 Pumping Test 3 Results

LOCATION	DISTANCE FROM PUMPING WELL (m)	MAXIMUM DRAWDOWN (m)	ESTIMATED PUMPING K (m/s)	ESTIMATED RECOVERY K (m/s)	LITHOLOGY
TW10-01	0	12.3	4.4×10^{-6}	2.6×10^{-6}	Sand and Gravel
TW10-02	46	0.12[1]	-	-	Sand and Gravel
NR09-331	31	0.30	-	-	Bedrock
NR09-334	62	0.29	-	-	Bedrock
NR09-442	91	0.32	-	-	Bedrock
NR09-345	44	0.30	-	-	Bedrock

[1] TW10-02 had not yet been sufficiently developed, so well conditions do not correspond to aquifer conditions.

TW10-02 Pumping Test

The pumping test at TW10-02 consisted of 3.6 hours of pumping at 25 GPM and 2.6 hours of recovery on June 7, 2010. Water levels were monitored at the pumping well, at TW10-01, RR09-214A, and at three open drillholes, as shown in Figure 6.12. Maximum drawdown and estimated K are listed in Table 6.10.

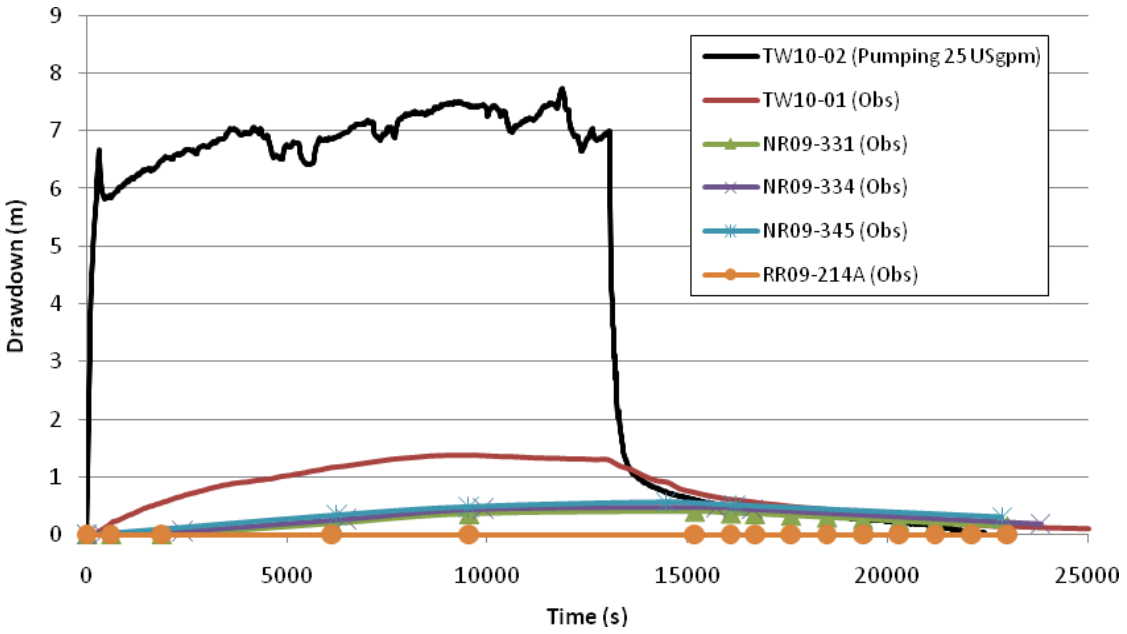


Figure 6.12 TW10-02 Pumping Test

Table 6.10 TW10-02 Pumping Test Results

LOCATION	DISTANCE FROM PUMPING WELL (m)	MAXIMUM DRAWDOWN (m)	ESTIMATED PUMPING K (m/s)	ESTIMATED RECOVERY K (m/s)	LITHOLOGY
TW10-02	0	7.74	9.4×10^{-5}	1.0×10^{-4}	Sand and Gravel
TW10-01	46	1.38	7.9×10^{-5}	1.1×10^{-4}	Sand and Gravel
NR09-331	17	0.40	-	-	Bedrock
NR09-334	24	0.48	-	-	Bedrock
NR09-345	83	0.56	-	-	Bedrock
RR09-214A	410	0	-	-	Sand and Gravel

TW10-04 Pumping Test

The pumping test at TW10-04 consisted of 10 hours of pumping at 25 GPM and 13 hours of recovery on June 6, 2010 and June 7, 2010. Water levels were monitored at the pumping well, at TW10-03, BH10-11A, RR09-214A and at three open drillholes, as shown in Figure 6.13. Maximum drawdown and estimated K are listed in Table 6.11.

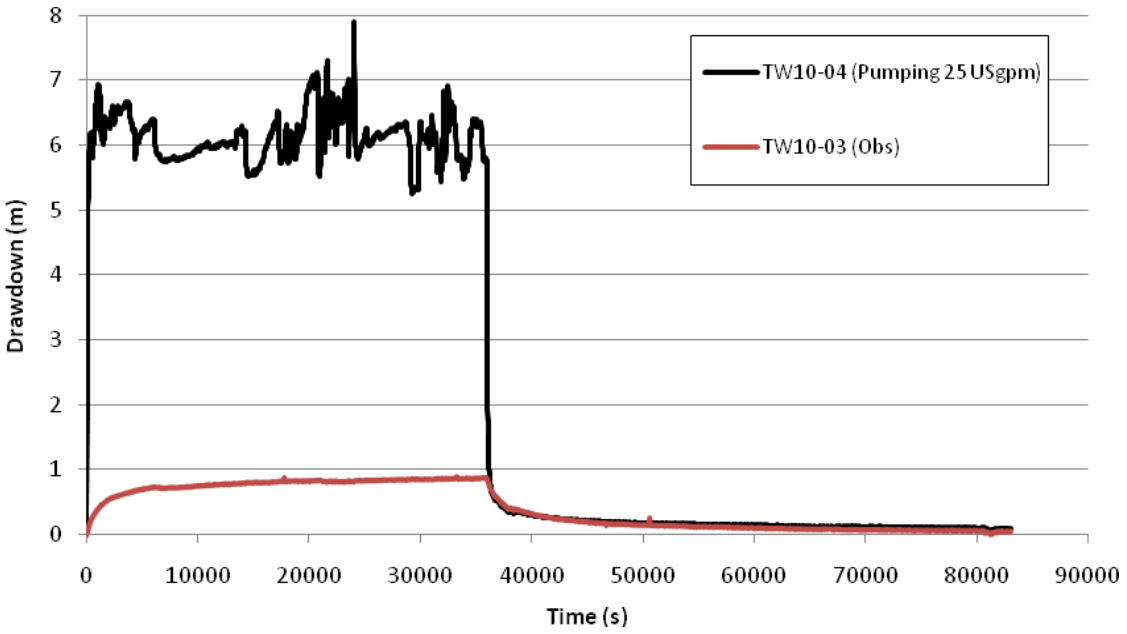


Figure 6.13 TW10-04 Pumping Test

Table 6.11 TW10-04 Pumping Test Results

LOCATION	DISTANCE FROM PUMPING WELL (m)	MAXIMUM DRAWDOWN (m)	ESTIMATED PUMPING K (m/s)	ESTIMATED RECOVERY K (m/s)	LITHOLOGY
TW10-04	0	7.9	1.5×10^{-5}	2.4×10^{-4}	Sand and Gravel
TW10-03	56	0.90	1.7×10^{-4}	2.7×10^{-4}	Sand and Gravel
BH10-11A	213	0	-	-	Sand
RR09-214A	579	0	-	-	Sand and Gravel

CPT Dissipation Tests

Cone Penetration Tests (CPT) dissipation tests were performed at 24 locations in the Local Study Area in May 2010, as shown in Figure 6.1. A total of 60 pore pressure dissipation tests were performed with each test involving holding the cone penetrometer stationary while recording the dissipation of pore pressure against time. These data were interpreted using the method of Robertson et al. (1992). In this method, the time required for 50% dissipation of excess pressure (T_{50}) is used to indicate an order-of-magnitude estimate of K. In fine-grained soils, many hours can be required to reach T_{50}, and in most cases this was not practical within the timeframe of this investigation. Eighteen of the 60 dissipation tests performed reached T_{50}, and estimated K values from these data are presented in Table 6.12.

Table 6.12 Dissipation Test Hydraulic Conductivities

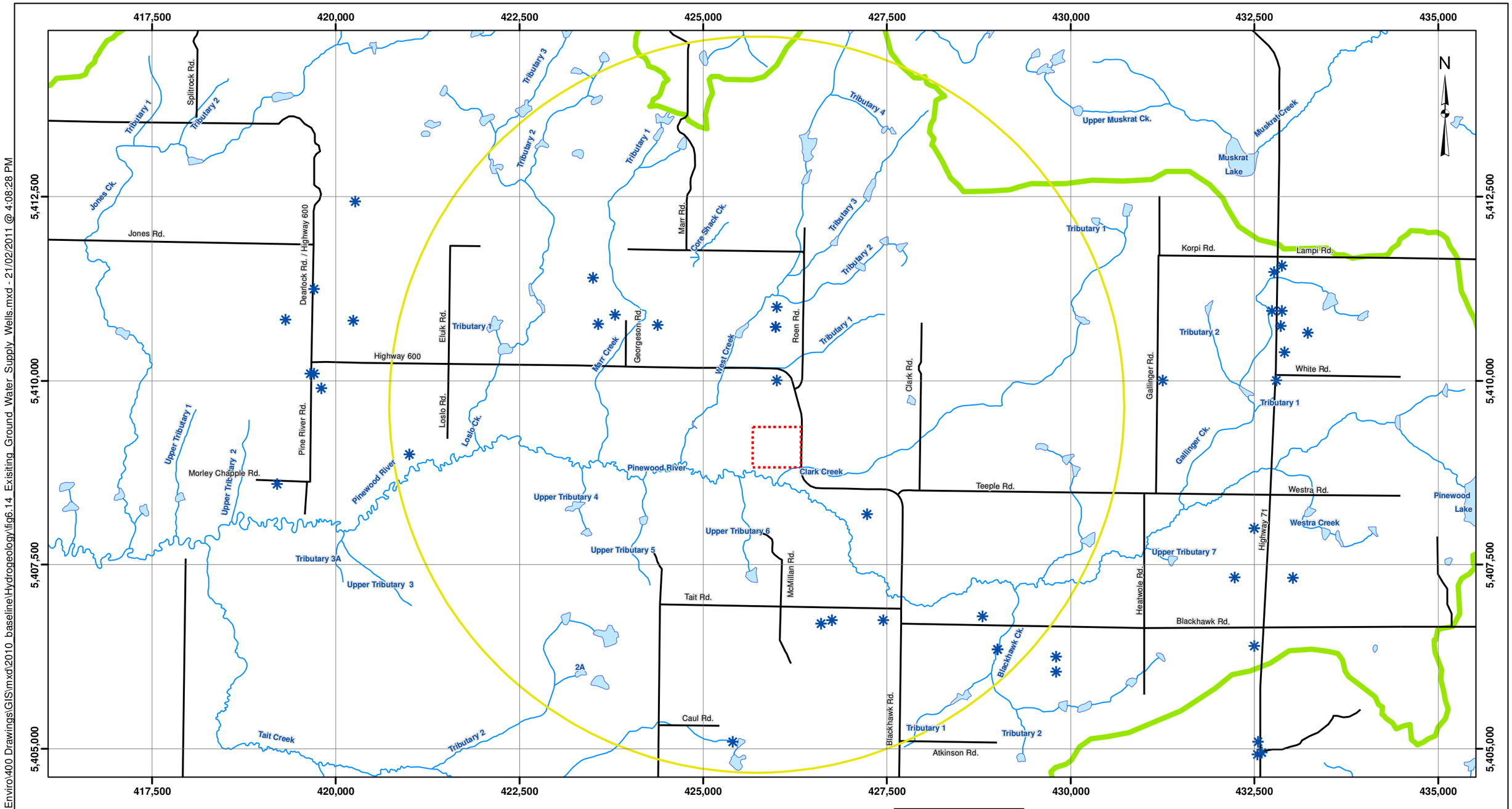
LOCATION	TEST DEPTH (m)	LITHOLOGY	T_{50} (s)	LOWER LIMIT K (m/s)	UPPER LIMIT K (m/s)	AVERAGE K ESTIMATE (m/s)
CPT10-01	9.2	Sand mixtures	39	2.1×10^{-9}	1.3×10^{-7}	6.3×10^{-8}
CPT10-01	18.3	Clays	5925	1.6×10^{-11}	7.1×10^{-10}	3.6×10^{-10}
CPT10-01	20.5	Silt/sand mixtures	12	6.7×10^{-9}	4.2×10^{-7}	2.1×10^{-7}
CPT10-07	9.2	Clay/silt mixtures	5730	1.7×10^{-11}	7.3×10^{-10}	3.8×10^{-10}
CPT10-07	14.9	Sand mixtures	5	1.6×10^{-8}	1.0×10^{-6}	5.2×10^{-7}
CPT10-10	1.5	Sand to clayey sand	1250	7.3×10^{-11}	3.5×10^{-9}	1.8×10^{-9}
CPT10-10	3.7	Silt mixtures	2850	3.3×10^{-11}	1.5×10^{-9}	7.7×10^{-10}
CPT10-10	4.3	Sands	20	4.1×10^{-9}	2.5×10^{-7}	1.3×10^{-7}
CPT10-13	4.5	Silt mixtures	1300	7.1×10^{-11}	3.4×10^{-9}	1.7×10^{-9}
CPT10-13	20.2	Sand mixtures	18	4.5×10^{-9}	2.8×10^{-7}	1.4×10^{-7}
CPT10-15	7.1	Silt mixtures	2750	3.4×10^{-11}	1.6×10^{-9}	8.0×10^{-10}
CPT10-16	4.6	Silt mixtures	810	1.1×10^{-10}	5.5×10^{-9}	2.8×10^{-9}
CPT10-16	10.7	Clays	58300	1.8×10^{-12}	6.7×10^{-11}	3.5×10^{-11}
CPT10-18	2.1	Sands	43	1.9×10^{-9}	1.1×10^{-7}	5.7×10^{-8}
CPT10-19	6.1	Silt mixture	85	1.0×10^{-9}	5.6×10^{-8}	2.9×10^{-8}
CPT10-19	7.7	Silt mixture	2250	4.2×10^{-11}	1.9×10^{-9}	9.8×10^{-10}
CPT10-19	30.8	Sand/sand mixture	145	5.9×10^{-10}	3.2×10^{-8}	1.6×10^{-8}
CPT10-21	27.9	Clays	1040	8.8×10^{-11}	4.3×10^{-9}	2.2×10^{-9}

6.3.4 Well Survey

A search of the Ontario Ministry of the Environment water well records identified one well within 500 m of the proposed advanced exoloration site, five wells within two km, and 22 wells within five km. The depth, screened unit, and uses of these wells are listed in Table 6.13 all wells within 5 km of the proposed advanced exoloration site are shown in Table 6.14. The majority of the wells are completed in the Labradorean Till overburden, overlying bedrock.

Table 6.13 Local Well Survey

WELL ID	DISTANCE	DEPTH (M)	SCREENED UNIT	USE
5400730	0 to 1000 m	18.9	Labradorean	Dmstc./Livest.
5401835	1 km to 2 km	9.8	Labradorean	Domestic
5400731		4.0	Labradorean	Livestock
5402298		27.1	Labradorean	Livestock
5400481		12.1	Labradorean	Livestock
5401589	2 to 5 km	62.8	Bedrock	Domestic
7133351		Unknown	Unknown	Unknown
7133352		Unknown	Unknown	Unknown
5401899		10.4	Labradorean	Domestic
5401590		23.5	Labradorean	Domestic
5401149		13.1	Labradorean	Livestock
5401148		12.2	Labradorean	Livestock
5400723		21.3	Labradorean	Public
5400306		6.1	Labradorean	Domestic
5402371		104.5	Bedrock	Domestic
5400892		10.7	Labradorean	Dmstc./Livest.
5401123		15.2	Labradorean	Domestic
5400703		23.1	Labradorean	Livestock
5401085		18.0	Labradorean	Domestic
5400212		17.7	Labradorean	Domestic
5401079		14.9	Bedrock	Dmstc./Livest.
5401081		50.0	Bedrock	Livestock



Existing wells

Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN CRIPPEN BERGER REPORT DATED DECEMBER, 2010

0 2,500 m

AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

CLIENT: RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: EXISTING GROUND WATER SUPPLY WELLS

PROJECT No. M09559A04

FIG No. 6.14

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010_baseline\Hydrogeology\fig6.14_Existing_Ground_Water_Supply_Wells.mxd - 21/02/2011 @ 4:08:28 PM

6.4 Summary

Baseline hydrogeologic conditions were characterized based on past studies and data collected during a number of KCB field investigations. KCB investigations from 2008 through 2010 utilized several dozen monitoring wells, open drillholes, shallow hand-dug auger holes, minipiezometers, and CPT holes completed in overburden and bedrock for measuring water levels and estimating hydraulic parameters. These are shown in Figure 6.1 and details are provided in Table 6.1. Geological logs for all drillholes and monitoring wells utilized by KCB are provided in Appendix II-1. All recorded water levels are provided in Appendix II-2.

Six hydrostratigraphic units have been identified in the Local Study Area: peat, recent deposits, Keewatin Till and Lake Agassiz Sediments, Labradorean Till, Competent bedrock, and fractured bedrock.

All hydraulic conductivity test results performed as part of the baseline studies are listed in Table 6.14 and shown in Figure 6.15. Where multiple tests were performed in a unit at a single location, the geometric mean is presented. All hydraulic conductivity analyses are provided in Appendix II-3.

K in the Keewatin Till and Lake Agassiz Sediments was observed to range from 1.9×10^{-9} m/s to 1.0×10^{-6} m/s in wells and from 3.5×10^{-11} m/s to 2.1×10^{-7} m/s in CPT dissipation tests. K in the upper meter ranged from 5.6×10^{-8} m/s to 1.0×10^{-6} m/s with a geometric mean of 2.6×10^{-7} m/s. Deeper tests ranged from 3.5×10^{-11} m/s to 2.5×10^{-7} m/s with a geometric mean of 8.1×10^{-9} m/s.

K in wells screened entirely within the Labradorean Till was observed to range from 7.1×10^{-6} m/s to 2.0×10^{-4} m/s, with a geometric mean of 3.3×10^{-5} m/s. BH10-11A and BH10-13 were screened partially within the Labradorean, and had K of 4.0×10^{-7} m/s and

2.3×10^{-7} m/s, though these may not be representative of the Labradorean. A CPT dissipation test was performed in what was likely the Labradorean in CPT10-07, and estimated K of 5.2×10^{-7} m/s.

K in open bedrock drillholes was observed to range from 2.1×10^{-9} m/s to 2.9×10^{-7} m/s, with a geometric mean of 3.5×10^{-8} m/s. These values are likely representative of bulk bedrock. RR09-213A and BH10-09A were screened near the bedrock contact, and had K of 7.7×10^{-7} m/s to 1.7×10^{-6} m/s, respectively. This agrees with the observation made by drillers that bedrock near the contact is more permeable that deeper bedrock. The fact that drawdown was observed in bedrock drillholes while pumping from the Labradorean further indicate that there is a relatively high permeable bedrock zone near the contact. Short intervals of KCBL-101 and KCBL-104 were tested and found to have K of 3.3×10^{-7} m/s to 3.3×10^{-6} m/s, respectively. These zones were tested because core was observed to be fractured, and to estimate K for fault zones in the study area.

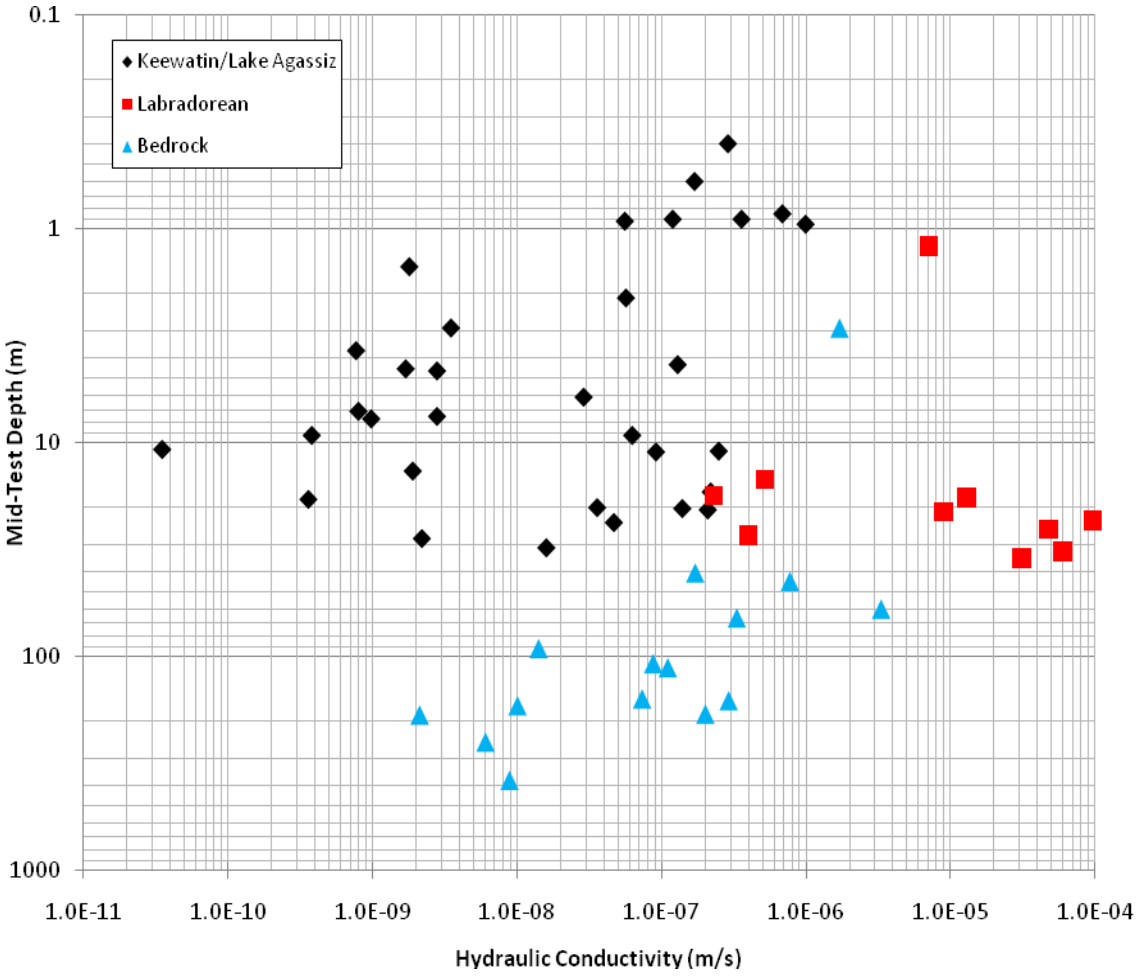


Figure 6.15 Summary of Hydraulic Conductivity Test Results

Table 6.14 Summary of Hydraulic Conductivity Test Results

LOCATION	LITHOLOGY	MID-TEST DEPTH (m)	SLUG TEST K (m/s)	PACKER TEST K (m/s)	PUMPING TEST K (m/s)	RECOVERY TEST K (m/s)	CPT DISSIPATION TEST K (m/s)	AVERAGE K ESTIMATE (m/s)
NR-96-64	Bedrock	108	8.7×10^{-8}	-	-	-	-	8.7×10^{-8}
NR-04-03	Bedrock	113	1.1×10^{-7}	-	-	-	-	1.1×10^{-7}
NR-06-21	Bedrock	186	2.0×10^{-7}	-	-	-	-	2.0×10^{-7}
NR-06-104	Bedrock	252	6.0×10^{-9}	-	-	-	-	6.0×10^{-9}
NR-06-107	Bedrock	158	7.3×10^{-8}	-	-	-	-	7.3×10^{-8}
NR-07-141	Bedrock	161	2.9×10^{-7}	-	-	-	-	2.9×10^{-7}
NR-07-208	Bedrock	170	1.0×10^{-8}	-	-	-	-	1.0×10^{-8}
NR-08-257	Bedrock	381	8.8×10^{-8}	-	-	-	-	8.8×10^{-8}
RR-09-213A	Bedrock	44.5	7.7×10^{-7}	-	-	-	-	7.7×10^{-7}
BH10-09A	Bedrock	2.9	1.7×10^{-6}	-	-	-	-	1.7×10^{-6}
KCBL-101	Bedrock	66.1	-	3.3×10^{-7}	-	-	-	3.3×10^{-7}
KCBL-102	Bedrock	92	1.4×10^{-8}	-	-	-	-	1.4×10^{-8}
KCBL-103	Bedrock	40.6	1.7×10^{-7}	-	-	-	-	1.7×10^{-7}
KCBL-103	Bedrock	188	2.1×10^{-9}	-	-	-	-	2.1×10^{-9}
KCBL-104	Bedrock	60	-	3.3×10^{-6}	-	-	-	3.3×10^{-6}
RR-09-214A	Sand/Gravel	34.6	3.1×10^{-5}	-	-	-	-	3.1×10^{-5}
RR-09-215A	Sand/Gravel	21.1	9.0×10^{-6}	-	-	-	-	9.0×10^{-6}
TW10-01	Sand/Gravel	25.4	1.8×10^{-4}	-	2.0×10^{-5}	3.0×10^{-5}	-	4.8×10^{-5}
TW10-02	Sand/Gravel	23.1	-	-	9.4×10^{-5}	1.0×10^{-4}	-	9.7×10^{-5}
TW10-03	Sand/Gravel	27.9	1.8×10^{-4}	-	1.7×10^{-4}	2.7×10^{-4}	-	2.0×10^{-4}
TW10-04	Sand/Gravel	32.3	-	-	1.5×10^{-5}	2.4×10^{-4}	-	6.0×10^{-5}
BH10-09B	Sand/Gravel	1.2	7.1×10^{-6}	-	-	-	-	7.1×10^{-6}
BH10-12A	Sand	18	1.3×10^{-5}	-	-	-	-	1.3×10^{-5}
BH10-11A	Clay/Silt/Sand/Gr.	27.2	4.0×10^{-7}	-	-	-	-	4.0×10^{-7}
BH10-13	Clay/Silt/Sand/Gr.	17.7	2.3×10^{-7}	-	-	-	-	2.3×10^{-7}
Auger09-01	Clay	0.2	2.9×10^{-7}	-	-	-	-	2.9×10^{-7}
Auger09-02	Clay	0.3	1.7×10^{-7}	-	-	-	-	1.7×10^{-7}
Auger09-03	Clay	0.5	5.6×10^{-8}	-	-	-	-	5.6×10^{-8}
Auger09-04	Clay	0.5	1.2×10^{-7}	-	-	-	-	1.2×10^{-7}

LOCATION	LITHOLOGY	MID-TEST DEPTH (m)	SLUG TEST K (m/s)	PACKER TEST K (m/s)	PUMPING TEST K (m/s)	RECOVERY TEST K (m/s)	CPT DISSIPATION TEST K (m/s)	AVERAGE K ESTIMATE (m/s)
Auger09-05	Clay	0.5	1.0×10^{-6}	-	-	-	-	1.0×10^{-6}
Auger09-06	Clay	0.5	6.9×10^{-7}	-	-	-	-	6.9×10^{-7}
Auger09-07	Clay	0.5	3.6×10^{-6}	-	-	-	-	3.6×10^{-6}
RR-09-213B	Clay	16.9	2.2×10^{-7}	-	-	-	-	2.2×10^{-7}
RR-09-214B	Clay	13.5	1.9×10^{-9}	-	-	-	-	1.9×10^{-9}
RR-09-215B	Clay	11	9.2×10^{-8}	-	-	-	-	9.2×10^{-8}
BH10-04	Clay	20	3.6×10^{-8}	-	-	-	-	3.6×10^{-8}
BH10-07A	Clay	23.5	4.7×10^{-8}	-	-	-	-	4.7×10^{-8}
BH10-07B	Clay	2.9	3.5×10^{-9}	-	-	-	-	3.5×10^{-9}
BH10-11B	Clay	10.9	2.5×10^{-7}	-	-	-	-	2.5×10^{-7}
BH10-12B	Clay	7.5	2.8×10^{-9}	-	-	-	-	2.8×10^{-9}
CPT10-01	Sand mixtures	9.2	-	-	-	-	6.3×10^{-8}	6.3×10^{-8}
CPT10-01	Clays	18.3	-	-	-	-	3.6×10^{-10}	3.6×10^{-10}
CPT10-01	Silt/sand mixtures	20.5	-	-	-	-	2.1×10^{-7}	2.1×10^{-7}
CPT10-07	Clay/silt mixtures	9.2	-	-	-	-	3.8×10^{-10}	3.8×10^{-10}
CPT10-07	Sand mixtures	14.9	-	-	-	-	5.2×10^{-7}	5.2×10^{-7}
CPT10-10	Sand to clayey sand	1.5	-	-	-	-	1.8×10^{-9}	1.8×10^{-9}
CPT10-10	Silt mixtures	3.7	-	-	-	-	7.7×10^{-10}	7.7×10^{-10}
CPT10-10	Sands	4.3	-	-	-	-	1.3×10^{-7}	1.3×10^{-7}
CPT10-13	Silt mixtures	4.5	-	-	-	-	1.7×10^{-9}	1.7×10^{-9}
CPT10-13	Sand mixtures	20.2	-	-	-	-	1.4×10^{-7}	1.4×10^{-7}
CPT10-15	Silt mixtures	7.1	-	-	-	-	8.0×10^{-10}	8.0×10^{-10}
CPT10-16	Silt mixtures	4.6	-	-	-	-	2.8×10^{-9}	2.8×10^{-9}
CPT10-16	Clays	10.7	-	-	-	-	3.5×10^{-11}	3.5×10^{-11}
CPT10-18	Sands	2.1	-	-	-	-	5.7×10^{-8}	5.7×10^{-8}
CPT10-19	Silt mixture	6.1	-	-	-	-	2.9×10^{-8}	2.9×10^{-8}
CPT10-19	Silt mixture	7.7	-	-	-	-	9.8×10^{-10}	9.8×10^{-10}
CPT10-19	Sand/sand mixture	30.8	-	-	-	-	1.6×10^{-8}	1.6×10^{-8}
CPT10-21	Clays	27.9	-	-	-	-	2.2×10^{-9}	2.2×10^{-9}

The key findings of the baseline hydrogeology can be summarized in a conceptual hydrogeologic model of the Local and Regional Study Area. The conceptual hydrogeologic model was developed using information presented in this section. A schematic regional cross-section illustrating this model is shown in Figure 6.16. Fundamental characteristics of the model include:

- Much of the Local Study Area is covered by a thin layer of peat with K typically much higher than that of the underlying strata. Flow through peat follows local topography, discharging into streams or marshes at low elevations, or being lost to evapotranspiration. Peat is recharged from above by precipitation and snowmelt, and from below by groundwater discharge;

- A layer of relatively low-K Keewatin Till and Lake Agassiz Sediments is present in most areas. Flow through this layer is relatively slow, and horizontal flow likely follows local topography. Upwards vertical hydraulic gradients are observed at lower elevations within the Local Study Area, indicating areas of groundwater discharge. Downwards vertical hydraulic gradients are present at higher elevations, indicating groundwater recharge areas;

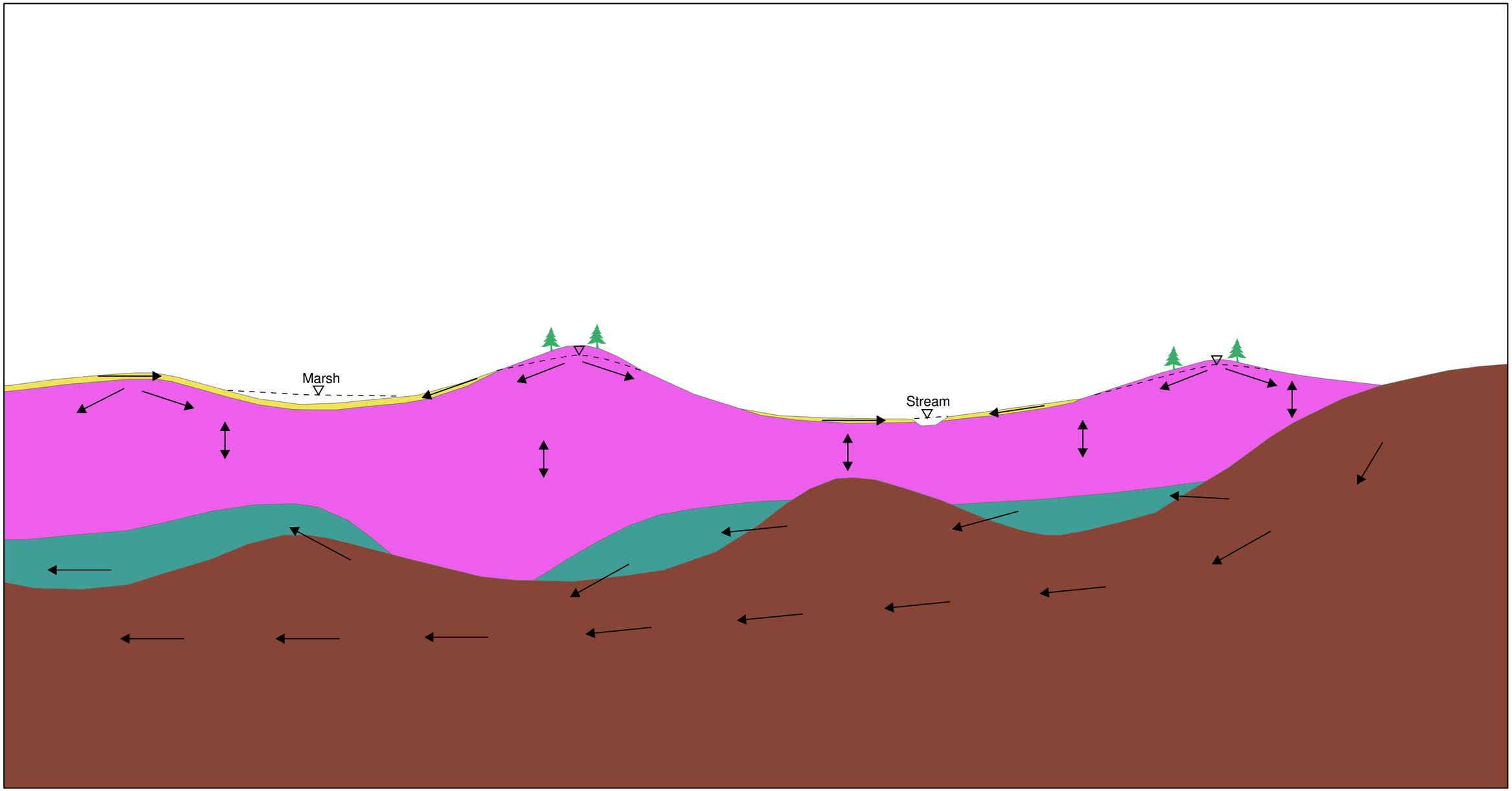
- The relatively high-K Labradorean Till immediately overlies bedrock in some areas. It is regionally discontinuous, but is encountered with varying thickness in most drillholes in the Local Study Area. Artesian pressures are often observed in this unit, as it is confined by the overlying low-K till. Flow through the Labradorean Till roughly follows regional topography towards the southwest, and is controlled by head gradients in the underlying bedrock. Most private drinking water wells in the region produce from this unit, and records show that the long term yield of this unit depends on the permeability of underlying bedrock;

- As fractured bedrock has much higher K than intact bedrock, most bedrock groundwater flow occurs through faults and fracture zones. Anecdotal evidence from drillers and local residents suggests that the bedrock surface is particularly fractured, though there are numerous other fracture zones at depth. Some municipal and private wells produce from deep fracture zones, and televiewers have reported flow from a number of drillhole depths. As flow is fracture-driven, it is possible that complex flow pathways exist that allow rapid groundwater flow over large

distances and multiple surface catchments. Artesian pressures are often observed in bedrock, as it is typically confined by the overlying low-K till, and bedrock flow roughly follows regional topography towards the southwest. Recharge to bedrock occurs at local and regional outcrops and in areas of infiltration from overlying strata. Bedrock drillholes in the Local Study Area show a rapid and well-correlated response to precipitation, indicating that bedrock may be well connected to the surface, either through outcrops or through areas of preferential flow through overburden;

- Regionally, groundwater flow roughly follows topography and flows from east to west recharging at higher elevations to the north and east and discharging at lower-elevations into marshes, ponds, streams and rivers. There is a groundwater drainage divide roughly 5 km north and northwest of the deposit area; and

- At lower elevations in the Local Study Area, groundwater discharges to marshes, streams, ponds, and rivers. Stream and river baseflow from groundwater discharge is likely a small component of total flow at most times from spring through fall. In the winter months, baseflow from groundwater discharge likely constitutes a large component of total surface water flow.



Legend

- Groundwater Flowpaths
- Phreatic Surface
- Peat
- Keewatin Till / Lake Agassiz Sediments
- Labradorean Till
- Bedrock

Notes:
1. Not to scale
2. Most bedrock flow occurs through fracture zones.

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

CONCEPTUAL REGIONAL HYDROGEOLOGY SECTION

PROJECT No. M09559A04

FIG No. 6.16

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7. GROUND WATER QUALITY

7.1 Study Objectives

The objective of the groundwater quality baseline study was to establish general groundwater chemistry in the Local Stuy Area and the Regional Study Area, characterize seasonal (i.e., temporal) and spatial variations evident in groundwater quality, and to identify locations and chemical parameters that will be important for any future environmental impact assessment (EIA).

7.2 Methodology

Baseline data collection included a literature review and a groundwater quality sampling program.

Rainy River undertook one round of water sampling in 2007 at four groundwater sampling stations located in the Local Study Area. KCB commenced groundwater sampling in 2009. Baseline groundwater quality data in the Local Study Area were collected from:

- A review of the Township of Chapple Groundwater Study (KGS, 2003);
- Four sampling locations established by Rainy River in 2007; and
- Sixteen sampling locations established by KCB in 2009 and 2010;

7.2.1 Water Quality Criteria

The Ontario Ministry of Environment and Energy (MOE) states that their policy for groundwater quality management is "to protect the quality of groundwater for the greatest number of beneficial uses" (MOE, 1994). In accordance with MOE's reasonable use policy, and for the purposes of establishing baseline conditions, groundwater quality was

compared to Provincial Water Quality Objectives (PWQO), Ontario Drinking Water Standards (ODWS), and the Canadian Drinking Water Quality Guideline (CDWQG) criteria as summarized in Table 7.1. Where no PWQO criteria exist, groundwater quality was compared to the ODWS since there are groundwater users near the proposed advanced exploration site. The CDWQG criteria are also included to provide a comparison with a federal drinking water standard.

Dissolved metals were not analyzed in groundwater samples collected by Rainy River in 2007, so objectives were applied to total metals for these samples.

Table 7.1 Groundwater Quality Guideline Criteria

PARAMETER	UNITS	PWQO[1]	ODWS[2]	CDWQG[3]
pH	pH Units	6.5-8.5	6.5 - 8.5	6.5-8.5
TDS	mg/L		500	500
Turbidity	NTU		5	0.3
Hardness (CaCO3)	mg/L		80 - 100	
Chloride (Cl)	mg/L		250	250
Fluoride (F-)	mg/L		1.5	1.5
Nitrate (N)	mg/L		10	10
Nitrite (N)	mg/L		1	
Sulphate (SO_4)	mg/L		500	500
Total Cyanide (CN)	mg/L	0.005	0.2	0.2
Total Coliform	Col/100mL		0	0
E. Coli	Col/100mL	100	0	0
Aluminum (Al)	mg/L	0.075	0.1	0.1
Antimony (Sb)	mg/L	0.02	0.006	0.006
Arsenic (As)	mg/L	0.1	0.025	0.01
Barium (Ba)	mg/L		1	1
Beryllium (Be)	mg/L	0.011-1.1		
Boron	mg/L		5	5
Cadmium (Cd)	mg/L	0.0001-0.0005	0.005	0.005
Chromium (Cr)	mg/L	0.001	0.05	0.05
Cobalt (Co)	mg/L	0.0009		
Copper (Cu)	mg/L	0.005	1	1
Iron (Fe)	mg/L	0.3	0.3	0.3
Lead (Pb)	mg/L	0.001-0.005	0.01	0.01
Manganese (Mn)	mg/L		0.05	0.05
Mercury (Hg)	mg/L	0.0002	0.001	0.001
Molybdenum (Mo)	mg/L	0.04		
Nickel (Ni)	mg/L	0.025		
Selenium (Se)	mg/L	0.1	0.01	0.01
Silver (Ag)	mg/L	0.0001		
Sodium (Na)	mg/L		200	200
Thallium (Tl)	mg/L	0.0003		
Uranium (U)	mg/L	0.005	0.02	0.02
Vanadium (V)	mg/L	0.006		
Zinc (Zn)	mg/L	0.02	5	5

Notes:
1. Ontario Ministry of the Environment (1994)
2. Ontario Ministry of the Environment (2006)
3. Health Canada (2008)

7.2.2 Parameters Tested

Analyses were typically carried out for the parameter set listed in Table 7.2. Due to the adaptive management strategy employed for the sampling program, not all parameters were collected at all stations or during all sampling rounds. In general, samples were collected from monitoring wells in overburden and shallow bedrock, and from open drill holes in deep (i.e., typically greater than 300 m) bedrock.

Table 7.2 Groundwater Quality Parameters

TYPE	PARAMETER	
Conventional Variables	• pH • Conductivity (EC) • Total Organic Carbon (TOC) • Colour	• Total Suspended Solids (TSS) • Turbidity • Total Alkalinity (as $CaCO_3$) • Acidity (as $CaCO_3$)
Ions	• Dissolved Chloride (Cl) • Fluoride (F^-)	• Total Dissolved Solids (TDS) • Sulphate (SO_4)
Nutrients	• Total Ammonia as N • Nitrate as N • Nitrite as N • Nitrate + Nitrite	• Total Kjeldahl Nitrogen (TKN) • Orthophosphate • Dissolved Organic Carbon (DOC) • Total Dissolved Phosphorus (TDP)
Oxygen Demand	• Biochemical Oxygen Demand (BOD)	• Chemical Oxygen Demand (COD)
Microbiology	• Total Coliforms • Fecal Coliforms	• *Escherichia coli* • Heterotrophic Plate Count
Oil and Grease	• Animal and Vegetable Oil & Grease • Mineral / Synthetic Oil & Grease	• Total Oil & Grease
Cyanide	• Total Cyanide	• WAD Cyanide
Dissolved Metals	• Aluminum • Antimony • Arsenic • Barium • Beryllium • Bismuth • Boron • Cadmium • Calcium • Chromium • Cobalt • Copper • Iron • Mercury • Lead • Lithium • Magnesium • Manganese	• Molybdenum • Nickel • Potassium • Selenium • Silicon • Silver • Sodium • Strontium • Tellurium • Thallium • Thorium • Tin • Titanium • Tungsten • Uranium • Vanadium • Zinc • Zirconium

7.2.3 Site Selection

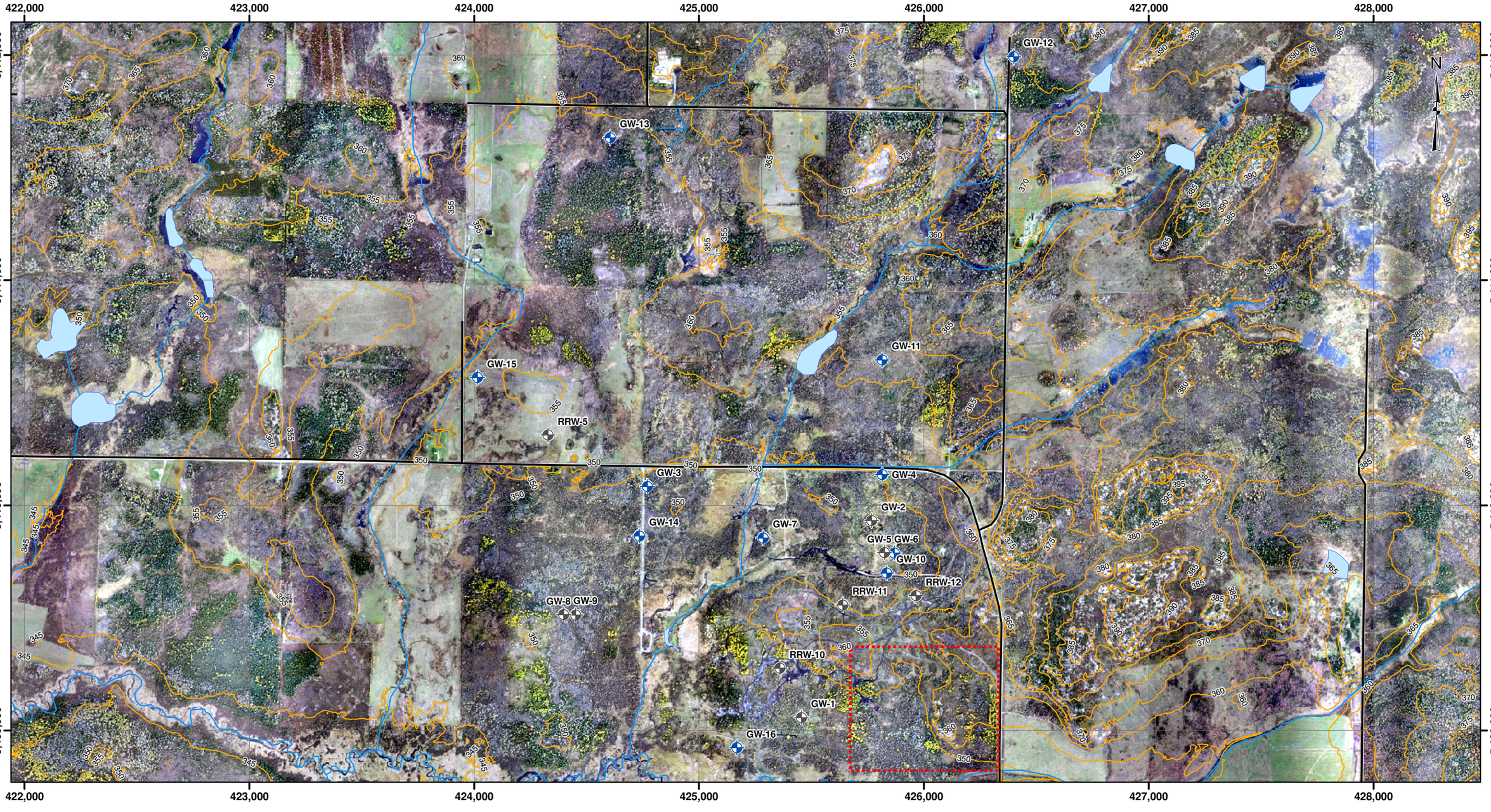
Twenty locations were sampled for groundwater quality over three years (2007, 2009, and 2010) as listed in Table 7.3 and shown in Figure 7.1.

In 2007, four locations were sampled by Rainy River personnel. In 2009, nine sites, including two multilevel well installations, were sampled by KCB personnel. In 2010 another seven sample locations were established. 2009 and 2010 sampling locations were selected to provide groundwater quality information from different strata across the Local Study Area, as illustrated in Figure 7.1.

Collection dates for the 2007, 2009 and 2010 sampling rounds are presented in Table 7.4.

Table 7.3 Baseline Groundwater Quality Sampling Locations

SAMPLE ID	DESCRIPTION	LOCATION RELATIVE TO THE DEPOSITE	EASTING	NORTHING	DRILLHOLE LENGTH (M)	SCREENED MATERIAL	STATUS TO DEC 2010
GW-1	Unknown Drillhole	Within the area	425456	5409058	Unknown	Bedrock	Discontinued
GW-2	Unknown Drillhole	Within the area	425768	5409932	Unknown	Bedrock	Discontinued
GW-3	Drillhole NR08-240	Northwest	424770	5410085	14.6	Bedrock	Ongoing
GW-4	Drillhole NR09-367	North	425815	5410136	Unknown	Bedrock	Ongoing
GW-5	Monitoring Well NR09-213A	Within the area	425850	5409786	46.5	Bedrock	Ongoing
GW-6	Monitoring Well RR09-213B	Within the area	425850	5409790	16.9	Clay	Discontinued
GW-7	Monitoring Well RR09-214A	Within the area	425286	5409856	40.5	Sand and Gravel	Ongoing
GW-8	Monitoring Well RR09-215A	West	424420	5409514	28.5	Sand and Gravel	Discontinued
GW-9	Monitoring Well RR09-215B	West	424420	5409519	11.0	Clay	Discontinued
GW-10	Drillhole NR09-428	Within the area	425835	5409700	Unknown	Bedrock	Ongoing
GW-11	Monitoring Well BH10-04	North	425815	5410646	23.3	Sand and Clay	Ongoing
GW-12	Monitoring Well BH10-05	North	426400	5411993	11.3	Clay	Ongoing
GW-13	Monitoring Well BH10-07A	Northwest	424605	5411633	26.6	Clay	Ongoing
GW-14	Monitoring Well BH10-11A	West	424735	5409864	30.2	Clay	Ongoing
GW-15	Monitoring Well BH10-12A	Northwest	424015	5410568	22.7	Clay	Ongoing
GW-16	Monitoring Well BH10-14	South	425168	5408924	20.4	Sand and Gravel	Ongoing
RRW-5	Well in community pasture	Northwest	424328	5410312	Unknown	Unknown	Discontinued
RRW-10	Drillhole NR06-26	Within the area	425360	5409277	662	Bedrock	Discontinued
RRW-11	Drillhole NR96-63	Within the area	425640	5409558	46	Bedrock	Discontinued
RRW-12	Drillhole NR06-113	Within the area	425965	5409599	200	Bedrock	Discontinued



Groundwater Quality Sampling Location

- Discontinued
- Ongoing

Contours (5m)

Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 500 m

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CLIENT

Rainy River Resources Ltd.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

BASELINE GROUNDWATER QUALITY SAMPLING LOCATIONS

PROJECT No. M09559A04

FIG No. 7.1

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Table 7.4 Dates of Groundwater Quality Sample Collection (2007, 2009, and 2010)

STATION ID	SAMPLING DATE					
	2007	2009		2010		
	Aug. 16	Jul. 5	Nov. 25/26	Jun. 3	Jun. 8	Sep. 8/9
GW-1		x				
GW-2		x				
GW-3		x		x		x
GW-4		x		x		x
GW-5			x	X		x
GW-6			x			
GW-7			x		x	x
GW-8			x			
GW-9			x			
GW-10				x		x
GW-11						x
GW-12						x
GW-13						x
GW-14						x
GW-15					x	xD
GW-16						x
RRW-5	X					
RRW-10	X					
RRW-11	X					
RRW-12	X					

Note: 'D' indicates the location the field duplicate was collected

7.2.4 Sampling Procedure

Sampling in 2007 was carried out by Rainy River staff and the exact details of sampling methodology are not available.

For the 2009 and 2010 programs, groundwater sample collection methodology varied between sampling locations depending on well conditions. Artesian locations were allowed to flow for a minimum of 15 minutes prior to sample collection to purge any stagnant water within the monitoring well or drillhole. Non-artesian locations were purged of three well volumes prior to sample collection using a Waterra inertial pump. Samples collected for dissolved metals analysis were field filtered using a single-use inline Waterra filter.

For samples requiring preservative, bottles were pre-dosed and the sample was decanted directly into the bottle. For samples not requiring preservative, sample bottles were triple rinsed with formation water, prior to filling.

Table 7.5 summarizes the sample bottle types, analysis, preservative (if applicable), and the maximum hold time for the samples. The groundwater samples and ice packs were placed in coolers and delivered to Maxxam Analytics in Winnipeg for analysis within the minimum specified holding time(s).

Table 7.5 Description of Groundwater Quality Parameters

BOTTLE LABEL	BOTTLE SIZE (mL)	BOTTLE TYPE	PRESERVATIVE	ANALYSIS	NUMBER OF BOTTLES REQUIRED PER STATION	SAMPLING INSTRUCTIONS	MAXIMUM HOLD TIME
Cyanide	250	Plastic	Sodium hydroxide	Cyanide-T and Cyanide-WAD	2	Preservation	7 days
Dissolved Metals	250	Plastic	Nitric acid	ICPMSD-W	1	Preservation and filtration	6 months
General	500	Plastic	None	Alk, CLAC-W, cond-L, F-, NO2/3, COL-w, PH2, PO4AC-w, SO4AC-w, turbidity	1	No preservative added	28 days
General	250	Plastic	None	SUB-REDOX, Acidity	1	No preservative added	4 days
Mercury	125	Clear glass	Potassium dichromate	HG-L	1	Preservation	7 days
Total Metals	250	Plastic	Nitric Acid	ICPMST-W	1	Preservation	6 months
Microbiology	300	Sterilized bottle	Sodium thiosulphate	SUB8002	1	Preservation	30 hours
Nutrients	250	Plastic	Sulphuric acid	COD-L, HH4-L, TOC-COMB	1	Preservation	28 days
Oil and Grease	1000	Amber glass	Hydrochloric acid	O&G-A/V-L, O&G-L, TPH-L	2	Preservation; fill to line	28 days
Solids	500	Plastic	None	TDS-L, TSSLOW-W	2	No preservative added	7 days

7.2.5 Analytical Procedures

Standard laboratory analytical procedures were followed for all samples submitted to Maxxam Analytics in the 2009 to 2010 sampling program. Note, due to certain matrix interferences, the method detection limits (MDL) for some parameters varied. Appendix III-3 contains the test results and MDL for each parameter reported (see ALS lab data).

The precise analytical procedure details for 2007 samples are not available.

7.2.6 Quality Assurance / Quality Control

Field QA/QC measures included a trip blank and a blind duplicate.

7.2.6.1 Trip Blank

The trip blank bottles were filled with de-ionized water in the laboratory and remained sealed throughout the field trip. Trip blank data allows contamination associated with the laboratory procedures to be assessed. The trip blanks were kept cool and dark (i.e. kept in a cooler with the lid shut) and were transported to the various sampling stations in the cooler they were shipped in. The trip blank data results are included in Appendix III-3 (see Maxxam lab data)

7.2.6.2 Blind Duplicate

The purpose of the blind duplicate was to assess variability in reported results due to laboratory procedures. The groundwater quality split sample was labelled as though it was a unique monitoring well. The blind duplicate was obtained by filling two sets of bottles simultaneously. One set of bottles was labelled with the appropriate station name (e.g. GW15) and the other set of bottles was the field split which was always labelled BH10-20. Blind duplicate sampling for the groundwater sampling program was initiated

in September 2010. The location where the blind duplicate was taken is summarized in Table 7.4.

Blind duplicate sampling results are discussed in Section 7.3.3 and are included in Appendix III-2 (see RPD spreadsheet).

7.2.6.3 Laboratory procedures

Standard QA/QC procedures were followed for each round of samples submitted to the laboratory. Standard lab QA/QC procedures included lab duplicates (i.e., repeated analysis of the of the same sample), a matrix spike (i.e., a known amount of the analyte of interest added and used to evaluate the sample matrix interference), a spiked blank (i.e., a known amount of the analyte of interest added and used to evaluate analyte recovery), and a method blank (i.e., a blank matrix containing all reagents used in the analytical procedure, used to identify possible laboratory contamination).

All laboratory QA/QC results are included in Appendix III-3 (Maxxam lab data).

7.3 Results

7.3.1 Literature Review

7.3.1.1 Township of Chapple Groundwater Study

KGS (2003) prepared a groundwater study of the Township of Chapple, which encompassed the Local Study Area and the Regional Study Area. Water quality samples were collected in 2002 from four municipal wells in the Village of Barwick (approximately 23 km south of the proposed advanced exploration site), and from eight private wells across the municipality, including MOE-469, located within the Local Study Area as shown in Figure 7.1. The four municipal wells and two of the private wells were screened in bedrock, and six of the private wells were screened in overburden. The

KGS report also presented historic water quality results obtained from the municipal wells.

Results from the municipal well sampling show generally good water quality, although some sampling rounds returned exceedances of ODWS for turbidity, alkalinity, TDS, organic nitrogen, DOC, colour, aluminum, iron, and manganese. Between 2001 and September 2002, total coliforms were detected in up to 13% of samples in some of the municipal wells. No *E. coli* was found in any of the municipal wells during this period.

All six of the private overburden wells had elevated conductivity, ranging from 804 uS/cm to 1450 uS/cm, and elevated total dissolved solids (TDS) ranging from 450 mg/L to 1000 mg/L. Alkalinity was near the ODWS criteria of 500 mg/L in all six wells. Two of the six wells exceeded ODWS criteria for sodium, and several exceeded ODWS for iron and manganese. All results for MOE-469, located in the Local Study Area, are listed in Table 7.6. This well is drilled to 9.8 m depth, is screened in gravelly sand, and exceeded only ODWS criteria for hardness.

The two private bedrock wells had slightly better water quality than the overburden wells. Conductivity was 691 uS/cm and 894 uS/cm, alkalinity was 373 mg/L and 393 mg/L, and TDS was 370 mg/L and 530 mg/L, respectively. Iron concentrations were 1.0 mg/L and 0.16 mg/L, with one of the values exceeding the ODWS of 0.3 mg/L. Manganese concentrations were 0.397 mg/L and 0.068 mg/L, which both exceeded the ODWS of 0.05 mg/L.

Table 7.6 Water Quality Results for MOE-469 (2002)

PARAMETER	UNITS	MOE-469 RESULT
pH	pH	7.07
Conductivity	uS/cm	804
Alkalinity as $CaCO_3$	mg/L $CaCO_3$	416
Alkalinity as Bicarbonate	mg/L	507
Alkalinity as Carbonate	mg/L	<20
Alkalinity as Hydroxide	mg/L	<10
Calcium – Extractable	mg/L	0.32
Magnesium – Extractable	mg/L	0.17
Sodium – Extractable	mg/L	197
Potassium – Extractable	mg/L	1.2
Chloride – Soluble	mg/L	<10
Sulphate – Soluble	mg/L SO_4	013
Nitrate-Nitrite-N Soluble	mg/L	0.08
Total Dissolved Solids	mg/L	460
Hardness	mg/L $CaCO_3$	1.5
Total Anions	meq/L	8.59
Total Cations	meq/L	8.63
Percent Error	%	0.26
Iron – Extractable	mg/L	0.02
Manganese - Extractable	mg/L	<0.005

7.3.2 Groundwater Quality Sampling Results

7.3.2.1 General

Four rounds of groundwater sampling have been performed since 2007, including one in 2007, one in 2009 and two in 2010. Results presented in this section are based on all four sampling rounds.

A summary of the groundwater quality results are presented in Table 7.7 for those parameters that exceeded PWQO or ODWS criteria.

Table 7.7 Summary of Groundwater Quality Results that Exceeded PWQO or ODWS Criteria (2007 to 2010)

			pH	TDS	Turbidity	Dissolved Chloride (Cl)	Dissolved Aluminum (Al)	Dissolved Antimony (Sb)	Dissolved Barium (Ba)	Dissolved Cadmium (Cd)	Dissolved Cobalt (Co)	Dissolved Copper (Cu)	Dissolved Iron (Fe)	Dissolved Manganese (Mn)	Dissolved Mercury (Hg)	Dissolved Molybdenum (Mo)	Dissolved Sodium (Na)	Dissolved Uranium (U)	Dissolved Zinc (Zn)
OPWQO Aquatic Life Criteria			6.5-8.5	-	-	-	0.075	0.02	-	0.0005	0.0009	0.005	0.3	-	0.0002	0.04	-	0.005	0.02
Ontario Drinking Water Standards			6.5 8.5	500	5	250	0.1	0.006	1	0.005	-	1	0.3	0.05	0.001	-	200	0.02	5
Guidelines for Canadian Drinking Water Quality			6.5-8.5	500	0.3	250	0.1	0.006	1	0.005	-	1	0.3	0.05	0.001	-	200	0.02	5
Sample ID	**Drillhole**	**Sample Date**		mg/L	NTU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GW1		05/07/2009	7.9	505	44	47	ND	ND	1.100	ND	ND	ND	ND	0.13	ND	0.012	27	ND	ND
GW2		05/07/2009	8	515	170	38	ND	ND	0.720	ND	ND	ND	ND	0.17	ND	0.002	25	ND	ND
GW3	NR08-240	05/07/2009	7.5	1030	31	420	ND	ND	0.031	ND	ND	ND	ND	0.16	ND	0.002	200	ND	ND
	NR08-240	03/06/2010	8.6	566	0.5	210	ND	ND	0.031	ND	ND	ND	ND	0.02	ND	0.060	100	ND	ND
	NR08-240	09/09/2010	7.7	610	63	83	ND	ND	0.076	ND	ND	ND	4.4	0.11	ND	0.003	35	0.0007	ND
GW4	NR09-367	05/07/2009	7.9	526	64	11	0.005	ND	0.067	ND	ND	ND	ND	0.17	ND	0.008	17	ND	ND
	NR09-367	03/06/2010	7.9	496	21	16	ND	ND	0.063	ND	ND	ND	2.6	0.14	ND	0.003	14	0.0004	ND
	NR09-367	08/09/2010	7.8	542	200	39	ND	ND	0.065	ND	ND	ND	3.3	0.14	ND	0.004	16	0.0005	ND
GW5	RR09-213A	25/11/2009	7.7	510	120	8	ND	0.0110	0.062	0.001	0.0052	0.006	ND	0.19	ND	0.004	21	0.0015	0.046
	RR09-213A	03/06/2010	7.9	466	94	7	0.007	0.0018	0.057	ND	0.0011	ND	1.7	0.20	ND	0.003	14	0.0007	0.020
	RR09-213A	09/09/2010	7.7	514	55	8	ND	0.0005	0.056	ND	0.0008	ND	2.0	0.20	ND	0.003	13	0.0005	0.011
GW6	RR09-213B	25/11/2009	7.7	550	2200	7	0.040	ND	0.058	ND	0.0013	0.001	ND	0.17	ND	0.004	50	0.0140	0.017
GW7	RR09-214A	26/11/2009	7.6	510	4.8	6	ND	0.0006	0.090	ND	0.0011	ND	1.2	0.15	ND	0.004	14	0.0014	0.005
	RR09-214A	08/06/2010	7.9	490	20	5	ND	0.0009	0.082	ND	0.0012	ND	1.9	0.14	ND	0.005	14	0.0014	ND
	RR09-214	09/09/2010	7.7	494	19	6	ND	ND	0.079	ND	0.0038	ND	2.0	0.15	ND	0.005	13	0.0011	ND
GW8	RR09-215A	26/11/2009	7.8	505	1.8	3	0.044	ND	0.074	ND	0.0016	0.002	0.8	0.14	ND	0.003	15	0.0014	ND
GW9	RR09-215B	26/11/2009	7.6	600	24000	17	0.006	ND	0.095	ND	0.0013	0.004	ND	0.21	0.0002	0.006	56	0.0170	ND
GW10	NR09-428	03/06/2010	8.0	470	47	14	0.005	0.0006	0.037	ND	ND	ND	5.2	0.22	ND	0.003	20	0.0002	ND
	NR09-428	09/09/2010	7.8	524	94	18	ND	ND	0.041	ND	ND	ND	7.7	0.24	ND	0.003	20	0.0002	ND
GW11	BH10-04	09/09/2010	7.9	520	360000	4	0.008	ND	0.065	ND	ND	ND	ND	0.21	ND	0.016	44	0.0063	ND
GW12	BH10-05	09/09/2010	7.8	690	720	2	ND	0.0005	0.066	ND	0.0012	ND	ND	0.12	ND	0.010	20	0.0190	ND
GW13	BH10-7A	08/09/2010	7.8	410	650	2	ND	ND	0.078	ND	ND	ND	0.5	0.25	ND	0.003	15	0.0032	ND
GW14	BH10-11A	09/09/2010	7.9	470	75000	3	0.006	ND	0.090	ND	ND	ND	1.2	0.20	ND	0.004	11	0.0013	ND
GW15	BH10-12A	08/06/2010	7.8	490	21	3	0.014	0.0005	0.060	ND	ND	ND	3.3	0.15	ND	0.004	11	0.0006	0.015
	BH10-12A	08/09/2010	7.7	484	57	4	0.300	ND	0.071	ND	ND	ND	4.1	0.15	ND	0.002	10	0.0002	ND
GW16	BH10-14	09/09/2010	7.8	520	31	6	0.009	ND	0.082	ND	ND	ND	2.5	0.19	ND	0.004	18	0.0008	ND
RRW5		08/16/2007	7.6	-	-	-	0.010	ND	0.080	ND	ND	ND	2.4	0.13	ND	0.004	-	ND	0.004
RRW10	NR06-26	08/16/2007	7.9	-	-	-	ND	ND	0.090	ND	ND	ND	8.7	0.18	ND	0.005	-	ND	ND
RRW11	NR96-63	08/16/2007	7.7	-	-	-	ND	ND	0.080	ND	ND	ND	6.5	0.35	ND	0.002	-	ND	ND
RRW12	NR06-113	08/16/2007	7.7	-	-	-	ND	ND	0.070	ND	ND	ND	2.5	0.24	ND	0.002	-	ND	0.007

Note: red text indicate parameter at or exceeding guideline

Discussion regarding parameters that exceeded the PWQO or ODWS criteria, and those important for characterizing groundwater chemistry, are included below. The parameters discussed include major ions, pH, conductivity, TDS, turbidity, dissolved chloride, fluoride, dissolved sulphate, alkalinity, total and dissolved organic carbon, aluminum, antimony, arsenic, barium, cobalt, copper, iron, magnesium, manganese, mercury, potassium, sodium, uranium and zinc.

7.3.2.2 Dissolved Ions

A piper plot showing major ion chemistry for groundwater samples collected from 2009 through 2010 is presented in Figure 7.2. For the purpose of this plot, bicarbonate concentrations were assumed to be equal to alkalinity as $CaCO_3$ concentrations, as bicarbonate was not specifically analyzed in these samples. Water type is calcium-magnesium-bicarbonate at all locations with the exception of GW-3, GW-6, GW-9, GW-11, and GW-12.

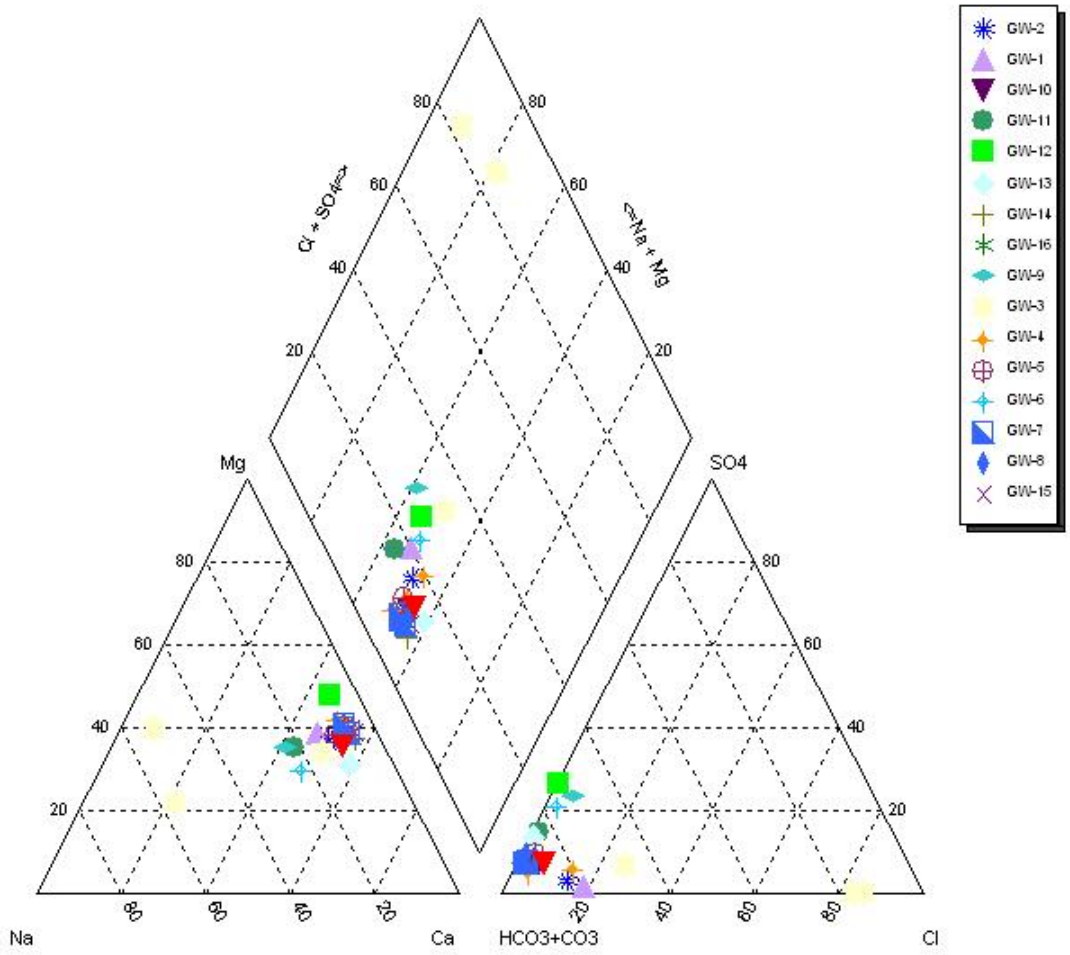


Figure 7.2 Major Ion Chemistry of Groundwater Sampled in 2009 and 2010

Table 7.8 provides a summary of the water types of each well over for the sampling events. Calcium-magnesium-bicarbonate and Mg-Ca-HCO_3 (GW-12) are typical water types for non-coastal regions since typical non-costal precipitation is elevated in calcium-bicarbonate. All of the water types contain magnesium, which may be attributed to rock-water interactions.

Table 7.8 Summary of Water Type of Groundwater Sampled in 2009 and 2010

STATION ID	SAMPLE ID	NOVEMBER (2009)	JULY (2009)	JUNE (2010)	SEPTEMBER (2010)
GW1		-	Ca-Mg-HCO3	-	-
GW2		-	Ca-Mg-HCO3	-	-
GW3	NR08-240	-	Na-Mg-Ca-Cl	Na-Mg-Cl	Ca-Mg-HCO3-Cl
GW4	NR09-367	-	Ca-Mg-HCO3	Ca-Mg-HCO3	Ca-Mg-HCO3
GW5	RR09-213A	Ca-Mg-HCO3	-	Ca-Mg-HCO3	Ca-Mg-HCO3
GW6	RR09-213B	Ca-Mg-Na-HCO3	-	-	-
GW7	RR09-214	Ca-Mg-HCO3	-	-	-
GW7	RR09-214A	Ca-Mg-HCO3	-	Ca-Mg-HCO3	Ca-Mg-HCO3
GW8	RR09-215A	Ca-Mg-HCO3	-	-	-
GW9	RR09-215B	Ca-Mg-Na-HCO3-SO4	-	-	-
GW10	NR09-428	-	-	Ca-Mg-HCO3	Ca-Mg-HCO3
GW11	BH10-04	-	-	-	Ca-Mg-Na-HCO3
GW12	BH10-05	-	-	-	Mg-Ca-HCO3-SO4
GW13	BH10-7A	-	-	-	Ca-Mg-HCO3
GW14	BH10-11A	-	-	-	Ca-Mg-HCO3
GW15	BH10-12A	-	-	Ca-Mg-HCO3	Ca-Mg-HCO3
GW16	BH10-14	-	-	-	Ca-Mg-HCO3

The water type is consistent over the sampling periods with the exception of GW3 which changed water type in each sampling period. GW3 is an artesian well and is located in 'marshy' land. Variability in water type at GW3 may be attributed to the variability of incoming water as it may act as a collection pond. Additionally, a heavy rainfall was recorded in the weeks prior to sampling in September 2010 which may have caused the water type in GW3 to change from Na-Mg-Cl to Ca-Mg-HCO_3-Cl. Total weekly precipitation in the four weeks prior to sampling events are shown in Figure 7.3.

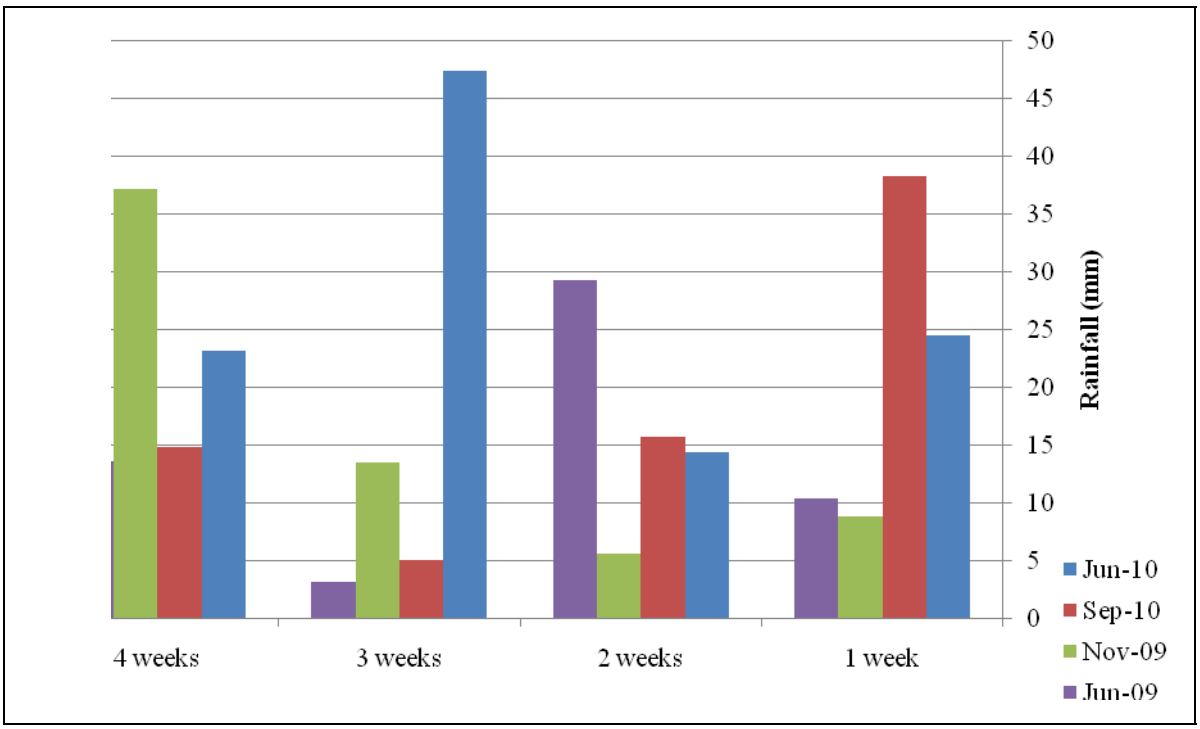


Figure 7.3 Total Weekly Precipitation as Rainfall Prior to Sampling

7.3.2.3 pH

Laboratory pH data for groundwater samples collected in 2007, 2009, and 2010 are shown in Figure 7.4. The pH of the samples ranged from 7.5 to 8.0, falling within the PWQO range of 6.5 to 8.5. The groundwater sample pH values were similar to the pH values of the surface water samples collected.

One sample at GW3 had a value of 8.6, which is slightly above the PWQO. The remaining two samples from GW3 were within the PWQO range.

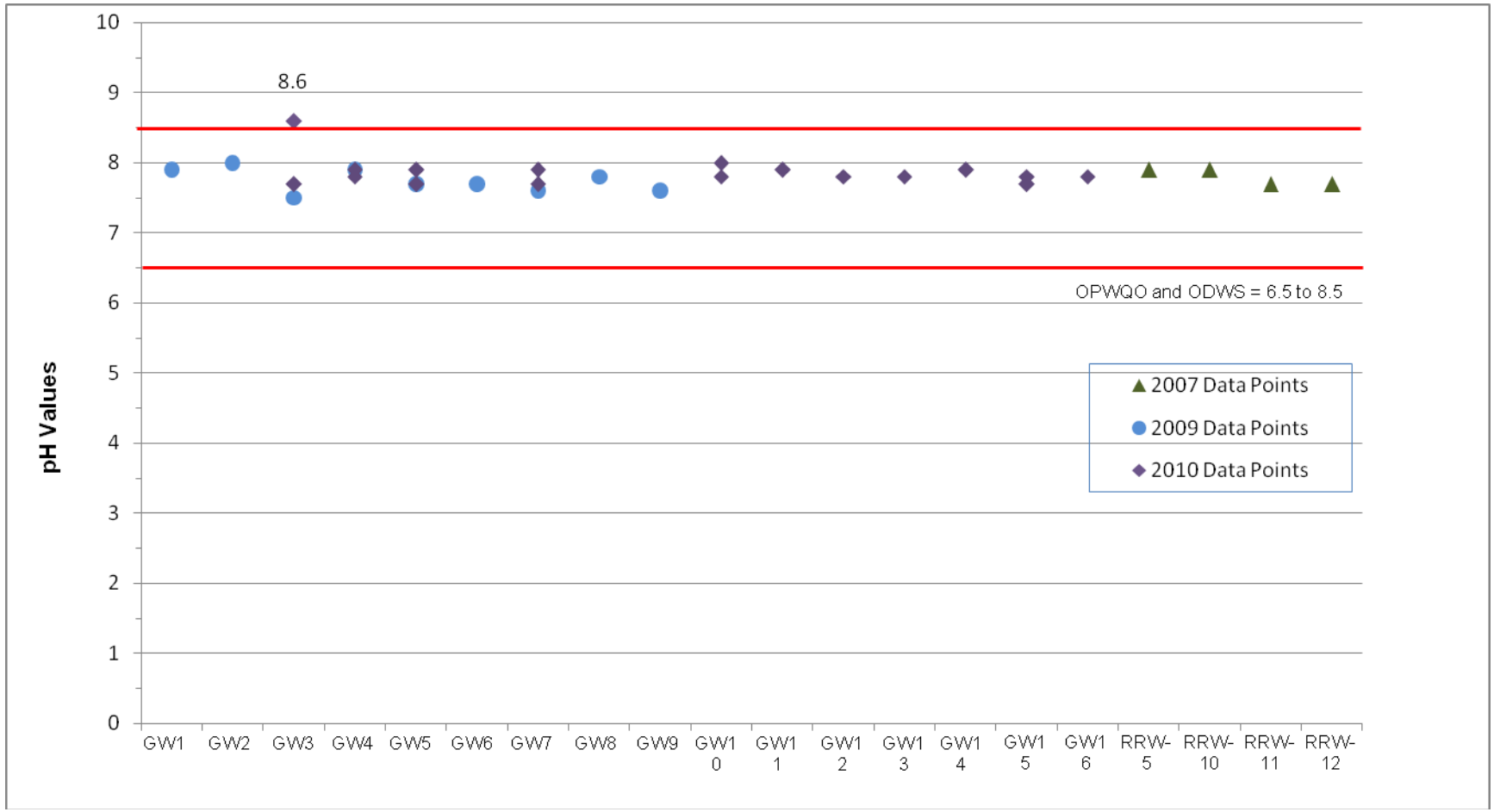


Figure 7.4 pH in Groundwater Samples

7.3.2.4 Conductivity

Laboratory EC data for groundwater samples collected in 2007, 2009, and 2010 are shown in Figure 7.5. EC generally ranged between 600 µS/cm and 1000 µS/cm in all wells. The highest recorded EC value was 1660 µS/cm at GW3. The other two EC values from GW3 were less than 1000 µS/cm.

Conductivity in groundwater samples was significantly higher than that of surface water samples, indicating a higher content of dissolved metals in the groundwater as compared to surface waters.

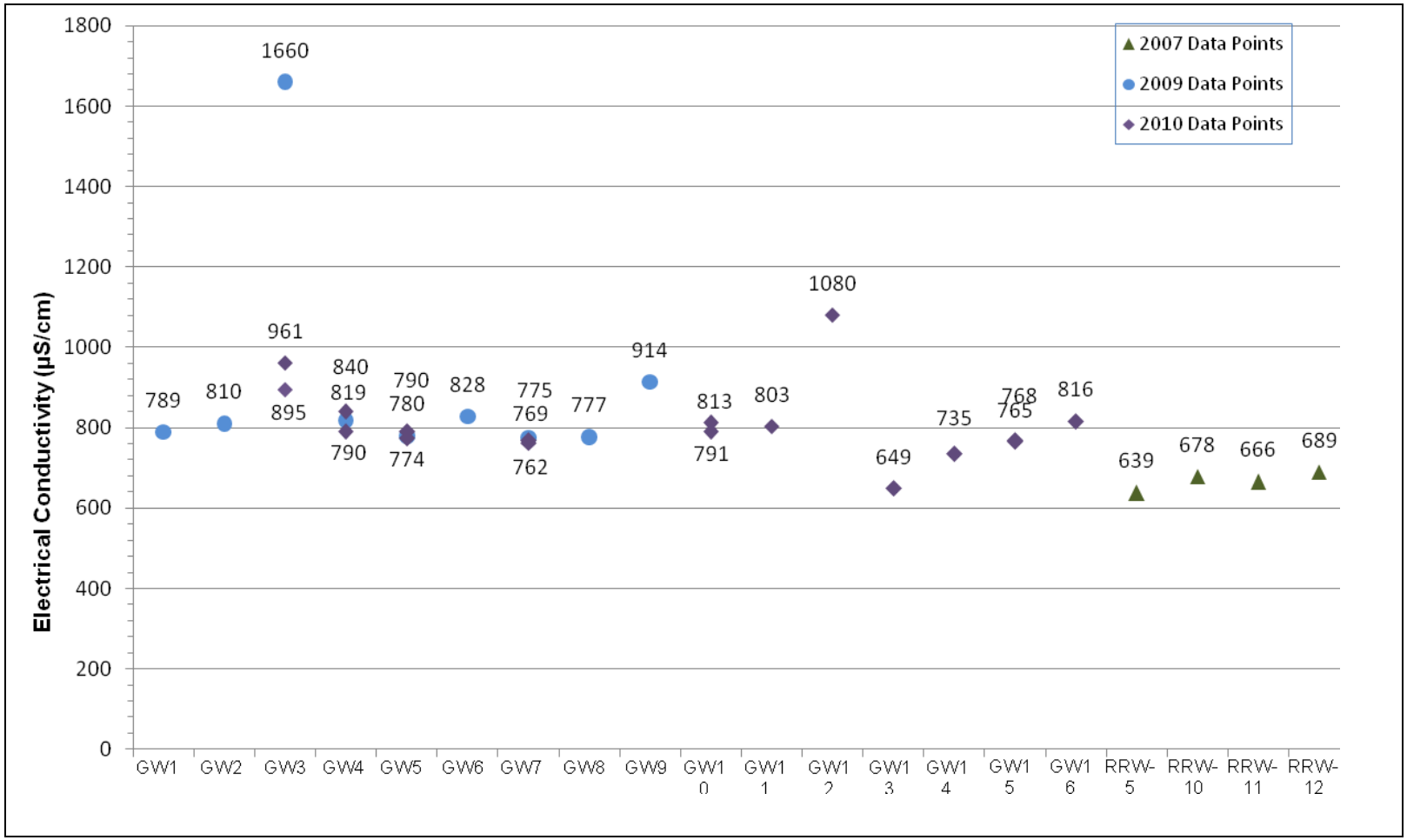


Figure 7.5 Conductivity in Groundwater Samples

7.3.2.5 Total Dissolved Solids (TDS)

The majority of samples (17 of 26) were above the ODWS of 500 mg/L. Five of the nine samples that were below the ODWS were taken in June 2010.

TDS values above the ODWS ranged from 505 mg/L to 1030 mg/L. The highest TDS value was recorded at GW3 which also had the highest EC value. TDS in groundwater samples was significantly higher than in surface water samples.

TDS data for groundwater samples collected in 2009 and 2010 are shown in Figure 7.6. Values above the ODWS of 500 mg/L are labelled. There is no PWQO for TDS.

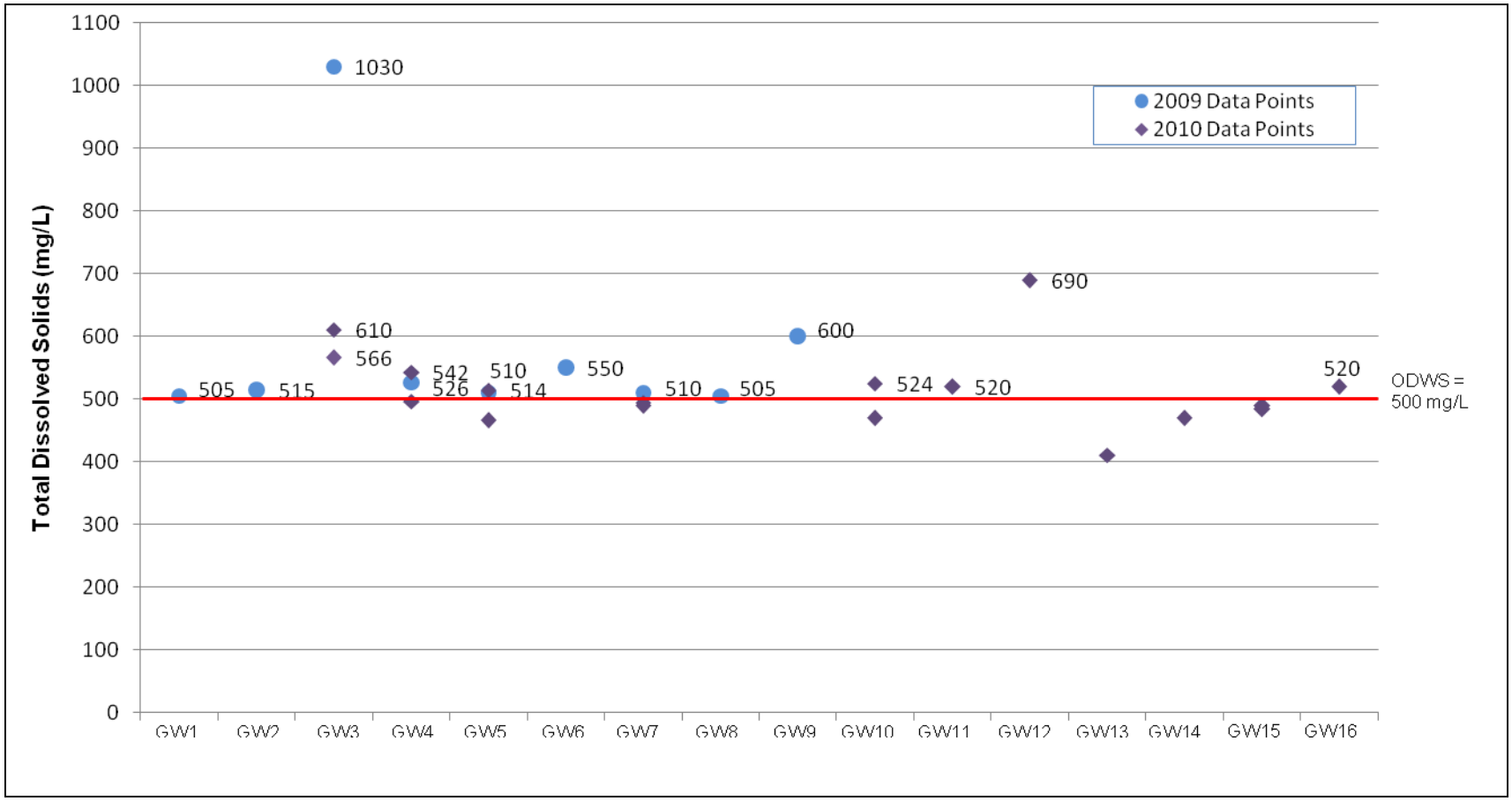


Figure 7.6 TDS in Groundwater Samples

7.3.2.6 Turbidity

Turbidity ranged from less than 1 NTU to 360000 NTU. Very high (i.e., greater than 2000 NTU) turbidity values were recorded at four wells that were completed in clayey soils. These high turbidity values likely indicate that the wells were not fully developed following drilling and installation, so these results are not expected to necessarily represent groundwater turbidity conditions.

Turbidity data for groundwater samples collected in 2009 and 2010 are shown logarithmically in Figure 7.7. The majority of samples were above the ODWS of 5 mg/L. There is no PWQO for turbidity.

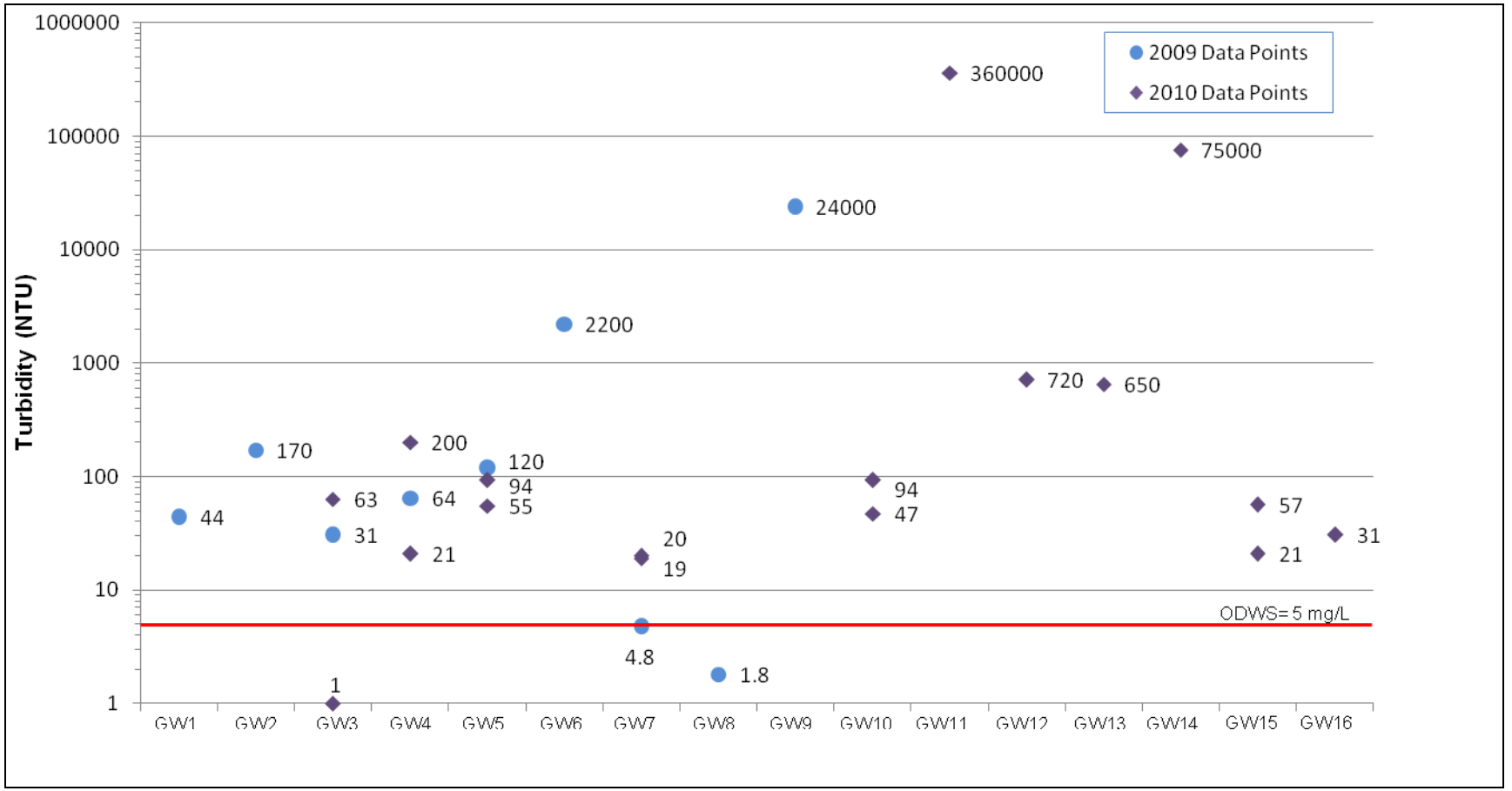


Figure 7.7 Turbidity in Groundwater Samples

7.3.2.7 Dissolved Chloride

Chloride is widely distributed in nature, generally as the sodium (NaCl), potassium (KCl) and calcium ($CaCl_2$) salts (MOE, 2006). Dissolved chloride data for groundwater samples collected in 2009 and 2010 are shown in Figure 7.8. Dissolved chloride ranged from 2 mg/L to 47 mg/L in all wells other than GW3; the three samples taken from GW3 ranged from 83 mg/L to 420 mg/L. The highest result taken from GW3 was the only sample to exceed the ODWS criteria of 250 mg/L for dissolved chloride. Currently there is no PWQO for chloride.

As mentioned previously in Section 7.3.2.3, GW2 is an artesian well located in marshy land, and the high dissolved chloride values in the water may be attributed to the variability of recharge water.

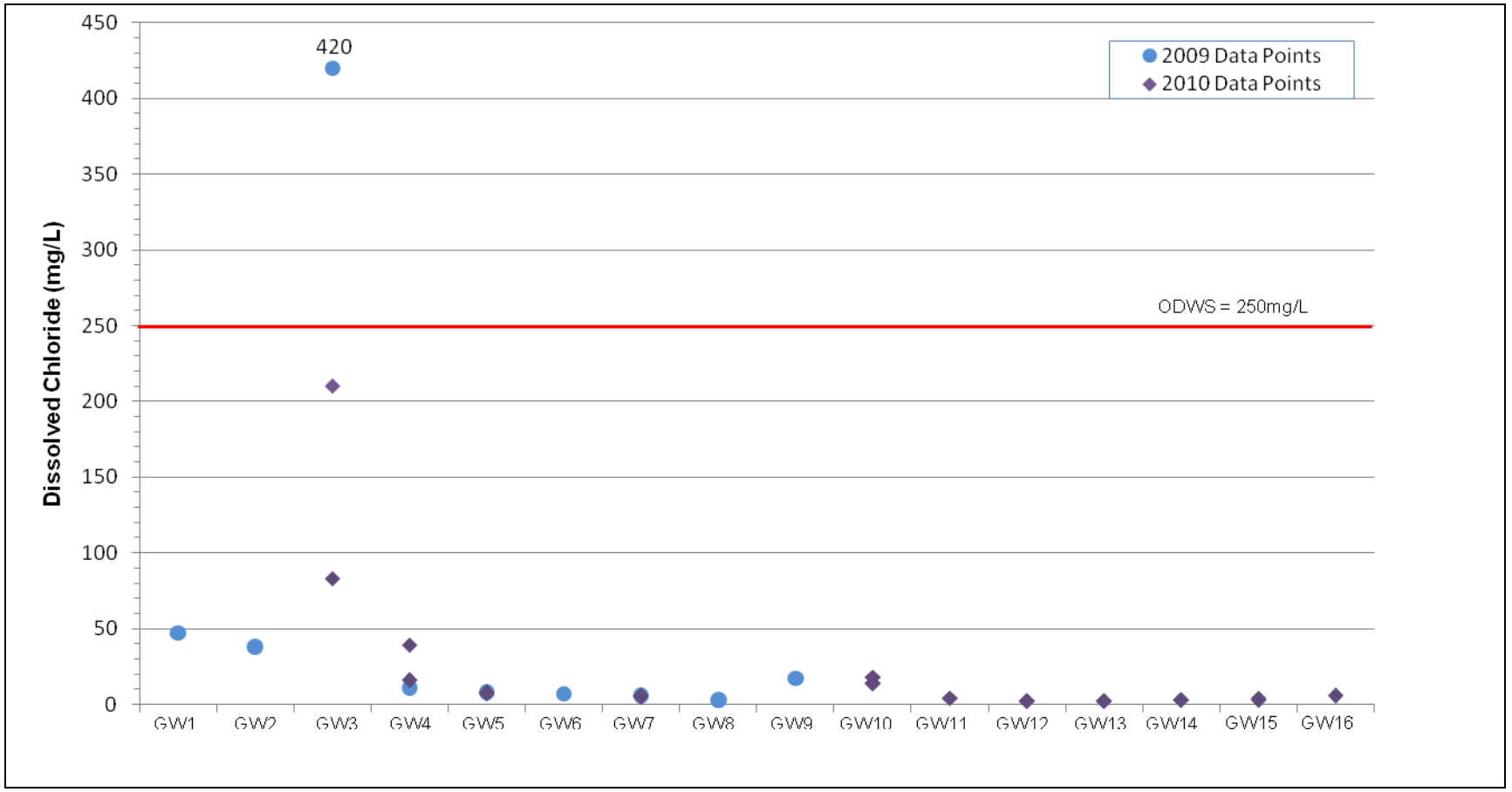


Figure 7.8 Dissolved Chloride in Groundwater Samples

7.3.2.8 Fluoride

Fluoride concentrations ranged from below the MDL (0.1 mg/L) to 0.3 mg/L. The two samples below the MDL were from GW3. All samples were less than the ODWS of 1.5 mg/L. There is no PWQO for fluoride.

7.3.2.9 Dissolved Sulphate

Sulphate concentrations ranged from below the MDL (1 mg/L) to 140 mg/L. As with the fluoride samples, the two samples below the MDL were from GW3. All samples were less than the ODWS of 500 mg/L. There is no PWQO for sulphate.

Dissolved sulphate values are shown in Figure 7.9.



Figure 7.9 Dissolved Sulphate in Groundwater Samples

7.3.2.10 Alkalinity

Alkalinity ranged from 313 mg/L to 496 mg/L in all wells other than GW3. Values at GW3 were 72 mg/L, 118 mg/L and 368 mg/L. Alkalinity in groundwater samples was typically higher than in surface water samples. There is no guideline value for alkalinity (i.e., no PWQO, ODWS, or GDWQ).

Alkalinity as $CaCO_3$ data for groundwater samples collected in 2007, 2009, and 2010 are shown in Figure 7.10.

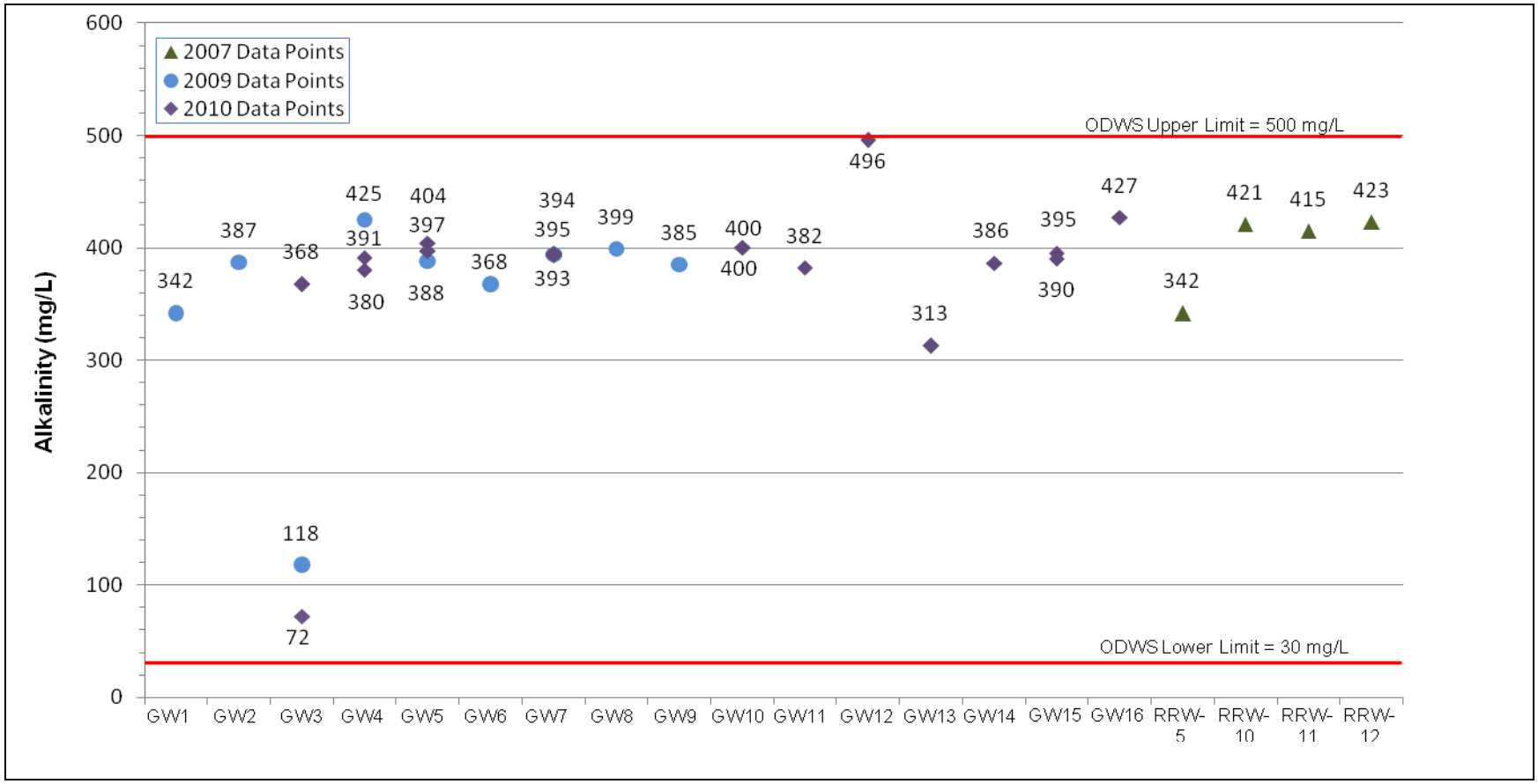


Figure 7.10 Alkalinity in Groundwater Samples

7.3.2.11 Total and Dissolved Organic Carbon

Total organic carbon (TOC) data for groundwater samples collected in 2009 and 2010 ranged from 1.8 mg/L (GW3) to 342 mg/L (GW11). Dissolved organic carbon (DOC) was measured in the four samples taken in 2009, and ranged from 6.8 mg/L (GW2) to 18.5 mg/L (GW1). All DOC values are above the ODWS of 5 mg/L. TOC and DOC values are shown on Figure 7.11.

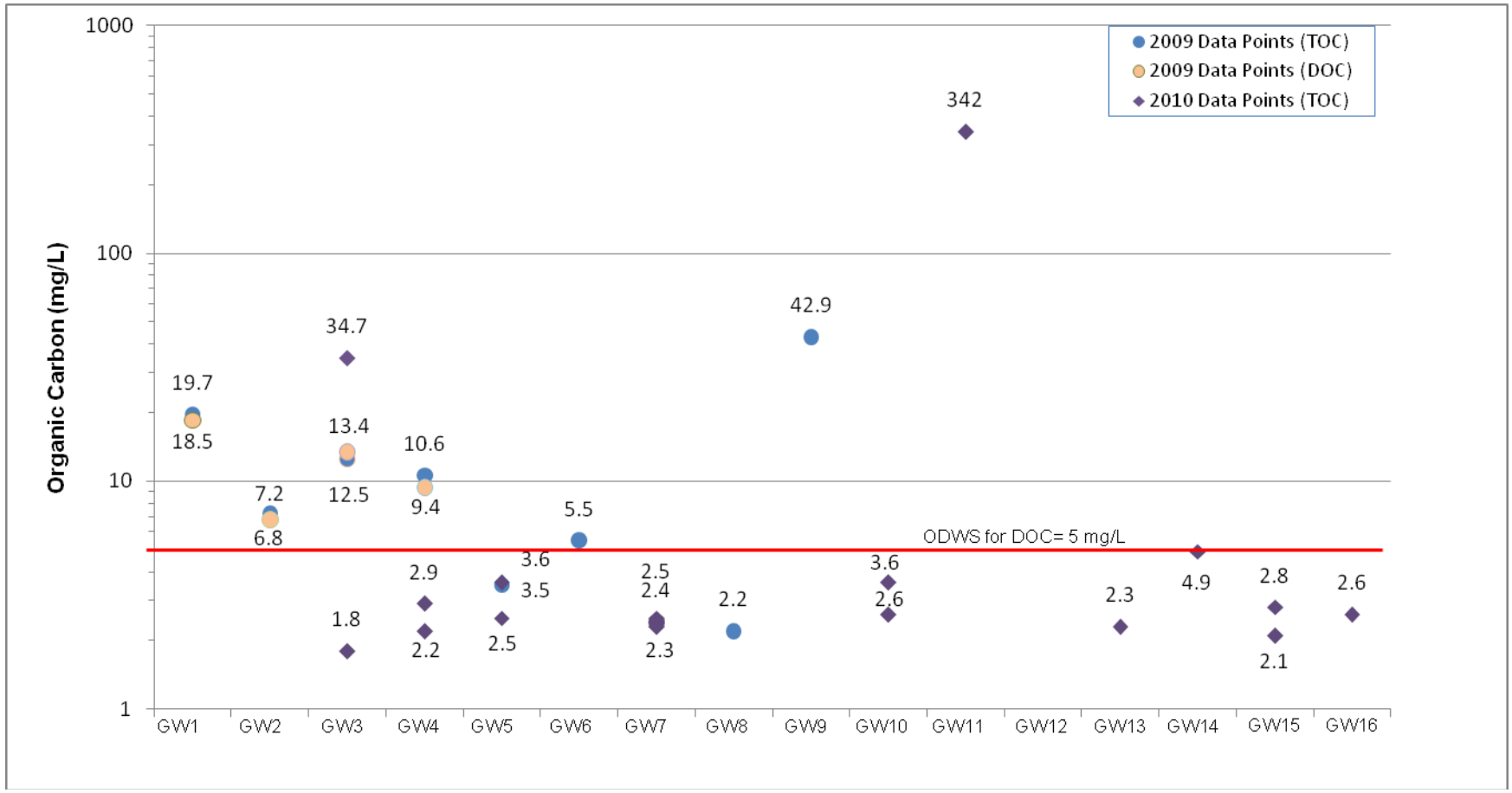


Figure 7.11 TOC and DOC in Groundwater Samples

7.3.2.12 Aluminum

Aluminum concentrations ranged from below the MDL to 0.3 mg/L (GW15). The highest sample result was the only one that exceeded the PWQO of 0.075 mg/L. Aluminum in groundwater samples was typically at significantly lower concentrations than in surface water samples.

Total aluminum data for 2007 groundwater samples and dissolved aluminum data for 2009 and 2010 groundwater samples are shown in Figure 7.12.

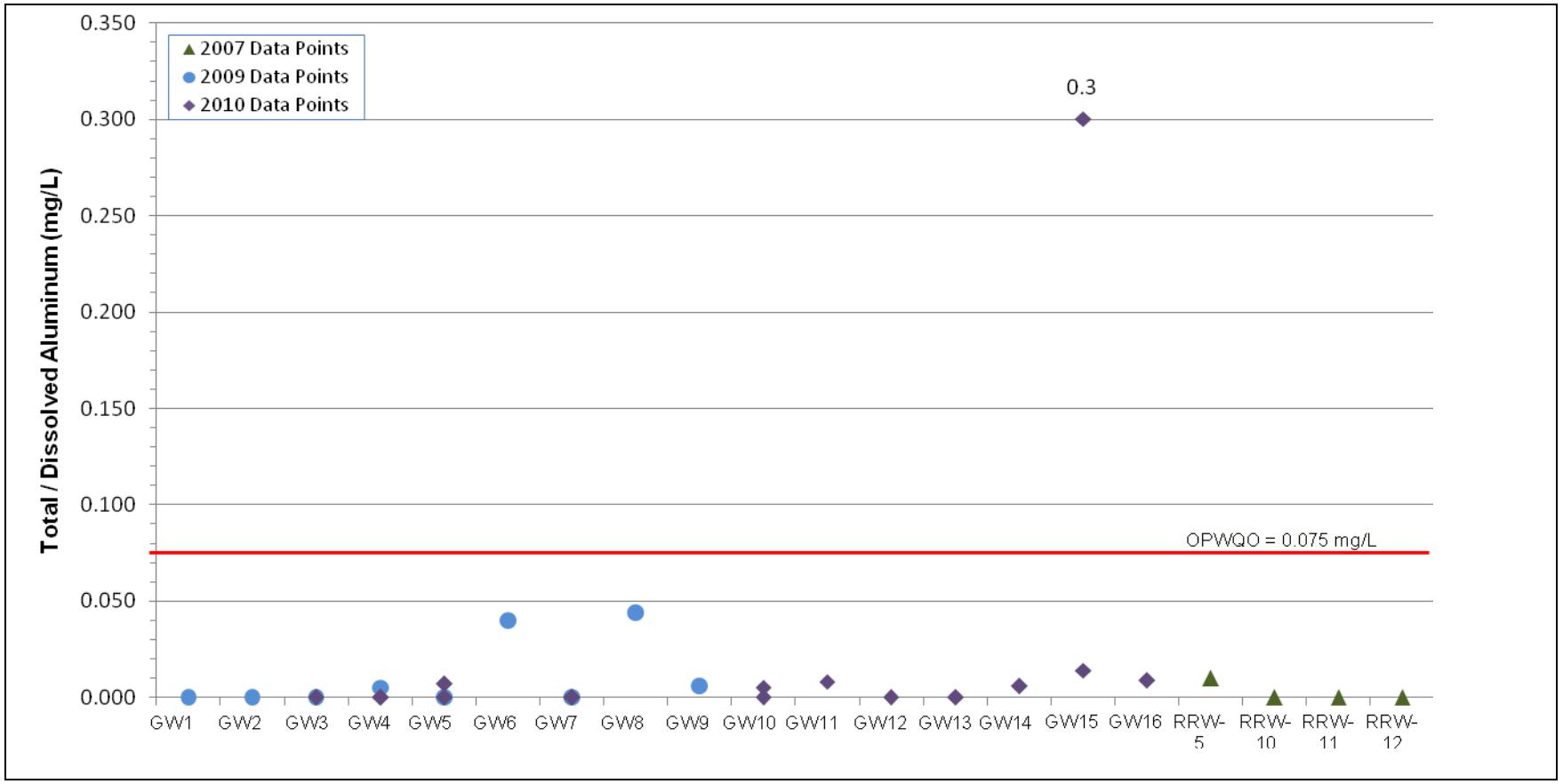


Figure 7.12 Total / Dissolved Aluminum in Groundwater Samples

7.3.2.13 Antimony

Total antimony values for groundwater samples collected in 2007 and dissolved antimony values for samples collected in 2009 and 2010 ranged from below the MDL to 0.011 mg/L (GW5). None of the values were above the PWQO of 0.02 mg/L, however the highest value measured at GW5 was above the ODWS of 0.006 mg/L. Values are shown in Figure 7.13.

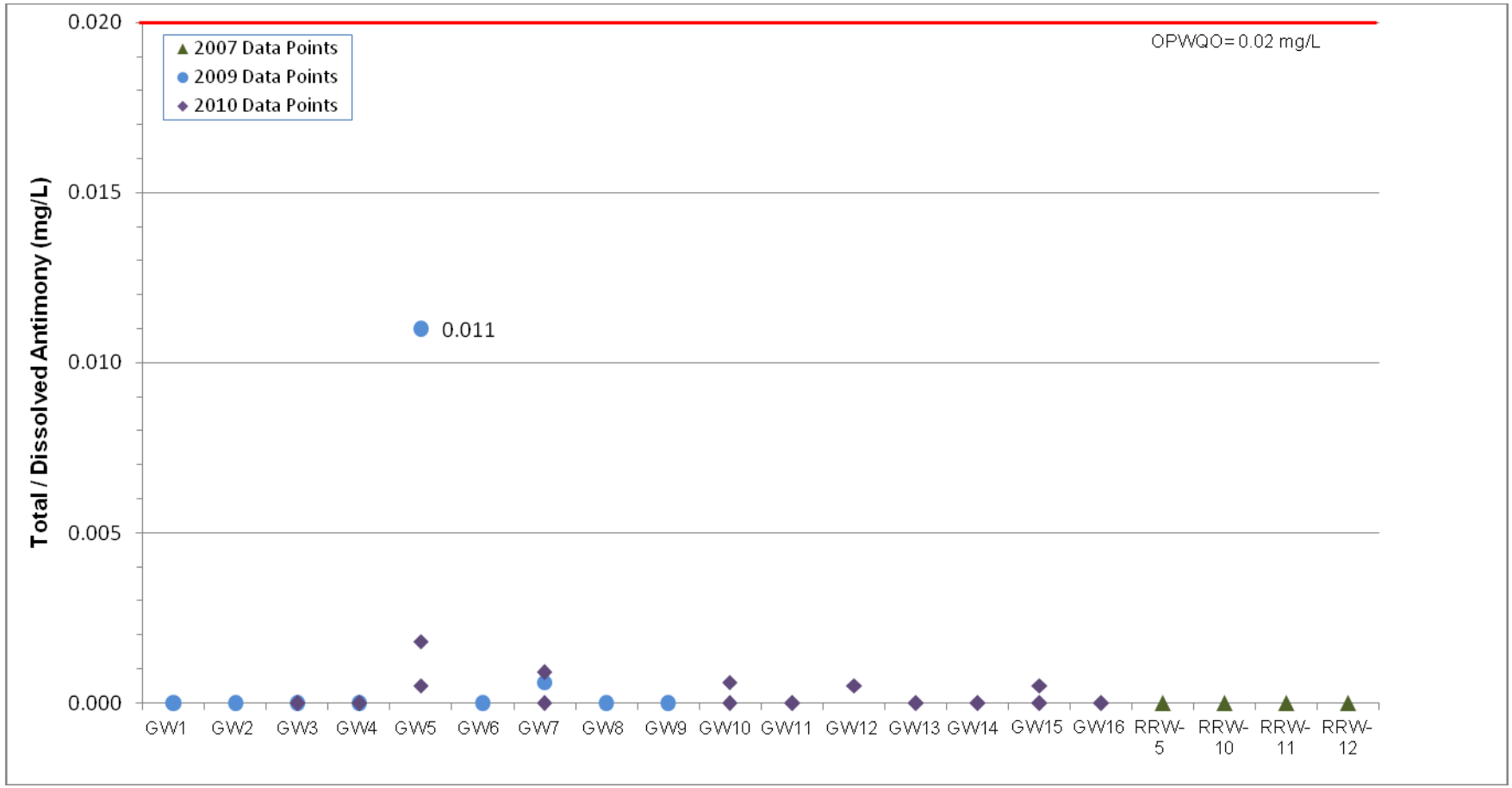


Figure 7.13 Total / Dissolved Antimony in Groundwater Samples

7.3.2.14 Arsenic

Total arsenic values for groundwater samples collected in 2007 and dissolved arsenic values for groundwater samples collected in 2009 and 2010 ranged from below the MDL to 0.017 mg/L (GW6). None of the values were above either the PWQO of 0.1 mg/L or the ODWS of 0.025 mg/L. Total arsenic values are shown in Figure 7.14.

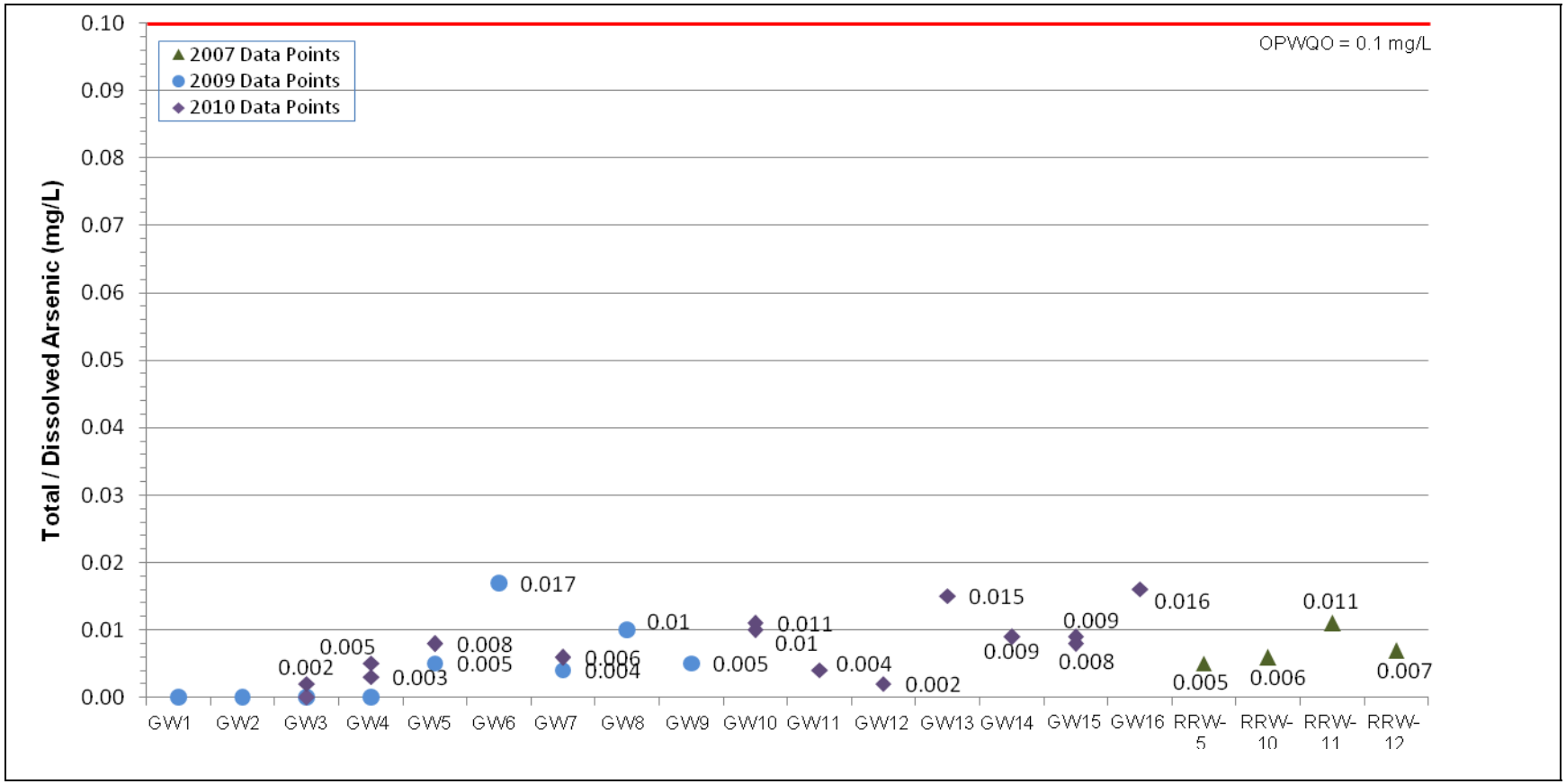


Figure 7.14 Total / Dissolved Arsenic in Groundwater Samples

7.3.2.15 Barium

Total barium data for 2007 and dissolved barium data for 2008 and 2009 samples ranged from below the MDL to 1.1 mg/L (GW1), which is above the ODWS of 1 mg/L. Currently there is no PWQO for barium. Barium in groundwater samples was typically at higher concentrations than in surface water samples.

The total barium values are shown in Figure 7.15.

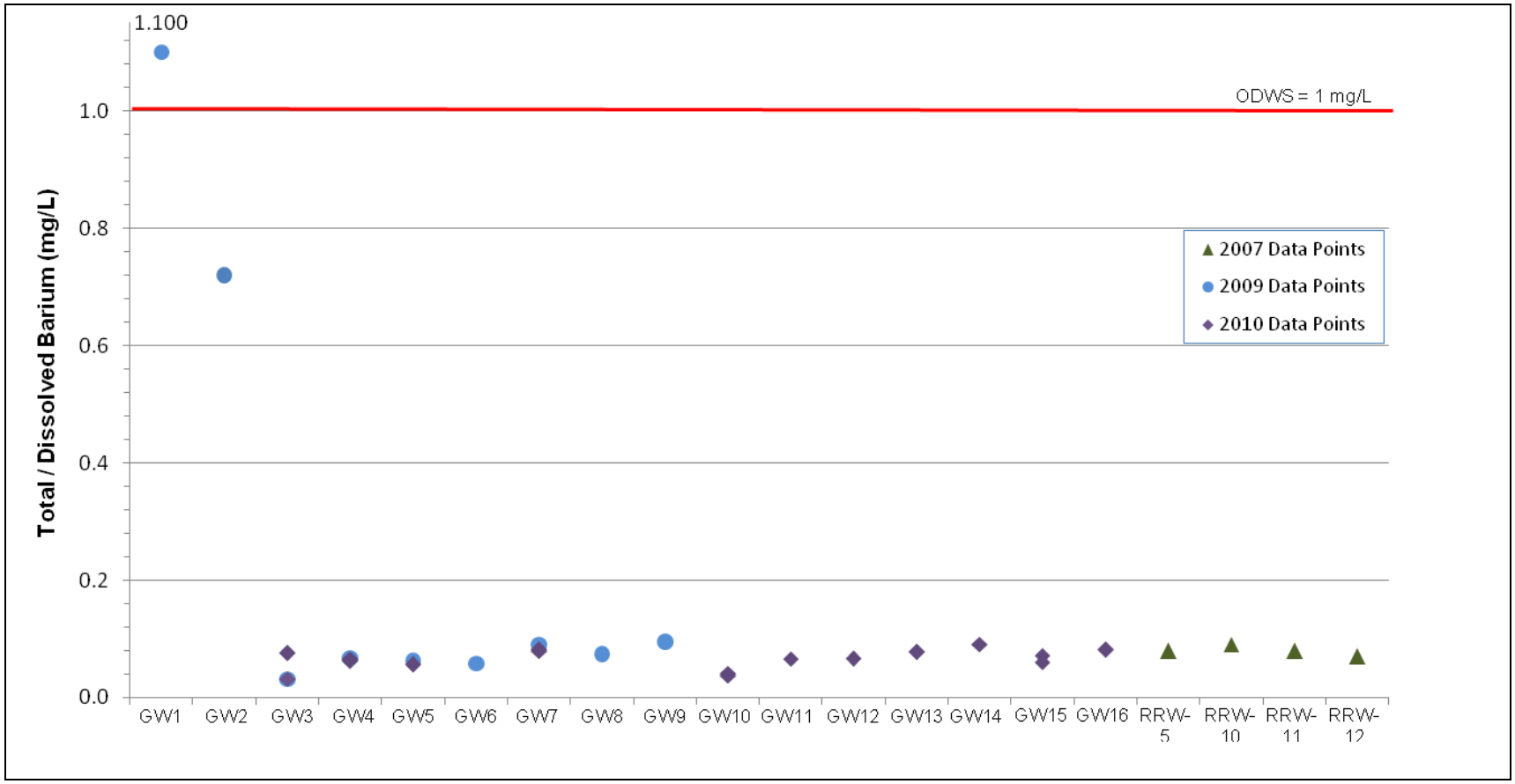


Figure 7.15 Total / Dissolved Barium in Groundwater Samples

7.3.2.16 Cobalt

Cobalt concentrations ranged from below the MDL to 0.0052 mg/L (GW5), with 10 samples exceeding the PWQO for cobalt of 0.0009 mg/L. Total cobalt data for 2007 groundwater samples and dissolved cobalt data for 2009 and 2010 groundwater samples are shown in Figure 7.16.

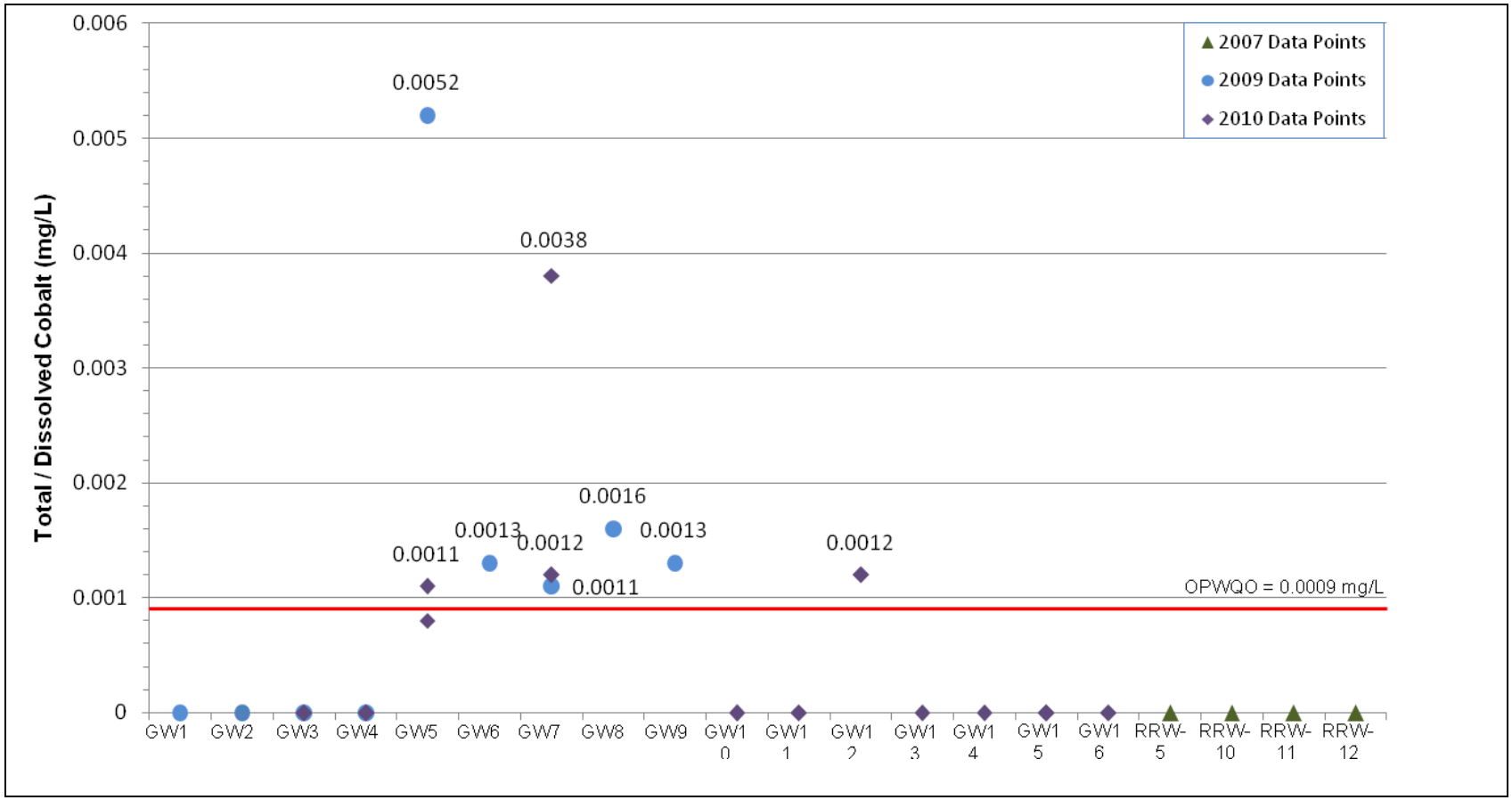


Figure 7.16 Total / Dissolved Cobalt in Groundwater Samples

7.3.2.17 Copper

Four dissolved copper samples were above MDL of which one sample exceeded the PWQO of 0.005 mg/L (0.006 mg/L at GW5). All other samples were below the MDL. The range of observed groundwater sample concentrations is similar to the concentrations measured in surface water samples.

7.3.2.18 Iron

Total iron concentrations ranged from 2.42 mg/L to 8.72 mg/L in the 2007 samples, all of which exceeded PWQO and ODWS criteria for iron of 0.3 mg/L. Dissolved iron concentrations ranged from below the MDL to 7.7 mg/L in the 2009 and 2010 samples. The range of observed groundwater sample concentrations is similar to the concentrations seen in surface water samples.

Total iron data for 2007 groundwater samples and dissolved iron data for 2009 groundwater samples are shown in Figure 7.17.

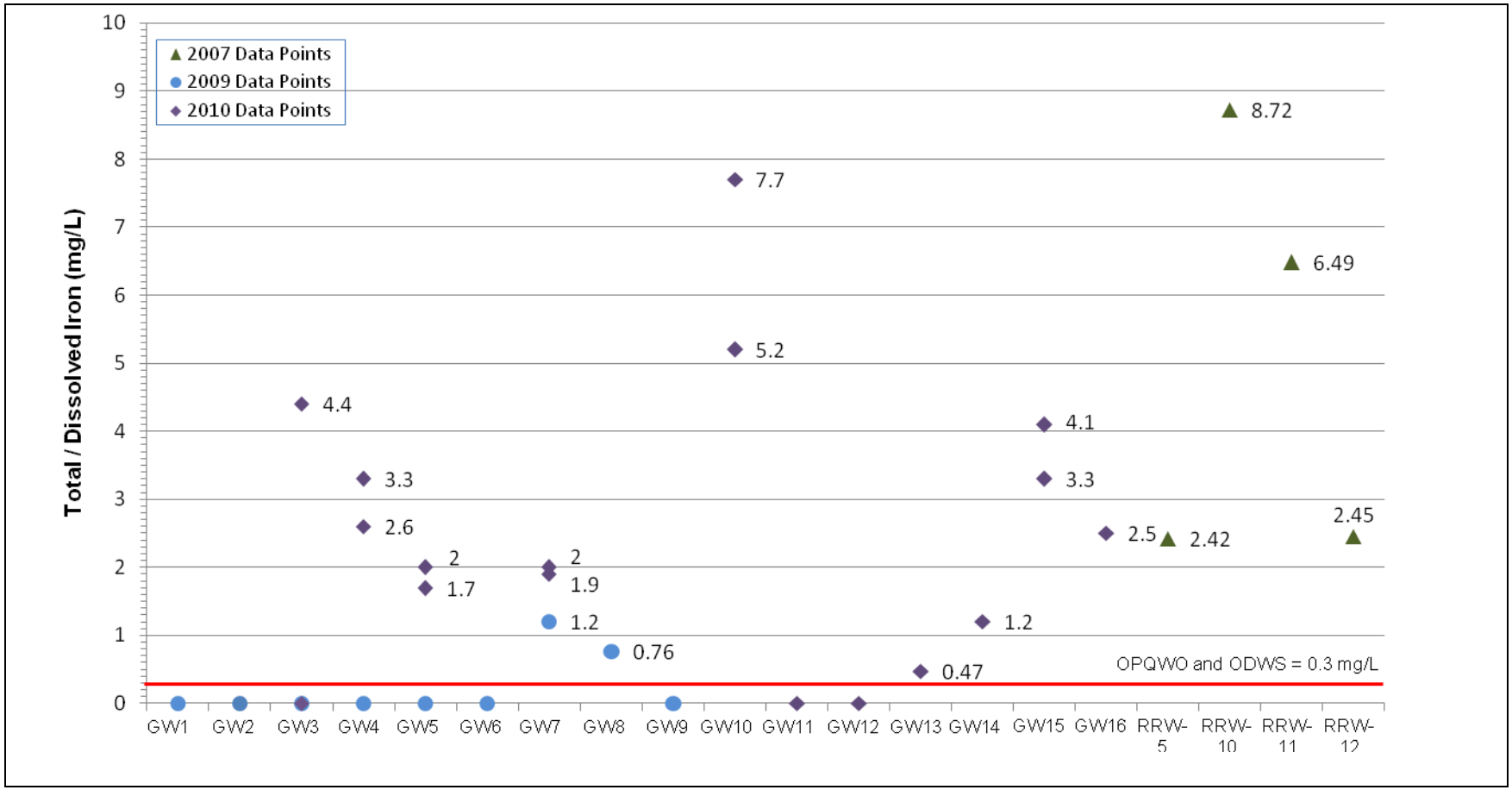


Figure 7.17 Total / Dissolved Iron in Groundwater Samples

7.3.2.19 Magnesium

Magnesium values in groundwater samples ranged between 30 mg/L and 50 mg/L, except for a low of 24 mg/L measured at GW13 and a high of 76 mg/L measured at GW12. There is no PWQO, ODWS, or CDWGQ for magnesium.

Total magnesium values for 2007 groundwater samples, and dissolved magnesium values for 2009 and 2010 groundwater samples, are shown in Figure 7.18.

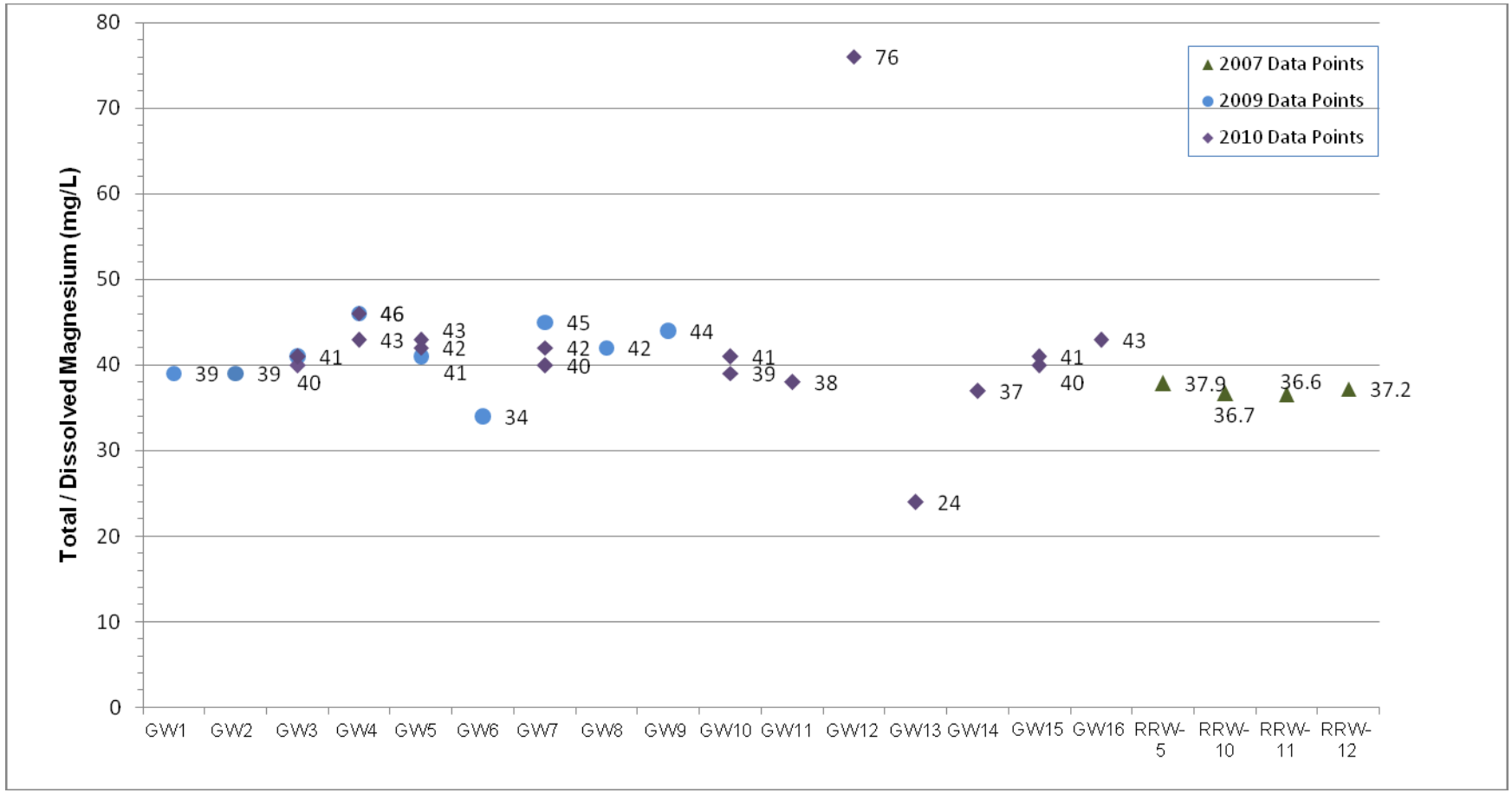


Figure 7.18 Total / Dissolved Magnesium in Groundwater Samples

7.3.2.20 Manganese

Twenty-nine of the 30 groundwater samples exceeded the ODWS of 0.05 mg/L for manganese. The one sample that was below the ODWS was from GW3 (0.023 mg/L). The samples that were above the ODWS value ranged from 0.11 mg/L (GW3) to 0.349 mg/L (RRW-11)

Total manganese data for 2007 groundwater samples and dissolved manganese data for 2009 and 2010 groundwater samples are shown in Figure 7.19.

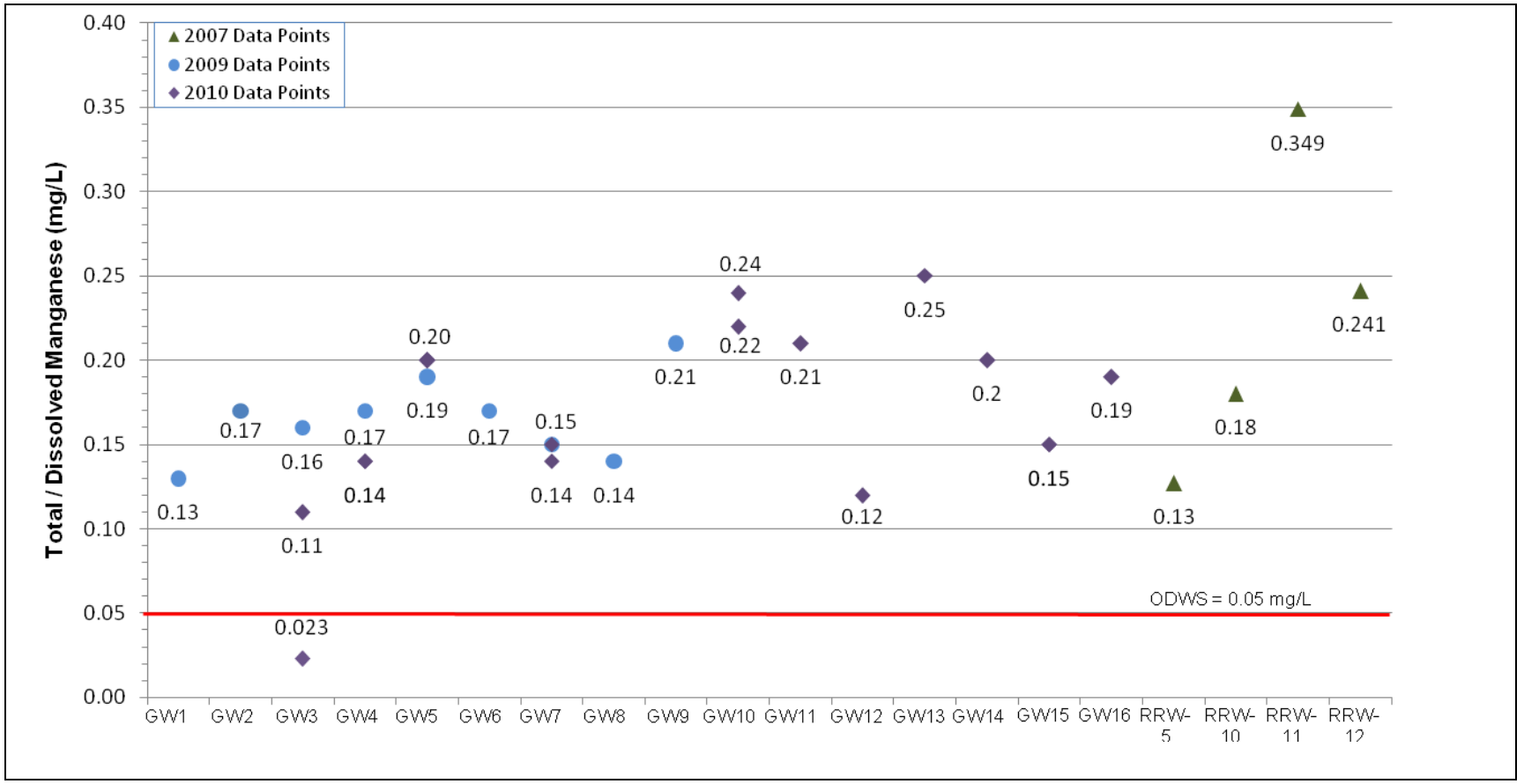


Figure 7.19 Total / Dissolved Manganese in Groundwater Samples

7.3.2.21 Mercury

The only sample with a detectable mercury concentration was GW9, which had a concentration of 0.0002 mg/L. This value meets but, does not exceed, the PWQO for mercury (0.0002 mg/L).

7.3.2.22 Potassium

Potassium concentrations ranged from 2 mg/L to 6.6 mg/L in all samples other than GW4 which had a concentration of 11 mg/L, and GW12 which had a concentration of 21 mg/L. Potassium in groundwater samples was typically at higher concentrations than in surface water samples. There is no PWQO, ODWS or CDWGQ for magnesium.

Total potassium data for 2007 groundwater samples and dissolved potassium data for 2009 groundwater samples are shown in Figure 7.20.

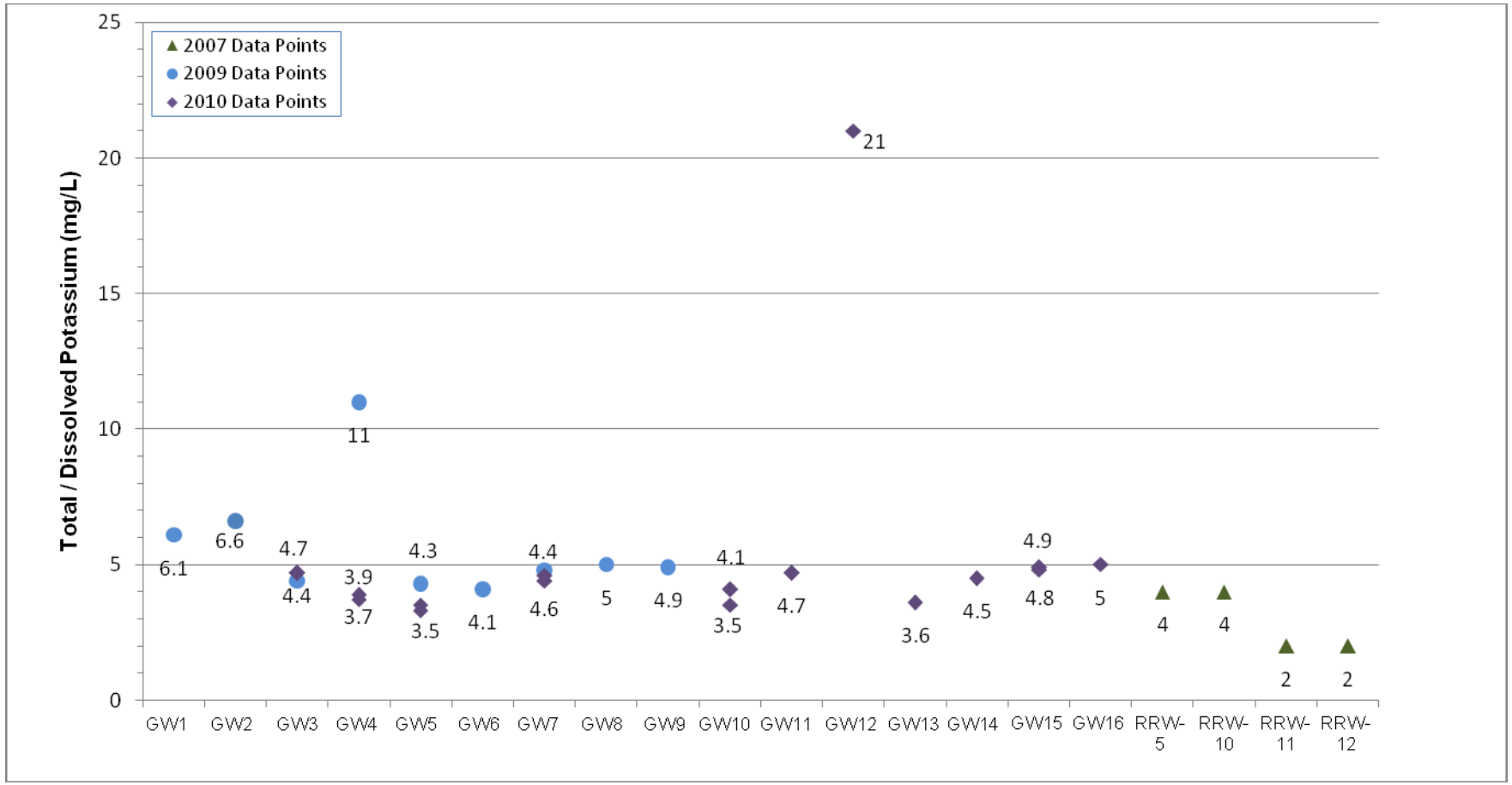


Figure 7.20 Total / Dissolved Potassium in Groundwater Samples

7.3.2.23 Sodium

Dissolved sodium data for 2009 and 2010 groundwater samples are shown in Figure 7.21. Sodium concentrations ranged from 10 mg/L to 56 mg/L in all samples other than GW3, which had a concentration of 100 mg/L and 200 mg/L, the higher value is equal to the ODWS for sodium (200 mg/L). There is no corresponding PWQO for sodium.

Sodium in groundwater samples was at higher concentrations than in surface water samples, and was at higher concentrations in the wells completed in clay than in the wells completed in bedrock and sand/gravel.

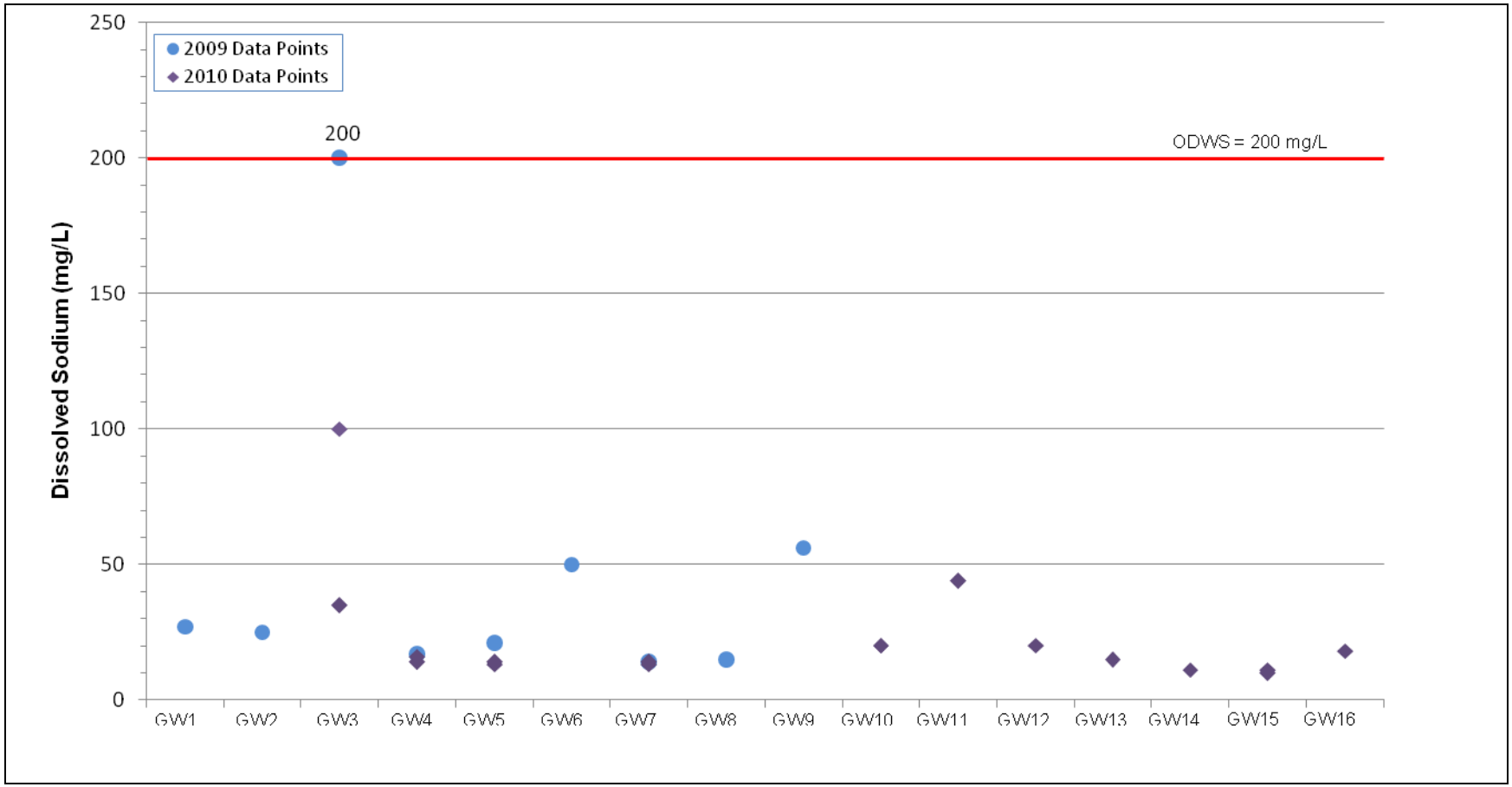


Figure 7.21 Dissolved Sodium in Groundwater Samples

7.3.2.24 Uranium

Four dissolved uranium concentrations exceeded the PWQO of 0.005 mg/L: GW11 (0.0063 mg/L), GW6 (0.014 mg/L), GW9 (0.017 mg/L), and GW12 (0.019 mg/L). All other samples ranged from below the MDL to 0.0032 mg/L.

Detectable uranium concentrations appear to correlate with the wells completed in clay rather than the wells completed in bedrock and sand/gravel.

Total uranium data for 2007 groundwater samples and dissolved uranium data for 2009 and 2010 groundwater samples are shown in Figure 7.22.

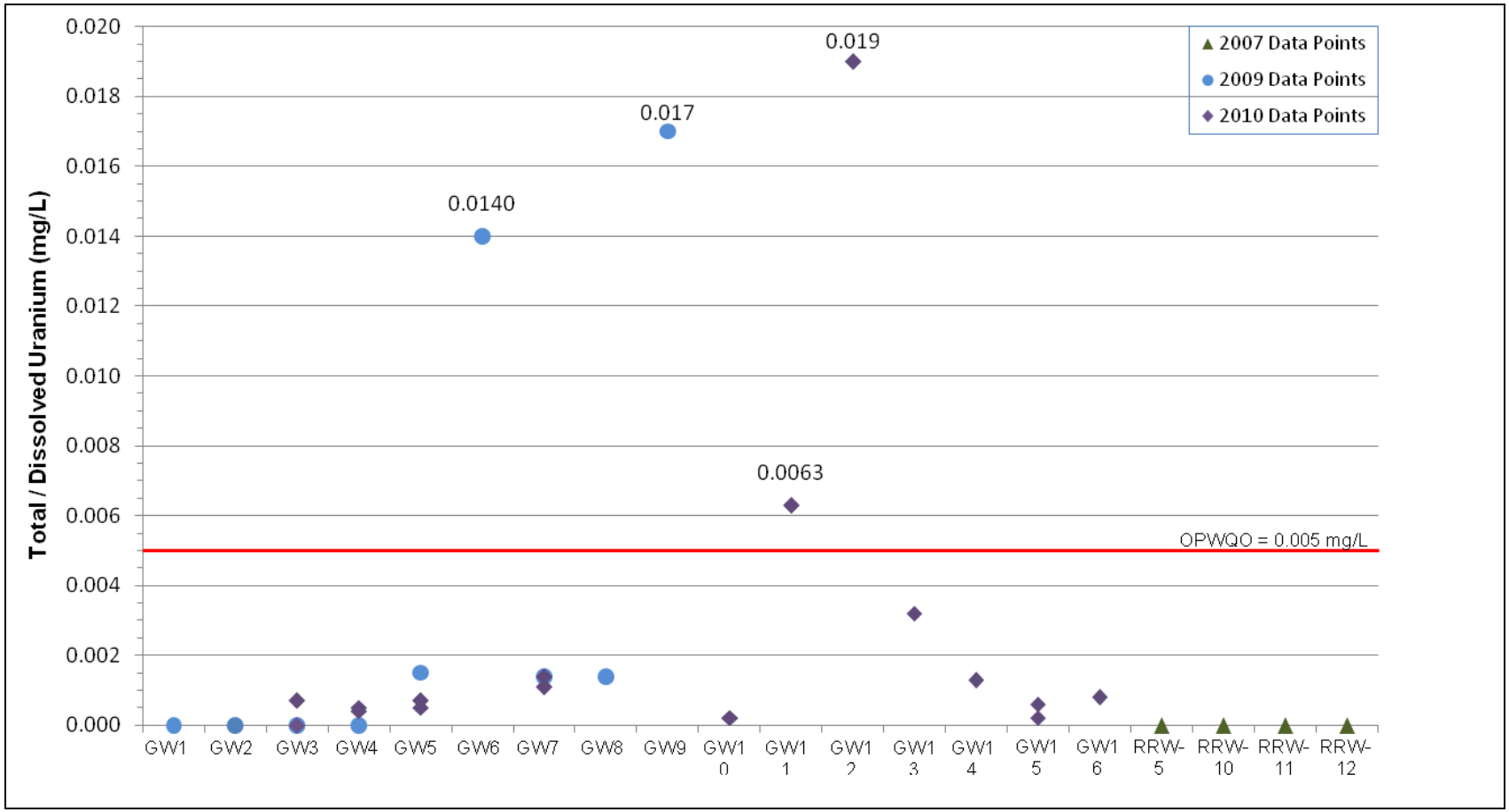


Figure 7.22 Total / Dissolved Uranium in Groundwater Samples

7.3.2.25 Zinc

The majority of samples were below the PWQO of 0.002 mg/L. Values at or above the PWQO were recorded at GW5 (0.002 mg/L and 0.046 mg/L). GW5 samples were from bedrock that in the vicinity of the deposit. Detectable zinc concentrations were observed in an additional six samples, ranging from 0.004 mg/L to 0.017 mg/L. The range of observed zinc concentrations was similar to surface water samples.

Total zinc data for 2007 groundwater samples and dissolved zinc data for 2009 and 2010 groundwater samples are shown in Figure 7.23.

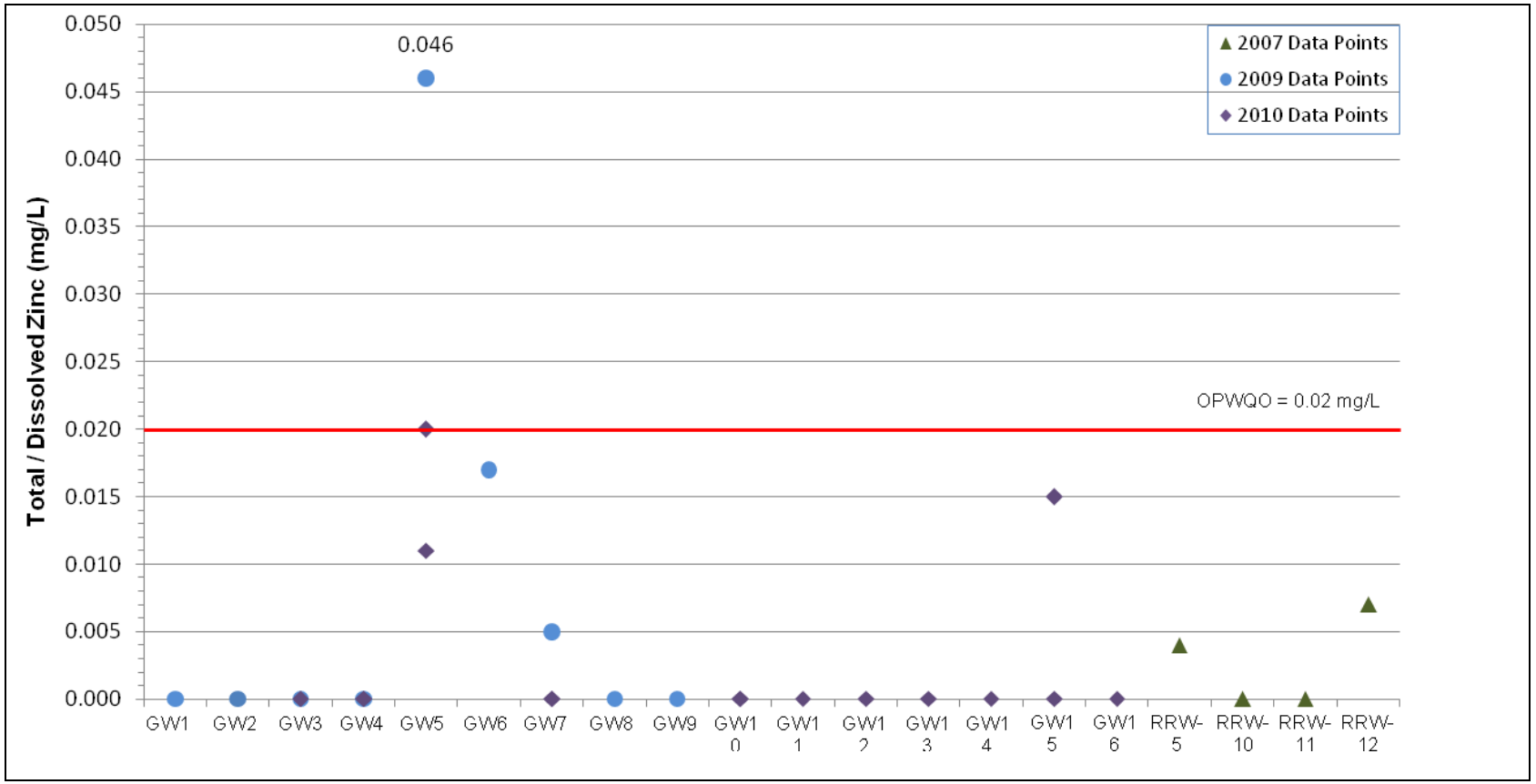


Figure 7.23 Dissolved/Total Zinc in Groundwater Samples

7.3.3 Quality Assurance / Quality Control

The QA/QC protocol for the water sampling program included trip blanks, field duplicates, and laboratory QA/QC procedures as discussed in Section 7.2.6. QA/QC results are generally within the acceptable ranges. All QA/QC documentation is included in Appendix III-3 (Maxxam Lab Data) and Appendix III-2 (RPD Spreadsheet).

The RPD between the blind duplicate (BH10-20) and GW15 was calculated for all values that were greater than 5 times the MDL. RPD values less than 20% are considered acceptable, RPD values between 20% and 50% are considered significant, and RPD values greater than 50% are classified as very significant (BC MOE, 2009).

The results of the calculations show some RPD values all below the 20% threshold, indicating acceptable results, with three exceptions. Turbidity values showed an RPD of 28%, indicating a significant result. As well, aluminum values were below the MDL for one sample but above the MDL for the other. The dissolved aluminum value was below the MDL (0.005 mg/L) for the duplicate sample, but was recorded as 0.3 mg/L for GW15. The total aluminum values were the opposite. The total aluminum value was below the MDL for GW15, but was recorded as 0.14 mg/L for the duplicate sample.

7.4 Summary

7.4.1 Key Findings

The parameters that have exceeded the PWQO or ODWS (where no OPWQO exists) include:

- TDS at GW1, GW2, GW3, GW4 (two of three samples), GW5 (two of three samples), GW6, GW7 (once in three samples), GW8, GW9, GW10 (one of two samples), GW11, GW12, and GW16;
- Turbidity in all samples from all stations except for GW8;

- Dissolved chloride at GW3 (one of three samples);
- Dissolved aluminum at GW15 (one of two samples);
- Dissolved barium at GW1;
- Iron at GW3 (one of three samples), GW4 (two of three samples), GW5 (two of three samples), GW7, GW8, GW10, GW13, GW14, GW15, GW16, RRW-5, RRW-10, RRW-11, and RRW-12;
- Manganese in all samples except for one sample from GW3; and
- Molybdenum at GW3 (one of three samples)

The dominant water type is calcium-magnesium-bicarbonate.

8. SOILS

8.1 Study Objectives

The purpose of the soil baseline study was to establish the soil conditions and land use status of the Local Study Area. Specifically, the objectives are to assess:

- land use status;
- nutrient and chemical content of the soils as they relate to the land uses;
- capability of the soils to support vegetation; and
- the role of soil in the background/baseline chemical interactions on the proposed advanced exploration site, including the influences on surface water and groundwater.

8.2 Background Information

Soil is the primary growth structure for most vegetation in the Great Lakes Forest Regions of Ontario. Soil provides nutrients, trace elements, and moisture for vegetation growth and acts as a sink for metal(loid)s, cations and anions from local anthropogenic or natural influences.

Soil is made up of sequences of material approximately parallel to the land surface referred to as soil horizons. A horizon contains mineral and/or organic soil material that has been altered by the processes of soil formation (i.e. pedogenesis). A soil horizon differs from adjacent horizons based on properties such as texture, structure, colour, consistence, and in chemical, biological or mineral composition (SCWG 1998). Mineral soil horizons by definition must contain less than 17% organic carbon (30% organic matter by weight) otherwise they are classified as organic soil horizons (SCWG 1998).

Soil horizon descriptions are used to distinguish the different soil types. The Canadian System of Soil Classification (SCWG 1998) distinguishes soil in a hierarchical manner. A soil Order is defined by the dominant pedogenic process (e.g. Gleysol), a Great Group further distinguishes the soil Order by the addition of a major contributing process (e.g. Luvic Gleysol), and a Subgroup will differentiate the Great Group by the type and arrangement of soil horizons (e.g. Orthic Luvic Gleysol).

The purpose of soil classification is to organize the knowledge of soils so that it can be recalled systematically and communicated. Soil classification provides information so that relationships can be seen among soil types, soil properties and environmental factors, and among soil properties and suitability of soils for various uses (SCWG 1998). Soil classification is required to meet the practical needs related to land use and soil management.

Two levels of soil classification are discussed in the soil baseline. The regional scale soil classification (referred to as regional soils) as determined by the mapping conducted by the Ontario Institute of Pedology (OIP, 1984) and local scale soil classification (referred to as local soils) as determined during the August 2009 and May 2010 field sampling conducted by KCB. The regional soil units defined by the OIP have area specific Soil Name that describes a Great Group based on other regional characteristics. The local scale soil classification discusses the Great Group and Subgroup (where classified).

In determining soil horizon, and thus soil classifications in the field, a pedon (test pit) is excavated, either by hand or by machinery. The depth of each soil horizon and the recorded observations are used to assess the soil Great Group and Subgroup if possible. Field observations used to determine the soil horizon are generally colour (using the Munsell Chart) and texture.

8.3 Methodology

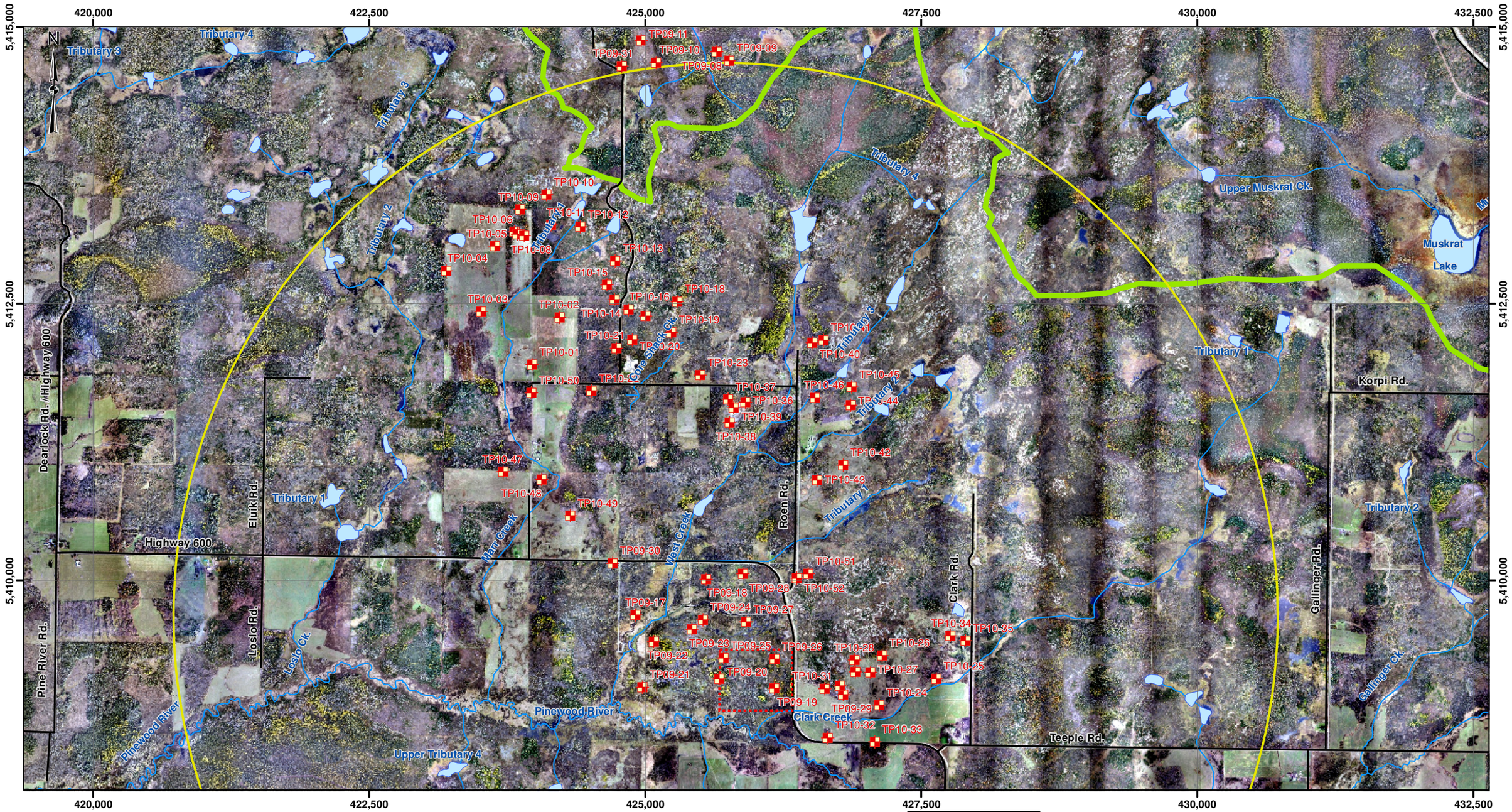
The soil baseline study included a desktop study of the regional soils and a field investigation and sampling program to determine the local variability of the soils and the chemical and nutrient baseline of the soils. The soil baseline presents existing soil conditions and is focused on the area around the proposed advanced exploration site as well as the larger Local Study Area (Figure 8.1).

8.3.1 Sample Selection

The objectives of the soil baseline were met using both field and desktop assessments in 2009 and 2010. The soil baseline study was generally focused in the Local Study Area (Figure 8.1) however the 2009 field investigation also included two areas outside the Local Study Area which have now been excluded from further study. The methodology, results and key findings for those two areas are included in Appendix V-1 and have been excluded from this summary.

Detailed focus was placed on an area within the Local Study Area where the diamond drill exploration program was focused (proposed advanced exploration site).

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Test Pit Locations

Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

0 2,000 m

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

SOIL BASELINE STUDY AREA

PROJECT No. M09559A04

FIG No. 8.1

A desktop review of the regional soils was initially conducted for incorporation into the Preliminary Socio-Environmental Baseline (KCBL, 2009). This information was used to determine the sampling and analysis plan for the 2009 and 2010 field soil baseline study. Two field visits for the soil baseline took place, one in August 2009 and one in May 2010. The May 2010 soil field program included the excavation of test pits to assess the presence of clay at the edges of bedrock outcrops. During the field visits, soil pedons were excavated over the defined soil baseline Local Study Area and local soils were identified and sampled.

During the sample selection process all pedons were logged according to the *Field Manual for Describing Soils in Ontario* (Denholm and Shut 1993). Categories of observation included soil structure, texture, and colour. Soil test pit logs with photographs can be found in Appendix V-1. As part of the visual baseline, current land uses in the Local Study Area were observed and recorded. The land use classification is based on the Canada Land Inventory Agricultural Capability Classification (Table 8.1).

Care was taken to log and identify the soils to confirm the identification of the soil inventory (conducted by the Ontario Institute of Pedology). A sample set of surface organic and mineral soil horizons were tested.

Ninety-five samples were taken during the field visits from fifty test pits, two of which were field duplicates but given a unique identifier. All samples were subject to carbon, nutrient, and total metal analysis. A full sample list, test pit location, and testing completed is presented in Table 8.2. A summary of horizon descriptions is provided in Table 8.3. Sample selection was distributed evenly over the northern half of the Local Study Area to provide a good spatial indication of metal content (Figure 8.1).

Table 8.1 Canada Land Inventory Agricultural Capability Classification

CLASSIFICATION	DESCRIPTION
1	Soils in this class have no significant limitations in use for crops. The soils are deep, are well to imperfectly drained, hold moisture well, and in the virgin state were well supplied with plant nutrients. They can be managed and cropped without difficulty. Under good management they are moderately high to high in productivity for a wide range of field crops.
2	Soils in this class have moderate limitations that restrict the range of crops or require moderate conservation practices. The soils are deep and hold moisture will. The limitations are moderate and the soils can be managed and cropped with little difficulty. Under good management they are moderately high to high in productivity for a fairly wide range of crops.
3	Soils in this class have moderately severe limitations that restrict the range of crops or require special conservation practices. The limitations are more severe than for class 2 soils. They affect one or more of the following practices: timing and ease of tillage, planting and harvesting, choice of crops, and methods of conservation. Under good management they are fair to moderately high in productivity for a fair range of crops.
4	Soils in this class have severe limitations that restrict the range of crops or require special conservation practices, or both. The limitations seriously affect one or more of the following practices: timing and ease of tillage, planting and harvesting, choice of crops, and methods of conservation. The soils are low to fair in productivity for a fair range of crops but may have high productivity for a specially adapted crop.
5	Soils in this class have very severe limitations that restrict their capability to producing perennial forage crops, and improvement practices are feasible. The limitations are so severe that soils are not capable of use for sustained production of annual field crops. The soils are capable of producing native or tame species of perennial forage plants, and may be improved by use of farm machinery. The improvement practices may include clearing of bush, cultivation, seeding, fertilizing, or water control.
6	Soils in this class are capable only of producing perennial forage crops, and improvement practices are not feasible. The soils provide some sustained grazing for farm animals, but the limitations are so severe that improvement by use of farm machinery is impractical terrain may be unsuitable for use of farm machinery, or the soils may not respond to improvement, or the grazing season may be very short.
7	Soils in this class have no capability for arable culture or permanent pasture. This class also includes rockland, other non-soil areas, and bodies of water too small to show on the maps.
0	Organic soils (not placed in capability classes).

Source: The Canada Land Inventory (CLI), Agriculture and Agri-Food Canada: http://sis.agr.gc.ca/cansis/nsdb/cli/class.html#class1

Table 8.2 Soil Samples, Location, and Analyses Conducted

LOCATION	SAMPLE NUMBER	HORIZON*	NUTRIENTS	TEXTURE	ABA	CARBON ANALYSES	TOTAL METALS (SOLID PHASE)	SFE
Advanced Ex Area	TP09-17-32	Cg	X	X	X	X	X	X
Advanced Ex Area	TP09-17-33	Bg	X	X	X	X	X	X
Advanced Ex Area	TP09-17-34	Ah	X	X	X	X	X	
Advanced Ex Area	TP09-18-35	Bk	X	X	X	X	X	X
Advanced Ex Area	TP09-18-36	Bt	X	X	X	X	X	
Advanced Ex Area	TP09-19-37	B2	X	X	X	X	X	
Advanced Ex Area	TP09-19-38	B1	X	X	X	X	X	
Advanced Ex Area	TP09-20-39	Bg	X	X	X	X	X	X
Advanced Ex Area	TP09-20-40	Ah	X	X	X	X	X	
Advanced Ex Area	TP09-21-41	AB	X	X	X	X	X	
Advanced Ex Area	TP09-21-42	Bg	X	X	X	X	X	X
Advanced Ex Area	TP09-22-43	Ah	X	X	X	X	X	
Advanced Ex Area	TP09-22-44	Bg	X	X	X	X	X	
Advanced Ex Area	TP09-23-45	Bt	X	X	X	X	X	
Advanced Ex Area	TP09-23-46	Ae	X	X	X	X	X	X
Advanced Ex Area	TP09-24-47	Bg1	X	X	X	X	X	
Advanced Ex Area	TP09-24-48	LFH	X	X		X	X	
Advanced Ex Area	TP09-25-49	BC	X	X	X	X	X	
Advanced Ex Area	TP09-25-50	Bt	X	X	X	X	X	X
Advanced Ex Area	TP09-26-51	Bg	X	X	X	X	X	
Advanced Ex Area	TP09-26-52	AB	X	X	X	X	X	

Table 8.2 Soil Samples, Location, and Analyses Conducted (Cont'd)

LOCATION	SAMPLE NUMBER	HORIZON*	NUTRIENTS	TEXTURE	ABA	CARBON ANALYSES	TOTAL METALS (SOLID PHASE)	SFE
Advanced Ex Area	TP09-27-53	Bg2	X	X	X	X	X	X
Advanced Ex Area	TP09-27-54	Bg1	X	X	X	X	X	
Local Study Area	TP10-1-5	Ap	X	X	X	X	X	X
Local Study Area	TP10-1-53	Ck	X	X	X	X	X	X
Local Study Area	TP10-2-65	Ck	X	X	X	X	X	X
Local Study Area	TP10-2-90	Ck	X	X	X	X	X	X
Local Study Area	TP10-3-25	Om	X	X	X	X	X	X
Local Study Area	TP10-3-58	B	X	X	X	X	X	X
Local Study Area	TP10-3-83	C	X	X	X	X	X	X
Local Study Area	TP10-4-50	AB	X	X	X	X	X	X
Local Study Area	TP10-4-70	Bg	X	X	X	X	X	X
Local Study Area	TP10-5-65	BC	X	X	X	X	X	X
Local Study Area	TP10-5-125	C	X	X	X	X	X	X
Local Study Area	TP10-8-50	LT			X	X	X	X
Local Study Area	TP10-8-135	LT			X	X	X	X
Local Study Area	TP10-10-200-T	LT	X	X	X	X	X	X
Local Study Area	TP10-11-45	Bf	X	X	X	X	X	X
Local Study Area	TP10-13-130	LT			X	X	X	X
Local Study Area	TP10-14-40	Bf	X	X	X	X	X	X
Local Study Area	TP10-14-90	Cg	X	X	X	X	X	X
Local Study Area	TP10-20-20	AB	X	X	X	X	X	X

Table 8.2 Soil Samples, Location, and Analyses Conducted (Cont'd)

LOCATION	SAMPLE NUMBER	HORIZON*	NUTRIENTS	TEXTURE	ABA	CARBON ANALYSES	TOTAL METALS (SOLID PHASE)	SFE
Local Study Area	TP10-20-75	Ck	X	X	X	X	X	X
Local Study Area	TP10-22-5	Ah	X	X	X	X	X	X
Local Study Area	TP10-22-60	Bf	X	X	X	X	X	X
Local Study Area	TP10-22-95	Ck	X	X	X	X	X	X
Local Study Area	TP10-23-65	Bfg	X	X	X	X	X	X
Local Study Area	TP10-23-95	Ck	X	X	X	X	X	X
Local Study Area	TP10-24-30	AB	X	X	X	X	X	X
Local Study Area	TP10-24-50	Bfg	X	X	X	X	X	X
Local Study Area	TP10-25-35	Bg	X	X	X	X	X	X
Local Study Area	TP10-26-10	Ah	X	X	X	X	X	X
Local Study Area	TP10-26-50	Bk	X	X	X	X	X	X
Local Study Area	TP10-30-30	Bf	X	X	X	X	X	X
Local Study Area	TP10-30-80	Ck	X	X	X	X	X	X
Local Study Area	TP10-31-140	LT			X	X	X	X
Local Study Area	TP10-32-5	Ap	X	X	X	X	X	X
Local Study Area	TP10-32-20	B	X	X	X	X	X	X
Local Study Area	TP10-33-10	Ap	X	X	X	X	X	X
Local Study Area	TP10-33-30	Bf	X	X	X	X	X	X
Local Study Area	TP10-34-30	AB	X	X	X	X	X	X
Local Study Area	TP10-34-60	Bg	X	X	X	X	X	X
Local Study Area	TP10-35-100	LT			X	X	X	X

Table 8.2 Soil Samples, Location, and Analyses Conducted (Cont'd)

LOCATION	SAMPLE NUMBER	HORIZON*	NUTRIENTS	TEXTURE	ABA	CARBON ANALYSES	TOTAL METALS (SOLID PHASE)	SFE
Local Study Area	TP10-36-30	Bf	X	X	X	X	X	X
Local Study Area	TP10-36-80	Ck	X	X	X	X	X	X
Local Study Area	TP10-38	LT			X	X	X	X
Local Study Area	TP10-39	LT			X	X	X	X
Local Study Area	TP10-40-10	Ah	X	X	X	X	X	X
Local Study Area	TP10-40-40	Bmf	X	X	X	X	X	X
Local Study Area	TP10-42-10	Ae	X	X	X	X	X	X
Local Study Area	TP10-42-30	Bmgj	X	X	X	X	X	X
Local Study Area	TP10-45-30	Bmgj	X	X	X	X	X	X
Local Study Area	TP10-45-80	Cg	X	X	X	X	X	X
Local Study Area	TP10-46-30	Bmgj	X	X	X	X	X	X
Local Study Area	TP10-46-80	Ck	X	X	X	X	X	X
Local Study Area	TP10-47-20	Om	X	X	X	X	X	X
Local Study Area	TP10-47-60	Ckg	X	X	X	X	X	X
Local Study Area	TP10-48-25	B	X	X	X	X	X	X
Local Study Area	TP10-48-50	Om	X	X	X	X	X	X
Local Study Area	TP10-49-15	Ae	X	X	X	X	X	X
Local Study Area	TP10-49-45	Bmgj	X	X	X	X	X	X
Local Study Area	TP10-50-10	Ah	X	X	X	X	X	X
Local Study Area	TP10-50-80	Ck	X	X	X	X	X	X
Local Study Area	TP10-51-40	Bm	X	X	X	X	X	X

Table 8.2 Soil Samples, Location, and Analyses Conducted (Cont'd)

LOCATION	SAMPLE NUMBER	HORIZON*	NUTRIENTS	TEXTURE	ABA	CARBON ANALYSES	TOTAL METALS (SOLID PHASE)	SFE
Local Study Area	TP10-51-80	Cg	X	X	X	X	X	X
Local Study Area	TP10-52-10	Ah	X	X	X	X	X	X
Local Study Area	TP10-52-90	Cg	X	X	X	X	X	X

*LT refers to a suspected horizon of parent material from the Labradorean Till unit.

Table 8.3 Soil Horizon Descriptions

Horizon Abbreviation	Description
LFH	Organic materials that occur from the accumulation of leaves, twigs and woody materials and which overlies a mineral soil; commonly found in well to imperfectly drained forest environments.
Ah	The topmost mineral horizon (A) characterized by an accumulation of soil organic material (h).
Ae	The topmost mineral horizon (A) characterized by an elluviation (or loss) of iron, clay, soil organic matter, or aluminum (e).
Ap	The topmost mineral horizon (A) characterized by a mixed plough layer (p).
B horizon	Horizon formed by accumulation of material removed from Ae horizon or by alteration of the parent material
Bf	Accumulation of iron and/or aluminum
Bg	Presence of gley colours or mottling from water saturation
Bt	Accumulation of clay
Bm	Slight colour or structural changes from the parent material
Bk/Ck	Presence of Ca and Mg carbonates
BC	Transition between the B and C horizons
C Horizon	Horizon with little evidence of pedogenic activity
Cg	Presence of gley colours or mottling from water saturation
The j modifier	Denotes the characteristics of but failure to meet, the specified limits of the suffix it modifies
O horizon	An organic horizon developed mainly from bog vegetation; it is more commonly called peat. These materials are usually water saturated.
Om	Organic materials in an intermediate (or mesic) stage of decomposition; some have a recognizable form, but the remainder is highly decomposed

Source: SCWG 1998.

Samples for nutrient testing were sent to Maxxam Analytics in Winnipeg and analyzed for nitrogen, phosphorous, potassium, sulphur, conductivity, pH, texture, cation exchange capacity, exchangeable calcium, exchangeable magnesium and exchangeable sodium. Samples for metals testing were sent to SGS Canadian Inc (formerly SGS CEMI) in BC for acid base accounting (ABA), total metals analysis (ICP-MS analysis of *aqua regia* digest) and a shake flask extraction (3:1 water to soil ratio). This information provides an indication of the metals present on site and the potential, if any, for these metals to leach.

8.4 Results

8.4.1 Observations

8.4.1.1 Soil Type

The regional soils were categorized based on observations made during the site visit in November 2008 and mapping available from the Ontario Institute of Pedology (OIP) (1984) for the Rainy River area. The soils are predominantly poorly drained Luvisols, Humisols, Gleysols, and Brunisols. These soils are generally stunted in their development due to limitations in the soil forming processes due to climate, vegetation, drainage, and topography.

The three major soil classifications (based on the OIP mapping) found in the Regional Study Area are:

- *Gray Luvisols*: characterized by an illuviated Bt horizon that has an accumulation of silica-clay. The typical gray luvisol in the Rainy River area has clay, clay loam, sand loam, or silt loam texture. They are imperfectly drained and have a moderate agricultural capability.

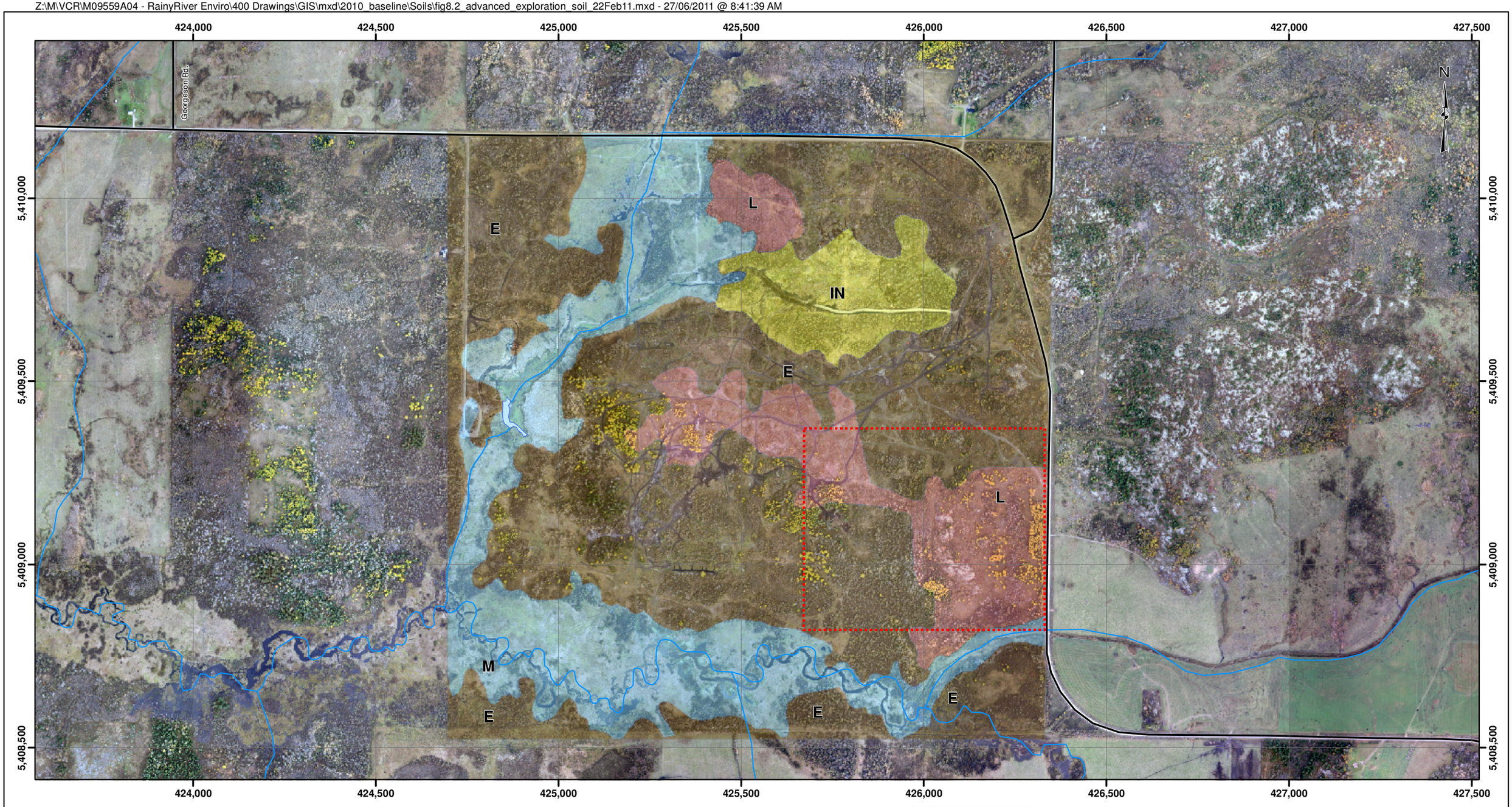
- *Gleysols*: characterized by their saturated nature and reducing conditions that occur either continuously or seasonally. Gleysols can be identified by hue and mottling in the lower horizons (an indication of reducing conditions) associated with saturation. The Glesyols of the Rainy River area are poorly drained and are silt loam to medium coarse in texture. They are underlain by outwash that is calcareous and lacustrine in origin.

- 3. *Organic Soils* (e.g. Humisols): classified based on the middle tier of organic material being humic in nature (<10% rubbed fibers). The organic soils in the RR district are well developed humisols with some groups of mesisols. Only minor areas of humisols are known to occur in Canada. The organic soils are poorly drained, generally greater than 1.6 m in depth, and composed of organic material from grasses, sedges, reeds, moss, and wood.

The results of the soil baseline field program indicate that there are slight difference between the regional soil classification and the local classification; however the soil types are in general agreement. The slight variation is often related to micro-scale changes in ground elevation. This difference is related to the scale of the soil investigation. A finer scale between sampling points has been used in this study compared to the sampling scale of the OIP regional mapping.

The proposed advanced exploration site is characterized regionally by the Emo Gleysol and the Innes Lake Humisol. Both soils were determined to be present locally, however the poor drainage and variable elevation allow for more local variation in soil type. An area of marshland was identified in the local survey and is evident in the topography surrounding the Pinewood River and beaver pond in the area north-west of the proposed advanced exploration site. Figure 8.2 presents the regional soil classification with modifications based on local observations.

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Advanced Exploration Project Facility Boundary

E - Emo Group/Luvisol

IN - Innes Lake Humisol

L - Luvisol

M - Marsh

Notes:
1. UTM Zone 15N, WGS84

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0 500 m

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RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

ADVANCED EXPLORATION
SITE SOIL TYPES

PROJECT No. M09559A04

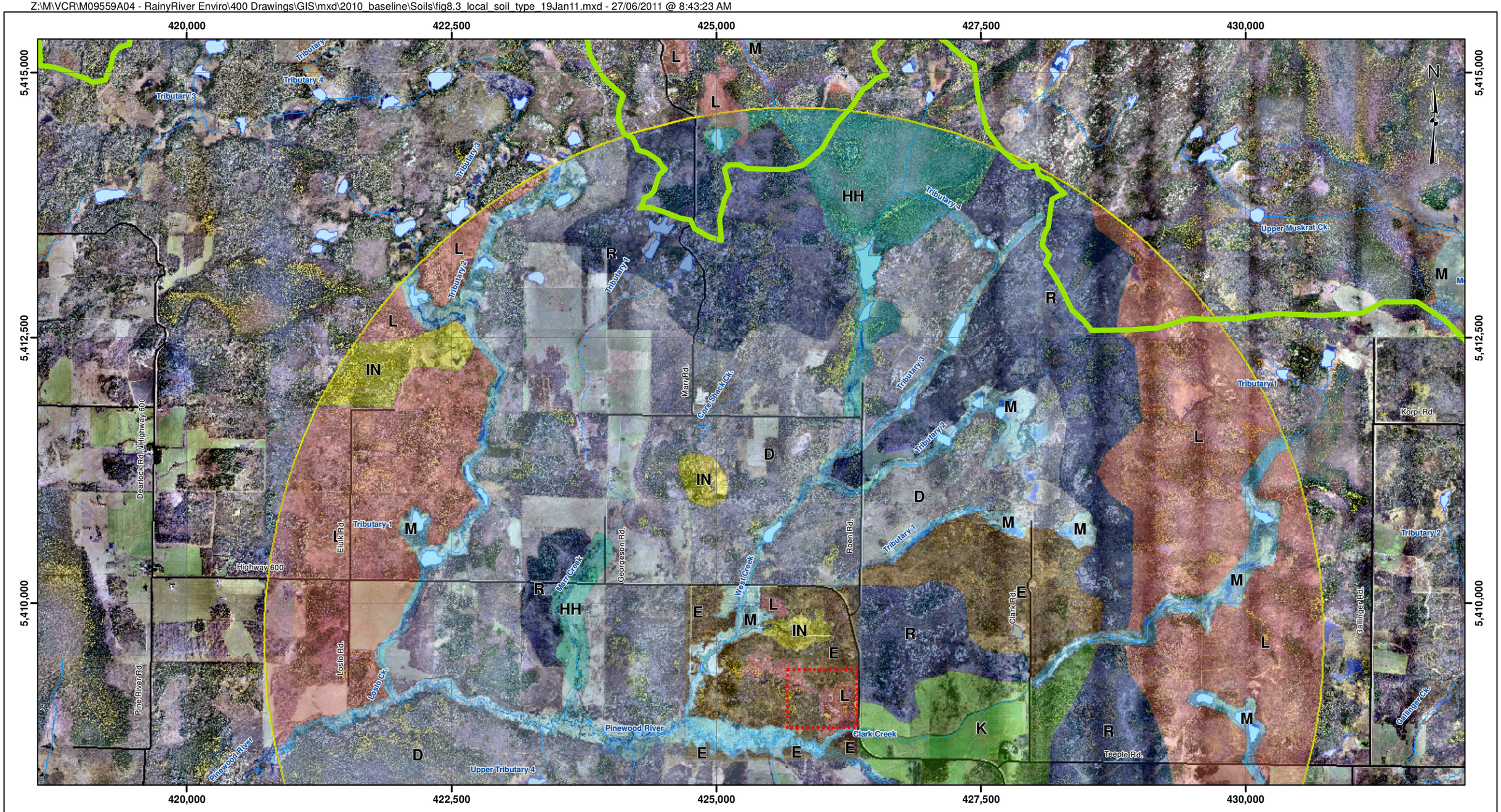
FIG No. 8.2

The Local Study Area regional soils are dominated by the Dance Humo-Ferric Podzol, the Devlin Grey Luvisol, and what is classified by the OIP as Rockland soils. The Rockland soils are shallow poorly developed soils intermixed with bedrock outcropping. These were locally present as shown in Figure 8.3.

The Dance and Devlin regional soils have local soil classifications of melanic brunisols and gleyed luvisols respectively. Both of these soils types are moderately productive, depending on drainage. These areas are generally used for grazing.

Again, marshland areas are present in the Local Study Area as in the proposed advanced exploration site area; marshland areas are generally found adjacent to organically classified soils such as the Harris Hill Humisol and the Innes Lake Humisol. The regional Kingsford Humo-ferric podzol is present in small quantities and is one of the more productive soil types with a 3F agricultural land use classification. Locally this soil presents with shallower horizons and a Brunisolic classification.

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Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

D - Dance/Devlin Podzol/Luvisol

E - Emo Group/Luvisol

HH - Harris Hill Humisol

IN - Innes Lake Humisol

K - Kingsford Podzol/Brunisol

L - Luvisol

M - Marsh

R - Rockland

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

NOT FOR CONSTRUCTION

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0 2,000 m

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

LOCAL STUDY AREA SOIL TYPES

PROJECT No. M09559A04

FIG No. 8.3

8.4.1.2 Drainage

Drainage in the Local Study Area is generally poor to moderate and varies with the topography. Drainage is generally poorest in low lying areas and areas of finer (e.g. clayey) soil textures. The poor drainage is evident by local accumulations of water on the soil surface (Photo 8.1), and the consistent presence of water in the soil pedons. Drainage is one of the key factors in determining local land use capabilities.



Photo 8.1 Water Ponded on Surface of Road Allowance

8.4.1.3 Land Use Classification

Current land use in the area of the proposed advanced exploration site is mining exploration. The area is covered in surficial soils with two evident outcrops. The soils in the Emo group are classified with a 3W limitation in agricultural capability (due to excess water (W)) which was confirmed in the local survey. More capable land use areas are

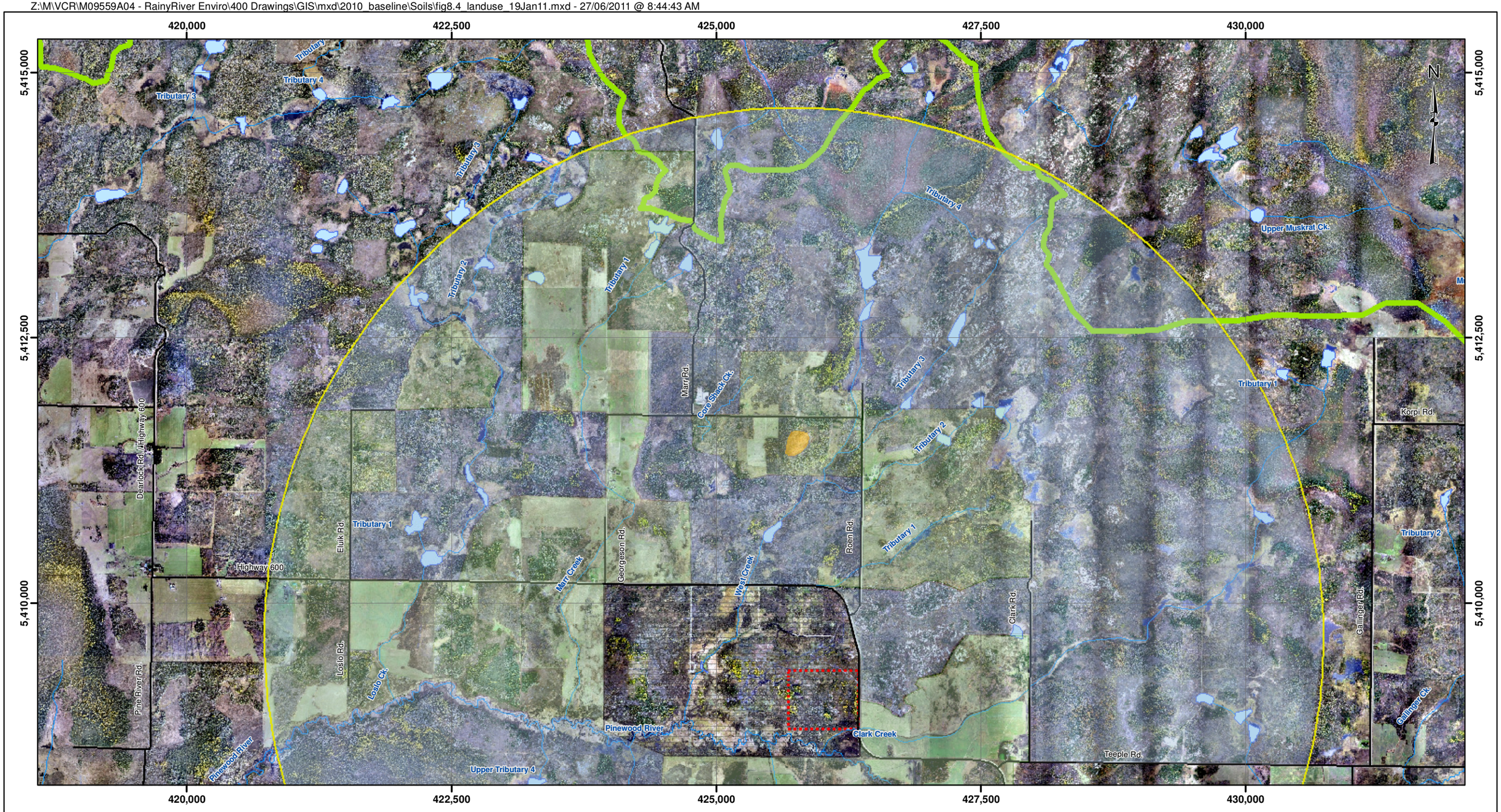
found in higher elevations which may be classified as 2C (moderate limitations due to climate (C)), however the massive structure of the underlying clay material decrease this capability to 3 (moderately severe limitations).

The remainder of the Local Study Area is a mixture of agricultural land used for forage crops and grazing by cattle, regions of minor forestry development, and recreational land use (Figure 8.4). Land use capabilities of the soil types in the Local Study Area range from 4F (low fertility (F)) to 7R (bedrock limitations (R)) in the Rockland soils with the exception of the Kingford soil which has a 2F classification. A small borrow pit is present on the property adjacent to the proposed advanced exploration site, and is used by the land owners (the Teeples') (Photo 8.2). A Ministry of Transportation Ontario (MTO) aggregate borrow pit is also present off Roen road to the south east of the core shack.



Photo 8.2 Local Landowner Borrow Area

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Advanced Exploration Project Facility Boundary

Local Study Area

Pinewood River Watershed

Aggregate Borrow Pit

Agricultural (non-productive)

Agricultural (productive)

Mining Exploration

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 2,000 m

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2008 - 2010 BASELINE

TITLE

LOCAL STUDY AREA LAND USE

PROJECT No. M09559A04

FIG No. 8.4

8.4.2 Soil Nutrient Baseline

The purpose of the soil nutrient baseline was to determine the productivity level of current surface soils. The current agricultural capability in the productive soils of the Local Study Area ranges from 2F to 3W (moderate to severe limitations due to excess water (W), management required) to class 5 (very severe limitations but improvement practices are feasible) (see Table 8.1). The F classification is related to soil fertility which is dependent on soil nutrients and organic matter.

The agricultural and forest growth capability of the soil is governed by several key components; soil organic matter, cation exchange capacity (CEC) and exchangeable cations, texture, and soil macro nutrient content. Results of the baseline analysis are presented in the following sections.

8.4.2.1 Soil Organic Matter

Soil organic matter (SOM) improves both physical and chemical properties of soil. SOM improves soil structure and particle stability, increases water retaining capacity, increases aeration, and stores and supplies nutrients for plants and micro-organisms. The SOM content of the soils was estimated based on the total organic carbon content measured by Leco Induction Furnace (Equation 8.1).

Equation 8.1 Conversion of Soil Organic Carbon to Soil Organic Matter Content

% Organic Matter = % Organic Carbon * 1.78 (Gov. AB 2010)

The SOM content correlates well with the sampling horizon. The O horizon material has the highest organic matter content at between 64% and 82%, followed by the LFH horizons (8% to 34%) and minimal to no SOM recorded in the mineral horizons

(Table 8.4). The Ah horizons contain more organic matter than the other A horizons because the Ah horizon is by definition enriched with organic matter.

While there is an abundance of SOM in the O horizons, the poor drainage often associated with the soil formation minimizes agricultural capability. The O horizons have the potential to support vegetation growth if managed and mixed with mineral material because of the elevated organic matter and the ability of SOM to improve the chemical and physical properties of soil.

Table 8.4 Soil Carbon and Organic Matter Content of Near Surface Horizons

SAMPLE ID	HORIZON	TOTAL C %	TOTAL IC %	TOTAL OC %	SOIL OM %
TP09-12-21	Om	36	0.29	36	64
TP10-3-25	Om	3.4	0.070	3.4	6.0
TP10-47-20	Om	6.9	0.050	6.9	12
TP10-48-50	Om	39	0.060	39	69
TP09-10-17	LFH	19	0.080	19	34
TP09-24-48	LFH	17	0.12	17	30
TP10-1-5	Ap	2.7	0.030	2.7	4.8
TP10-32-5	Ap	2.5	0.050	2.4	4.3
TP10-33-10	Ap	2.1	<0.01	2.1	3.7
TP09-28-56	Ah2	8.9	0.22	8.7	16
TP09-28-55	Ah1	6.1	0.82	5.3	9.4
TP09-16-30	Ah	5.7	<0.01	5.7	10
TP09-17-34	Ah	3.5	<0.01	3.5	6.2
TP09-20-40	Ah	11	0.27	11	19
TP09-22-43	Ah	2.7	0.16	2.6	4.6
TP10-22-5	Ah	5.3	0.020	5.3	9.4
TP10-26-10	Ah	2.0	0.21	1.8	3.2
TP10-40-10	Ah	2.1	0.090	2.0	3.5
TP10-50-10	Ah	4.1	0.060	4.1	7.2
TP10-52-10	Ah	4.6	0.030	4.6	8.2
TP09-23-46	Ae	0.28	0.030	0.25	0.45
TP10-42-10	Ae	0.52	0.090	0.43	0.77
TP10-49-15	Ae	0.76	0.010	0.75	1.3

8.4.2.2 Cation Exchange Capacity (CEC)

The CEC is a measure of the total sum of exchangeable cations that a soil can absorb at any one time. The CEC of a soil is predominantly driven by organic matter content and secondarily by clay content. The CEC is an important function of soil fertility as it is a measure of the capacity of the soil to adsorb and exchange cations, such as K^+, Ca^{2+}, Mg^{2+}, and NH_4^+. Plant available nutrients will only exist in soil pore water at minimal concentrations; therefore, it is important for the soil to have a reservoir of these nutrients to "exchange" when required by the plant.

The CEC ranges from 200 cmol+/kg to below the method of detection of 10 cmol+/kg. In general organic horizons have higher CEC, while mineral horizons that are not high in clay have a much lower CEC. The clay and heavy clay textured soils have a CEC ranging from 20 cmol+/kg to 50 cmol+/kg which is consistent with the relationship between texture, SOM content, and CEC.

Organic soils have a good degree of CEC; however, the deeper mineral horizons, especially the sandy loam soils have a much lower or non-detectable CEC. It is of potential benefit to mix these soils to obtain an optimal CEC across a larger volume of material.

Exchangeable Cations

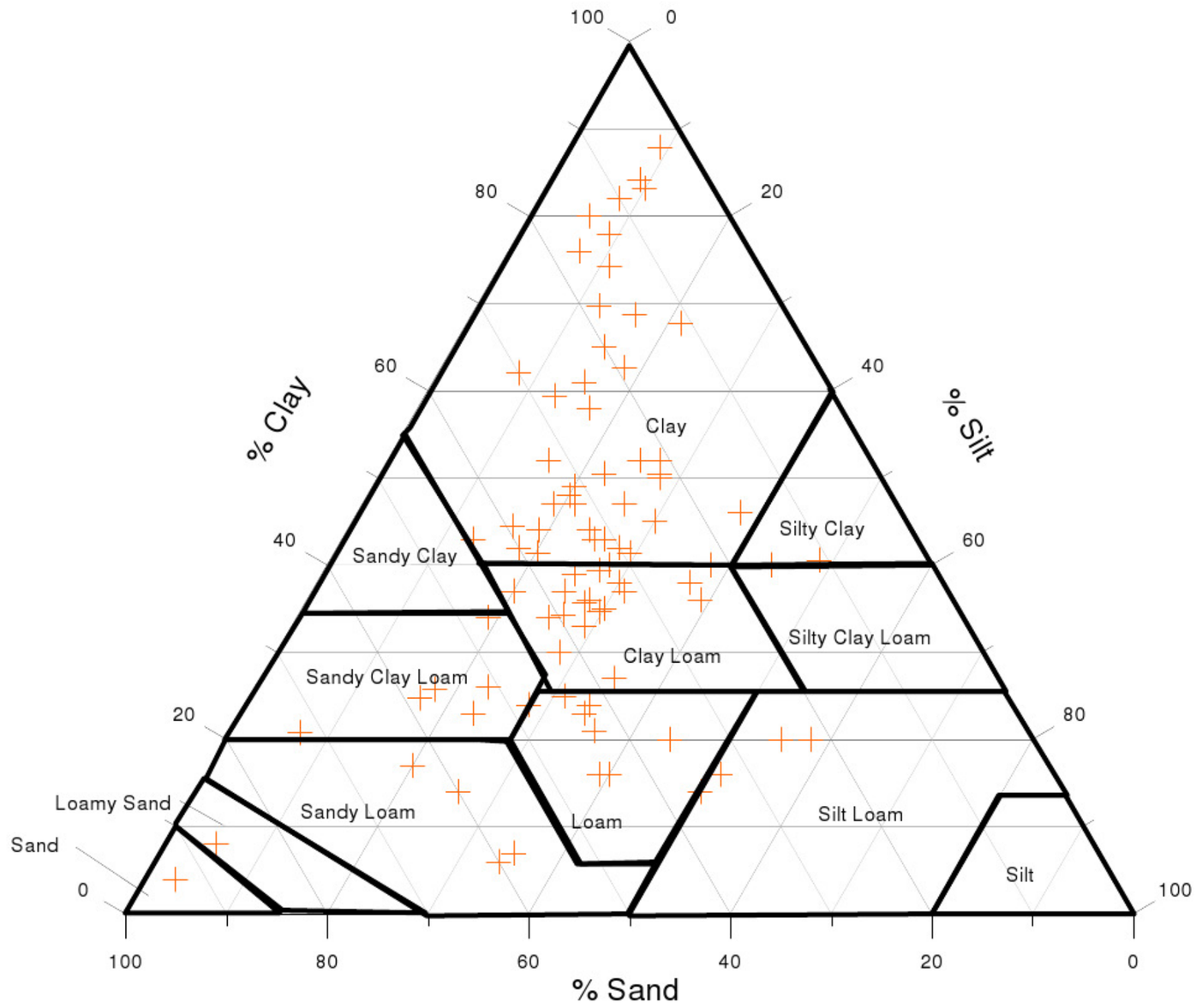
The exchangeable calcium ranges from approximately 700 meq/100g to 1 meq/100g. Soils that are considered Ca deficient will have an exchangeable calcium range less than 1 meq/100g. The optimal calcium, magnesium, and sodium saturation should have a higher proportion of Ca, then Mg, with smaller amounts (~5%) of Na. Low levels of Mg are rare but deficiency is considered concentrations lower than 0.2 meq/100g. The soils tested have exchangeable Mg in the range of approximately 165 meq/100g to 2 meq/100g.

The exchangeable sodium is in the range of approximately 4 meq/100g to 0.3 meq/100g with one value at 26.4 meq/100g. These sodium values are generally low indicating that these soils are not sodic in nature, which is expected in the region.

The overall exchangeable cations are relatively high throughout the soil profile. This measure of cations bound to the negative charges on clay and organic matter surfaces is consistent with the abundance of clay and organic matter found in these soils. The Ca:Mg ratios are mostly greater than 1, indicating a generally healthy soil.

8.4.2.3 Texture

Soil texture is an important soil characteristic in terms of determining soil structure, drainage and growing capability. The texture of the soils in the Local Study Area ranges from clay loam and sandy clay loam at the surface, to clay at depth (Figure 8.5). The soils typically pond surface water in much of the low lying areas.



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Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008-2010 BASELINE

TITLE: Soil Sample Textural Analysis Results

PROJECT No.: M09559A04

FIG. No.: 8.5

8.4.3 Soil Nutrients

There are three main soil nutrients, also referred to as macronutrients; nitrogen, phosphorous, and potassium. These three nutrients are responsible for plant development in the leaf and root zone.

In soil, nitrogen is present mostly in the organic matter. The soil nitrogen becomes plant available through mineralization (the breakdown of organic nitrogen by microbial processes), and nitrification (the conversion of ammonium released from SOM to nitrate) (OMAFRA 2004).

Available nitrogen in the Local Study Area is low and ranges from 4 mg/kg to less than the method of detection limit of 2 mg/kg (Table 8.5). The soils which registered a measurable available nitrogen have either likely been amended (e.g. Teeples Borrow Pit) or are in the upper soil organic or mineral horizons. Low nitrogen in the soils indicates little to no amendment done. An increase in spring precipitation and runoff has also been known to decrease soil available N through leaching.

The available phosphorous in the soils range from 20 mg/kg to below the detection limit of 1 mg/kg (Table 8.5). Soil phosphorous levels are relevant for soil fertility in relation to the crops produced. Excess phosphorous is of concern in terms of entry into surrounding water bodies. The relatively low concentrations in these soils indicate that there should not be a problem of excess P entering the watershed. Phosphorous is generally strongly sorbed but is most available between soil pH 5.5 to 7.0, the current pH range of half of the soils.

The potassium content ranges from 212 mg/kg to 1 mg/kg. There are no apparent potassium trends by soil horizon or depth.

Table 8.5 Soil Nutrient Results

LOCATION	TEST PIT	HORIZON	AVAILABLE NITROGEN (N) mg/kg	AVAILABLE PHOSPHORUS (P) mg/kg	AVAILABLE POTASSIUM (K) mg/kg	SOLUBLE pH	SATURATION %
Advanced Ex Area	TP09-17	Ah	<2	2	33	7.78	44.7
Advanced Ex Area	TP09-17	Bg	<2	2	57	8.23	39.5
Advanced Ex Area	TP09-17	Cg	<2	<1	68	8.45	90.3
Advanced Ex Area	TP09-18	Bk	<2	<1	24	8.22	34.4
Advanced Ex Area	TP09-18	Bt	<2	1	77	6.60	40.4
Advanced Ex Area	TP09-19	B2	<2	<1	67	8.06	38.6
Advanced Ex Area	TP09-19	B1	<2	1	117	6.32	64.0
Advanced Ex Area	TP09-20	Bg	<2	2	13	8.05	34.1
Advanced Ex Area	TP09-20	Ah	<2	6	77	7.90	47.9
Advanced Ex Area	TP09-21	Bg	<2	<1	34	8.19	41.5
Advanced Ex Area	TP09-21	AB	<2	1	142	5.64	62.3
Advanced Ex Area	TP09-22	Bg	<2	<1	37	8.10	44.2
Advanced Ex Area	TP09-22	Ah	<2	1	77	7.09	47.4
Advanced Ex Area	TP09-23	Ae	<2	2	24	5.47	32.0
Advanced Ex Area	TP09-23	Bt	<2	2	94	7.57	90.8
Advanced Ex Area	TP09-24	Bg1	<2	1	45	7.95	50.0
Advanced Ex Area	TP09-24	LFH	<2	17	128	6.95	162
Advanced Ex Area	TP09-25	BC	<2	<1	18	8.24	35.6
Advanced Ex Area	TP09-25	Bt	<2	1	89	6.84	62.5
Advanced Ex Area	TP09-26	Bg	<2	0.5	50	7.78	48.0
Advanced Ex Area	TP09-26	AB	<2	2	95	7.27	46.6

Table 8.5 Soil Nutrient Results (cont'd)

LOCATION	TEST PIT	HORIZON	AVAILABLE NITROGEN (N) mg/kg	AVAILABLE PHOSPHORUS (P) mg/kg	AVAILABLE POTASSIUM (K) mg/kg	SOLUBLE pH	SATURATION %
Advanced Ex Area	TP09-27	Bg2	<2	<1	15	8.12	35.5
Advanced Ex Area	TP09-27	Bg1	<2	<1	56	7.49	58.2
Advanced Ex Area	TP09-28	Ah1	2	4	92	7.44	45.1
Advanced Ex Area	TP09-28	Ah2	<2	2	94	7.27	99.7
Teeples Gravel Pit	TP09-29	Bt	2	1	51	7.19	36.3
Advanced Ex Area	TP09-30	B2	<2	<1	14	8.16	38.4
Advanced Ex Area	TP09-30	B3/PM	<2	<1	87	7.83	78.6
Local Study Area	TP10-1	Ck	<2	<1	87	6.89	43.0
Local Study Area	TP10-1	Ap	<2	<1	100	6.17	56.1
Local Study Area	TP10-10	LT	<2	<1	40	7.39	59.3
Local Study Area	TP10-11	Bf	<2	<1	165	6.73	74.1
Local Study Area	TP10-14	Bf	<2	<1	6	6.04	17.0
Local Study Area	TP10-14	Cg	<2	<1	111	6.08	58.0
Local Study Area	TP10-2	Ck	<2	<1	78	7.00	45.0
Local Study Area	TP10-2	Ck	<2	<1	121	7.33	50.2
Local Study Area	TP10-20	Ck	<2	<1	70	7.24	39.1
Local Study Area	TP10-20	AB	<2	<1	90	5.95	33.4
Local Study Area	TP10-22	Ck	<2	<1	50	6.80	34.3
Local Study Area	TP10-22	Ah	<2	1	91	5.34	62.2
Local Study Area	TP10-22	Bf	<2	<1	103	5.85	47.2
Local Study Area	TP10-23	Ck	<2	<1	78	6.92	46.7

Table 8.5 Soil Nutrient Results (cont'd)

LOCATION	TEST PIT	HORIZON	AVAILABLE NITROGEN (N) mg/kg	AVAILABLE PHOSPHORUS (P) mg/kg	AVAILABLE POTASSIUM (K) mg/kg	SOLUBLE pH	SATURATION %
Local Study Area	TP10-23	Bfg	<2	<1	84	7.16	43.8
Local Study Area	TP10-24	Bfg	<2	<1	134	6.69	87.5
Local Study Area	TP10-24	AB	<2	2	212	5.42	44.4
Local Study Area	TP10-25	Bg	<2	1	78	6.35	46.1
Local Study Area	TP10-26	Bk	<2	<1	82	7.20	40.8
Local Study Area	TP10-26	Ah	<2	2	104	6.60	54.6
Local Study Area	TP10-3	C	<2	<1	59	6.71	29.6
Local Study Area	TP10-3	Om	<2	<1	86	6.63	58.6
Local Study Area	TP10-3	B	<2	<1	94	6.80	37.6
Local Study Area	TP10-30	Bf	<2	<1	28	6.33	25.0
Local Study Area	TP10-30	Ck	<2	<1	83	6.81	46.2
Local Study Area	TP10-32	Ap	2	11	71	5.12	57.0
Local Study Area	TP10-32	B	<2	8	111	5.62	38.2
Local Study Area	TP10-33	Ap	<2	8	92	6.36	49.3
Local Study Area	TP10-33	Bf	<2	1	124	6.70	47.6
Local Study Area	TP10-34	Bg	<2	<1	123	7.03	62.8
Local Study Area	TP10-34	AB	<2	<1	138	7.10	53.4
Local Study Area	TP10-36	Ck	<2	<1	103	7.09	55.9
Local Study Area	TP10-36	Bf	<2	<1	197	5.11	62.7
Local Study Area	TP10-4	Bg	<2	<1	119	7.38	56.4
Local Study Area	TP10-4	AB	<2	<1	151	7.20	62.7

Table 8.5 Soil Nutrient Results (cont'd)

LOCATION	TEST PIT	HORIZON	AVAILABLE NITROGEN (N) mg/kg	AVAILABLE PHOSPHORUS (P) mg/kg	AVAILABLE POTASSIUM (K) mg/kg	SOLUBLE pH	SATURATION %
Local Study Area	TP10-40	Ah	<2	3	78	6.09	56.7
Local Study Area	TP10-40	Bmf	<2	<1	123	6.12	45.9
Local Study Area	TP10-42	Ae	<2	2	53	6.31	28.5
Local Study Area	TP10-42	Bmgj	<2	<1	143	5.65	42.0
Local Study Area	TP10-45	Cg	<2	<1	74	6.50	37.7
Local Study Area	TP10-45	Bmgj	<2	<1	77	6.59	37.9
Local Study Area	TP10-46	Ck	<2	<1	98	6.91	42.4
Local Study Area	TP10-46	Bmgj	<2	<1	120	4.85	43.1
Local Study Area	TP10-47	Om	<2	19	69	6.88	396
Local Study Area	TP10-47	Ckg	<2	<1	194	6.66	69.2
Local Study Area	TP10-48	Om	4	20	57	6.33	345
Local Study Area	TP10-48	B	<2	2	106	6.49	62.2
Local Study Area	TP10-49	Ae	<2	2	102	6.29	35.0
Local Study Area	TP10-49	Bmgj	<2	<1	159	6.56	53.4
Local Study Area	TP10-5	BC	<2	<1	76	7.31	42.4
Local Study Area	TP10-5	C	<2	<1	99	7.63	57.9
Local Study Area	TP10-50	Ck	<2	<1	195	7.10	76.5
Local Study Area	TP10-50	Ah	<2	1	206	6.96	68.4
Local Study Area	TP10-51	Cg	<2	<1	77	7.28	45.0
Local Study Area	TP10-51	Bm	<2	<1	128	7.04	51.4
Local Study Area	TP10-52	Ah	<2	1	101	6.09	71.9
Local Study Area	TP10-52	Cg	<2	<1	146	6.52	63.6

8.4.4 Soil Chemical Baseline

The sampling plan for the soil chemical baseline was intended to measure the potential for large stockpiled volumes of soil to generate acidity (from organic material) and/or metal leaching. The reducing nature of Gleysols and the soils of the poorly drained areas in the Local Study Area tend to keep most metal and metalloids immobile (in their reduced forms). Some metals are mobile in this reduced state; however, the natural state of the soils maintains a balance in metal mobility/immobility.

It is not common for surface soils to contribute large amounts of acidity or metal leaching; however, confirmation was required as part of this program.

8.4.4.1 pH

The pH of the soils ranges from 4.3 to 8.3. The more acidic pH's are related to the organic acid content of the soils while the more alkaline pH's are related to the higher clay content and calcareous material present in some of the soil horizons. Incidentally, the equilibrium point of calcite with atmospheric carbon dioxide occurs in the range of pH 8.3.

The pH of soils are rarely low or high enough to present significant impacts of H^+ and OH^- ions on roots and microorganisms (McBride, 1994). Soil pH below 5.5 will generally encourage an increase in the soluble levels of Al and Mn up to the point of being biologically toxic. A pH value greater than 7 is often associated with low solubility of micronutrient cations, and pH upwards of 8.5 is associated with high soluble and exchangeable Na^+ (McBride, 1994).

The relationship between soil pH and exchangeable nutrients sodium, magnesium, and calcium is presented in Figure 8.6. There is no apparent trend between the soil pH and

exchangeable nutrients. The relationship between pH and soil metals is further discussed in Section 9.4.3.3.

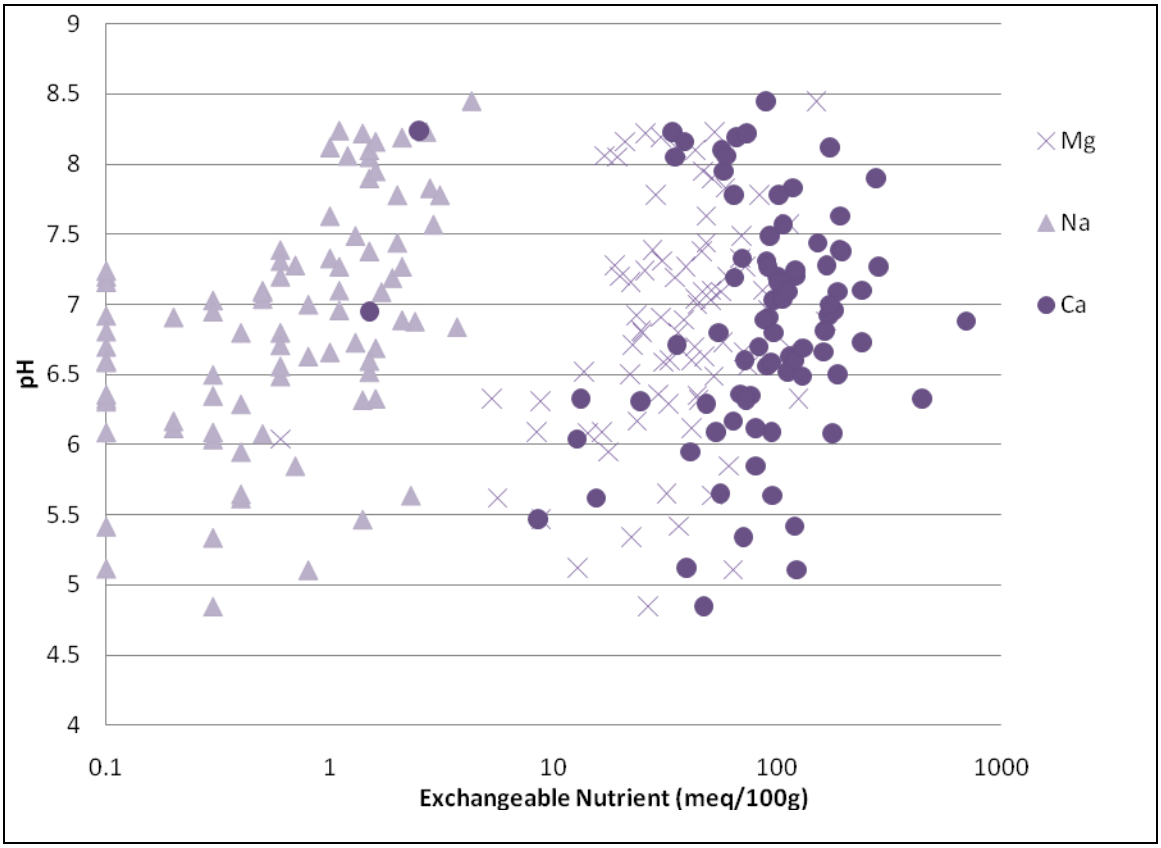


Figure 8.6 Exchangeable Nutrients versus pH (n=84)

Acid Base Accounting and Acid Generating Potential

The non-organic soil horizons sampled underwent ABA testing to determine the potential for acid generation or neutralization potential from the soils. Statistics from the ABA testing are presented in Table 8.6, and full results can be found in Appendix V-2. The results of the ABA testing indicate that there is no risk for acid generation from of the Local Study Area soils, nor has any been observed to date. There is sufficient neutralization potential in most the samples to counteract any potential acidity (Figure 8.7).

In some cases the NP is greater than 100 (kg $CaCO_3$ equivalent per tonne). The high carbonate content and NP of the local soils provides buffering of any acidity produced in the local area from exposed bedrock outcrops or from local anthropogenic activity. The results of the geochemical baseline provided in Section 8, indicate that there is the potential for acid generation from the bedrock outcropping. The soils, with low permeability and high NP have the capacity to neutralize the acidity from these sources.

Table 8.6 Statistics from the Acid Base Accounting Analysis

PARAMETER	MIN	MEDIAN	MEAN	MAX	COUNT
Paste pH	4.3	7.4	6.0	8.3	90
Total C %	0.23	2.4	3.0	39	93
TIC %	0.0050	0.18	1.4	5.5	93
CaCO3 NP	0.40	15	115	457	93
S(T) %	0.0050	0.0050	0.013	0.41	90
S(SO4) %	0.0050	0.0050	0.0093	0.17	90
S(S-2) %	0.0050	0.0050	0.0089	0.24	90
AP	0.15	0.15	0.27	7.5	90
NP	8.2	34	137	464	90
Sobek NPR	5.3	214	820	3,093	90
Carb NPR	0.67	67	701	3,044	90
Net NP	7.9	34	137	464	90

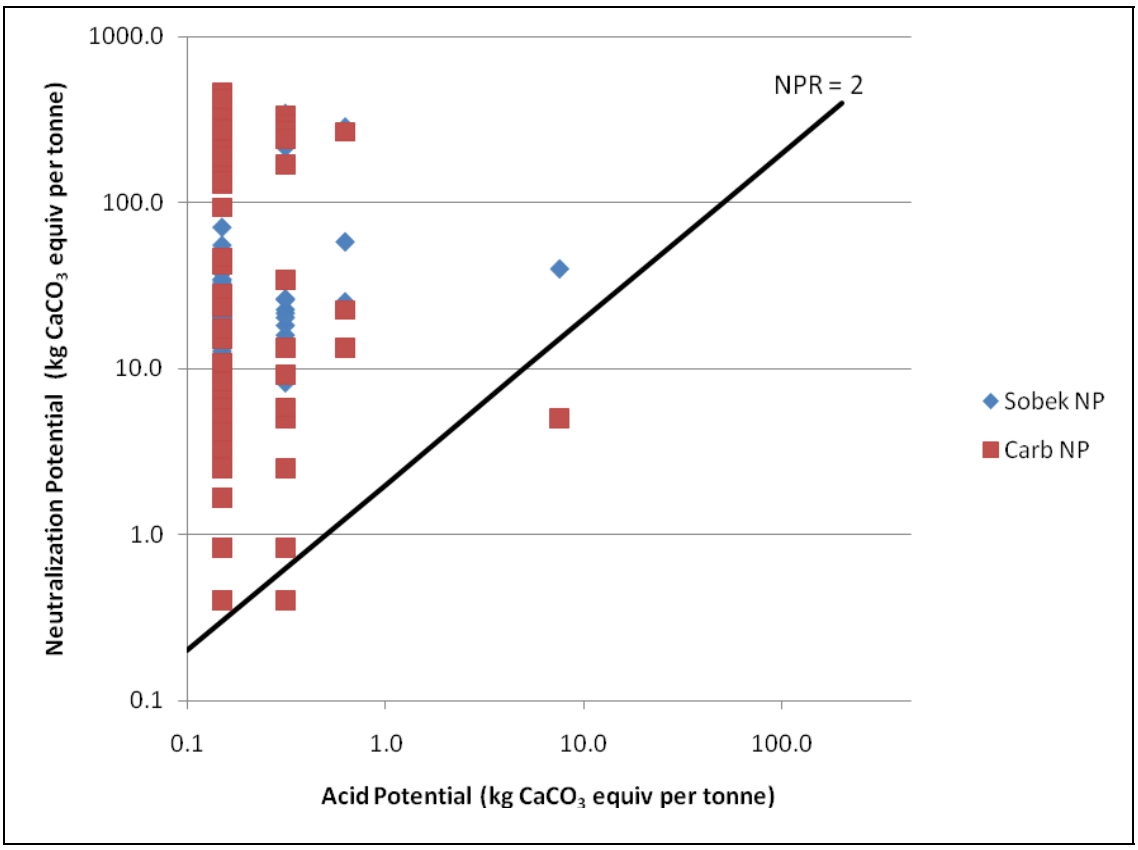


Figure 8.7 Sobek and Carbonate NP vs. AP

8.4.4.2 Soil Metal Content (Solid Phase)

The soil metal concentrations measured are generally low and consistent with the parent material and underlying bedrock of the area. There are higher concentrations of calcium in some mineral soils, likely due to the presence of calcareous glacial lacustrine parent material. Trace elements, such as gold and silver are present in a few samples at low levels. This is also consistent with the depositional processes in the area; gold and silver have both been observed in the underlying bedrock and measured in the Labradorean till overlaying the bedrock. Full soil chemical results can be found in Appendix V-2.

The elements of concern for phytotoxicity are presented in Table 8.7. Elements that may cause concern for phytotoxicity include Cr and Mo based on the total metal contents and potential for metal leaching. Other metals, including Cu, Ni, Fe, Mn, Pb, and Zn are present in the solid phase at higher levels; however, the potential for these metals to leach and become bioavailable is low. Further results for metals in soil solution are presented in Section 9.4.3.3.

Chromium, depending on its form, is at potentially toxic levels in the lower mineral soil horizons. Current plant or mammalian toxicity is unlikely as an accumulation of Cr in the surface horizons is not present and the mobilization of Cr is unlikely. Molybdenum has a high mobility in neutral and alkaline soils and plant toxicity is associated with poor drainage and alkaline, calcareous, or peaty soils (McBride 1994). The soils have higher than average Mo content and the site soil characteristics are likely to encourage mobility and plant availability.

Table 8.7 Biological Function and Toxicity of Important Trace Elements

ELEMENT	MEAN SOIL CONTENTS	BIOLOGICAL FUNCTION	PHYTOTOXICITY	MAMMALIAN TOXICITY
Ag	0.03 to 8 ppm	None known	H (5-10)	H
Al		May activate succinic dehydrogenase	M (50-200)	L
As	2.2 to 25 ppm	None known in animals. Constituent of phospholipid in algae and fungi.	MH (5-20)	H
B	9 to 85 ppm	Essential to plants.	M (50-200)	L
Ba	84 to 838 ppm	None known	L (500)	H (soluble forms)
Be	*1.2 to 2.1 ppm*	None known	MH (10-50)	H
Cd	0.06 to 1.1 ppm	None known	MH (5-30)	H (cumulative poison)
Co	1.6 to 21.5 ppm	Essential for mammals. Cofactor in numerous enzymes. Role in symbiotic N_2 fixation.	MH (15-20)	M
Cr	7 to 221 ppm	May be involved in sugar metabolism in mammals	MH (5-30)	H (Cr 6+) M (Cr 3+)
Cu	6 to 80 ppm	Essential to all organisms. Cofactor in redox enzymes, O_2 transport pigments	MH (20-100)	M
F	73 to 566 ppm	Strengthens teeth in mammals	LM (50-500)	M
Fe		Essential to all organisms. Cofactor in many enzymes, heme proteins.	L (>1000)	L
Hg	0.02 to 0.41 ppm	None known	H (1-3)	H (soluble or volatile forms), cumulative poison
Mn	80 to 1300 ppm	Essential to all organisms. Cofactor in numerous enzymes. Involved in H_2O splitting reaction photosynthesis.	LM (300-500)	M
Mo	1 to 3 ppm	Essential to almost all organisms. Enzyme cofactor in N_2 fixation and NO_3^- reduction.	M (10-50)	M
Ni	4 to 55 ppm	None known in mammals. May be essential to plants.	MH (10-100)	M
Pb	10 to 84 ppm	None known	M (30-300)	H (cumulative poison)
Sb	0.19 to 1.77 ppm	None known	M (150)	H
Se	0.05 to 1.27 ppm	Essential to mammals and some plants	MH (5-30)	H
Tl	*0.02 to 2.8 ppm*	None known	MH (20)	H
V	5 to 190 ppm	Required by green algae; may be involved in N_2 fixation.	H (5-10)	H
Zn	17 to 125 ppm	Essential to all organisms. Cofactor in numerous enzymes.	LM (100-400)	LM

Table adapted from McBride (1994).
Values in *italic* are mean for data from the US only.
Numbers in parentheses denote the concentration of the element in leaf tissue (ppm dry weight).
Letters represent the toxicity as low (L), moderate (M), or high (H).

8.4.4.3 Soil Metal Concentration in Soil Solution

The potential for metals to leach into solution is a factor more related to bioavailability of the metal and for the potential for metal toxicity. Plants will take up metals from the soils through the soil solution and an accumulation of metals in the root zone. Shake flask extraction testing (at a 3:1 water to soil ratio) was conducted to test which metals may be present in the soil solution.

The concentration of Ag, Be, Co, Cd, Hg, Se, and Tl are very low, with many values registering below the limit of detection in the soil solution. The concentrations of Cr, Mo, and Zn, metals related to phytotoxicity, in solution are more closely related to solution pH than to the total metal content of the soil. While most samples have near neutral pH, there is some minor trending at the upper and lower bound of the near neutral values. Molybdenum is generally low in solution, but as the pH values increase, the Mo content in solution increases slightly (Figure 8.8). Zinc and chromium concentrations remain approximately the same with the slight pH increases (Figure 8.9).

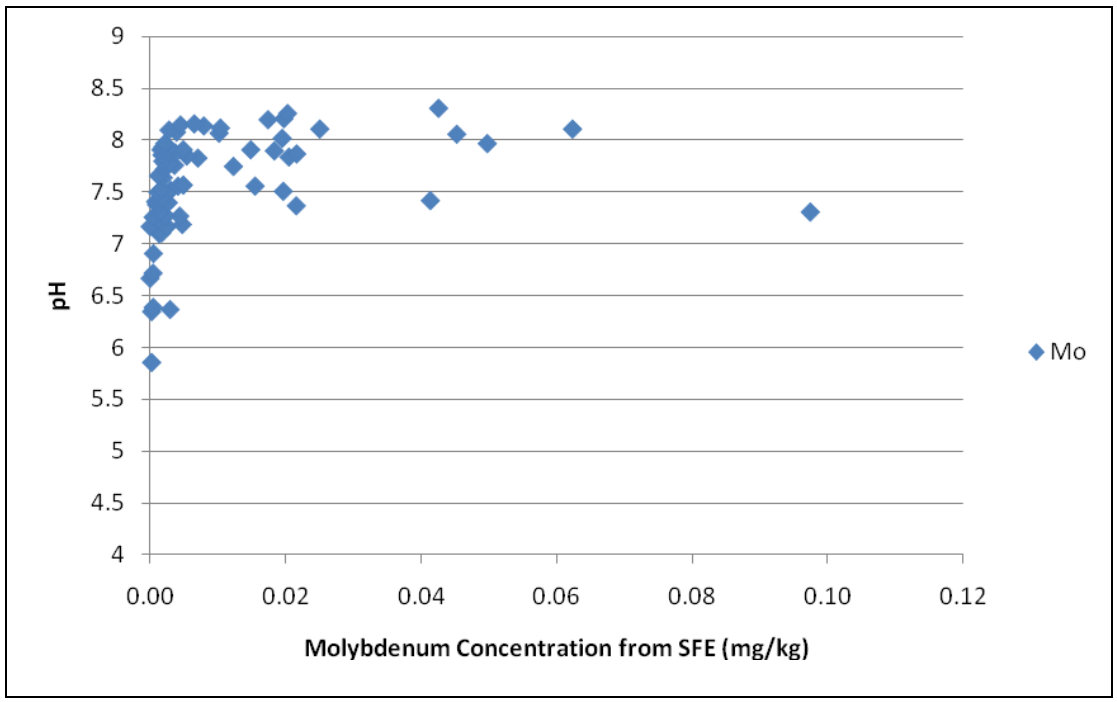


Figure 8.8 Molybdenum Concentration in Solution vs pH (n=73)

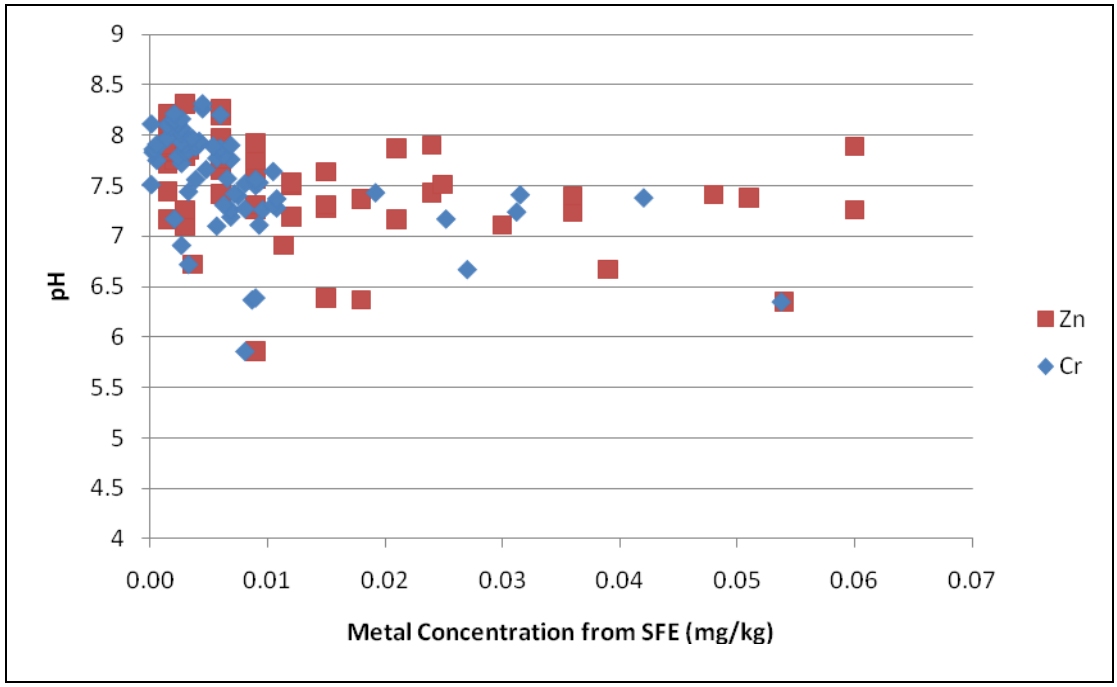


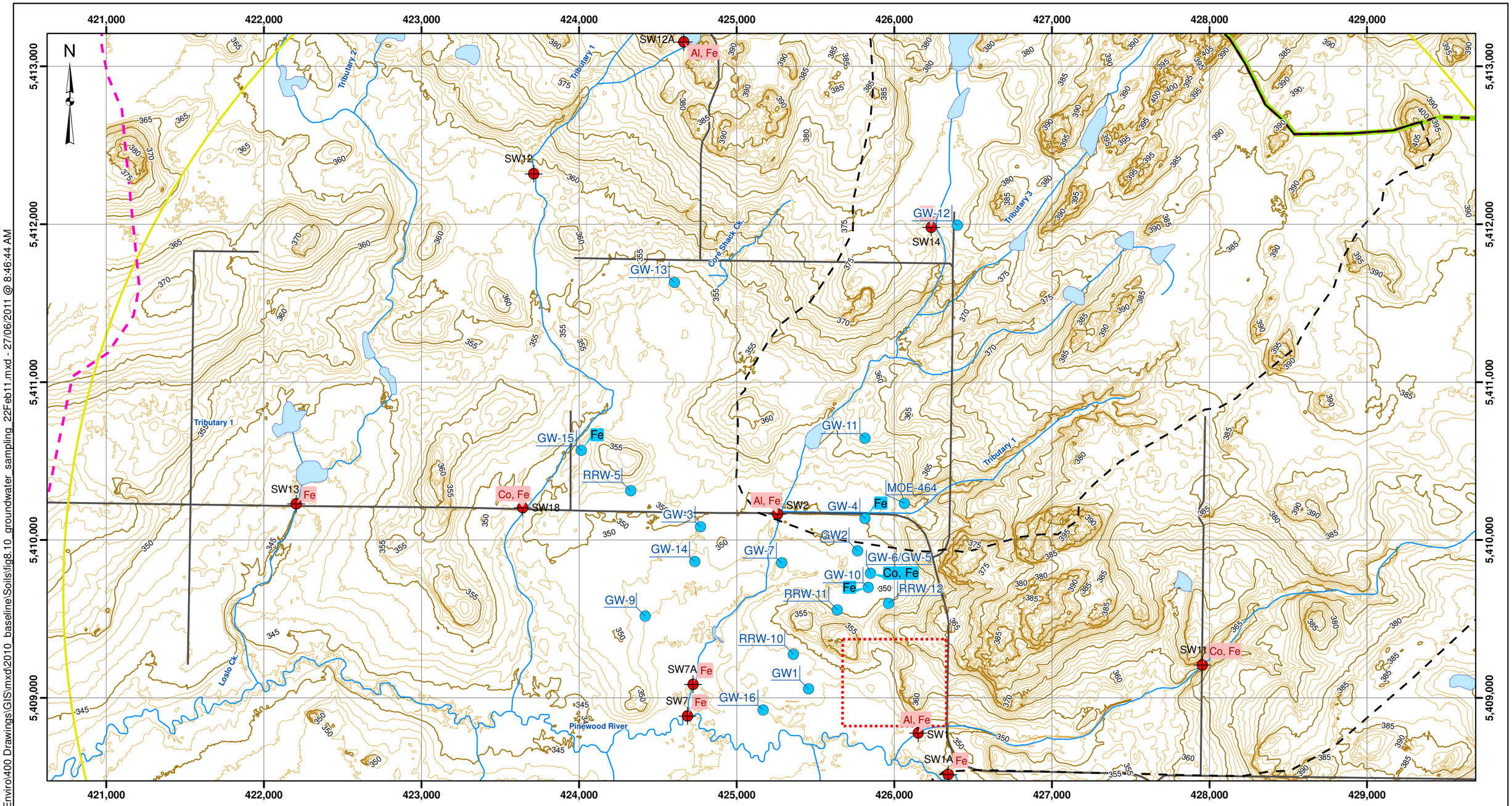
Figure 8.9 Metal Concentration in Solution vs pH for Cr and Zn (n=73)

In general the metal concentrations are low, and the near neutral soil pH decreases the mobility for a wide range of parameters.

8.4.5 Chemical Interactions

The surface water, ground water, and geochemical data are summarized in Section 5, Section 7, and in the Rainy River Gold Project: Geochmistry Basline Report (Geochmistry Report) respectively. This section summarizes the global chemical interactions observed under background conditions in the Local Study Area.

The surface water quality sampling program has indicated that several parameters are in exceedance of the OPWQO; iron, aluminum, cobalt, and zinc. Stations with exceedances are highlighted in Figure 8.10. Groundwater data indicates ubiquitous exceedances for iron and manganese with isolated exceedances for arsenic.



Groundwater Sampling Locations
Surface Water Stations
Advanced Exploration Project Facility Boundary
Flow Measurement Station Catchment
Project Site Catchment
Pinewood River Watershed
Local Study Area
Major Contours (5m)
Minor Contours (1m)
Rivers and Streams
Roads

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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TO BE READ WITH KLOHN CRIPPEN BERGER REPORT DATED FEBRUARY, 2011

0 1,000 m

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CLIENT
RainyRiver RESOURCES LTD.
Klohn Crippen Berger

PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
WATER QUALITY SAMPLING
STATION SUMMARY
OF EXCEEDANCES

PROJECT No. M09559A04

FIG No. 8.10

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The bedrock outcrops in the Local Study Area are usually from the felsic or intermediate metavolcanic groups (number 3 or 4) (Photo 8.3). Some exposure of mafic metavolcanics is present in the southern portion of the proposed advanced exploration site.



Photo 8.3 Bedrock Outcrop in Proposed Advanced Exploration Site

The type 3 and type 4 metavolcanics contain on average 2% to 4% iron, with some assay values as high as 9% iron. These units also contain 100 ppm to 2,000 ppm manganese. These values are within the five times normal crustal abundance (as discussed in Geochmistry Report) and mostly within the normal continental crust abundance. The arsenic content of the rock units are generally above the normal crustal abundance and range from 1 ppm to 190 ppm. Mineralogical and petrographical analysis does not indicate a dominant presence of arsenic containing minerals; however, isolated groundwater exceedances are observed. The arsenic is likely associated with the

dissolution of iron-manganese oxi(hydroxi)des or from the oxidation of iron containing sulphide minerals which are present as mostly fine grained disseminated crystals throughout the area of the deposite.

The surface water quality data is more likely influenced from the soil and overburden chemistry present in the Local Study Area than from the bedrock geology. The low conductivity parent materials, the Keewatin Till unit, and the Lake Agassiz sediments, influence the surface drainage and slow the recharge to groundwater. The low conductivity till units, which are inter-bedded and continuous throughout the Local Study Area, have a high clay content with a likely dominant mineralogy of Illite and Montmorillonite clays. Aluminum content of the till units has been measured as high as 1.7% with an average Al content of 1%. This influence of the parent material is evident with an increase in total aluminum and dissolved aluminum across the Local Study Area. The soils generally contain metals below the phyto-toxicity guidelines as presented in Table 8.7.

8.5 Summary

The potential for the Local Study Area soils to support vegetation growth is variable. Soil management will be required to maintain the nutrient content and the physical and chemical stability of the organic material. Mixing of the organic topsoil and finer textured subsoils will likely be beneficial for soil structure and providing optimal rooting conditions and water holding capacity.

The ABA testing confirmed that the soils are non-acid generating, with a low sulphide content relatively high carbonate content. The soil testing indicates the presence of some metals at higher, potentially phytotoxic levels, although the metal leaching testing indicates that the potential for the higher solid phase metal contents to leach into the soil solution and become bioavailable is low.

The soil baseline did not identify any unexpected land conditions or soil characteristics. The potential for metal leaching is low and the nutrient content of the soils is moderate.

The key findings of the 2008 to 2010 soil baseline program include the following:

- The local land use adjacent to the proposed advanced exploration site is moderately limited agriculture with dominantly forage crops and pasture land. The Local Study Area is dominantly non-productive and limited agricultural capability land that is used for recreation;
- The soils are generally nutrient poor, with the exception of areas which have undergone a soil amendment process. Cation exchange capacity is moderate and most soils containing organic material or clay have the ability to store and release exchangeable cations;
- The ability of the soils to support vegetation is variable, additional soil management during will be required to maintain the nutrient content, cation exchange capability and structure. The potential for metal leaching from the soils is low, as the solid phase metal contents are generally low and the water leachable fraction is lower. Acidity production from soils is not expected, additional neutralization capacity is likely present in the lower mineral horizons influenced by the Keewatin Till and Lake Agassiz Sediments; and
- The general environmental chemical signature of the Local Study Area indicates that the mineralized proposed advanced exploration site has had some influence on the groundwater chemistry and a more minimal impact on the surface water chemistry. Higher levels of iron, manganese, aluminum, arsenic, and zinc in the groundwater and surface water can be related to the bedrock mineralogy and likely desorption and dissolution processes occurring naturally in the area.

9. AIR QUALITY

9.1 Study Objectives

The objective of the baseline air quality study was to quantify exiting air quality in the Local Study Area.

9.2 Methodology

Air quality monitoring was completed in accordance with the MOE's Operations Manual for Air Quality Monitoring in Ontario (PIBS 6687e; 2008). Air quality data was collected from June 30, 2009 to July 7, 2009 and from October 8, 2010 to October 12, 2010 within the Local Study Area (Figure 9.1). Prior to initiating the data collection, Mr. Drew Stajkowski, Senior Environmental Officer for the Ontario MOE in Kenora, was consulted. Mr. Stajkowski is familiar with the Local Study Area and suggested that due to the rural setting, absence of point source emissions, and low density of sensitive receptors, air quality monitoring and data collection be focused on $PM_{2.5}$ and PM_{10}.

Meteorological conditions during the sampling time periods were collected at the Local Study Area climate station and are summarized in Table 9.1. According to the United States Environmental Protection Agency (1997), certain climatic conditions, including relative humidity, can influence the amount of particulate matter measured by air quality monitors. Other researchers have reported that temperature, wind velocity, and wind direction can potentially effect ambient air quality measurements (Ghose & Majee, 2000). As such, hourly relative humidity, wind speed, wind direction, and precipitation measures were compiled and compared to air quality results to verify that the air quality measures recorded were not influenced by meteorological conditions.

Table 9.1 Climate Conditions during Air Quality Monitoring

DATE	WIND SPEED (km/hr)	WIND DIRECTION (°)	MAX WIND SPEED (km/hr)	MAX RELATIVE HUMIDITY (%)	MIN RELATIVE HUMIDITY (%)	TOTAL PRECIPITATION (mm)	MAX TEMPERATURE (°C)	MIN TEMPERATURE (°C)
30/06/2009	12.4	336.5	35.6	96.8	80.9	0.0	12.8	9.9
01/07/2009	10.3	347.2	33.5	90.0	59.3	0.0	16.9	9.7
02/07/2009	4.5	6.0	25.3	98.9	56.8	0.0	22.0	5.3
03/07/2009	4.6	343.8	19.0	99.5	55.6	0.0	25.4	8.9
04/07/2009	3.9	5.0	20.3	100.1	34.8	0.0	25.7	5.0
05/07/2009	3.7	334.6	23.1	99.5	27.9	0.0	26.8	3.1
06/07/2009	5.6	352.8	32.4	99.5	38.4	0.0	25.1	4.0
07/07/2009	4.9	4.4	31.5	99.1	34.5	0.4	25.9	2.8
08/10/2010	4.2	210.7	24.9	98.6	28.9	0.0	25.7	-1.9
09/10/2010	3.4	91.5	18.4	93.9	30.0	0.0	29.1	3.9
10/10/2010	7.5	111.5	25.9	86.1	33.3	0.0	27.7	9.5
11/10/2010	3.1	39.7	17.4	97.6	34.9	0.0	28.4	6.0
12/10/2010	3.2	99.1	18.3	95.3	43.7	0.0	25.2	3.5

The two air quality monitoring stations (AQ 1 and AQ 2) were located in close proximity to the proposed advanced exploration facilities and to known sensitive receptors (Figure 9.1). AQ 1 was monitored in the June 2009 to July 2009 (AQ 1 (A), Photo 9.1) and October 2010 (AQ 1 (B), Photo 9.2) study periods and AQ 2 was monitored in July 2009. The air quality meters were set 2 m above the ground surface, representative of a typical human receptor.

AQ 1 was located approximately 40 m from the nearest sensitive receptor (i.e., human inhabitants), near the proposed advanced exploration facilities, and 115 m from Highway 600, a district road with light traffic. The Local Study Area weather station was also set up at AQ 1 in June 2009 allowing for a direct relationship to be examined between collected air quality and meteorological data. AQ 2 was located on Blackhawk Road at a concentration of sensitive receptors (i.e., human inhabitants) approximately 10 m from the nearest home, 20 m from Highway 600, and downwind from the proposed advanced exploration project facilities. The prevailing winds are north, north-west.

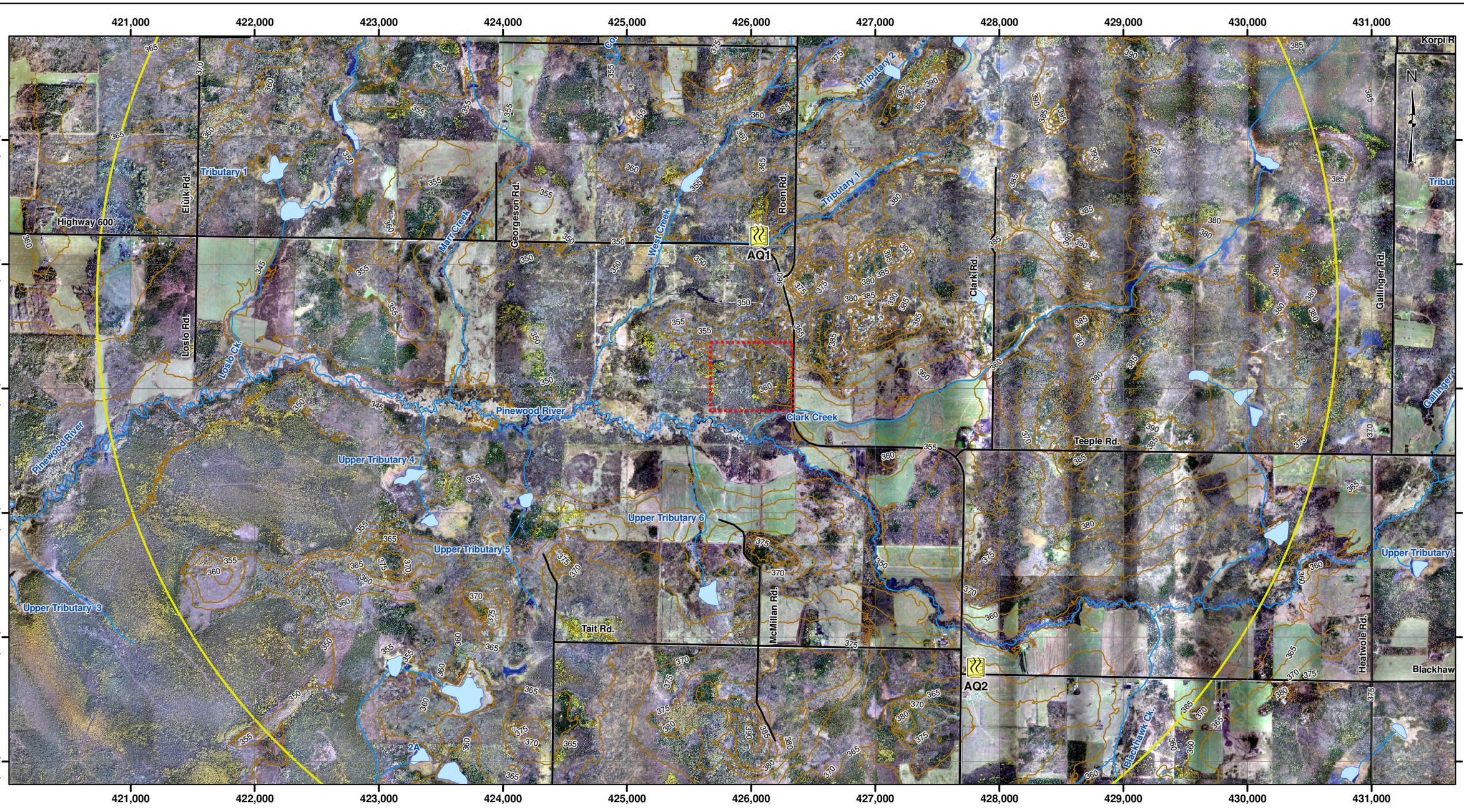
A TSI DustTrak DRX 8534 Handheld Aerosol Particulate Monitor, a standard meter for measuring air quality, was used to collect the background particulate matter (PM) data. The DustTrak air quality meters measure particles sizes ranging from 0.1 µm to 15 µm with a resolution of 0.001 mg/m³ and were calibrated in the laboratory prior to use. While this report focuses on PM2.5 and PM10, as per the MOE's advice, the air quality monitors also captured baseline information on PM1, Total PM, and respirable particulate matter. Baseline air quality test parameters were collected every minute for a minimum of three days (parameters presented in Table 9.2)



Photo 9.1 Air Quality Station AQ 1 (A)



Photo 9.2 Air Quality Station AQ 1 (B)



Air Quality Monitoring Stations

Contours (5m)

Advanced Exploration Project Facility Boundary

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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CLIENT: Rainy River Resources Ltd.

Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: BASELINE AIR QUALITY MONITORING STATIONS

PROJECT No. M09559A04

FIG No. 9.1

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Table 9.2 Background Particulate Matter Test Parameters

STATION	PARAMETERS MEASURED	TEST START TIME	TEST END TIME
AQ 1 (A)	PM_1, $PM_{2.5}$, PM_{10}, Total respirable particles, and total PM	Jun 30, 2009 @ 1359	Jul 3, 2009 @ 1400
AQ 1 (B)		Oct 8, 2010 @ 15:30	Oct 12, 2010 @ 1106
AQ 2		Jul 4, 2009 @ 0615	Jul 7, 2009 @ 1147

9.3 Results

Figure 9.2, Figure 9.3, and Figure 9.4 show the background PM concentrations in time at the air quality stations (summarized in Table 9.4).The baseline air quality at the air quality stations met the Ontario Ambient Air Quality Criteria guideline in that the airborne $PM_{2.5}$ concentrations were less than 30 µg/m³ and the PM_{10} concentrations were less than 50 µg/m³ (Ontario MOE, 2008). In general, the concentration of PM was lowest around noon, began increasing in mid-afternoon, and reached its maximum in the early morning hours. The concentration of airborne PM decreased before sunrise and continued to decrease until the early afternoon.

The Ontario MOE Standards for Air Quality include a specific Air Quality sub-Index (AQI) for $PM_{2.5}$ (Table 9.3; MOE, 2011).

Table 9.3 Ontario Ministry of Environment Air Quality Index (AQI) for $PM_{2.5}$

AIR QUALITY CATEGORY	AQI	POLLUTANT CONCENTRATION BREAKPOINTS (µg/m³)
Very Good	0 to 15	0 to 11
Good	16 to 31	12 to 22
Moderate	32 to 49	23 to 45
Poor	50 to 99	46 to 90
Very Poor	100 or over	91 or over

The $PM_{2.5}$ concentration values for the AQI are calculated as 3 hour $PM_{2.5}$ averages. The measured per minute and daily $PM_{2.5}$ averages were compared to the $PM_{2.5}$ concentration breakpoints dictated below to determine the baseline MOE air quality category.

The AQI category for fine PM ($PM_{2.5}$) concentrations varied between the air quality stations. The ambient fine PM concentration at air quality station AQ 1 (A) was considered 'very good' within the MOE AQI since the average $PM_{2.5}$ concentration was less than 11 µg/m³ (average was 5 µg/m³). In contrast, the average fine PM concentration at air quality station AQ 1 (B) was considered 'good' since the $PM_{2.5}$ concentration was between 12 µg/m³ and 22 µg/m³ (average was 15 µg/m³) The fine PM concentration at air quality station AQ 2 fluctuated between the MOE's 'very good' and 'good' AQ I category because the average $PM_{2.5}$ was 11 µg/m³ (see Figure 9.4).

As shown in Table 9.4, Figure 9.2, and Figure 9.3, baseline PM concentrations were higher at AQ 1 (B), measured in October 2010, than at AQ 1 (A), measured in June 2009. During this time Rainy River exploration activities, in terms of drill numbers, remained consistent. The increase in PM was likely caused by increased traffic along HWY 600 which was resurfaced by the Ministry of Transportation (MTO) in 2010. Additional PM may also result from other exploration operations in the Local Study Area.

Spikes of high PM concentration were present at the air quality monitoring stations. The majority of the spikes were of short duration. For example, AQ 1 (A) experienced high PM concentrations for 3 minutes on July 2, 2009 from 03:16 to 03:19 where $PM_{2.5}$ reached 34 µg/m³ and PM_{10} reached 132 µg/m³ (see Figure 9.2). AQ 2 experienced high PM concentrations for 14 minutes on July 7, 2009 from 00:59 to 01:03 where $PM_{2.5}$ reached 99 µg/m³ and PM_{10} reached 303 µg/m³ (see Figure 9.4).

Table 9.4 Background Particulate Matter Results

STATION	PARAMETER	PM CONCENTRATIONS		
		Average (µg/m³)	Minimum (µg/m³)	Maximum (µg/m³)
AQ 1 (A)	PM_1	5	2	34
	$PM_{2.5}$	5	2	34
	PM_{10}	9	3	132
	Total Respirable	7	2	49
	Total PM	9	3	132
AQ 1 (B)	PM_1	14	6	66
	$PM_{2.5}$	15	6	67
	PM_{10}	15	6	68
	Total Respirable	16	6	74
	Total	16	6	82
AQ 2	PM_1	11	5	98
	$PM_{2.5}$	11	5	99
	PM_{10}	13	6	303
	Total Respirable	11	5	108
	Total	13	6	483

While these fluctuations impact the recorded maximum PM concentrations, it is difficult to determine the cause of these spikes. Considering Ontario's Air Quality Standards are determined based on 3 hour averages, longer duration occurrences of high PM concentrations should receive more attention. AQ 1 (B) recorded two instances of longer duration high airborne PM concentrations: October 10, 2010 from 0750 to 0858 and October 12, 2010 from 0002 to 0725. Since other research has noted the impact of climatic conditions on recorded particulate matter concentrations (e.g., United States Environmental Protection Agency, 1997; Ghose & Majee, 2000) climatic conditions during these times were compared to the daily climatic conditions to assess if any of the meteorological variables could have impacted the results. While wind speed, wind direction, and precipitation were similar, relative humidity was higher during the hours of recorded increased PM concentrations when compared to the daily averages. On October 10, 2010 the daily average relatively humidity was 70.3% whereas the relative

humidity during the period when high PM concentrations were recorded was 96.7%. Similarly, on October 12, 2010 the daily average relatively humidity was 74.4% whereas the relative humidity during the period when high PM concentrations were recorded was 88.0%.

A similar relationship of higher PM concentrations and relative humidity was also noted for AQ 1 (A) which experienced higher PM concentrations on July 1, 2009 from 02:15 to 03:49. The relative humidity during this time period was 82.8% whereas the daily relative humidity average was 74.3%.

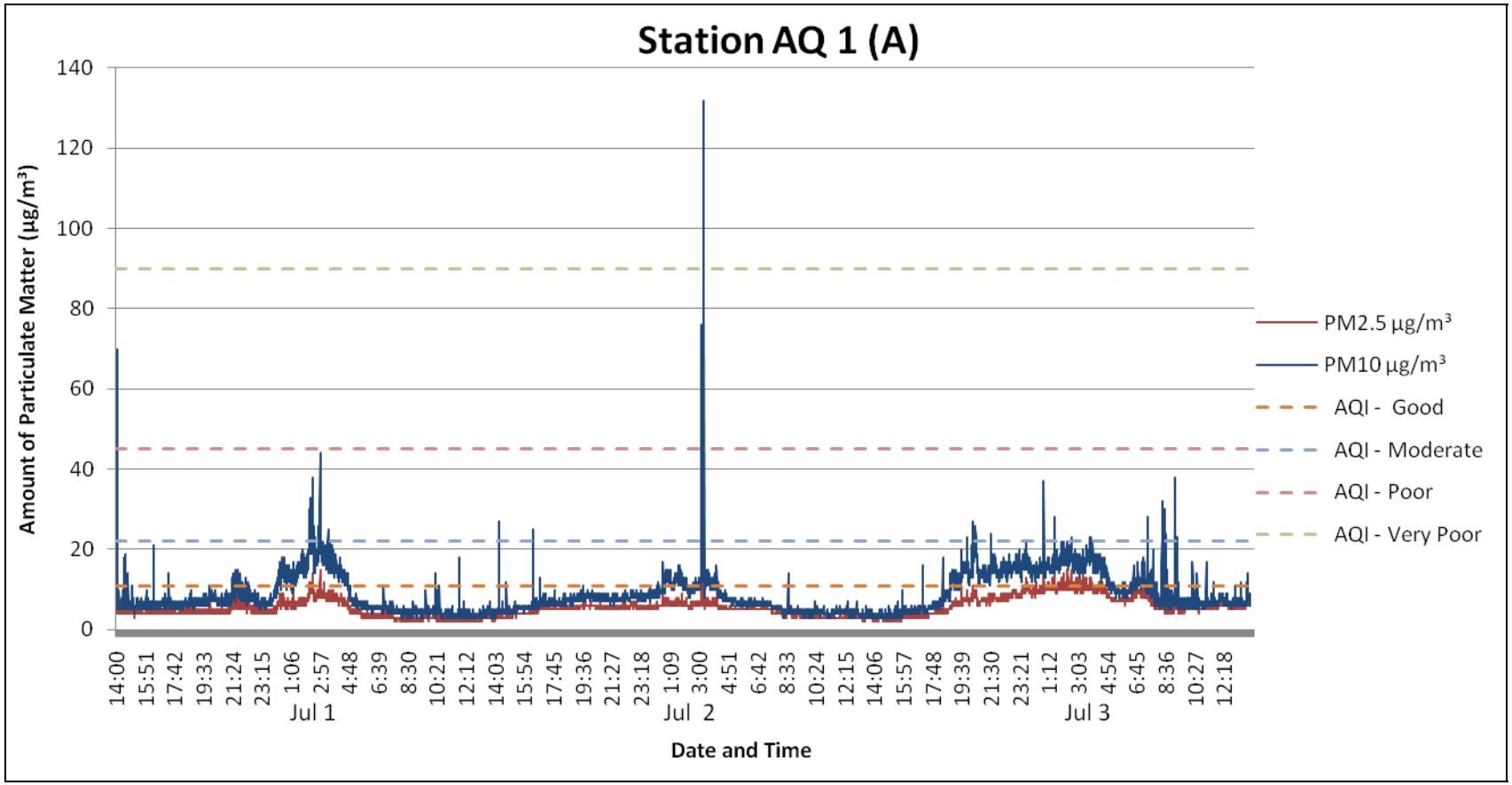


Figure 9.2 Background Particulate Matter at AQ 1 (A)

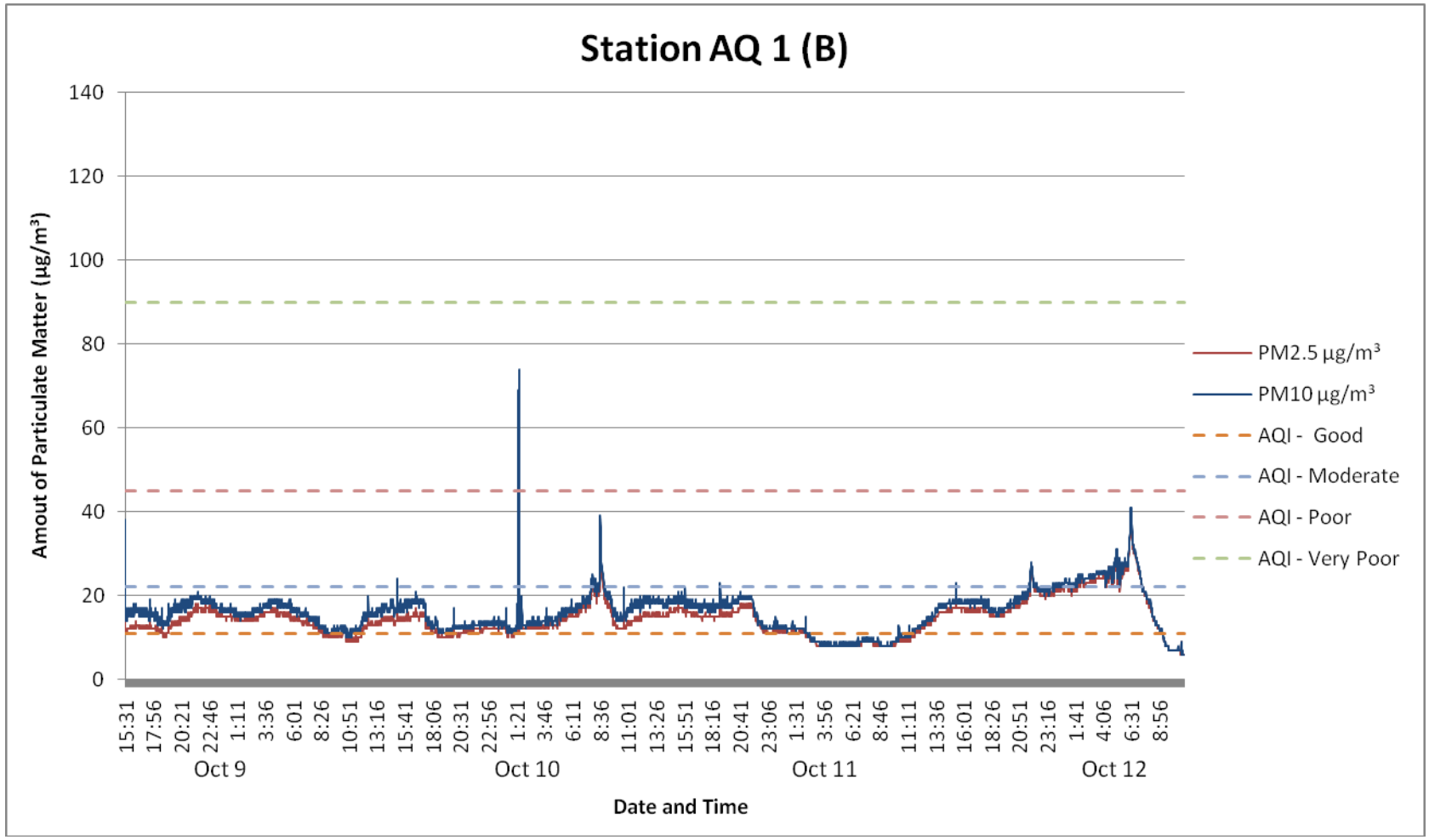


Figure 9.3 Background Particulate Matter at AQ 1 (B)

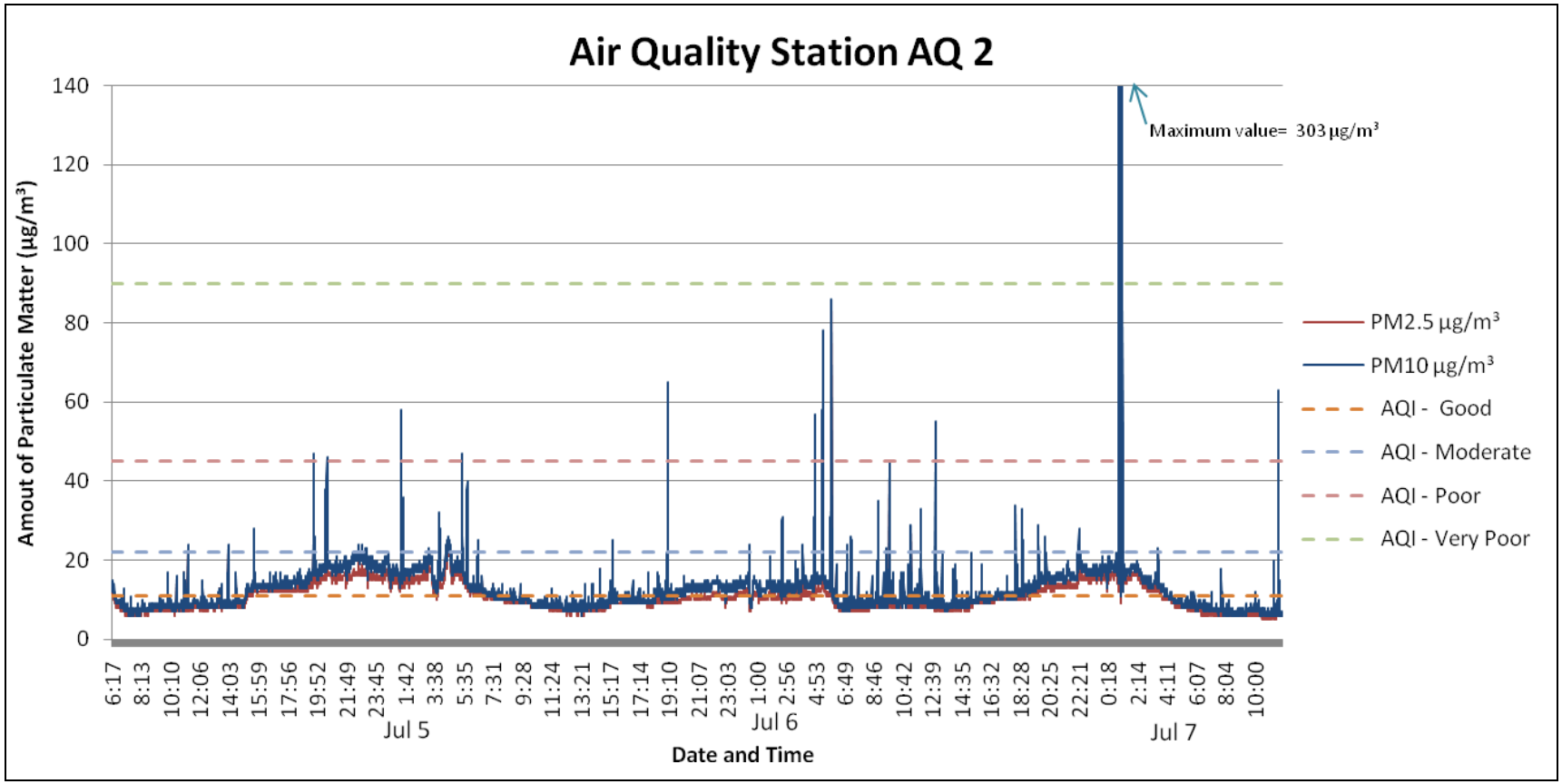


Figure 9.4 Background Particulate Matter at AQ 2

9.4 Summary

The baseline air quality at the air quality monitoring stations met the Ontario Ambient Air Quality Criteria for airborne $PM_{2.5}$ and PM_{10} concentrations. The Ontario AQI category for the baseline fine PM ($PM_{2.5}$) concentrations were considered 'very good' for AQ 1 (A), 'good' for AQ 1 (B) and fluctuated between 'very good' and 'good' for AQ 2. While there are undoubtedly other factors that could cause variation in the observed PM concentrations, it appears that higher than average relative humidity may contribute to greater concentrations of PM being recorded.

The variations in elevated concentration of airborne PM at station AQ 2 relative to station AQ 1 (A) and AQ 1 (B) may be caused by AQ 2's relative position to Highway 600. Station AQ 2 is 20 m from Highway 600, whereas AQ 1 is 115 m away. In addition, AQ 2 is located near a higher traffic stretch of the highway compared to AQ 1. Highway 600 likely represents the largest source of airborne particulate matter currently affecting the stations.

The monitoring results confirm that ambient air quality PM concentration levels are low and within the Ontario Ambient Air Quality Criteria and Standards.

10. NOISE

10.1 Study Objectives

The objective of the noise baseline study was to quantify the existing ambient noise level in the Local Study Area. This baseline noise study focused on collecting baseline ambient data for two key sensitive receptors: human receptors and wildlife receptors.

10.2 Methodology

The ambient noise levels in the Local Study Area were quantified by conducting a baseline noise study from July 1, 2009 to July 6, 2009, September 14, 2010 to September 17, 2010, and October 6, 2010 to October 8, 2010.

Quest Model 2900 Advanced Integrating Sound Level Meters (SLMs) were used for noise monitoring. The SLMs were calibrated using a Quest QC10 Calibrator in the laboratory and in the field prior to use. The SLMs meet the following National and International standards: American National Standards Institute (ANSI) S1.4-1983 Type 1 and Type 2; International Electrotechnical Commission (IEC) 60651-1979 Type 1 and Type 2; and IEC 60804-1985 Type I and Type II, and Physikalisch-Technische Bundesanstalt (PTB) mark. The Quest Model 2009 SLMs have an accuracy of +- 2 dBA, a noise floor of 20 dBA, and a maximum noise level of 140 dBA.

The SLMs were placed at eight noise stations, referred herein as N1 through N8, throughout the Local Study Area (Figure 10.1). Each station was monitored once with the exception of N1 which was monitored in July, 2009 (N1(A)) and in September, 2010 (N1(B)) because of its close proximity to the proposed advanced exploration project facilities and human receptors. Noise stations N1, N2, N6, and N7 were located near human receptors to record ambient anthropogenic sound whereas N3, N4, and N5 were located near wildlife receptors to record conservative ambient natural sound. Summer and

fall were selected for the monitoring because it is assumed that traffic and outdoor activities would be at their peak.

Weather conditions during the sampling time period were collected at the Local Study Area climate station (see Section 3.1) and are summarized in Table 10.1. Hourly wind and precipitation measures were compiled and compared to sound level results to verify that sound measures recorded were not influenced by weather conditions. Wind speeds and precipitation volumes collected at the climate station were assumed to be representative of conditions at the noise stations given that they are in close proximity to each another.

The noise stations were located at least 1 m from any sizeable solid structure to prevent acoustical reflections and at a height of 1 m above the ground as required by MOE guideline NPC-103 (MOE, 1978). A windscreen was used to dampen the influence of wind-generated noise on the results. Photographs of the placement and setup of noise stations N1, N3, N4, N5, N6, N7, and N8 are shown in Photo 10.1 to Photo 10.7. Sound level was monitored for each noise station at one minute intervals with various sound parameters (summarized inTable 10.2).

Table 10.1 Climate Conditions during Sound Sampling

DATE	WIND SPEED (km/hr)	WIND DIRECTION (°)	MAX WIND SPEED (km/hr)	MAX RELATIVE HUMIDITY (%)	MIN RELATIVE HUMIDITY (%)	TOTAL PRECIPITATION (mm)	MAX TEMPERATURE (°C)	MIN TEMPERATURE (°C)
01/07/2009	10.3	347.2	33.5	90.0	59.3	0.0	16.9	9.7
02/07/2009	4.5	6.0	25.3	98.9	56.8	0.0	22.0	5.3
05/07/2009	3.7	334.6	23.1	99.5	27.9	0.0	26.8	3.1
06/07/2009	5.6	352.8	32.4	99.5	38.4	0.0	25.1	4.0
14/09/2010	7.2	303.9	35.0	98.0	56.7	0.0	14.0	0.6
15/09/2010	4.4	350.9	28.3	99.1	42.8	1.5	16.8	-1.2
16/09/2010	2.8	102.2	18.4	99.1	58.9	0.2	14.4	-1.8
17/09/2010	6.0	179.8	27.0	99.5	44.4	6.1	18.4	-3.1
06/10/2010	11.9	154.0	42.6	75.2	30.8	0.0	26.6	5.3
07/10/2010	11.9	285.3	43.0	82.5	23.9	0.0	20.2	3.7
08/10/2010	4.2	210.7	24.9	98.6	28.9	0.0	25.7	-1.9

Table 10.2 Background Sounds Test Parameters (Leq, LMAX, LPeak, LN10, LN90)

STATION	RECEPTOR	TEST START TIME	TEST END TIME
N1 (A)	Human	July 1, 2009 @ 1237	July 2, 2009 @ 1239
N1 (B)	Human	Sept 14, 2010 @ 1400	Sept 16, 2010 @ 1809
N2	Human	July 5, 2009 @ 1320	July 6, 2009 @ 1325
N3	Wildlife	Sept 14, 2010 @ 1531	Sept 16, 2010 @1822
N4	Wildlife	Sept 14, 2010 @ 1521	Sept 16, 2010 @ 1004
N5	Wildlife	Sept 14, 2010 @ 1601	Sept 15, 2010 @ 1226
N6	Human	Sept 16, 2010 @ 0951	Sept 17, 2010 @ 0812
N7	Human	Sept 16, 2010 @ 1039	Sept 17, 2010 @ 0820
N8	Human	Oct 6, 2010 @ 1534	Oct 8, 2010 @ 1504



Photo 10.1 Noise Station N1 (A)



Photo 10.2 Noise Station N1 (B)



Photo 10.3 Noise Station N3



Photo 10.4 Noise Station N4



Photo 10.5 Noise Station N5



Photo 10.6 Noise Station N6

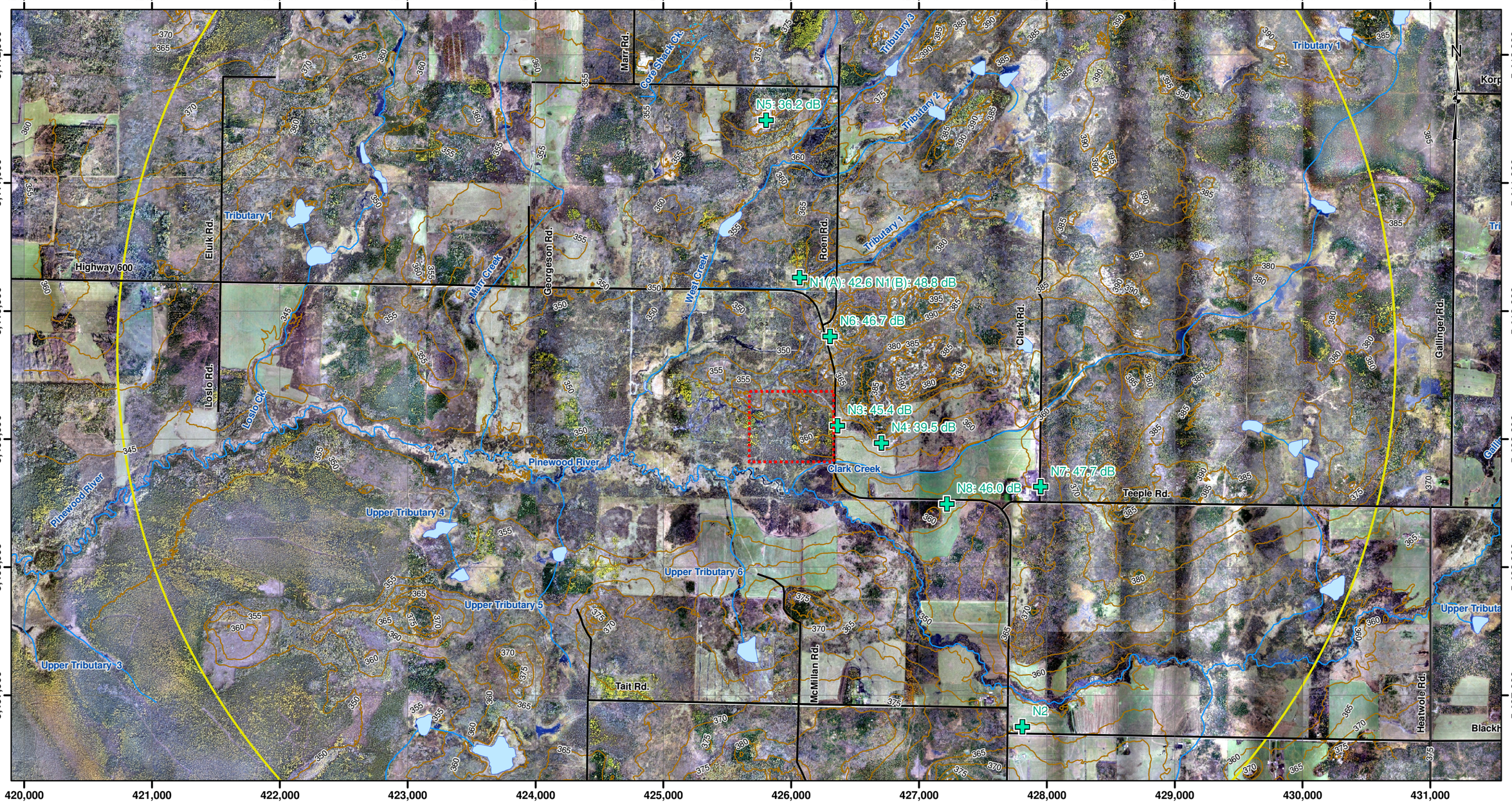


Photo 10.7 Noise Station N7



Photo 10.8 Noise Station N8

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Noise Meter

Contours (5m)

Advanced Exploration Project Facility Boundary

Local Study Area

Noise Station Name
N1: 48.8 dB
Average LEQ (dB)

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN CRIPPEN BERGER REPORT DATED DECEMBER, 2010

0 1,000 m

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CLIENT: RainyRiver Resources Ltd.

Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: BASELINE NOISE STATIONS AND NOISE LEVELS (LEQ'S)

PROJECT No. M09559A04

FIG No. 10.1

10.3 Results

Community noise levels are rarely steady but vary in intensity from second to second, hour to hour, and day to day. The most common noise descriptor is the Equivalent Sound Level, or L_{eq}. The L_{eq} is defined as the calculated sound level over the measured time period that has the same acoustic energy as the actual fluctuating sound levels occurring over the same period. Ambient noise is defined as noise present in the environment before the introduction of additional noise sources and is measured in terms of hourly L_{eq}s. To further define the ambient noise levels, the statistical distribution of the noise is also measured in terms of the exceedance levels, L_{10} and L_{90}. These are the noise levels that are exceeded 10% and 90% of the time, respectively. L_{90} is considered to be representative of the background sound level in rural areas. L_{10} is used to indicate the upper limit of fluctuating noise while L_{MAX} represents a single noise event peak sound level.

Table 10.3 and Figure 10.2 summarize the observed baseline sound levels for June 2009 and July 2009, September 2010, and October 2010. Due to technical difficulty with the noise monitoring instrument, noise station N2 did not record sound levels properly and, therefore, the N2 sound results have been omitted from this report.

Table 10.3 Summary of Sound Levels (dBA) at Noise Stations

STATION	RECEPTOR	Leq	L10 (dBA)	L90 (dBA)	LMAX
N1 (A)	Human	42.6	44.2	29.8	71.9
N1 (B)	Human	48.8	52.8	39.2	78.5
N3	Wildlife	45.4	46.4	32.7	76.8
N4	Wildlife	39.5	42.5	30.1	76.7
N5	Wildlife	36.2	37.5	25.7	76.7
N6	Human	46.7	49.2	40.2	78.6
N7	Human	47.7	48.7	34.3	83.6
N8	Human	46.0	46.3	31.5	78.9

The ambient sound levels (L_{eq}, shown in Table 10.3) at the noise stations varied from 36.2 dBA to 48.8 dBA while background sound level (L_{90}, shown in Table 10.3) ranged from 25.7 dBA to 40.2 dBA and the upper limit of fluctuating noise (L_{10}, shown in Table 10.3) varied from 37.5 dBA to 52.8 dBA. As shown in Figure 10.2, noise levels were similar in daytime (7:00 to 19:00) and nighttime hours (19:00 to 07:00).

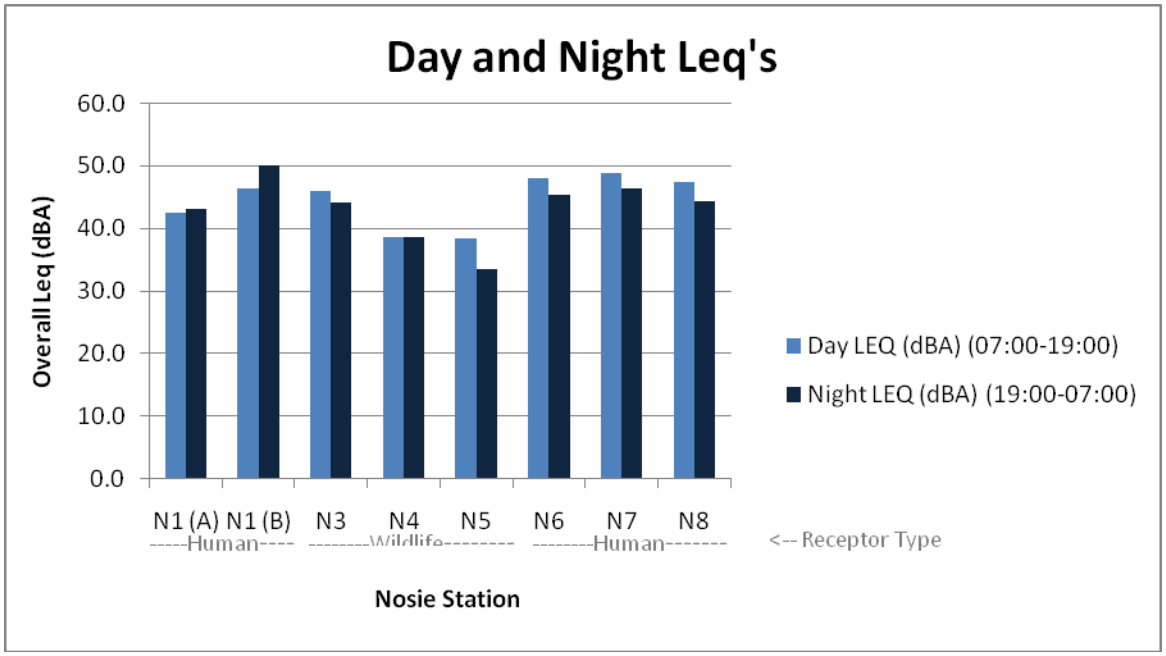


Figure 10.2 Day and Night L_{eq}'s

Noise levels were higher at N1(B), measured in September 2010 than at N1(A), measured in July 2009 (see Table 10.3 and Figure 10.2). During this time Rainy River exploration activities, in terms of drill numbers, remained consistent. The increase in noise levels observed was likely caused by an increase in traffic along Highway 600 which was resurfaced by the Ministry of Transportation (MTO) in 2010. Additional noise may also result from other exploration operations in the Local Study Area.

The Leq sound levels recorded at each noise station were compared to hourly wind and precipitation recorded at the Local Study Area climate station (Figure 10.3 to Figure 10.10). If the sound levels recorded were influenced by the climatic variables, it would be expected that increased wind speed and the presence of precipitation would cause increased sound levels. While wind speeds fluctuated throughout the sound monitoring period, the sound recordings do not follow the same trend. Most of the noise stations were operating during minimal precipitation and, similarly to wind speed, the presence of precipitation does not seem to have influenced the sound levels recorded.

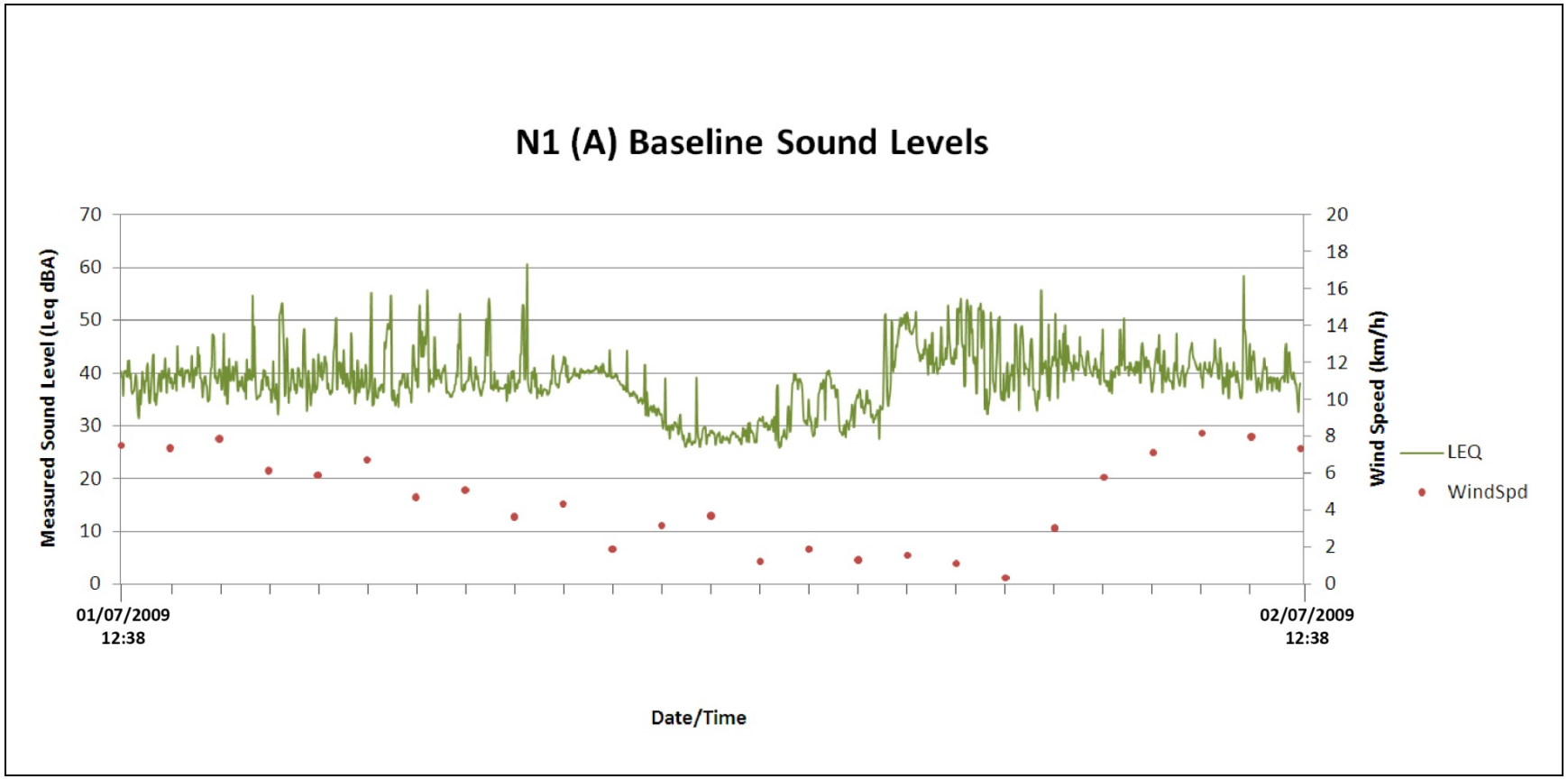


Figure 10.3 Baseline Sound Levels at N1 (A)

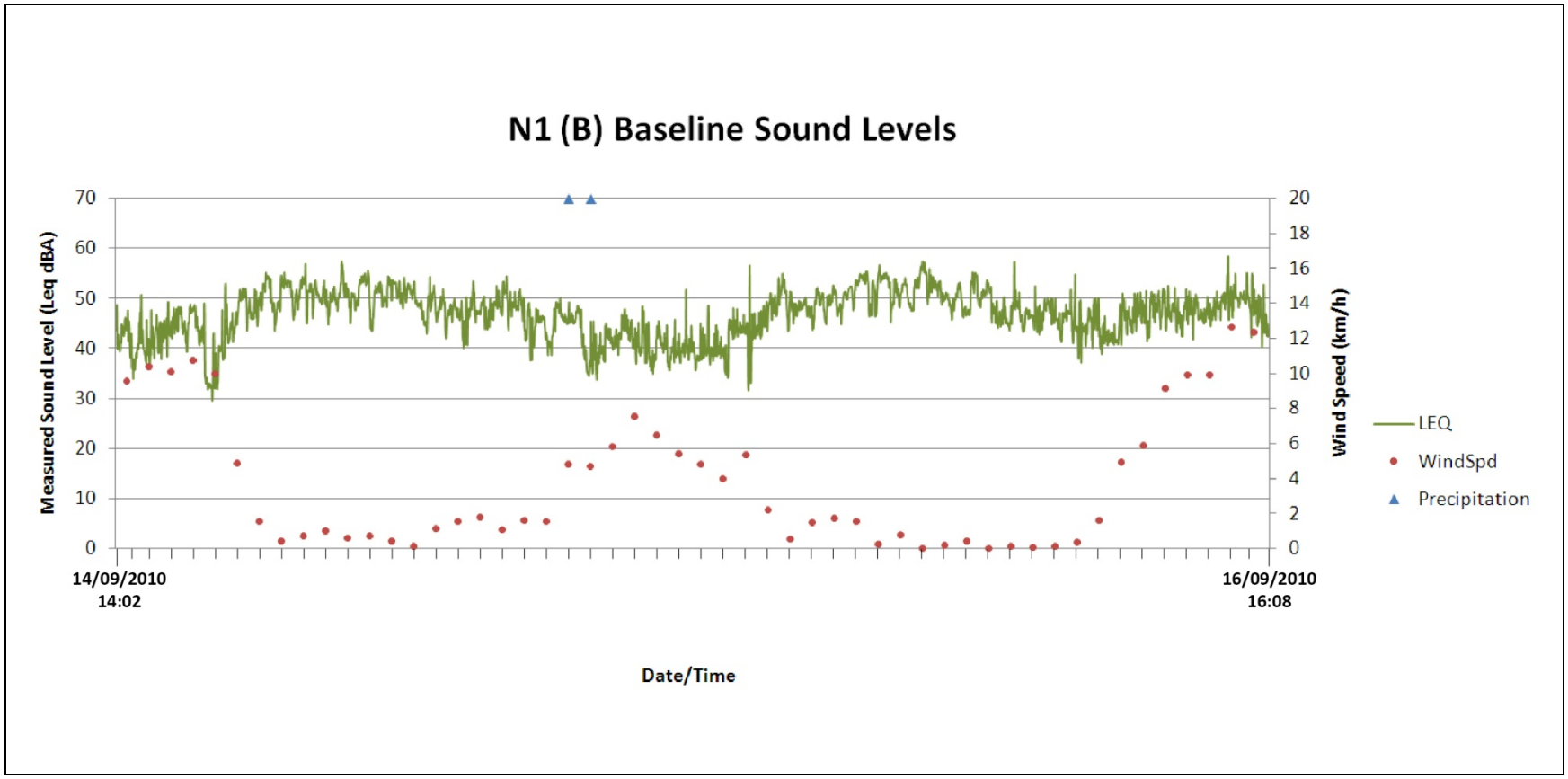


Figure 10.4 Baseline Sound Levels at N1 (B)

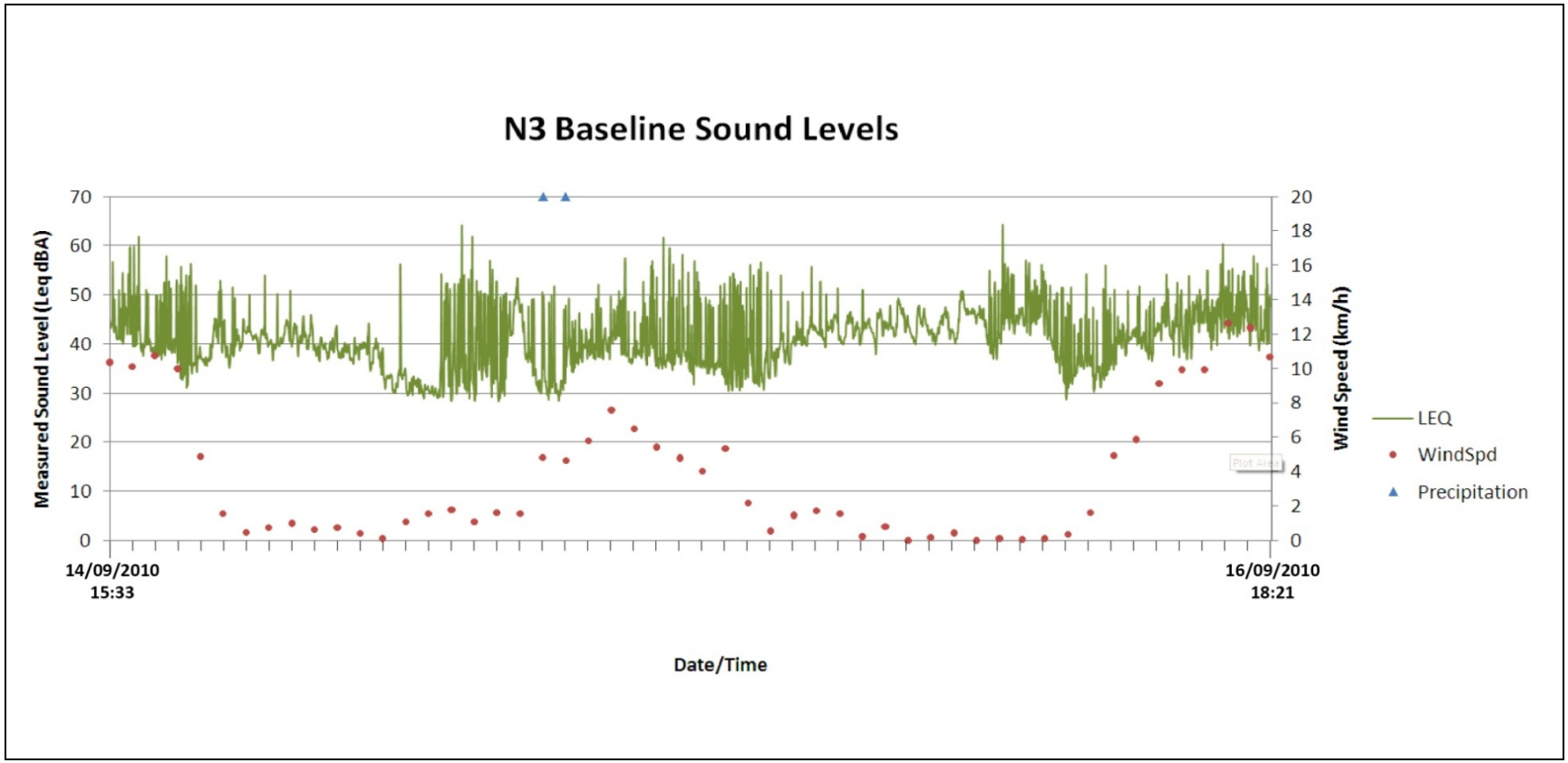


Figure 10.5 Baseline Sound Levels at N3

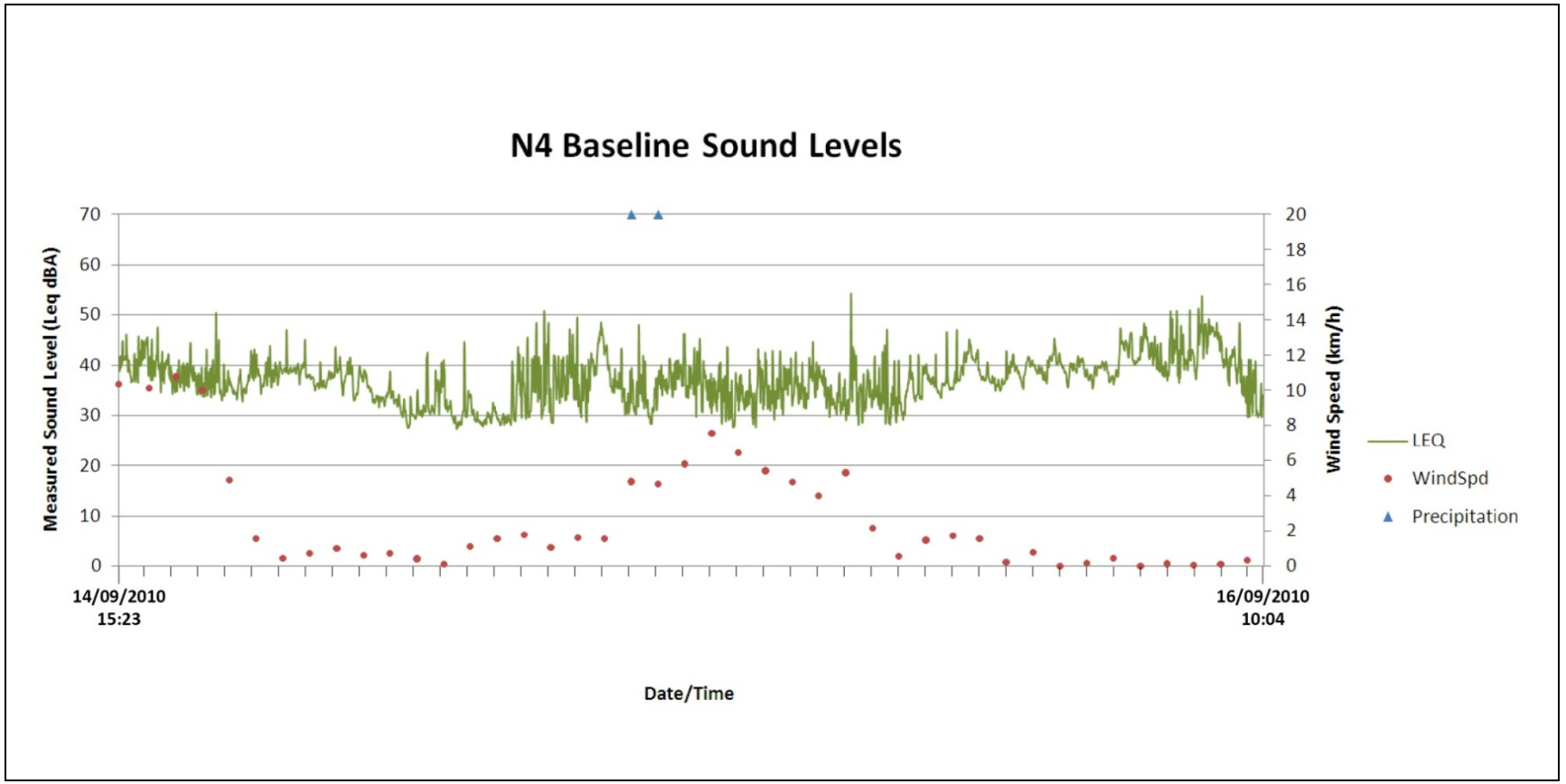


Figure 10.6 Baseline Sound Levels at N4

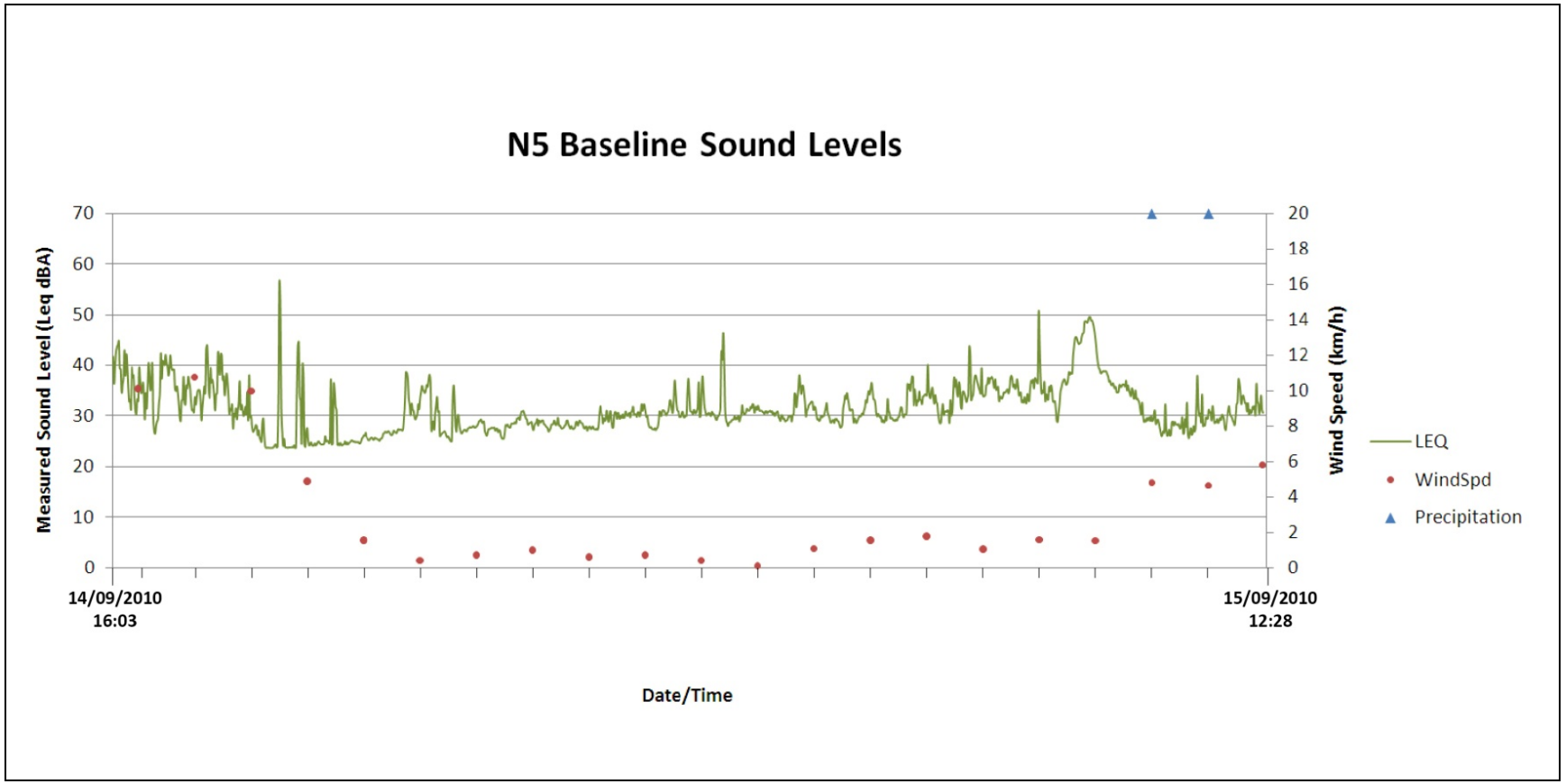


Figure 10.7 Baseline Sound Levels at N5

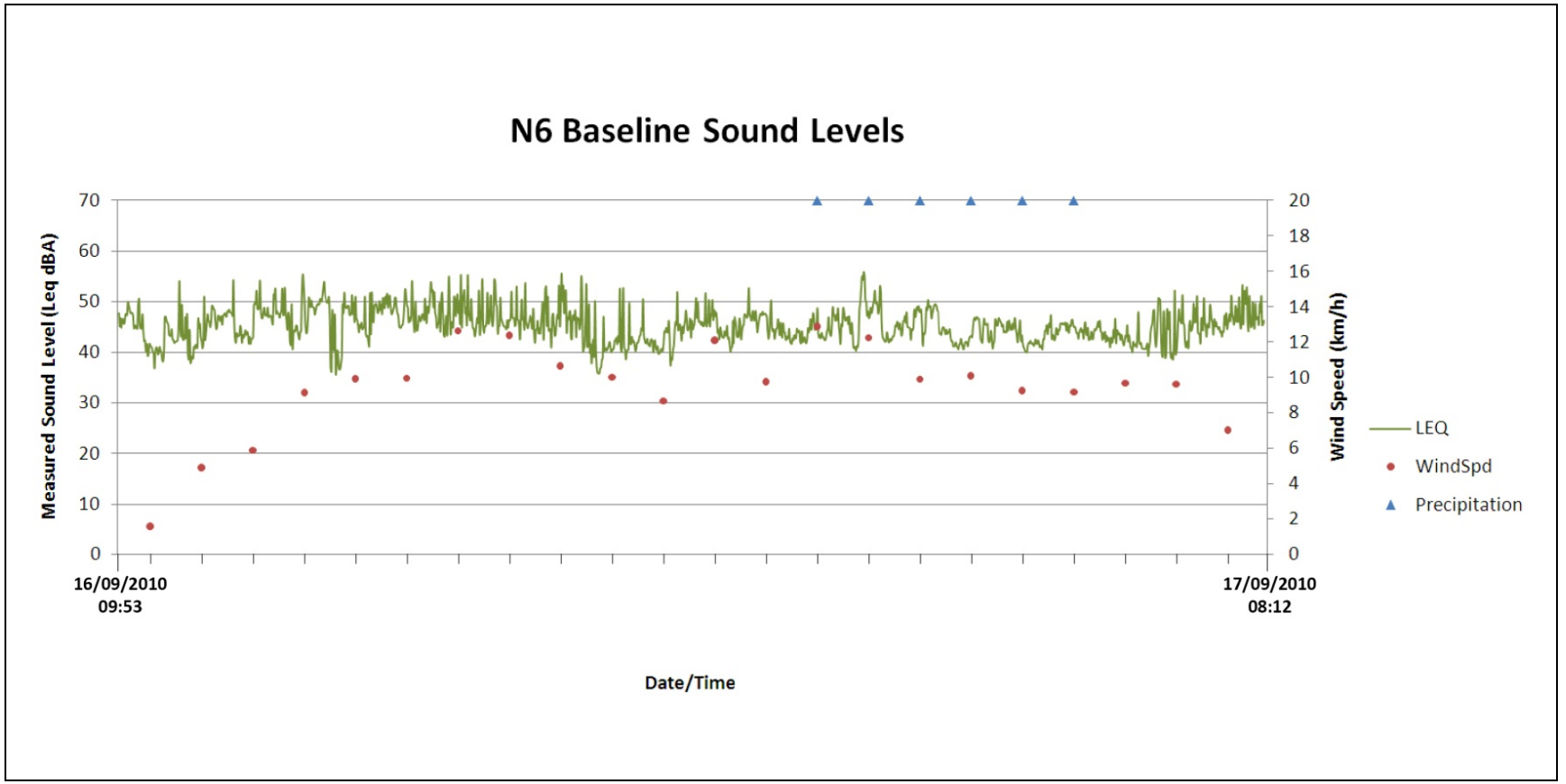


Figure 10.8 Baseline Sound Levels at N6

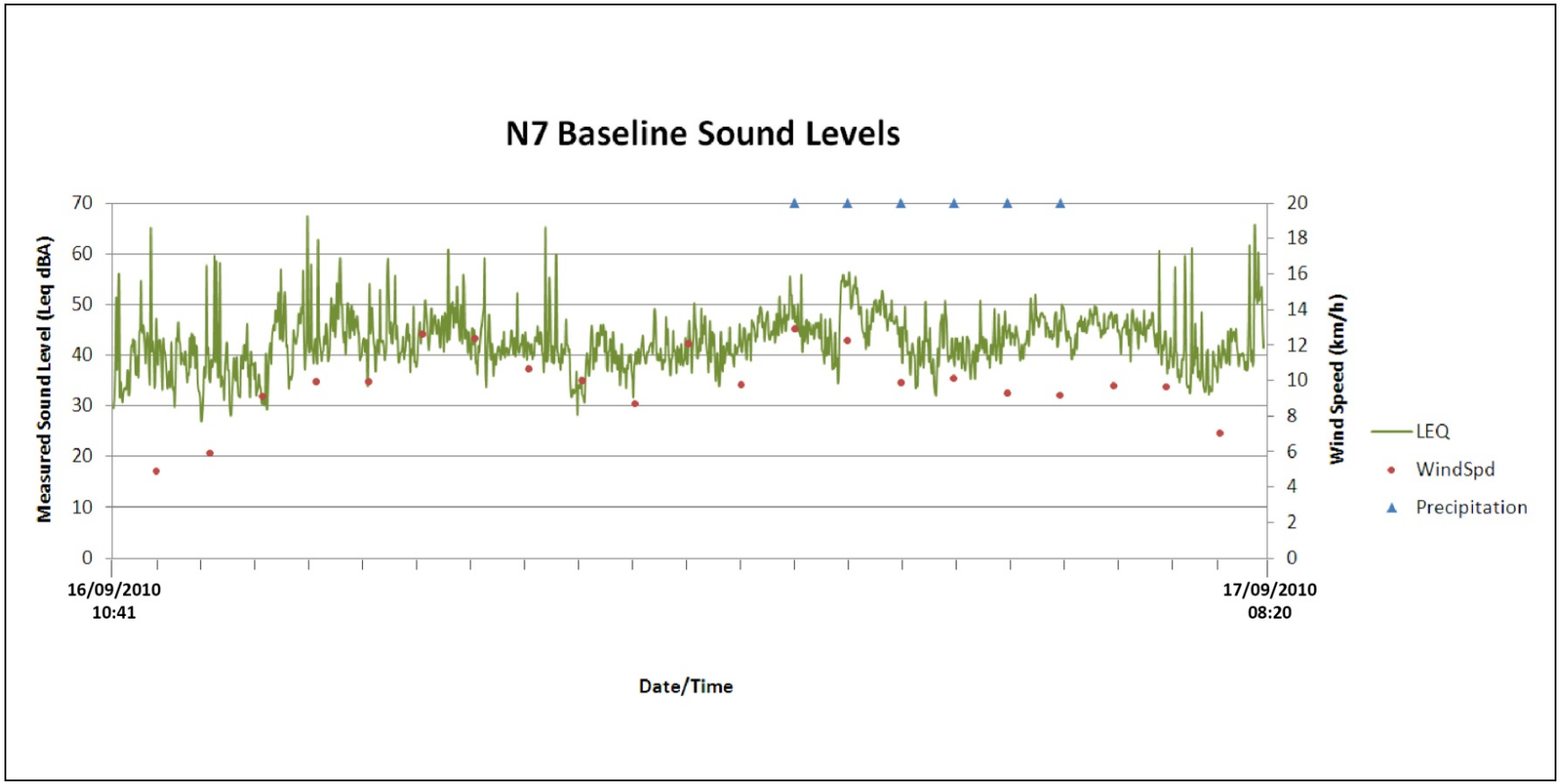


Figure 10.9 Baseline Sound Levels at N7

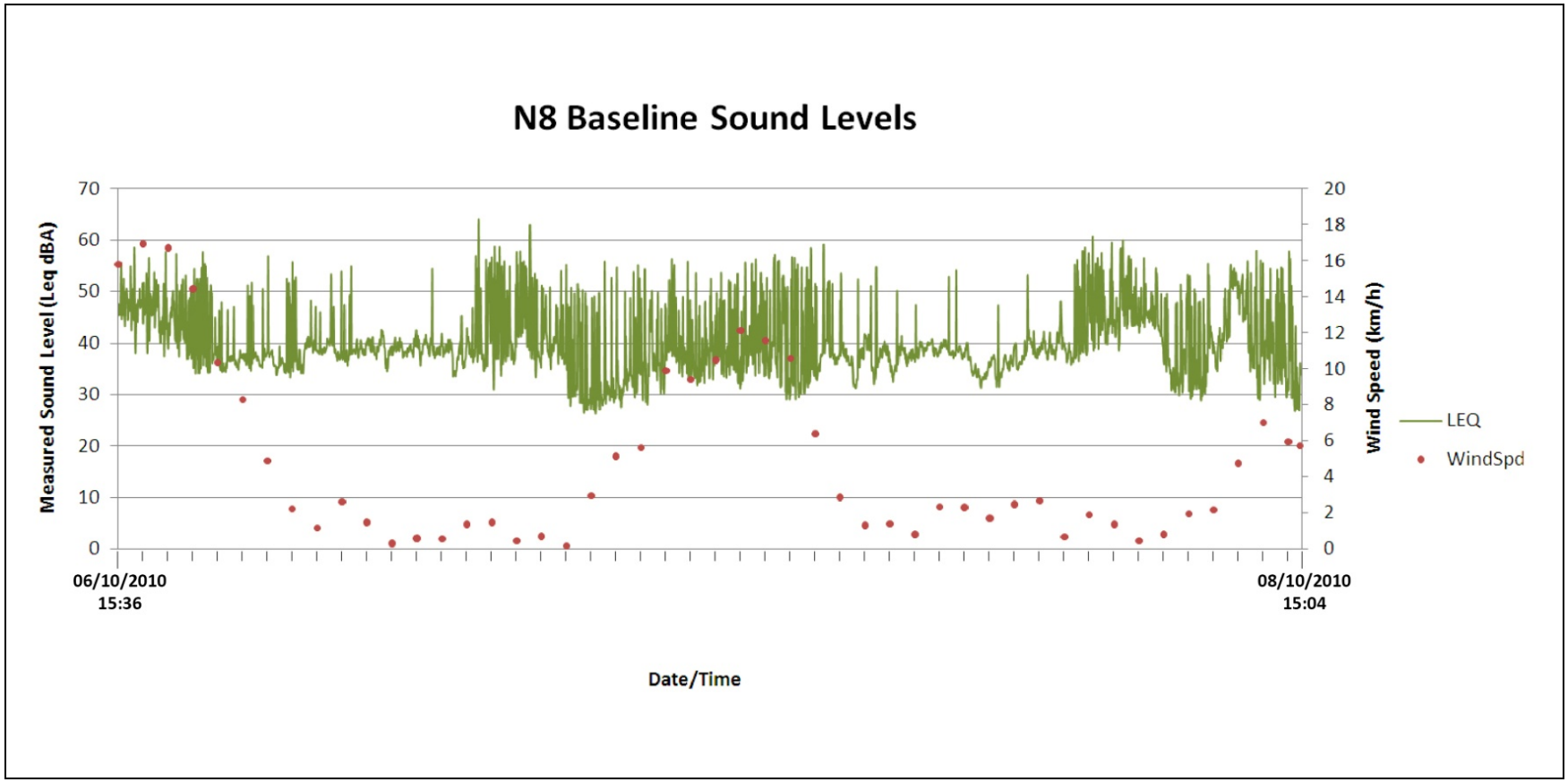


Figure 10.10 Baseline Sound Levels at N8

10.4 Summary

Sound baseline measurements were recorded at sensitive human and wildlife receptor locations in June 2009 and July 2009, September 2010, and October 2010 using Quest 2009 Type 2 SLMs. By relating wind speed and precipitation to the noise recordings, it appears that neither meteorological variable directly affected the sound levels recorded. The ambient noise levels are low and majority of the noise comes from human activity associated with roads (including Highway 600) and nearby farms and exploration activities.

The average sound levels (L_{eq}, shown in Table 10.3) recorded at stations N4 and N5 were lower than the other noise stations. The lower sound levels are likely caused by the aforementioned stations' relative positions further from busy roads (> 250 m to nearest road as opposed to 10 m to 100 m from the road for the other stations). This further highlights that the dominant ambient noise in the area results from traffic and activities along Highway 600.

The monitoring results confirm that background sound levels are consistently low and dominated by road traffic and other natural sounds expected in a rural environment.

11. AQUATIC ENVIRONMENT

11.1 Study Objectives

The primary objectives of the baseline aquatic environmental studies were to:

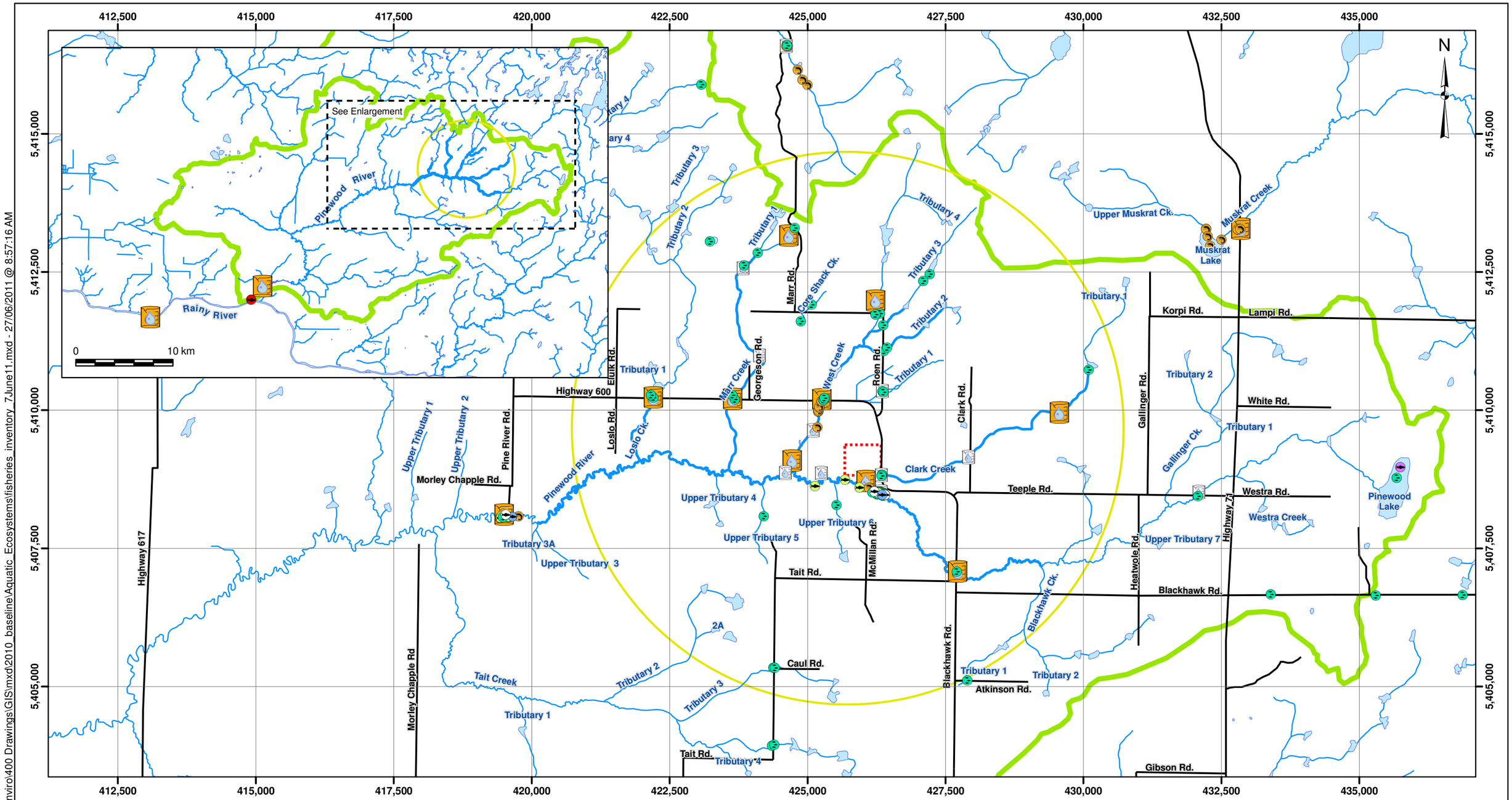
- Describe, quantify and characterize the existing status of aquatic life and habitat in and near the Local Study Area (Figure 11.1);
- Confirm the fish species present in the streams and lakes in and near the Local Study Area;
- Determine the status (distribution, relative abundance and condition) of the fish populations in and near the Local Study Area; and
- Determine the species abundance and diversity of benthic invertebrate organisms in the streams and lakes within the Local Study Area.

11.2 Methodology

The work consisted primarily of fish habitat surveys, fish sampling, benthic invertebrate sampling, *in situ* water quality measurements, flow measurements, occasional interviews with local residents and photography of water-bodies, riparian areas, landforms and fish samples. Table 11.1 shows the dates when fisheries fieldwork was conducted in the Local Study Area and shows the locations of the fisheries field work.

Table 11.1 Dates of Baseline Fisheries Field Work

YEAR	DATES OF FIELD WORK
2008	November 12 to November 19
2009	May 8 to May 14
	June 23 to July 8
2010	March 19 to March 24
	July 29 to August 5
	September 13 to September 17
	October 4 to October 9



Water Quality Sampling Location Status

- Active
- Discontinued

Sampling Method

- Dip Net (Juvenile Walleye)
- Gill Net
- Electrofishing
- Seine Net
- Snorkel Survey
- Benthic Invertebrate
- Minnow Trapping

- Advanced Exploration Project Facility Boundary
- Local Study Area
- Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

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CLIENT

Rainy River Resources Ltd.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

FISHERIES INVENTORY SAMPLING LOCATIONS
2009 - 2010

PROJECT No. M09559A04

FIG No. 11.1

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11.2.1 Fish Populations

Fish sampling was conducted primarily with Gee-type minnow traps, as well as gill nets, seine nets and electro-fishing. The sampling equipment specifications are shown in Table 11.2.

Table 11.2 Fish Community Assessment Equipment Specifications

EQUIPMENT	SPECIFICATIONS	OTHER
Minnow Trap	Standard wire, 2 opening	Baited with bread and cat food
Electrofisher	Smith-Root Model LR-24	430V, 100 Hz
Seine Net	30 m x 1 m with 1/8" stretched mesh	NA
Gill Net (FWIN)*	8 panels of 25 mm to 152 mm stretched mesh; each panel 1.8 m deep and 7.6 m long	Total length 60.8 m
Gill Net (RIN)*	8 panels of 28 mm to 127 mm stretched mesh; each panel 0.9 m deep and 3.1 m long	

FWIN = Fall Walleye Index Net
RIN = River Index Net

Table 11.3 summarizes the 2009 fish sampling efforts in the streams and lakes within and beyond the Local Study Area.

Table 11.3 Fish Sampling Effort in 2009

TECHNIQUE	LENGTH OF REACH (m)	AVERAGE WIDTH (m)	EFFORT	EFFORT PER UNIT LENGTH
PINEWOOD RIVER				
Minnow Trap	650 m	10	20 traps for 22 h, or 440 trap-hours	68 trap-hours per 100 m
Electrofisher	650	10	195 electro-seconds	30 electro-secs/ 100 m
Seine Net	650	10	5 sets	0.8 sets/ 100 m
Gillnet	500	100	1-24h set in Muskrat Lake	24 net-hrs
WEST CREEK				
Minnow Trap	230	3.5	20 traps for 19.5 h (390 trap-hours)	2 traps per 100 m^2
Electrofisher	230	3.5	583 electro-seconds	72 s per 100 m^2
Seine Net	230	3.5	2 sets	0.25 sets per 100 m^2

Fish sampling in 2009 also included work in Jones Creek (aka Split-Rock Creek), Muskrat Lake/Creek and a wetland in the upper Rainy Lake watershed (Figure 11.1); these locations are potential reference areas for environmental monitoring (EEM).

In 2010, the focus was on completing the inventory of fish species distributions and relative abundance in the Local Study Area. The locations, methods and effort are shown in Table 11.4.

Table 11.4 Fish Sampling Effort in 2010

TECHNIQUE	LENGTH OF REACH (m)	AVERAGE WIDTH (m)	EFFORT
PINEWOOD RIVER			
Gee Traps	100	10	639 trap-hrs
Gillnets	500	10	96 hours
PINEWOOD LAKE			
Gee Traps	1000	120	123 trap-hrs
WEST CREEK			
Gee Traps	250	3.5	1102 trap-hrs
Electro-fishing	500	2.5	750 e-s
MARR CREEK			
Gee Traps	250	2	268 trap-hrs
LOSLO CREEK			
Gee Traps	100	2	208 trap-hrs
CLARK CREEK			
Gee Traps	100	1.5	305 trap-hrs
SOUTH-SIDE TRIBUTARIES OF PINEWOOD RIVER			
Gee Traps	100	1.5	200 trap-hrs
TAIT CREEK			
Gee Traps	500	1.5	192 trap-hrs
RAINY LAKE and LAKE-OF-THE-WOODS WATERSHEDS			
Gee Traps	200	1.5	292 trap-hrs
OTHER CREEKS*			
Gee Traps	235		235 trap-hrs
TOTAL			3,564 Trap-Hours

*Several other creeks were also sampled in 2010, including Tait Creek and unnamed creeks along the proposed transmission line corridor beside Hwy 615.

Gee traps were baited with cat food and bread and set overnight at representative locations in the creeks, river, ponds, and lakes. Monofilament nylon gill nets were used in the Pinewood River to catch large-bodied fish, such as pike and adult suckers. A standard river index net (RIN) comprised of a gang of five nets, each 50 feet (15.2 m) long by 8 feet (2.4 m) deep, with mesh sizes of 0.5 in (1.3 cm), 1.5 in (3.8 cm), 2 in (5 cm), 2.5 in (6.4 cm) and 3 in (7.6 cm) stretched mesh was used.

Electro-fishing with a Smith-Root LR24 backpack electro-fisher was used in March 2010 in upper West Creek but was less effective than the Gee traps, which were very effective in catching the small bodied fish during all field visits. In 2010, the water levels were such that electro-fishing could not be conducted safely in the Pinewood River and some parts of West Creek due to slippery substrates (clay) and deep water.

Snorkel surveys were conducted in Pinewood Lake and attempted in the Pinewood River; however, visibility was limited by high turbidity in the lake and river due to agricultural runoff. Extensive visual inspection occurred in both 2009 and 2010 throughout the creek systems in the Local Study Area.

11.2.2 Fish Habitat

The streams and ponds in the Local Study Area include primarily headwater creeks in the upper Pinewood River system, which drains gently rolling terrain in a primarily agricultural area. The mainstem Pinewood River runs through the Local Study Area and joins the much larger Rainy River about 30 km downstream at the community of Pinewood. The uppermost wetlands of the Lake of the Woods and Rainy Lake systems also lie within the Regional Study Area and serve as reference sampling areas for monitoring purposes.

11.2.2.1 Stream Habitat

Figure 11.1 shows the primary streams, ponds and wetlands in the Local Study Area, including the Pinewood River and several north-side tributaries, including West Creek and its tributaries, Marr Creek, Loslo Creek, Clark Creek, Tait Creek and Teeple Creeks. Stream habitat characteristics were surveyed, assessed and recorded during each fisheries field trip. Habitat measures and descriptors were recorded on Department of Fisheries and Oceans (DFO)/MOE Stream Survey Forms, or in field notebooks, and included:

- Stream channel width;
- Floodplain width;
- Stream wetted width;
- Pool and sill depths;
- Riffle depths;
- Bank height and composition;
- Flow types and percent (pool, glide/run, riffle, cascade/rapids, chutes/falls);
- Substrate types and % (bedrock, boulder, cobble, gravel/pebble, sand, silt, clay, organics);
- Riparian cover (%) and species of near-stream terrestrial vegetation;
- Aquatic vegetation;
- Flow volume/discharge; and
- Sketches, photographs and notes on habitat features and functions.

Stream habitat data and observations were used to classify and rate the habitat conditions in the creeks and in the Pinewood River within the Local Study Area. Habitat types

include riffle, run/glide, pond, and wetland and the classifications include spawning, rearing, over-wintering and migration habitat, as well as fishless/barren habitat whose value is in fish food production.

Habitat quality ratings include “low”, “moderate” and “high” in reference to habitat classifications. High value spawning and early rearing habitat is considered the most productive for fish, while over-wintering habitat is important for fish survival in winter, and wetlands are high value food and fish production areas.

11.2.2.2 Lake Habitat

The only lakes in the in the general vicinity of the Local Study Area are Pinewood Lake at the headwater of Pinewood River about 11 km east of the Local Study Area, and Muskrat Lake, which is in the Lake of the Woods watershed. Both lakes are partially controlled by beaver dams; however, Pinewood Lake is over 10 m deep and sufficiently large (<5 ha) for designation as a lake. The habitat in Pinewood Lake was observed from the shore and by boat, as well as in a snorkel survey. Notes were recorded on lake survey forms and field books. The land owner on the south side of the lake (B. Watts) provided permission for access and information on the fish and morphology of the lake. Pinewood Lake could potentially be used as a reference waterbody, particularly for fish tissue analyses.

11.2.3 Benthic Invertebrates

Benthic invertebrates include the aquatic larval forms of terrestrial insects, as well as fully aquatic forms, such as mollusks, crustaceans and worms. Benthic invertebrates live on and in the bottom substrates of streams, lakes and wetlands, and are important food items for fish.

11.2.3.1 Stream Benthos

Stream benthic invertebrate samples were taken in 2009 and 2010 from the Pinewood River and West Creek, as shown in Table 11.5 and Figure 11.1. River samples were taken in 2010 with a 6 inch x 6 inch (15.24 cm x 15.24 cm) Eckman Dredge deployed by hand in the river. In 2009, benthic samples were collected in a Petite Ponar sampler and the samples were strained through nytex nylon mesh of 500 µm pore size. In 2010, a 250 µm mesh strainer was used to ensure the smaller forms were fully accounted. In 2010, three dredge samples were taken from each of two stations in the Pinewood River, one (SW1) upstream of the proposed advanced exploration site and one (SW3) downstream.

Table 11.5 Benthic Invertebrate Sampling Locations, August 2010

STREAM	LOCATION
West Creek	Below DR 600
Pinewood River	SW1 U/S of Proposed Advanced Exploration Site
Pinewood River	SW3 D/S of Proposed Advanced Exploration Site

Creek samples were taken with a cylindrical Hess sampler 35 cm in diameter with a sampling area of 0.096 m^2 and 250 µm nytex nylon mesh cod net and screen in a detachable sample bucket. Five Hess samples were taken from a riffle-over-clay/silt section of West Creek. The creek segment sampled was typical of the flowing-water habitat in the streams tributary to the Pinewood River.

All benthic samples were preserved with 10% formalin in 10 oz glass preserving jars for shipment to the taxonomic laboratory (Cordillera Consulting, Summerland, BC). Samples were double labelled with waterproof paper labels inside each jar and permanent black marker on the outside of the metal sealer lid.

11.2.3.2 Lake Benthos

Benthic samples were taken from Muskrat Lake in late June 2009 using a Petit Ponar dredge. Five samples were taken from the lake bottom at randomly selected locations in the littoral zone. Sample preparation included sieving through 500 µm mesh and preservation as described above. The 2009 samples were identified and enumerated by Northern Bioscience in Thunder Bay.

11.2.3.3 Statistical Analyses

The data from the taxonomic analysis and enumeration of benthic invertebrate samples in the Local Study Area were analyzed for:

- Total invertebrate density (#/m^2);
- Taxonomic richness (# taxa);
- Taxonomic evenness (community structure); and
- Bray Curtis Index (BCI) of dissimilarity: $BC_{ij} = (S_i+S_j-2C_{ij})/(S_i+S_j)$, where S_i and S_j are the total numbers of specimens captured at each site (i and j) and C_{ij} is the sum of minimum abundances of the various species (abundance at the site where the species is rarest).

The above metrics were derived from the Metal Mining Effluent Regulations (MMER) guidelines for Environmental Effects Monitoring (EEM) programs (EC 2002) and will be required for future environmental effects monitoring. In 2009, there were insufficient numbers of organisms to properly perform the standard statistics. The 2010 samples were sieved through a finer mesh in an effort to capture more small forms.

11.2.4 Sediment Quality

Sediments are an integral component of aquatic ecosystems and are often included in environmental monitoring programs. Sediments originate from the differential settling of both suspended terrigenous particles that have been introduced into aquatic ecosystems and precipitates that have resulted from chemical and biological processes within aquatic systems. Suspended solids entering the aquatic environment may already contain contaminants, or non-contaminated particles suspended in water may accumulate dissolved contaminants present in the water. Precipitation processes are also capable of scavenging contaminants. As a result, sediments can be viewed as either a reservoir or a sink for contaminants (Environment Canada 2002).

Contamination of sediments from point source inputs such as mining effluents can become bio-available, enter aquatic food-webs and affect the quality of habitat. Measuring sediment quality helps identify which contaminants are entering the exposure area. Sediments provide a better integrator of average long-term environmental conditions than single event water chemistry samples (Environment Canada 2002).

11.2.5 Sediment Sampling Locations

Sediment samples were taken in 2008 and 2009 from depositional areas in the streams and ponds within the Local Study Area, including in the Pinewood River, West Creek and Marr Creek.

Table 11.6 Sediment Quality Stations

SAMPLE ID	LOCATION DESCRIPTION	SAMPLING DEPTH (m)	EASTING (m)	NORTHING (m)
SED1	Pinewood River upstream of project site	1.3	426335	5408522
SED2	West Creek below Hwy 600	0.7	425259	5410167
SED3	Pinewood River downstream of project site	0.45	419489	5408128

11.2.6 Sediment Sampling Procedure

Sediment sampling was conducted in accordance with Environment Canada's *Metal Mining Guidance Document for Aquatic Environmental Effects Monitoring* (Environment Canada 2002). Quantification of particle size distribution, organic carbon content and metals concentrations are requirements of an Environmental Effects Monitoring (EEM) program.

Sediment quality sampling was undertaken November 16, 2008 and July 4, 2009. Sediments were taken from the top 1 cm to 2 cm from the sediment/water interface with a stainless steel scoop and placed in new twist-loc bags for freezing and shipment to Maxxam Analytics Inc. in Mississauga. Approximately 200 gm of sediment were taken for each discrete sample, sufficient for the required physical and chemical testing in the laboratory.

Sediment sampling in 2010 was conducted in conjunction with water quality sampling. No sediment samples were taken with the benthic invertebrate samples; however, the locations of benthic sampling are known, such that sediment samples could be taken at those locations for particle size and metals content.

11.2.7 Parameters Tested

In the laboratory, the sediment samples were analyzed for grain/particle size, total metals (ICP scan), total carbon, and total nutrients (N and P forms). Total carbon (TC; organic matter) was determined as sample loss on ignition (LOI) by weight.

The results of the laboratory analyses were tabulated and compared with the existing federal and provincial criteria for sediment quality in freshwater aquatic environments. The data were also used in evaluating habitat quality for fish and benthos, and can be archived for future comparisons.

The list of the parameters analyzed by Maxxam is provided in Table 11.7

Table 11.7 Sediment Quality Analysis Parameter List

PARAMETER TYPE	PARAMETER
Physical Parameters	pH, Moisture, Particle Size
Anions	Chloride, Bromide, Sulphate
Nutrients	Nitrate, Nitrite, Phosphate, Total Organic Carbon
Total Metals	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Hg, Pb, Mg, Mn, Mo, Ni, P, K, S, Se, Ag, Na, Sr, Tl, V, Zn

The Ontario Provincial Sediment Quality Guidelines (OPSQG) are presented in Table 11.8.

Table 11.8 Ontario Provincial Sediment Quality Guidelines for Parameters of Interest

PARAMETER	LOWEST EFFECT LEVEL	SEVERE EFFECT LEVEL
METALS		
Arsenic (µg/g)	6	33
Cadmium (µg/g)	0.6	10
Chromium (µg/g)	26	110
Copper (µg/g)	16	110
Iron (%)	2	4
Lead (µg/g)	31	250
Manganese (µg/g)	460	1100
Mercury (µg/g)	0.2	2
Nickel (µg/g)	16	75
Zinc (µg/g)	120	820
NUTRIENTS		
TOC (%)	1	10
TKN (µg/g)	550	4800
T-Phosphorus (µg/g)	600	2000

Notes: TKN is total Kjeldahl nitrogen
Source: Ontario Ministry of Environment (2003)

The results of the laboratory analyses were tabulated and compared with the existing federal and provincial criteria for sediment quality in freshwater aquatic environments. The data were also used in evaluating habitat quality for fish and benthos, and can be archived for future comparisons.

11.2.8 Human Use of Fishery Resources

Discussions were held with several longtime residents of Emo, Blackhawk Road, Roen Road, DR 600, and Dearlock Road regarding the Pinewood River, West Creek, bait and sports fishing, water quality (subjective), and related matters. The individuals consulted included a baitfish licensee, a former logger from the pre-ranching era in the region, a long-time rancher and several others, who shared their knowledge on the condition of the river and creeks, and on the fish stocks known to occur there.

11.3 Results

The results of the baseline inventory of aquatic resources, including fish populations, fish habitat conditions, benthic invertebrates and sediments in the Local Study Area are described below.

11.3.1 Fish Populations

Table 11.9 lists the fish species known to occur in the Local Study Area, based on fish sampling in 2009 and 2010. The fish presence locations are shown on Figure 11.2.

Table 11.9 Fish Species Captured in the Local Study Area in 2009 and 2010

FAMILY	COMMON NAME	SCIENTIFIC NAME	Pinewood	West *	Marr	Loslo	Clark	Tait
Sport Fish Species								
Esocidae	Northern Pike	*Esox lucius*	**X**					
Non Sport Fish Species								
Gasterosteiformes	Brook Stickleback	*Culaea inconstans*	**X**	**X**	**X**	**X**	**X**	**X**
Catostomidae	White Sucker	*Catostomus commersonii*	**X**				**X**	
Cyprinidae	Creek Chub	*Semotilus atromaculatus*	**X**	**X**	**X**	**X**	**X**	
Cyprinidae	Lake Chub	*Couesius plumbeus*	**X**	**X**	**X**	**X**	**X**	
Cyprinidae	Common Shiner	*Luxilus cornutus*	**X**				**X**	
Cyprinidae	Brassy Minnow	*Hybognathus hankinsoni*	**X**	**X**	**X**	**X**	**X**	**X**
Cyprinidae	Northern Redbelly Dace**	*Phoxinus eos*	**X**	**X**	**X**	**X**	**X**	**X**
Cyprinidae	Finescale Dace	*Phoxinus neogaeus*		**X**				
Cyprinidae	Dace spp.	*P. eos X P. neogaeus*	X	**X**	X	X	X	X
Cyprinidae	Northern Pearl Dace	*Margariscus nachtriebi*		**X**				
Cyprinidae	Fathead Minnow	*Pimephales promelas*		**X**				
Cyprinidae	Emerald Shiner	*Notropis atherinoides*	**X**	**X**	**X**	**X**	**X**	
Cyprinidae	Spottail Shiner	*Notropis hudsonius*	**X**	**X**	**X**	**X**	**X**	
Cyprinidae	Mimic Shiner	*Notropis volcellus*	**X**					
Cyprinidae	Golden Shiner	*Notemigonus crysoleucas*	**X**				**X**	
Ictaluridae	Brown Bullhead	*Ameiurus nebulosus*	**X**					
Percidae	Blackside Darter	*Percina maculata*					**X**	
Percidae	Iowa Darter	*Etheostoma exile*		**X**				
Umbridae	Central Mudminnow	*Umbra limi*	**X**	**X**	**X**		**X**	**X**

* including tributaries
** including *Phoxinus* sp.

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415,000 417,500 420,000 422,500 425,000 427,500 430,000 432,500 435,000 437,500

5,415,000 5,412,500 5,410,000 5,407,500 5,405,000

N

Tributary 3 Tributary 4 Tributary 3 Tributary 4 Upper Muskrat Ck. Muskrat Creek

Splitrock Rd. Tributary 1 Tributary 2 Tributary 2 Tributary 1 Muskrat Lake

Jones Ck. Marr Rd. Core Shack Ck. Tributary 3 Tributary 1

Jones Rd. Dearlock Rd. / Highway 600 Tributary 2 Tributary 4 Korpi Rd. Lampi Rd.

Eluik Rd. Roen Rd. Gallinger Rd. Tributary 2

Highway 600 Tributary 1 Marr Creek Georgeson Rd. West Creek Tributary 1 Clark Rd. White Rd.

Upper Tributary 1 Upper Tributary 2 Pine River Rd. Loslo Rd. Loslo Ck. Gallinger Ck. Tributary 1

Morley Chapple Rd. Pinewood River Pinewood River Clark Creek Teeple Rd. Westra Rd. Highway 615

Upper Tributary 4 Highway 21 Pinewood Lake

Upper Tributary 6 Westra Creek

Highway 617 Tributary 3A Upper Tributary 5 McMillan Rd. Upper Tributary 7

Upper Tributary 3 Tait Rd. Heatwole Rd. Blackhawk Rd.

Blackhawk Ck.

2A Blackhawk Rd.

Morley Chapple Rd Caul Rd. Tributary 1 Tributary 2

Tait Creek Tributary 2 Tributary 3 Atkinson Rd.

Tributary 1

Tait Rd. Gibson Rd.

Tributary 4

415,000 417,500 420,000 422,500 425,000 427,500 430,000 432,500 435,000 437,500

Fish Presence

- ? Unknown
- No Fish
- Fish Present

Water Quality Sampling Location Status

- Active
- Discontinued

- Advanced Exploration Project Facility Boundary
- Local Study Area
- Pinewood River Watershed

0 2,500 m

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE

FISH PRESENCE AT SAMPLING LOCATIONS: 2009 - 2010

PROJECT No. M09559A04

FIG No. 11.2

The fish and fish habitat in the Pinewood River were studied in summer 2009 and late winter, spring, summer and fall of 2010. The catch data for both years and all sampling sites are tabulated in Appendix V-1 by month, location and species. Table 11.9 summarizes the catches by location and species. The fish catches by month in each location are also summarized in Appendix V-1.

The highest catch rates (catch-per-unit-effort) were typically in the mainstem channels of the north-side tributary creeks, including Marr Creek, Loslo Creek, West Creek, and Clark Creek (Appendix V-1).

Other prominent fish species inhabiting the Rainy River system and perhaps the lower Pinewood River include (from MNR files, M. Mosley, Pers. Comm.):

- Lake Sturgeon (Acipenser fulvescens)
- Walleye (Stizostedion vitreum)
- Trout perch (Percopsis omiscomaycus)
- Log perch (Percina caprodes)
- Johnny darter (Etheostoma nigrum)
- Horneyhead chub (Nocomis biguttatus)
- Black crappie (Pomoxis nigromaculatus)
- Yellow perch (Perca flavescens)
- Rock bass (Ambloplites rupestris)
- Smallmouth bass (Micropterus dolomieui)

Additional fish species also reside in the Rainy River, but have not been documented in the Pinewood River (MNR 2004).

11.3.2 Pinewood River

11.3.2.1 Fish Populations

Gee Trap catches in May 2010 and August 2010 are shown in Table 11.10 for station SW10-Pinewood River at DR 600/Blackhawk Road, which is upstream of SW1.

Table 11.10 May and August 2010 Fish Catches in Pinewood River

LOCATION/SPECIES	# CAUGHT
May 2010 Trap Catches in Pinewood River Near Blackhawk Road (SW10)	
Creek Chub	18
Emerald Shiner	9
Brook Stickleback	1
Dace (*Phoxinus* sp.)	1
Total of All Species	**29**
Catch Per Unit Effort (CPUE)	**1.19 fish/trap-hr**
May 2010 Gill Netting Catches in Pinewood River (SW1)	
Northern Pike	11
White Sucker	6
Brown Bullhead	4
Golden Shiner	4
Creek Chub	1
Total of all Species	**26**
Catch Per Unit Effort (CPUE)	**1.07 fish/trap-hr**
August 2010 Trap Catches in Pinewood River (SW10)	
Creek Chub + Lake Chub	15
Brassy minnow	35
Shiner (*Notropis* sp.)	11
White sucker	9
Dace (*Phoxinus* sp.)	5
Common Shiner	3
Total of All Species	**78**
Catch Per Unit Effort (CPUE)	**1.20 fish/trap-hr**

Table 11.10 also shows the gillnet catches of fish in the Pinewood River at SW1 (Figure 11.1). Trap catches at SW1 in May showed no fish, while a gillnet set caught several fish as shown in Table 11.10.

No pike were caught at SW10 and considerably more forage fish were caught than at SW1 and SW3 downstream, which may indicate the upstream limit of northern pike (adults) in the river, as it is more confined and shallow upstream of SW10, with less aquatic vegetation than downstream reaches. No pike have been seen in Pinewood Lake at the river headwater in many years (B. Watts, Pers. Comm.).

The August 2010 fish catches in the Pinewood River at SW10 are shown in Table 11.10. Numerous brassy minnow, shiners and chub were caught, and many observed at the Highway culverts, suggesting less predation from pike than at the downstream stations. This location is also used by bait trappers to collect shiners and other bait-fish.

The 2009 fish catches in the Pinewood River are shown in Table 11.11. The most numerous species in the catches were redbelly dace, northern pike, and shiners (golden and common). Spottail and mimic shiners were also captured in the Pinewood River in 2009 at SW1 and SW3.

Table 11.11 2009 Catch Results for Pinewood River Downstream of West Creek.

METHOD	EASTING	NORTHING	NORTHERN REDBELLY DACE	MINNOW SPP.	NORTHERN PIKE	GOLDEN SHINER	COMMON SHINER	MIMIC SHINER	SPOT TAIL SHINER	TOTAL
ELECTROFISHING										
1	419656	5408076	0	0	0	0	0			0
2	419534	5408106	0	0	1	0	0			1
SEINE NET										
1	419656	5408073			3					3
2	419587	5408073	7	2	4			1	1	15
3	419580	5408070	6		1	6	6			19
4	419533	5408109			7					7
5	419440	5408079			9					9
6	419434	5408052			1					1
TOTAL			**13**	**2**	**26**	**6**	**6**	**1**	**1**	**55**

The Pinewood River within the Local Study Area supports northern pike, white sucker, brown bullhead and several small-bodied forage species, particularly lake chub, northern redbelly dace, brook stickleback, central mudminnows, and shiners (golden, emerald and common). Based on catch data, the tributary streams contain many small-bodied fish and no large fish, while the river shows mainly large-bodied species. Photographs of the fish species in the Local Study Area are included in Appendix V-4.

The apparent low density of forage species in the river relative to the tributaries in the 2009 and 2010 data is very likely a result of ongoing predation by northern pike in the river. Water quality in the river is degraded by agricultural runoff more so than in the creeks within the Local Study Area and this may also contribute to the lower numbers of small-bodied fish in the river.

The relative abundance of each fish species in the Local Study Area is shown in Table 11.12. Within the river, northern pike were most numerous in the catches, followed by white sucker and bullhead. Stickleback, dace, and chub were found in the stomachs of several pike caught in the river, and common shiner, mudminnow, and stickleback were caught in traps, though in low numbers.

Table 11.12 Relative Abundance of Large Bodied Fish Species Caught in the Pinewood River, 2009 and 2010

COMMON NAME	SCIENTIFIC NAME	% ABUNDANCE	COMMENTS
Northern Pike	*Esox lucius*	41.7	Sports fish; predator; spring spawner
Lake Chub	*Couesius plumbeus*	31.2	Mid-size forage species; eats mainly invertebrates
White Sucker	*Catostomus commersoni*	22.9	Benthivorous scavenger; prey
Brown Bullhead	*Ictalurus nebulosus*	4.2	Omnivore; predator; protective spines

Interviews with area residents in 2008, 2009, and 2010 indicated that:

- There are few, if any, sport-fish species (except pike) in the Pinewood River above a large beaver dam complex approximately 20 km downstream of the Local Study Area (Alan Stone, Pers. Comm.; Ken Angus, Pers. Comm.);
- Below the large beaver dam(s) approximately 20 km downstream of the proposed advanced exoloration site and 10 km upstream of the Rainy River, the Pinewood River is known to support sports fish, including northern pike, walleye, and perch (A. Stone, Pers. Comm.);
- Lake sturgeon occur in the Rainy River, but likely do not inhabit Pinewood River due to unfavourable habitat conditions, mainly water quality (A. Stone, Pers. Comm.);
- Sucker spawning runs occurred in the Pinewood and its tributaries within the last 10 years, but not recently, probably due to increased numbers of beaver dams downstream (Mr. Nielsen, Pers. Comm.);
- Before agriculture and cattle ranching began in the area, local residents swam and caught walleye in the Pinewood River, and used water and ice from the river for domestic purposes, as the water was relatively clear (C. LeBlanc, Pers. Comm.; B. Watts, Pers. Comm.);
- Pinewood Lake used to contain northern pike and brown bullhead, as well as suckers and other forage species, but no pike have been seen in several years (Bill Watts, Pers. Comm.); and
- Golden shiners, brassy minnows, common shiners, and creek chub are favoured bait fish species sought by fishermen and provided for sale by local bait-fish trappers. West Creek and Clark Creek are often fished for these species (B. Burnell, Pers. Comm.).

Northern Pike

The most numerous large-bodied fish captured in the Pinewood River was northern pike, which is very likely the top predator in the aquatic food-chain in the upper river. Northern pike are recommended as a key monitoring species in the Pinewood River for population

and vital statistics, as well as metal content in fish tissue. They occur both above and below the Local Study Area and likely spawn in wetland habitat in sloughs and oxbow channels along the river, as they are known to spawn on submergent aquatic macrophytes, such as pondweed (Scott and Crossman 1973; McPhail and Lindsey 1973).

The length/weight relationship (condition factor) is used to express the relative robustness of fish and can be expressed as K = 105 x W/L3. The pike captured at river station SW1 upstream of the proposed advanced exploration site showed a mean condition factor K of 0.63 (n = 9) (Table 11.13). Reduced condition factors have been shown to reliably indicate one or more environmental stressors (including elevated metal levels) to fish populations and can be used in monitoring programs for that purpose.

Table 11.13 Size, Condition and Age Classes of Northern Pike caught in the Pinewood River at SW1, October 2010

SAMPLE #	LENGTH (mm)	WEIGHT (gm)	CONDITION FACTOR (K)	AGE
1	350	275	0.64	2
2	373	220	0.42	3
3	410	445	0.65	3
4	408	375	0.55	2
5	497	800	0.65	3
6	444	575	0.66	3
7	380	330	0.60	3
8	409	495	0.72	2
9	415	575	0.80	3
MEANS	410	454	0.63	2.7

The ages of the pike sampled at SW1 are also shown in Table 11.13 and showed only 2-year-old and 3-year-old fish. In 2009, a young-of-the-year northern pike was captured in the Pinewood River indicating that they spawn and rear in the system. More intensive sampling would be necessary to capture and process northern pike in sufficient numbers for statistically rigorous population and vital statistics, as in an environmental effects monitoring (EEM) program.

At SW3 downstream of the Local Study Area only one northern pike was captured in October 2010 and it was four years old. Nevertheless, pike occur in the Pinewood River above and below the Local Study Area, they are at the top of the food chain and should be a key monitoring species in the river.

Table 11.14 shows the lengths, weights and condition factors for brassy minnows captured in the Pinewood River at SW10 upstream of SW1 and the LCA. The brassy minnows ranged in length from 65 mm to 120 mm and the mean condition factor was 1.15 (n=34) indicating relatively robust fish.

Table 11.14 Lengths, Weights and Condition Factors for Brassy Minnows from Pinewood River at SW10, August 2010

SAMPLE	LENGTH	WEIGHT	K
1	81	5.8	1.09
2	116	16.6	1.06
3	98	10	1.06
4	92	8.3	1.07
5	91	8.3	1.10
6	96	10.7	1.21
7	96	10.1	1.14
8	96	10.4	1.18
9	110	15.7	1.18
10	120	19.3	1.12
11	89	8.1	1.15
12	77	5.3	1.16
13	108	14.4	1.14
14	80	4.8	0.94
15	83	6.6	1.15
16	68	3.7	1.18
17	96	10.2	1.15
18	100	11.7	1.17
19	70	4.3	1.25
20	65	3.3	1.20
21	104	12.5	1.11
22	83	7.2	1.26
23	86	7.8	1.23
24	77	5.1	1.12
25	89	8.4	1.19
26	106	14.5	1.22
27	105	13.4	1.16
28	112	16	1.14
29	109	13.4	1.03
30	109	14	1.08
31	76	5.4	1.23
32	90	9.3	1.28
33	105	14	1.21
34	83	6.6	1.15
MEANS	**93.1**	**9.9**	**1.15**

The biology of northern pike and the other species in the upper Pinewood River system is summarized in Table 11.15.

Table 11.15 Biology of Fish Species in the Vicinity of the Local Study Area

SPECIES	SCIENTIFIC NAME	SPAWNING TIME	SPAWNING HABITAT	COMMENTS
Brook Stickleback*	*Culaea inconstans*	late April to July	lake shallows at 8°C+	make nests and males care for eggs/young
Central Mudminnow*	*Umbra limi*	late April-May	headwater creeks	eggs hatch in 6 days
Northern Redbelly Dace*	*Chrosomus eos*	June	algae mats	prefers stained bogs and ponds, organic debris substrates
Finescale Dace	*Chrosomus neogaeus*	June	lignin-stained bog water	often found with brook stickleback
Northern Pearl Dace	*Margariscus nachtriebi*	June	Not known	Probably spawn on algae
Spottail Shiner	*Notropis hudsonius*	June	sandy shoals, algal mats	important forage species for larger fish
Emerald Shiner	*Notropis atherinoides*	July	mid-water	only live 3-4 years; populations fluctuate widely
Golden Shiner	*Notemigonus crysoleucas*	June-August	filamentous algae, rooted plants	wide range in growth rates
Common Shiner	*Luxilus cornutus*	May-June	On gravel beds in flowing water	Spawn at Temp of 16-18 C
Mimic Shiner	*Notropis volucellus*	June-July	Aquatic plants 5 to 6 m deep	Eats mainly Daphnia and chironomids
Brassy Minnow	*Hybognathus hankinsoni*	May-June	silty bottom; debris, algae	mature in 2 years
Fathead Minnow	*Pimephales promelas*	June - August	Underside of rocks, logs in 1 m deep water	Eggs guarded by males
Lake Chub	*Couesius plumbeus*	May-June	stream bottom	matures in 4 years
Creek Chub	*Semotilus atromaculatus*	May-June	gravelly stream bottom	males build and guard nest (trench in gravels)
Longnose sucker	*Catostomus catostomus*	mid-April - mid-May	gravelly stream bottoms	fry emerge in June
White sucker	*Catostomus commersoni*	May-June	gravelly stream/lake bottom	spawning migrations to/from lakes
Northern Pike*	*Esox lucius*	April - early May	vegetated shallows	spawn at 5-10 °C; river only
Brown Bullhead	*Ictalurus nebulosus*	May-June	mud, sand, vegetation	guard nest; river only
Iowa Darter	*Etheostoma exile*	May-June	sand, organic material	most northerly darter; glacial relic; avoids turbid water
Blackside Darter	*Percina maculata*	May-June	Sand/gravel depressions in 30 cm water	Grow to maximum 4 years

* recommended indicator/ sentinel species for monitoring (2 species)
Other species in the general area are shown in Table 12.9

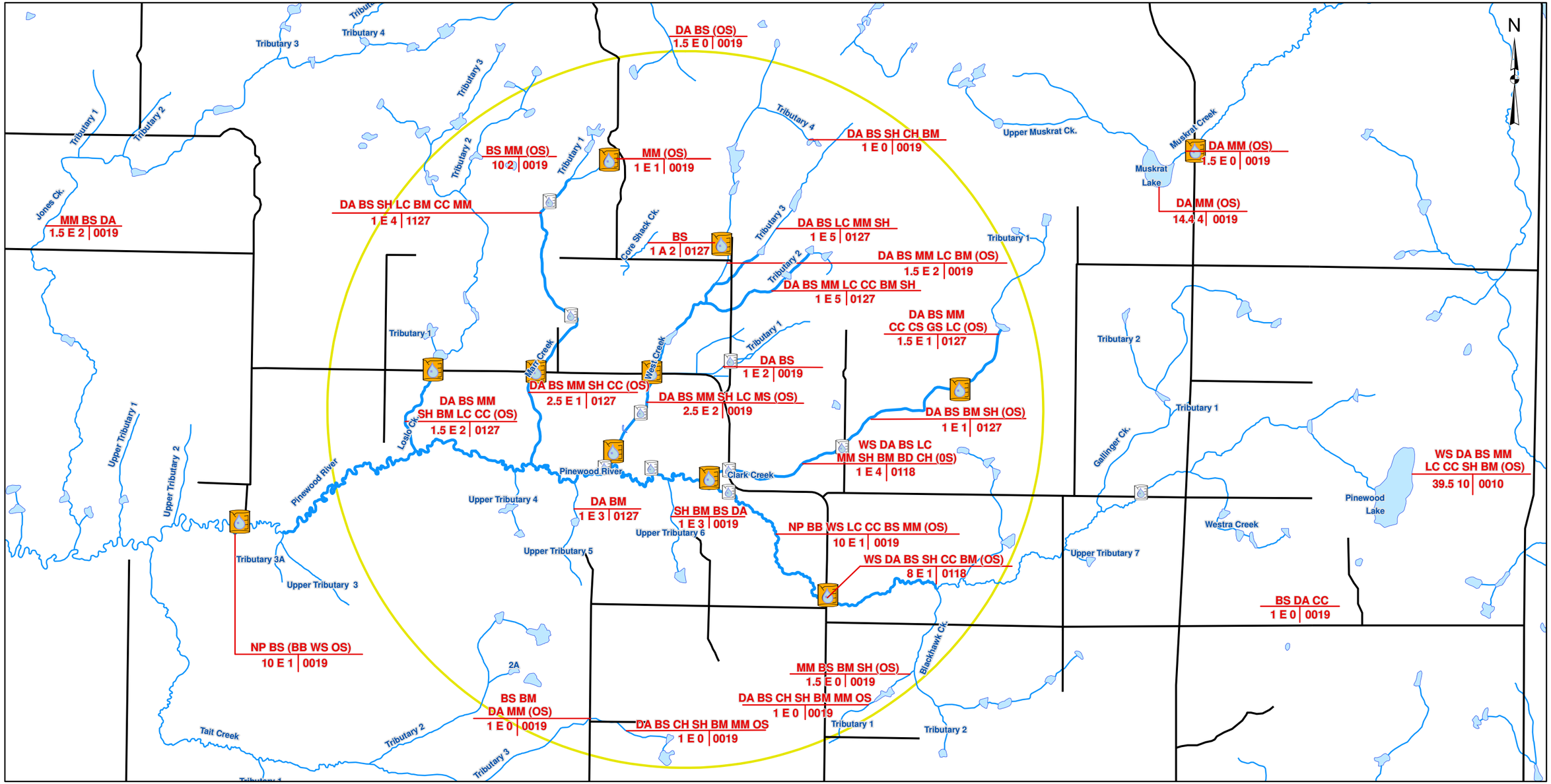
11.3.2.2 Fish Habitat

The Pinewood River watershed covers 461 km^2. At its mouth, the river has a mean monthly discharge of 4.08 m^3/sec for the period of 1952 to 1998 (March to October) (Water Survey of Canada 2011). In 2009, the peak discharge of 34 m^3/sec occurred on April 17 and the minimum discharge of 0.013 m^3/sec occurred on February 22.

The Pinewood River watershed lies in an area of gently rolling glacio-fluvial and lacustrine sedimentary deposits with infrequent bedrock outcrops within the Rainy River watershed, which drains Rainy Lake, Lake Winnipeg and ultimately flows to Hudson Bay (i.e. Arctic drainage system). The Local Study Area includes mainly river, creek and pond habitat, with extensive wetlands and beaver ponds in several fish-bearing streams.

Fish habitat information is shown in Figure 11.3, including stream widths, gradient, channel: valley width ratio, substrate types, and fish presence. For ponds, the mapped information includes pond area (ha), depth and substrate types, as well as fish species present. The locations of beaver ponds observed in 2010 are shown in Figure 11.4. Photographs of fish habitat are included in Appendix V-4.

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Water Quality Sampling Location Status

- Active
- Discontinued
- Local Study Area

Streams and Rivers:

Fish Species

Channel Width (m)	Valley:Channel Ratio	Slope(%)	Substrate (% Bolder %Cobble %Gravel %Fines)

Ponds and Lakes:

Fish Species

Area (Ha)	Depth (m)	Substrate (% Bolder %Cobble %Gravel %Fines)

Species: DAce, Brook Stickleback, SHiners, Mud Minnows, Creek Chub, Lake Chub, Brassy Minnow, Golden Shiner, Northern Pike, White Sucker, Brown Bullhead, CHub, Mimic Shiner, Blackside Darter, Other Species, (Other Species possible)

Valley:Channel Ratio: A = 0 - 2, B = 2 - 5, C = 5 - 10, D = 10+, E = N/A

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

0 2,500 m

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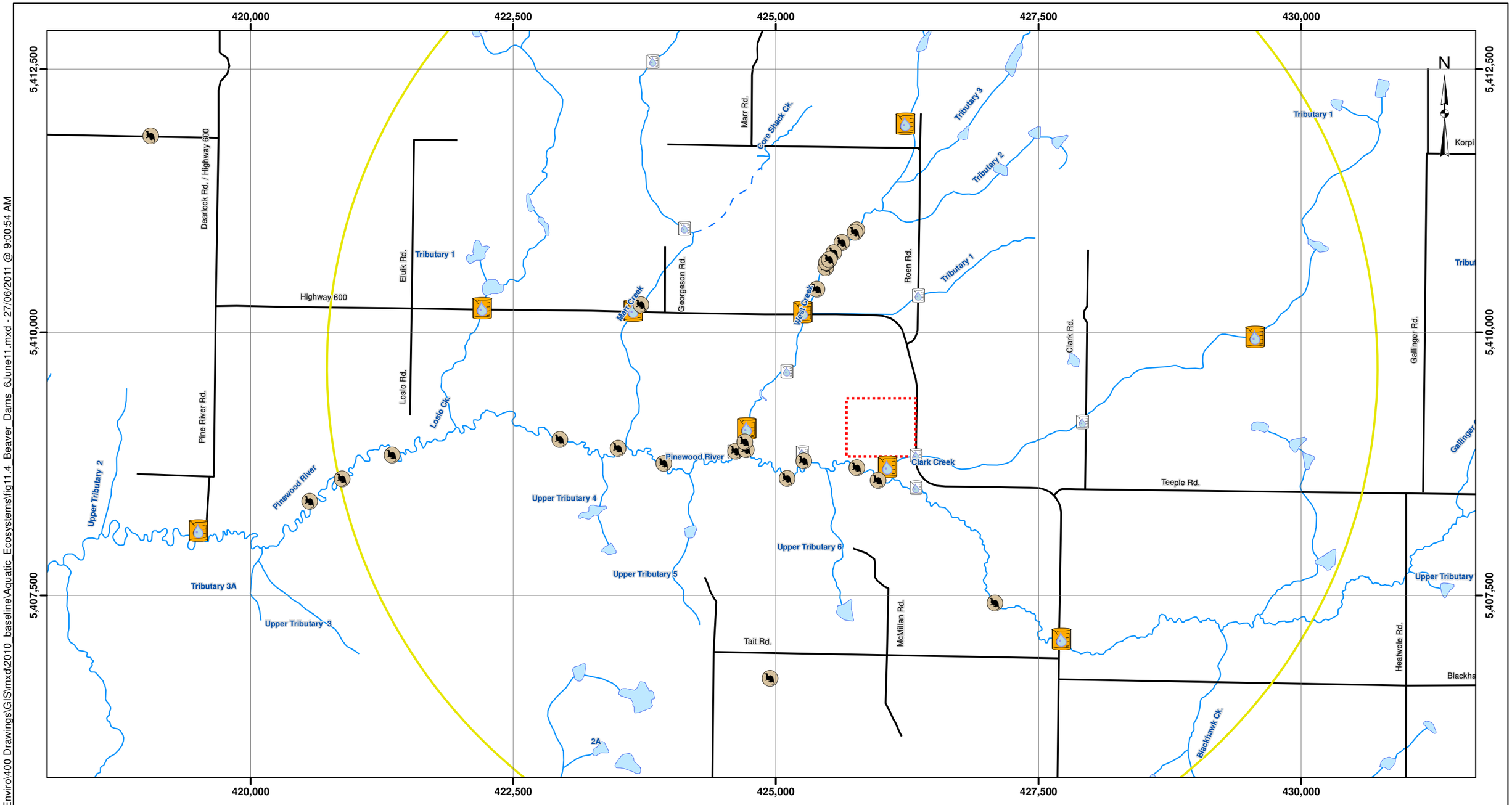
PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: FISHERIES HABITAT

PROJECT No. M09559A04

FIG No. 11.3

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Beaver Dam Observation

Water Quality Sampling Location Status

Active

Discontinued

Advanced Exploration Project Facility Boundary

Local Study Area

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50 000)
3. Roads from Ontario Base Mapper

0 2,500 m

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Klohn Crippen Berger

PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
BEAVER DAM LOCATIONS
2010

PROJECT No. M09559A04

FIG No. 11.4

The Pinewood River in the Local Study Area winds through gently rolling agricultural land, with rich silt/clay soils, fine grain river banks and substrates. The river water is perennially brown-stained and turbid from bank erosion and agricultural runoff, including several ranches, where cattle can access the river in some locations (e.g. at SW1). Numerous large peatlands in the watershed probably also contribute dissolved organic material. The high turbidity in the river may contribute to the low densities of small-bodied forage species found in the river compared to the relatively clear tributaries, although many small fish probably occupy the wetlands associated with the river along most of its length.

The river originates at the outlet of Pinewood Lake (Figure 11.3) and flows westward passing under Highway 71 and on for about 30 km to join the Rainy River near the municipality of Pinewood. The river is low-gradient and generally slow-moving, with numerous beaver dams along its length that greatly affect water movement, flooding, and very likely fish distributions. Some of the dams are sufficiently well built, with mud firmly packed into the inter-branch spaces along the upstream side from the river bottom to above the waterline, to form barriers to upstream fish migrations. None of the dams is a permanent fish migration barrier; however, together they very likely present a considerable hindrance to fish migrations in the river.

The upper Pinewood River within and near the Local Study Area offers almost no gravel substrates, or riffle-over-gravel habitat preferred for spawning by salmonids (trout char, whitefish, grayling), walleye, and sturgeon. Northern pike spawn on submergent vegetation, as do some of the small-bodied fishes, while others use the soft-bottom habitat for spawning.

Within the Local Study Area, the Pinewood River is about 10 m to 15 m wide between its banks; however, flooding occurs in many sections due to beaver ponds, such that the

floodplain is inundated 30 m to 40 m inland from the river banks in many locations. Hairpin curves, oxbow ponds, and extensive beaver pond wetlands dominate the habitat features in the section of the river within the Local Study Area (i.e. between SW10 and SW3), and water levels are largely beaver dam-controlled. Riparian vegetation includes primarily alder, willow, dogwood, sedges, grasses, and cattails, while pondweed and milfoil dominate the submergent macroflora. Poplar, hawthorn, cedar, and birch trees also occur in the riparian area (to 30 m inland).

The river channel has a U-shaped cross-section with mid-summer depths typically ranging from 0.9 m to 1.7 m. The maximum depth recorded in the Local Study Area was 2.1 m. The substrate is mainly soft deposition clay mixed with organic material, with occasional areas of hard clay, probably representing erosional areas. Rock, cobble, and gravel substrates are absent, or covered in fine-grain sediments.

The macrophyte species present and approximate percent coverage in June 2009 is shown in Table 11.16. Macrophytes are most common in shallow water, with few plants deeper than about 1.25 m, probably due to the lack of light penetration caused by high turbidity. Floating pondweed (*Potamogeton natans*) and creeping spikerush (*Eleocharis smallii*) were the dominant species. Floating pondweed, creeping spikerush, water sedge, and redhead grass were also dominant in August 2010, including from SW1 down to approximately the West Creek confluence.

Table 11.16 Macrophytes in Pinewood River at SW1, June 2009

SPECIES	COMMON NAME	COVER (%)
Potamogeton natans	Floating Pondweed	25
Potamogeton richardsonii	Redhead Grass	2
Nuphar variegatum	Yellow-pond Lilly	<1
Sagittaria latifolia	Broad Leaf Arrowhead	<1
Sparganium angustifolium	Narrowleaf Bur-reed	3
Eleocharis smallii	Small's Creeping Spikerush	7
Ceratophyllum demersum	Rigid Hornwort	<1
Glyceria borealis	Small Floating Mannagrass	2
Lemna trisulca	Star Duckweed	<1
Ranunculus longirostris	Water Buttercup	<1
Lemna minor	Common Duckweed	<1
Carex aquatilis	Water Sedge	2
Equisetum fluviatile	Water Horsetail	<1
Sium suave	Water Parsnip	<1
Potamogeton amplifolius	Large-leaved Pondweed	<1
Alisma plantago-aquatica	Water Plantain	<1
Potamogeton zosteriformis	Flatstem Pondweed	<1

While there is extensive cover for fish from overhanging vegetation along the shoreline and from aquatic plants in the water, there is very little large woody debris (LWD) in the river channel. This may be due to logging and clearing in the early 1900's to convert the land to agriculture and to use of the remaining trees by beavers for dams and lodges. The beaver ponds also provide cover in the form of greater water depth for fish avoiding terrestrial predators (birds, otters).

The macrophyte species present and percent areal coverage in the Pinewood River at SW3 in summer 2009 are shown in Table 11.17. Small's creeping spikerush, redhead grass, small-fruited bulrush, and small floating mannagrass were the dominant species. Most of the littoral area along each side of the river and many sloughs showed well developed macrophyte communities, especially in the slow-moving shallows and off-channel wetlands. The same dominant wetland plants were evident in 2010.

Table 11.17 Macrophytes in Pinewood River at SW3 in June 2009

SPECIES	COMMON NAME	COVER (%)
Potamogeton richardsonii	Redhead Grass	15
Nuphar variegatum	Yellow-pond Lilly	<1
Sagittaria latifolia	Broadleaf Arrowhead	<1
Sparganium angustifolium	Narrowleaf Bur-reed	5
Eleocharis smallii	Small's Creeping spikerush	20
Ceratophyllum demersum	Rigid Hornwort	<1
Glyceria borealis	Small Floating Mannagrass	10
Lemna minor	Common Duckweed	<1
Carex aquatilis	Water Sedge	<1
Equisetum fluviatile	Water Horsetail	2
Sium suave	Water Parsnip	<1
Alisma plantago-aquatica	Water Plantain	<1
Scirpus microcarpus	Small-fruited Bulrush	15
Glyceria grandis	American Mannagrass	<1

Local residents mentioned that they used to draw water and ice from the Pinewood River at the end of Dearlock Road (i.e. at SW3) for domestic use, and swim and fish in the river before extensive agriculture became established in the region and water quality declined (B. Burnell, Pers. Comm.; C. LeBlanc, Pers. Comm.).

11.3.3 Tributary Creeks

The tributary creeks within and near the Local Study Area include West Creek, Marr Creek, Loslo Creek, and Clark Creek on the north side of the Pinewood River valley, and several relatively small creeks on the south side.

Table 11.18 shows the relative abundance of fish captured in the creeks tributary to the Pinewood River in the Local Study Area. Redbelly dace (*Phoxinus eos*), finescale dace, and their hybrids made up the greatest percentage of the catches at 27.95% by numbers of all fish caught in the creeks. The dace species are not readily differentiated in the field, except in spawning colors; thus, the counts of dace are combined here under the Genus

Phoxinus sp. In the June 2009 samples, finescale dace made up only about 2% of the dace caught, such that redbelly dace are the dominant form.

Dace (*Phoxinus* sp.) are present in all of the tributary creeks draining the north side of the Pinewood River valley in the Local Study Area, including to the headwaters of most streams. Brook stickleback and central mudminnow are also ubiquitous in the tributary streams described here. The other species listed in Table 11.18 were found in relatively few locations, typically in the lowermost reaches of the creeks near the Pinewood River.

Table 11.18 Relative Abundance of Small Fish Species Caught in the Local Study Area, 2009 and 2010

COMMON NAME	SCIENTIFIC NAME	% ABUNDANCE	COMMENTS
Dace	*Phoxinus* sp.	27.9	
Brook Stickleback	*Culaea inconstans*	24.6	Good for monitoring
Shiners	*Notropis* spp.	19.7	Local market for bait
Brassy Minnow	*Hybognathus hankinsoni*	13.5	Local market for bait
Creek Chub	*Semolitus atromaculatus*	9.1	Local market for bait
Central Mudminnow	*Umbra limi*	5.2	

11.3.3.1 West Creek System

West Creek and its tributaries drain the largest portion of the Local Study Area relative to the other creeks discussed here.

11.3.3.1.1 Fish Populations

Table 11.19 shows the fish catches in West Creek in May 2010, August 2010, and October 2010. Based on multi-year and multi-season sampling in the system, the fish populations in lower West Creek include primarily dace and stickleback, along with mudminnows, shiners, lake chub, and brassy minnows. Farther up the mainstem creek and in the tributary streams, the fish fauna is limited to dace, stickleback, and mudminnow. In 2009, small numbers of fathead minnows, pearl dace, and Iowa darter were also captured in West Creek.

Table 11.19 Fish Catches in West Creek in 2010

LOCATION/ SPECIES	# CAUGHT
West Creek at DR 600, May 2010	
Dace (*Phoxinus* sp.)	260
Brook Stickleback	61
Lake Chub	3
Spottail Shiner	6
Brassy Minnow	12
Emerald Shiner	7
Creek Chub	3
Total of All Species	**352**
Catch Per Unit Effort (CPUE)	**6.9**
West Creek at Roen Road, August 2010	
Brook Stickleback	8
Chub	9
Dace (*Phoxinus* sp.)	10
Brassy minnow	4
Total of All Species	**31**
Catch Per Unit Effort (CPUE)	**0.82 fish/hr**
West Creek at DR 600, August 2010	
Brook stickleback	2
Chub	2
Dace (*Phoxinus* sp.)	6
Shiner (*Notropis* spp.)	10
Total of All Species	**20**
Catch Per Unit Effort (CPUE)	**0.48 fish/hr**
West Creek at Roen Rd, October 2010	
Stickleback	15
Dace (*Phoxinus* sp.)	10
Total of All Species	**25**
Catch Per Unit Effort (CPUE)	**1.1**

A long-time (>20 yr) resident and baitfish provider in the area who catches many shiners and minnows in West Creek from DR 600 to the confluence with the Pinewood River, has never seen a pike or walleye in the creek (A. Stone, Pers. Comm.). Other longtime residents on Blackhawk Road and Dearlock Road also mentioned that no walleye or other sports fish, except perhaps northern pike, are caught in the Pinewood River within 10 km to 20 km downstream of the Local Study Area.

All of the fish species in the Local Study Area are spring and/or early summer spawners, most using weedy vegetation as substrate and cover for spawning activities (Table 11.15). All of the forage species consume mainly algae and invertebrates, although adult lake and creek chub may also eat the smaller fish species; most species are likely to feed on the eggs of their own or other species. All of the forage fishes are potential prey items for northern pike and bullhead in the Pinewood River; however, neither of these species was caught, or observed, in the tributary creeks, either as adults or juveniles, and none are reported to occur in the creeks.

Table 11.20 shows the lengths, weights and conditions factors (K) for redbelly dace caught in West Creek in May 2010. The condition factor (K) for redbelly dace is similar to that for salmonid fishes in that K is near 1.0 for a normally shaped fish, while higher and lower factors indicate more and less robust fish, respectively.

Table 11.20 Lengths, Weights and Condition Factors for Redbelly Dace Captured in West Creek at DR 600 in May 2010

SAMPLE	LENGTH	WEIGHT	CONDITION (K)
1	55	1.8	1.08
2	56	1.5	0.85
3	55	1.8	1.08
4	51	1.2	0.90
5	56	1.8	1.02
6	50	1.2	0.96
7	53	1.5	1.01
8	56	1.6	0.91
9	56	1.9	1.08
10	54	1.7	1.08
11	57	2.1	1.13
12	49	1.3	1.10
13	56	1.9	1.08
14	54	1.7	1.08
15	55	2.0	1.20
16	55	1.8	1.08
17	54	1.7	1.08
18	53	1.6	1.07
19	56	1.9	1.08
20	53	1.7	1.14
MEANS	54.2	1.7	1.05

The data in Table 12.17 can be used in future monitoring efforts to compare pre and post-development condition factors for dace in West Creek.

11.3.3.1.2 Fish Habitat

West Creek flows through forest and uncultivated farm lands above and below Roen Road, and for much of its length down to DR 600. Numerous beaver dams and ponds occupy the creek causing flooding of the riparian area in many sections (Appendix V-2). The banks are typically vertical, as the creek is incised into the ground, the channel width

ranges from approximately 0.5 m to 3 m, and the substrates are mainly brown silt and clay. The wetted width often exceeds the channel width due to ponding/flooding caused by the beaver dams.

The creek profile shows a step/pool morphology, with old and recent beaver dams forming some of the steps, while others consist of vertical drops in the channel bottom over firm clay substrates into relatively deep (1.5 m), steep-sided pools, some with small gravels on bottom. Streamside vegetation and undercut banks provide considerable cover for fish in the creeks.

Below DR 600, West Creek flows through agricultural fields for approximately 300 m before entering a wetland complex and forested area along the Pinewood River. Several beaver dams and ponds occur in this area, one or two of which were removed (under permit) in 2010. Wetland vegetation includes primarily young poplar, alders, sedges, cattails, burrs, thistle and a variety of grasses. The creek banks and substrate are primarily soft silt and clay, with clay hardpan beneath.

Several macrophyte species were observed in the channel of West Creek. The species present and percent coverage are shown in Table 11.21. *Potamogeton* spp., *Lemna minor* and *Glyceria borealis* were the dominant species.

Table 11.21 Macrophytes in West Creek, June 2009

SPECIES	COMMON NAME	COVER (%)
Utricularia vulgaris	Common Bladderwort	<1
Utricularia minor	Lesser Bladderwort	<1
Lemna minor	Common Duckweed	20
Equisetum fluviatile	Water Horsetail	<1
Glyceria borealis	Small Floating Mannagrass	10
Potamogeton foliosus	Leafy Pondweed	<1
Potamogeton spp	Pondweed	40
Eleocharis smallii	Common Spike-rush	<1
Potamogeton natans	Floating Pondweed	<1
Potamogeton amplifolius	Pondweed	<1
Sium suave	Water Parsnip	<1
Myriophyllum sibiricum	Common Water-milfoil	<1
Ranunculus gmelinii	Gmelin's Buttercup	<1
Ceratophyllum demersum	Rigid Hornwort	<1
Sparganium spp.	Burreed	<1
Sagittaria spp.	Arrowhead	<1

The tributaries to West Creek include five small creeks that cross Roen Road along the north-south section above DR 600. All of the tributaries contain fish, although all are intermittent and/or ephemeral creeks, with channel widths of <0.5 m to 1.5 m. On the east side of Roen Road, the tributary creeks flow through agricultural fields. Tributaries 0 (zero), 1 and 1A (Figure 11.2) show limited channel formation suitable for fish occupancy on the east/upstream side of Roen Road, while the upper tributaries (#2, 3and 4) have extensive fish-bearing channels upstream of Roen Road.

West Creek Tributary 0

The small tributary to West Creek crosses Roen Road from east to west just north of DR 600 (Figure 11.2). The creek is typically <1 m wide, intermittent and ephemeral, but supports fish on both sides of Roen Road when there is sufficient water in the channel. In late summer and fall of 2010, the creek was dry in places, and no fish were found in the

isolated pools near the road. The creek is naturally dewatered at some times of year and provides no over-wintering habitat for fish.

Tributary 1 flows under Roen Road in a 1,000 mm corrugated steel culvert (CSC) that is flush with the creek bottom and fish-passable. Below Roen Road, this small tributary creek flows through the McClain property, where the meteorological station in located, before joining a ditch on the north side of DR 600 and running west for about 800 m to join West Creek. Tributary 1 used to flow under DR 600 near the McClain property and then south to join West Creek within the footprint for the proposed open pit mine.

West Creek Tributary 1

Tributary 1 is a small (0.5 m wide) channel on the east/upstream side of Roen Road. It was partially dry in late summer 2010, such that fish passage at that time was restricted. At high water levels, as in March and May 2010, fish were found in Tributary 1 both above and below Roen Road. It is seasonally occupied by forage fish and contributes to fish production in the West Creek system.

West Creek Tributary 1A

Tributary 1A has almost no channel upstream of Roen Road and is subject to dewatering in mid to late summer. No fish were found on the upstream side of the road, while dace and stickleback were caught below the road.

West Creek Tributary 2

Tributary 2 in the West Creek drainage crosses Roen Road about 500 m north of Tributary 1. Fish were found in this creek in its headwater wetlands, as well as at Roen Road. It contained water in fall 2010 when Tributary 0, Tributary1, and Tribuatry 1A were almost dry. Tributary 2 has a well-developed and incised channel for most of its length, and forest and riparian vegetation in both the upper and lower reaches, while the

middle section just above Roen Road lies in agricultural land on the Roen property. The creek has contained small fish for many years (Roen, Pers. Comm.).

Table 11.22 2010 Fish Catches in West Creek Tributary 2

LOCATION/ SPECIES	# CAUGHT
West Creek Tributary 2 at Roen Road, May 2010	
Lake Chub	49
Brook Stickleback	53
Dace (*Phoxinus* sp.)	104
Mudminnow	3
Total of All Species	**209**
West Creek Tributary 2 on Roen's Ranch, October 2010	
Brook Stickleback	33
Dace (*Phoxinus* sp.)	50
Total of All Species	**83**
Catch Per Unit Effort (CPUE)	**3.77 fish/trap-hr**

West Creek Tributary 3

Tributary 3 crosses Roen Road just below the corner of the north-south and east-west sections of the road (Figure 11.2). Fish were found in this creek at Roen Road and in the headwater wetland area about 600 m upstream. The fish catches in Tributary 3 are shown in Table 11.23.

Table 11.23 Fish Catches in West Creek Tributary 3

WEST CREEK TRIBUTARY 3	#CAUGHT
Redbelly Dace	4
Total Fish Captured	**4**
Catch Per Unit Effort (CPUE)	**0.21 fish/trap-hr**

Tributary 3 is incised into the ground and has a clay substrate overlain in places with organic detritus and/or small gravels. Most of its length is within forested and relatively steep terrain, such that the creek shows a step:pool morphology. Fish were often observed in pools of 0.4 m to 1 m deep.

West Creek Tributary 4

West Creek Tributary 4 drains a wetland near upper Tributary 3 and flows northwest to join West Creek in its headwaters about 2 km north of the corner of Roen Road between the West Creek mainstem and Tributary 3 (Figure 11.2). The fish catches in the wetland at the head of Tributary 4 are shown in Table 11.24.

Table 11.24 August 2010 Fish Catches in West Creek Tributary 4

WEST CREEK TRIBUTARY #4	# CAUGHT
Brook stickleback	4
Chub	5
Dace (*Phoxinus* sp.)	11
Brassy minnow	1
Shiner (*Notropis* spp.)	3
Unknown	1
Total Fish Captured	**25**
Catch Per Unit Effort (CPUE)	**0.19 fish/trap-hr**

11.3.3.2 Marr Creek

Marr Creek lies to the west of and parallels West Creek to the Pinewood River. It originates in a large beaver pond and wetland complex adjacent to Marr Road and upstream of the Community Pasture.

11.3.3.2.1 Fish Populations

The headwater wetland in Marr Creek contains forage fish species (dace, stickleback, mudminnow), as does Marr Creek downstream, including in the Community Pasture, at DR 600 and near the confluence with the Pinewood River. As in West Creek, several populations of forage fish reside in Marr Creek throughout its length.

Table 11.25 shows the catch data for Marr Creek in May 2010 and October 2010. Forage fish occupy the entire system. The upstream wetland is highly productive and diverse in aquatic fauna and flora, and contains forage fish. The wetland is beaver dam controlled, but shows evidence of considerable stability, such that the wetland community has become well developed. A small waterfall (vertical drop) of 1.5 m at the eastern edge of the Community Pasture very likely prevents downstream fish from migrating upstream to the wetland. The fish in the headwater wetland likely survive and reproduce there all year.

Table 11.25 May 2010 Fish Catches in Marr Creek in Community Pasture

LOCATION/ SPECIES	# CAUGHT
MARR CREEK AT COMMUNITY PASTURE, MAY 2010	
Lake Chub	4
Spottail Shiner	0
Brook Stickleback	122
Dace (*Phoxinus* sp.)	197
Brassy Minnow	0
Mudminnow	1
Total of All Species	**324**
Catch per Unit Effort (CPUE)	**6.75**
MARR CREEK AT DR 600, MAY 20, 2010	
Creek Chub	2
Lake Chub	7
Spottail Shiner	3
Emerald Shiner	4
Brook Stickleback	313
Dace (*Phoxinus* sp.)	228
Brassy Minnow	4
Total of All Species	**561**
Catch per Unit Effort (CPUE)	**8.23**
MARR CREEK AT COMMUNITY PASTURE, OCTOBER, 2010)	
Brook Stickleback	7
Redbelly Dace	9
Total of All Species	**16**
Catch Per Unit Effort (CPUE)	**0.76**

Table 11.26 and Table 11.27 show the length, weight, and condition factors for redbelly dace and brook stickleback, respectively, that were caught in Marr Creek at DR 600 in May 2010.

Table 11.26 Lengths, Weights and Condition Factors for Brook Stickleback from Marr Creek at DR 600, May 2010

SAMPLE	LENGTH	WEIGHT	K
1	50	1.4	1.12
2	55	1.6	0.96
3	52	1.6	1.14
4	47	1.2	1.16
5	53	1.7	1.14
6	56	2.1	1.20
7	58	2	1.03
8	54	1.8	1.14
9	45	1.1	1.21
10	57	2.4	1.30
11	61	2	0.88
12	59	2.3	1.12
13	53	1.4	0.94
14	53	1.5	1.01
15	49	1.3	1.10
16	54	1.6	1.02
17	64	2.6	0.99
18	55	2	1.20
19	54	1.7	1.08
20	41	0.7	1.02
MEANS	**53.5**	**1.7**	**1.09**

Table 11.27 Lengths, Weights and Condition Factors for RedBelly Dace from Marr Creek at DR 600, May 2010

SAMPLE	LENGTH	WEIGHT	K
1	59	2	0.97
2	77	4.3	0.94
3	57	2.6	1.40
4	59	2.1	1.02
5	59	2.3	1.12
6	52	1.4	1.00
7	59	2	0.97
8	59	1.9	0.93
9	51	1.7	1.28
10	52	1.6	1.14
11	53	1.9	1.28
12	55	2.3	1.38
13	54	1.6	1.02
14	55	2.2	1.32
15	57	2.4	1.30
16	55	2	1.20
17	55	2.3	1.38
18	57	2.2	1.19
19	55	2.2	1.32
20	50	1.6	1.28
21	52	1.6	1.14
MEANS	**56.3**	**2.1**	**1.17**

The 2010 fish condition data for brook stickleback and redbdelly dace can be used in future monitoring programs to compare existing baseline conditions with those in the future.

11.3.3.2.2 Fish Habitat

Marr Creek has a large, well established beaver pond and wetland complex in its uppermost reach above a small waterfall (1.5 m) as the creek enters the Community Pasture. The small waterfall is very likely a fish migration barrier to the small-bodied species that occur in the creek. The upstream fish populations may have come from

downstream in Marr Creek before the waterfall was created, possibly by road-building along the eastern edge of the Pasture, although the road is on bare ground with no gravel bed.

Downstream of the small waterfall, Marr Creek traverses part of the Community Pasture before entering the forested slope of the Pinewood River valley. Within the pasture, the creek has limited riparian vegetation; however, the remaining trees, LWD and stream-bank grasses provide considerable cover for fish.

At the edge habitat between pastureland and forest, Marr Creek braids and floods the riparian area before again being confined in a single channel as it descends in step-pool manner to the valley floor. As in West Creek and the Pinewood River, the stream banks are typically vertical and incised into the silt/clay soil layer, sometimes to 2.5 m below top of bank and surrounding upland. The creek substrates are clay with mixed gravels in some locations. The gravels would derive from the bank material which includes gravels mixed in with the predominant fine sand, silt, and clay.

Also, as in West Creek and many other streams in the region, Marr Creek has many beaver dams and ponds along its length, some active and others old and grown over with grasses. Many beaver dams in Marr Creek show degrees of age and stages of development, often to the edges of the active floodplain. Several dams/ponds may also occur in series, such that the head of one pond is at the tailrace of the next dam upstream. The ponds range from <1 m deep and contained within the creek channel (between the banks) to over 3 m deep (ground estimate) for more recent large dams.

Emergent aquatic vegetation, primarily horsetail (*Equisetum* sp.) and sedge (*Carex* sp.), occur in parts of some beaver ponds and along the stream, often on the inside of curves and flooded areas near the channel. Potential spawning and rearing habitat for

the forage species that reside in Marr Creek occurs in many locations along the creek and is likely utilized opportunistically by resident fish. There is good quality riparian and instream cover along the creek to provide high quality habitat for the species that inhabit the creek.

11.3.3.3 Loslo Creek

Loslo Creek originates in a very large wetland complex just west of the Community Pasture. Loslo Creek lies west of and parallels both West Creek and Marr Creek in its course down the north valley slope, under DR 600 and on to join the Pinewood River about 5 km downstream of West Creek. South of DR 600, Loslo Creek flows through farmland and scrub brush before entering the river.

11.3.3.3.1 Fish Populations

Forage fish species occupy Loslo Creek from the large wetland complex in the headwaters to the Pinewood River below DR 600. The creek supports a similar fish fauna to those in Marr Creek and West Creek, including dace, stickleback, shiners, and chub. Loslo Creek could serve as a reference watercourse for aquatic effects monitoring.

Table 11.28 May 2010 Fish Catches in Loslo Creek at DR 600

LOCATION/SPECIES	# CAUGHT
LOSLO CREEK, MAY 19, 2010	
Dace (*Phoxinus* sp.)	132
Brook Stickle-back	158
Lake Chub	7
Shiner (*Notropis* spp.)	20
Creek Chub	8
Brassy Minnow	2
Total of All Species	**327**
Catch per Unit Effort (CPUE) for May 19 and May 24	**3.7 fish/trap-hr**
LOSLO CREEK, MAY 24, 2010	
Dace (mainly Redbelly)	151
Brook Stickleback	142
Lake Chub	87
Spottail Shiner	21
Creek Chub	2
Brassy Minnow	2
Emerald Shiner	1
Total of All Species	**406**

11.3.3.3.2 Fish Habitat

Loslo Creek has a similar morphology to Marr Creek and West Creek, originating in a large and diverse wetland, descending through forested valley side and crossing the Pinewood River floodplain in a mix of agricultural fields and forested lowland.

As in Marr Creek and West Creek, Loslo Creek is typically incised into the ground and descends in a step/pool manner, including beaver pond to beaver pond, to the valley floor. The creek channel is <1 m wide in some segments and 4 m wide in others, and the ponds flood up to 25 m wide. The creek banks and substrates are typically clay and silt, with occasional shallow patches of small gravels over clay on the bottom.

The wetland at the upper end of Loslo Creek is well established and highly productive for emergent and submergent aquatic vegetation, including: floating pondweed

(Potamogeton natans), broad leaf pondweed *(P. amplifolius),* common water milfoil *(Myriophyllum sibiricum*), redhead grass (*P. richardsonii*), water sedge (*Carex aquatilis*), broad leaf arrowhead (*Sagittaria latifolia*), water buttercup (*Ranunculus longirostris*), yellow pond lilies (*Nuphar variegatum*), and many other species. Amphibians (see Section 13.3.3), snails (ramshorn), stick-bugs (*Phasmida*), dragon fly (*Odonata*) and damsel fly nymphs (see Section 13.3.4), leeches, crayfish, isopods, and other macro-fauna were readily observed in the wetland.

11.3.3.4 Clark Creek

Clark Creek drains primarily lowland west of Hwy 71 and east of the Local Study Area, and passes by the municipal dump/landfill. Like the other creeks described above, Clark Creek is incised into the surrounding landscape, such that the water is usually contained within the vertical creek banks. Also as in the other Pinewood tributaries, Clark Creek has generally clay/silt substrates and banks, with very few small patches of gravels, as well as patches of organic detritus along its length.

Table 11.29 shows the fish catches in Clark Creek in May 2010. Numerous fish and a variety of species were also caught in Clark Creek in March 2010 (estimates in Appendix V-1). As the creek is largely contained within the lowland area near the Pinewood River, it supports a variety of fish species, including shiners and minnows that are trapped by and for sports fishers. Traps set at Clark Road and at DR 600 near Teeple Road caught dace, lake chub, stickleback, golden shiners, brassy minnows, and mudminnows.

Table 11.29 Fish Catches in Clark Creek in 2010

LOCATION/ SPECIES	# CAUGHT
Clark Creek at DR 600, May 2010	
Dace (*Phoxinus* sp.)	91
Brook Stickle-back	53
Lake Chub	141
Mudminnow	2
Brassy Minnow	2
Total of all Species	**289**
Catch Per Unit Effort (CPUE)	**4.77 fish/trap-hr**
Clark Creek at Teeple Road, May 2010	
Lake Chub	30
Emerald Shiner	6
Brook Stickleback	55
Dace (*Phoxinus* sp.)	110
Brassy Minnow	1
Mudminnow	1
Total of All Species	**203**
Catch Per Unit Effort (CPUE)	**8.39 fish/trap-hr**
Clark Creek at District Road 600, August 2010	
Brook stickleback	2
Chub	8
Dace (*Phoxinus* sp.)	4
Brassy minnow	9
Shiner (*Notropis* spp.)	7
White sucker	3
Blackside darter	2
Common Shiner	8
Total Fish Captured	**43**
Catch Per Unit Effort (CPUE)	**1.00 fish/hr**
Clark Creek, Upper Tributary 6 at Teeple Roads, September 2010	
Brook Stickleback	2
Shiner (*Notropis* spp.)	5
Dace (*Phoxinus* sp.)	1
Brassy minnow	3
Total Fish Captured	**11**
Catch Per Unit Effort (CPUE)	**0.38 fish/trap-hr**
Clark Creek, Upper Tributary 5 Lake, September 2010	
Dace	2
Brassy minnow	1
Total Fish Captured	**3**
Catch Per Unit Effort (CPUE)	**0.13 fish/trap-hr**
Clark Creek at Blackhawk Road, October 2010	
Creek chub	12
Golden Shiner	8
Spottail shiner	2
Lake chub	6
Dace (*Phoxinus* sp.)	8
Common shiner	12
Stickleback	1
Total Fish Captured	**49**
Catch Per Unit Effort (CPUE)	**2.27 fish/trap-hr**

11.3.3.5 Core Shack Creek

This small, intermittent and ephemeral drainage (Figure 11.2) originates in groundwater seepages about 350 m north of Roen Road and 80 m to 100 m east of Marr Road. The creek runs intermittently south to Roen Road passing under the road in a single 1200 mm CSC. Below Roen Road, Core Shack Creek braids considerably in a forested area and no defined channel was evident in a detailed ground survey in Fall 2010, when flows were low, such that fish could not navigate past the sections with no defined channel.

There are brook stickleback in Core Shack Creek, but there is no permanent connection/channel between the fish-bearing portion of the creek above Roen Road and other fish-bearing watercourses, such as Marr Creek to which it is ultimately tributary. Part of the channel below Roen Road was affected by a former logging, or mineral exploration road in that area that has since overgrown with grasses, sedges, and shrub vegetation. The tracks/ruts of vehicles are evident as ground depressions and the forest was cleared in a southward direction from Roen Road in line with the access road to the Rainy River Core Shack. Based on the degree of regrowth on the former road down Core Shack Creek below Roen Road, the ground disturbance in that area terminated 5 to 6 years ago. Even without the disturbance from former roads, Core Shack Creek has no visible or continuous channel for several hundred meters below Roen Road.

The fish occupied part of Core Shack Creek extends from about 150 m below its origin in groundwater discharges in the forest north of Roen Road and east of Marr Road to about 150 m below Roen Road, where the creek braids and there is no visible channel for several hundred meters further south. The total length of the fish-bearing portion of the creek is approximately 500 m with mean channel width of 1.4 m providing about 700 m^2 of isolated fish habitat. The brook stickleback residing in that part of the creek are subject to predation by otters and birds; otter tracks were noted along the creek bank.

11.3.3.6 Tait Creek Tributaries

Tait Creek is located on the most south-western edge of the Local Study Area and is a tributary to the Pinewood River. The 2010 fish catches in Tait Creek are shown in Table 11.30.

Table 11.30 Fish Catches in Tait Creek System, September 2010

LOCATION/ SPECIES	#CAUGHT
Tait Creek, Tributary 3 at Caul Road	
Brook Stickleback	18
Dace (*Phoxinus* sp.)	7
Brassy minnow	3
Total Fish Captured	**28**
Catch Per Unit Effort (CPUE)	**0.7 fish/trap-hr**
Tait Creek, Tributary 4 at Caul Road	
Brook stickleback	22
Creek Chub	14
Dace (*Phoxinus* sp.)	47
Brassy minnow	38
Shiner (*Notropis* spp.)	5
Central mudminnow	1
Unknown	1
Total Fish Captured	**128**
Catch Per Unit Effort (CPUE)	**3.0 fish/trap-hr**

11.3.4 Lake Habitat

11.3.4.1 Pinewood Lake

Pinewood Lake lies at the headwater of Pinewood River and is partly beaver dam-controlled, although the lake is over 10 m deep according to a long-time land owner (B. Watts, Pers. Comm.). The lake has no significant shoreline or riparian disturbance from human activities, such that the foreshore area is heavily vegetated with primarily thick shrub communities, with spruce and poplar forest on well drained uplands.

Aquatic vegetation in Pinewood Lake includes both emergent and submergent macrophytes, such as sedges, horsetail, cattail on the shoreline, and pond weed, milfoil and lilies in the water around most of the lake perimeter. The water was stained with tannins and probably agricultural runoff from nearby cattle pasture and farms.

11.3.4.2 Muskrat Lake

Muskrat Lake, also known as Mud Lake, is a large beaver pond that supports several forage fish species, plankton and benthos, waterfowl, and amphibians. It has abundant aquatic vegetation and is likely highly productive in growth of biomass each summer. Fish sampling in 2009 found fathead minnows, central mudminnows, dace (*Phoxinus* spp.), brassy minnows, and brook sticklebacks in Muskrat Lake. The outlet stream also had Iowa darters. Muskrat Lake could serve as a reference station for aquatic effects monitoring in the Local Study Area.

11.3.5 Benthic Invertebrates

11.3.5.1 Stream Benthos

The 2009 benthic sampling in the Pinewood River and tributary creeks, as well as in Muskrat Lake, showed mainly dipterans (two-winged flies) and mollusks (clams and snails) in and on the substrates. The dipterans included mainly midges (Chironomidae), while the clams were pelecypods (bivalvia) and the snails were mainly of the Family Lymnaeidae.

As shown in Table 11.31, there were five benthic samples taken at SW4 and Sample 1 and Sample 2 were sub-sampled in the laboratory, including two and three sub-samples, respectively. The data show very few organisms in the 2009 benthic samples, which were taken with a Petite Ponar and sieved through a 500 µm mesh net. In 2010, a 250 µm mesh net was used for the benthic samples in an effort to capture more invertebrates.

Table 11.31 Results of Benthic Sampling in 2009

LOCATION	# TAXA	# INDIVIDUALS
SW1-1	2	2
SW1-2	9	31
SW3-2	4	5
SW3-3	0	0
SW4-1.1	1	2
SW4-1.2	3	3
SW4-2.1	1	1
SW4-2.2	5	7
SW4-2.3	4	6
SW4-3	0	0
SW4-4	1	3
SW4-5	1	1
SW5-3	3	4
SW5-4	1	1
SW5-5	1	1
Muskrat L #1	0	0
Muskrat L #2	0	0
Muskrat L #3	0	0
Muskrat L #4	1	1
Muskrat L #5	1	1
West Ck #1	1	4
West Ck #2	0	0
West Ck #3	1	1
West Ck #4	3	4
West Ck #5	2	2

Table 11.32 Results of Benthic Invertebrate Sampling in 2009 for the Pinewood River at SW1

GROUP	ORDER	FAMILY	SW 1-1	SW 1-2
ANNELIDA	Hirudinea			
ANNELIDA	Oligochaetae			
CRUSTACEA	Cladocera			
CRUSTACEA	Copepoda			
INSECTA	Diptera	Ceratopogonidae		3
INSECTA	Diptera	Chironomidae		1
INSECTA	Diptera	Diptera pupa		
INSECTA	Diptera	Immature larvae		
INSECTA	Diptera	Stratiomyidae		3
INSECTA	Diptera	Ephydridae		
INSECTA	Ephemeroptera	Ephemeridae		
INSECTA	Trichoptera	Brachiocentridae		1
MOLLUSCA	Gastropoda	Planorbidae		
MOLLUSCA	Gastropoda	Limnaeidae	1	
MOLLUSCA	Mollusca	Bivalve		7
NEMATODA	Nematode			
MOLLUSCA	Dead Sphaeridae		1	
MOLLUSCA	Dead Physidae			1
MOLLUSCA	Dead Planorbidae			1
MOLLUSCA	Dead Lymnaeidae			13
MOLLUSCA	Dead Ancylidae			1

Table 11.33 Results of Benthic Invertebrate Sampling in the Pinewood River (near SW3) in 2009.

GROUP	ORDER	FAMILY	SW 2-2
ANNELIDA	Hirudinea		
ANNELIDA	Oligochaetae		
CRUSTACEA	Cladocera		
CRUSTACEA	Copepoda		
INSECTA	Diptera	Ceratopogonidae	
INSECTA	Diptera	Chironomidae	1
INSECTA	Diptera	Diptera pupa	
INSECTA	Diptera	Immature larvae	
INSECTA	Diptera	Stratiomyidae	
INSECTA	Diptera	Ephydridae	
INSECTA	Ephemeroptera	Ephemeridae	1
INSECTA	Trichoptera	Brachiocentridae	
MOLLUSCA	Gastropoda	Planorbidae	
MOLLUSCA	Gastropoda	Limnaeidae	
MOLLUSCA	Mollusca	Bivalve	
NEMATODA	Nematode		
MOLLUSCA	Dead Sphaeridae		1
MOLLUSCA	Dead Physidae		2
MOLLUSCA	Dead Planorbidae		
MOLLUSCA	Dead Lymnaeidae		
MOLLUSCA	Dead Ancylidae		

The 2010 benthic sample data are shown in Appendix V-3 and summarized in Table 11.34. In the Pinewood River at SW1, a total of 1,412 benthic organisms were captured in three Hess samples and the mean density was determined as 4,903 invertebrate organisms per m^2 of substrate. The dominant forms were crustacean ostracods, dipterans (two-winged flies), harpactacoid copepods (crustacean), and both nematode and oligochaete worms.

Table 11.34 Summary of Benthic Invertebrate Sample Data, August 2010

LOCATION	# TAXA	# INDIVIDUALS/m^2
Pinewood River at SW1	13	4,903
Pinewood River at SW3	21	646
West Creek below DR600	23	5,281

Note: The number of individuals/m^2 is the mean of three (3) samples at each site.

At SW1, 11 taxa were found in the 2009 benthic samples and 13 taxa were found in the 2010 samples. Of the 11 taxa found at SW1 in 2009, none were found in both samples taken at that site, which indicates the patchiness of the benthic community.

At SW3, only four taxa (one dipteran, one mayfly, and two mollusks) were found in 2009, while the 2010 benthic samples at SW3 showed 21 taxa and a mean density of 646 individuals/m^2.

The Bray-Curtis (B-C) Index of dissimilarity was used to compare the benthic communities at Pinewood River stations SW1 upstream of the Project and SW3 downstream. The B-C Index was 0.99, which strongly indicates dissimilarity in benthic community structure between those stations. Both stations were in mid-channel on clay/silt substrates at depths of 1.5 m to 2.5 m. While similar benthic communities upstream and downstream of the proposed advanced exploration site might be more readily monitored for changes over time and distance, dissimilar communities can still be monitored for changes in density, diversity (# taxa) and percent composition of tolerant versus intolerant species for specific contaminants.

The West Creek benthic invertebrate samples in 2009 and 2010 were taken from the sections of creek near the proposed advanced exploration site. The five 2009 samples showed a total of 95 organisms (198/m^2) representing nine taxa, primarily mollusks (dead), mainly the snails Planorbidae and Physidae.

Table 11.34 also summarizes the 2009 benthic invertebrate community data for West Creek. The results indicate that the benthic community is comprised mainly of mollusks, both snails (gastropods) and clams (bivalves), as well as nematode (round) worms and a few dipterans (two-winged flies), and that few invertebrates occur in the sediments of West Creek at the sampling sites. The numbers of live organisms in the benthic samples were too few for effective use of the evenness and B-C indices. Only four separate orders or families of benthic fauna were found in the samples, along with numerous empty mollusk shells (snails and clams) that may have been alive one or more years ago.

Including both live and dead invertebrates, the total richness (numbers of taxa) was eight, which is also low relative to many other areas described in the literature and in our experience. Total densities (# organisms/m^2) were also low at the West Creek station, possibly due to low oxygen levels in the sediments. While densities and taxonomic richness can be shown, as above, the numbers of live organisms in 2009 is too low for meaningful use of the evenness and B-C indices.

The three 2010 benthic samples from West Creek showed a total of 1,521 organisms, or 15,841/m^2 mean density. Twenty-four taxa are represented in the 2010 benthic community from West Creek near the proposed advanced exploration site. Many of these were chironomids (dipterans), especially the orthocladiinids *Orthcladius* complex and *Thienemanniella* sp., as well as the tanytarsinid *Rheotanytarsus* sp., all dipterans. No mollusks were found in the 2010 benthic samples, while primarily mollusks were caught in the 2009 samples in West Creek.

The B-C Index applied to the 2009 and 2010 benthic samples in lower West Creek showed 0.96, which also indicates strong dissimilarity (low similarity) between the two years and specific locations. The benthic communities in the creeks in the Local Study Area are undoubtedly patchy with respect to densities and taxonomic composition. More

samples would be needed (as in an EEM program) to discern community structure more fully; however, the benthos likely show a range of community types in different locations (e.g. predominantly dipterans, crustaceans, mollusks, or worms).

11.3.5.2 Lake Benthos

The benthic samples from Muskrat Lake in June 2009 showed only two organisms, a chironomid dipteran and a bivalve mollusk. Other taxa no doubt occupy the lake sediments, such as worms, gastropods (snails) and crustaceans.

11.4 Sediment Quality

The results for all parameters of interest with the exception of total organic carbon at all stations and nickel and manganese at SED3 during July 2009 sampling fall below the OPSQG lowest effect level. In many cases, results are below the reportable detection limits.

In general, the results for the Pinewood River stations (SED1 and SED3) show slightly higher concentrations of measured parameters in July 2009 when compared to November 2008. The opposite is true of the West Creek station, SED2. Station SED3 generally has higher concentrations of the measured parameters than the other two stations. Results for individual parameters of interest are discussed below.

The results of the 2008 and 2009 sediment chemistry are shown in Appendix V-3.

Table 11.35 Physical Parameters, Anions, Nutrients and Total Metals

PARAMETER	STATION						OPSQG	
	SED1		SED2		SED3		LOWEST EFFECT LEVEL	SEVERE EFFECT LEVEL
	Nov-08	Jul-09	Nov-08	Jul-09	Nov-08	Jul-09		
PHYSICAL PARAMETERS, ANIONS, NUTRIENTS								
Moisture (%)	42	42	52	35	36	29	-	-
TOC (mg/kg)	13,000	14,000	26,000	13,000	19,000	26,000	10,000	100,000
pH	6.79	7.00	6.54	7.02	7.29	7.68	-	-
Nitrite (µg/g)	0.25	0.25	0.25	0.25	0.25	0.25	-	-
Chloride (µg/g)	39	25	41	23	42	28	-	-
Nitrate (µg/g)	1	1	1	1	1	1	-	-
Nitrate + Nitrite (µg/g)	1.5	1.5	1.5	1.5	1.5	1.5	-	-
Bromide (µg/g)	10	10	10	10	10	10	-	-
Phosphate (µg/g)	10	10	10	10	10	10	-	-
Sulphate (µg/g)	10	10	73	10	10	10	-	-
TOTAL METALS								
Aluminum (µg/g)	6,500	6,900	5,900	6,100	5,700	7,600	-	-
Antimony (µg/g)	0.1	0.1	0.1	0.1	0.1	0.1	-	-
Arsenic (µg/g)	1	2	2	2	2	3	6	33
Barium (µg/g)	46	46	60	48	54	80	-	-
Beryllium (µg/g)	0.3	0.3	0.3	0.2	0.1	0.4	-	-
Cadmium (µg/g)	0.05	0.2	0.2	0.1	0.2	0.2	0.6	10
Calcium (µg/g)	4,300	4300	6,400	6700	33,000	53,000	-	-
Chromium (µg/g)	15	16	14	14	15	20	26	110
Cobalt (µg/g)	4.8	5.9	5.5	4.7	5.7	7.3	-	-
Copper (µg/g)	7.3	7.4	13	7.9	12	15	16	110
Iron (µg/g)	8,600	9,000	12,000	8,800	9,500	13,000	20,000	40,000
Lead (µg/g)	5	5	5	5	5	6	31	250
Magnesium (µg/g)	3,400	3,200	3,600	4,400	19,000	28,000	-	-
Manganese (µg/g)	110	130	360	160	320	470	460	1,100
Mercury (µg/g)	0.025	0.025	0.025	0.025	0.025	0.025	0.2	2
Molybdenum (µg/g)	0.25	0.25	0.25	0.25	0.25	0.25	-	-
Nickel (µg/g)	10	11	11	10	13	19	16	75
Phosphorus (µg/g)	410	420	460	340	450	490	600	2,000
Potassium (µg/g)	780	740	630	600	930	1400	-	-
Selenium (µg/g)	0.25	0.25	0.25	0.25	0.6	0.25	-	-
Silver (µg/g)	0.1	0.1	0.1	0.1	0.1	0.1	-	-
Sodium (µg/g)	50	50	50	50	50	130	-	-
Strontium (µg/g)	14	14	12	10	22	31	-	-
Sulphur (µg/g)	170	300	650	200	210	110	-	-
Thallium (µg/g)	0.42	0.08	0.08	0.06	0.24	0.15	-	-
Vanadium (µg/g)	18	18	18	18	20	25	-	-
Zinc (µg/g)	41	46	51	37	33	39	120	820

Notes: Red text indicates result exceeds OPSQG (lowest effect level).
Blue text indicates result was below method detection limit (set to ½ the reportable detection limit).

Each parameter in the above table is discussed further below. The particle sizes of the sediment samples are shown in Table 11.36.

Table 11.36 Sediment Particle Size Distributions

FRACTION	STATION		
	SED1	SED2	SED3
Gravel %	<2	<2	<2
Sand %	61	57	17
Silt %	5	19	41
Clay %	34	22	42

Aluminum was detected at all sample sites during the November 2008 and July 2009 sampling events, with concentrations ranging from 5,700 µg/g to 6,500 µg/g. Note that no guidelines exist for aluminum levels in sediment.

Arsenic was detected at the three sampling stations during both sampling events, but levels were found to be below the OPSQG of 6 µg/g in all samples. The concentrations ranged from 1 µg/g to 3 µg/g.

Cadmium levels in the sediment samples ranged from below the reportable detection limit to 0.2 µg/g, below the OPSQG of 0.6 µg/g.

The OPSQG for chromium indicates levels should not exceed 26 µg/g in fresh water. The concentration for all sample sites was below this level; chromium levels ranged from 14 µg/g at SED2 to 20 µg/g at SED3.

The copper levels in the sediment at sites SE1, SE2, and SE3 were found to be below the OPSQG, ranging from 7.3 µg/g to 15 µg/g. The OPSQG is 16 µg/g.

Iron levels were below OPSQG levels at all three stations, ranging from 8,600 µg/g to 13,000 µg/g.

Lead was detected at all three sampling stations, but well below the OPSQG of 31 µg/g.

The manganese concentration was above the OPSQG of 460 µg/g at SED3 in July 2009. The measured concentration was 470 µg/g. Manganese was below the OPSQG at all other stations.

Mercury was found to be below the reportable detection limit at the three stations during the two sampling events. The OPSQG lowest effect level is 0.2 µg/g.

Nickel concentration at SED3 was 19 µg/g in July 2009, above the OPSQG lowest effect level of 16 µg/g.

The OPSQG for phosphorus is 600 µg/g. Phosphorus concentration ranged from 410 µg/g at station SED1 to 490 µg/g at station SED3.

The selenium concentrations were below the reportable detection limit of 0.5 µg/g at all stations in both November 2008 and July 2009, with the exception of SED3 in November 2009. There is no OPSQG for selenium.

Although no limits exist for strontium, the concentrations measured in sediment at the three sites ranged from 12 µg/g to 31 µg/g, with SED3 having the highest concentration of this metal.

The OPSQG for zinc concentration in sediment is 120 µg/g. The concentrations measured at stations SED1, SED2, and SED3 ranged from 33 µg/g to 51 µg/g.

Chemical analysis also determined the percentage of total organic carbon in order to assess the biological activity within the watershed. The total organic carbon levels ranged from 13,000 µg/g to 26,000 µg/g. All three stations exceeded the OPSQG lowest effect level of 10,000 µg/g in November 2008 and July 2009.

Stations SED1 and SED2 exhibit similar character in particle size. These two stations are silty sand with very little gravel. Station SED3 has a greater fines content and would be characterized as a clay.

11.5 Human Use of Fishery Resources

The primary human use of the fishery resources in the Local Study Area is for bait fish to catch walleye and other sports species in the Rainy River and other waterbodies. Several locations within the Local Study Area are used as capture locations for dace, minnows and shiners that are sold to local sports fishers, who travel to rivers and lakes in the region to catch sports species, especially walleye, for which there is an annual derby that attracts considerable attention in Emo, Fort Frances, and Rainy River.

No walleye are known to occur in the Local Study Area, the nearest population being in the Rainy River and possibly the lowermost reach of the Pinewood River below the beaver dams, and >20 km downstream of the Local Study Area. Long-time local residents have never seen, or heard of, walleye catches in the Pinewood River within that distance of the Project (C. LeBlanc, B. Watts, A. Stone, Pers. Comm.)

11.6 Summary

The main findings of the aquatic environmental baseline studies in 2009 and 2010 are that:

- The Pinewood River and its tributaries support a warm water fish community dominated by a diversity of cyprinids and other small species. Species requiring cool, clear waters or rocky habitat such as longnose or blacknose dace (*Rhinichthys* spp.), sculpins (*Cottus* spp.), or burbot (*Lota lota*) were not detected. Yellow perch and centrarchid species are also apparently absent;

- Northern pike occupy the Pinewood River in the Local Study Area. They may be Pinewood River-resident, or migratory from the Rainy River;

- Walleye do not regularly occur in the Local Study Area, but are known to inhabit the lower Pinewood River and Rainy River and may occasionally move upstream when beaver dams are breached;

- Lake sturgeon have never been recorded in the upper Pinewood River, but do inhabit the Rainy River and possibly the lower Pinewood;

- The Pinewood River and its tributaries are clay bottomed streams with high turbidity. Agricultural runoff in the watershed may have contributed to high turbidity;

- Potential spawning habitat for walleye and suckers (cobble and gravel beds) are absent in the Local Study Area, except in a few small patches where road gravel has washed into the stream channel;

- West Creek watershed supports fish throughout its main stem and in all tributary creeks;

- Marr Creek also has fish in its headwaters and entire length to the Pinewood River;

- Core Shack Creek appears to support a very small and isolated population of stickleback, with no access to other waterbodies;

- Muskrat Lake is productive for fish, invertebrates and aquatic vegetation, and would be suitable as a reference system for environmental effects monitoring; and

- The benthic invertebrate community has low-to-moderate abundance and diversity, and is dominated by crustaceans and chironomids, probably related to low oxygen availability in the soft clay substrates.

12. WILDLIFE

12.1 Study Objectives

The objectives of the wildlife baseline were to describe the wildlife community of the regional and Local Study Areas, identify species at risk known or potentially occurring in the study areas, and identify significant wildlife habitat as defined by MNR (2000).

12.2 Methodology

The information contained in the sections below is based on the terrestrial wildlife field surveys and habitat assessments carried out in 2009 and 2010. In total, fieldwork totalled approximately 900 person-hours over 41 days.

12.2.1 Existing Data Review

A list of species potentially occurring in the study areas was compiled from a variety of sources including:

- Life science inventory reports for provincial parks in the area (Harris and Foster 2004 a, b, also the Rainy Lake report);
- A Breeding Bird Survey (BBS 2011) conducted at Stratton, about 20 km southwest of the centre of the Local Study Area (data available for 31 years between 1977 and 2009); and
- The Ontario Breeding Bird Atlas database (11 atlas squares overlapping the Regional Study Area) (Cadman et al. 2007).

A geographical query of the Natural Heritage Information Centre (NHIC 2011) was conducted in February 2011 for species at risk occurrences in the 10 km by 10 km blocks overlapping the Regional Study Area (i.e., blocks: 15VP09, 15VP19, 15VP29, 15VQ00, 15VQ01, 15VQ10, 15VQ11, 15VQ20, 15VQ21, 15VQ30, 15VQ31).

Other sources of wildlife information were the Forest Management Plan for the Crossroute Forest (MNR, 2007) and informal interviews with local residents.

Federally and provincially regulated species for the Rainy River area in the vicinity of the Local Study Area were identified by searching:

- the Natural Heritage Information Centre database (NHIC 2011);
- Species at Risk in Ontario (SARO 2010);
- Committee on the Status of Species at Risk in Ontario (COSSARO),
- the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (SARA, 2009a); and
- the federal Species at Risk Act (SARA) – Schedule 1 (SARA, 2009b) databases.

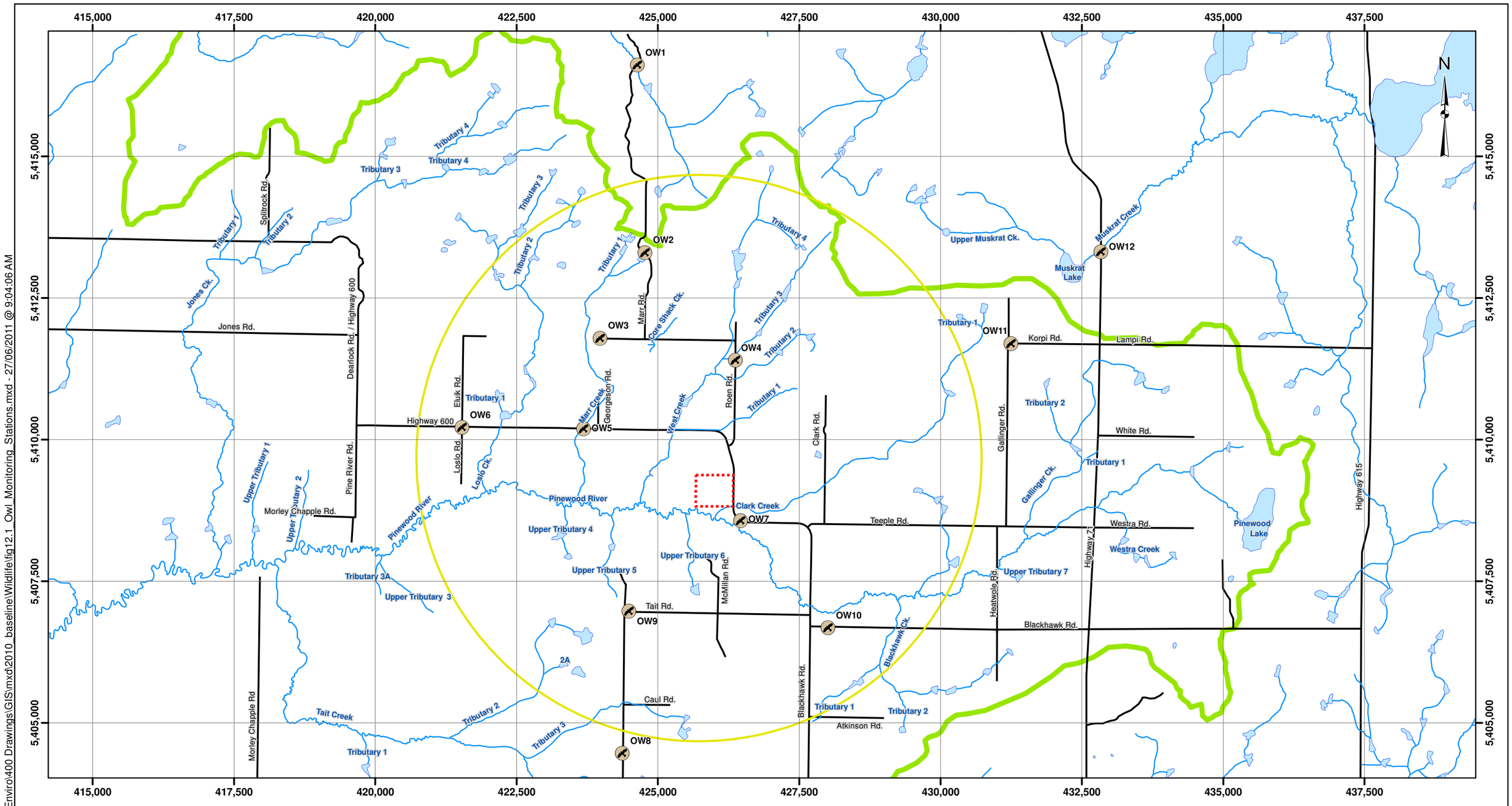
Publicly available range maps for species at risk (MNR, 2009) were reviewed and a comprehensive list of potentially occurring rare, Special Concern, Threatened and Endangered species was compiled for the area around the proposed advanced exploration site and surrounding area. After a data sharing agreement was signed between Rainy River Resources Ltd. and the MNR, Rainy River and the MNR shared site-specific species at risk (SAR) data. In accordance with this agreement, classified SAR data is not presented in this baseline report, but has been provided in a separate report entitled "Rainy River Gold Project: Species at Risk Basline". At the request of Rainy River Resources, "species at risk" will be going forward in this Basline Report refered to as "sensitive species".

12.2.2 Avian Community

12.2.2.1 Field Surveys

12.2.2.1.1 Owl Surveys

Owl surveys were conducted on April 30, 2010 and May 1, 2010 using the northern Ontario protocol described in Konze and McLaren (1997) (Figure 12.1, Appendix VI-1). Twelve survey stations were completed in the Local Study Area at 1.6 km intervals along roadsides. At each station a tape playback of Boreal Owl (*Aegolius funereus*) and Great Gray Owl (*Strix nebulosa*) was played followed by a listening period. All owls heard were recorded on the datasheet. Surveys were conducted at night, beginning one half hour after sunset (twilight) and were completed by midnight.



Owl Monitoring Stations

Local Study Area

Advanced Exploration Project Facility Boundary

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

NOT FOR CONSTRUCTION

TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

0 2,500 m

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Klohn Crippen Berger

PROJECT: RAINY RIVER GOLD PROJECT: 2008 - 2010 BASELINE

TITLE: OWL MONITORING STATIONS: 2010

PROJECT No. M09559A04

FIG No. 12.1

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12.2.2.1.2 Sharp-tailed Grouse Lek Site Surveys

Surveys for Sharp-tailed Grouse mating display grounds (leks) were conducted on May 3, 2010 and May 4, 2010. Surveys were conducted by driving roads in early morning and scanning pastures, hayfields, and other open habitat for displaying grouse. All roads through open habitat in the Local Study Area were surveyed (approximately 25 km). Early monrning survey stations were set up approximetly 200m from identified Lek locations and scopes were used to identify and count the grouse present at each Lek site (Photo 12.1 Local Study Area Lek Surveys. Locations and numbers of grouse were documented at each lek.



Photo 12.1 Local Study Area Lek Surveys

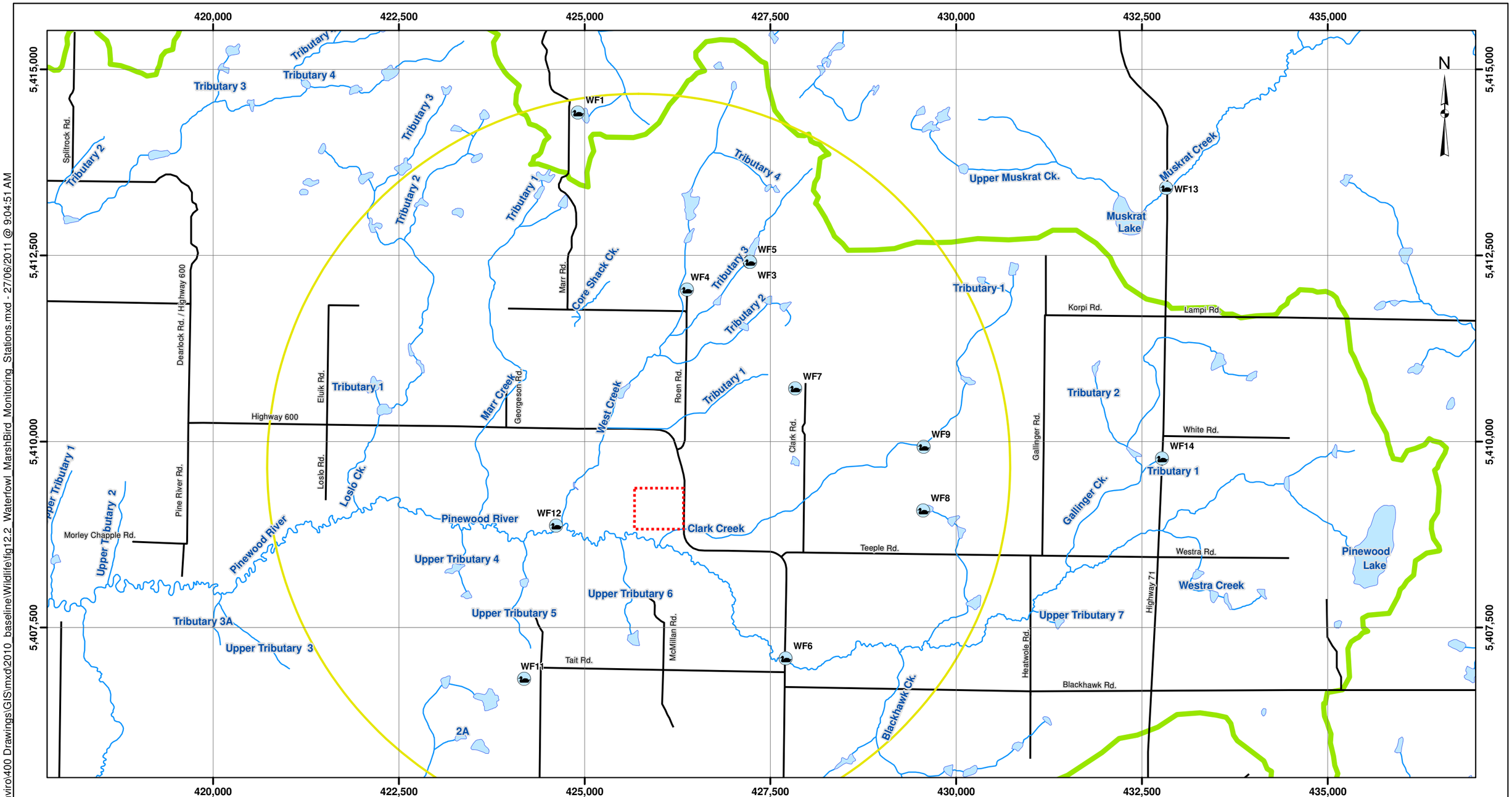
12.2.2.1.3 Marsh Bird and Waterfowl Surveys

Survey methods follow the Marsh Monitoring Program Bird (MMPB) Surveys (Konze and McLaren, 1997) and the Inventory Methods for Waterfowl and Allied Species (BC, RIC 1999a). Standardized field forms (RIC, 1999a) were used to record observed species and habitat features. A total of 19 stations were surveyed (Appendix VI-2 and VI-3, Figure 12.2) in the Local Study Area.

Point count survey stations were selected prior to field investigations using 1:20 000 scale satellite images. Survey stations were selected based on suitable habitat, study area coverage, and accessibility. Waterfowl stations were ground-truthed in the field and GPS points taken of the station locations.

Point counts were conducted at dusk, beginning at 6:00 p.m. and completed before sunset. All waterfowl and marsh birds observed in and/or adjacent to a 100 m radius circle were recorded by one observer over a period of ten minutes for each point count station. Songbirds, nocturnal birds, and other forms of wildlife observed at each point count station were also recorded as incidental observations. At each point count station a call/playback tape was played. A recording of Virginia Rail (*Rallus limicola*), Sora (*Porzana carolina*), Least Bittern (*Ixobrychus exilis*), and Pied-billed Grebe (*Podilymbus podiceps*) call was played three times at each station and responses were recorded.

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Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

- Waterfowl and Marsh Bird Survey Stations
- Local Study Area
- Advanced Exploration Project Facility Boundary
- Pinewood River Watershed

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0 2,500 m

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2008 - 2010 BASELINE

TITLE
WATERFOWL AND MARSH BIRD SURVEY STATIONS: 2009 - 2010

PROJECT No. M09559A04

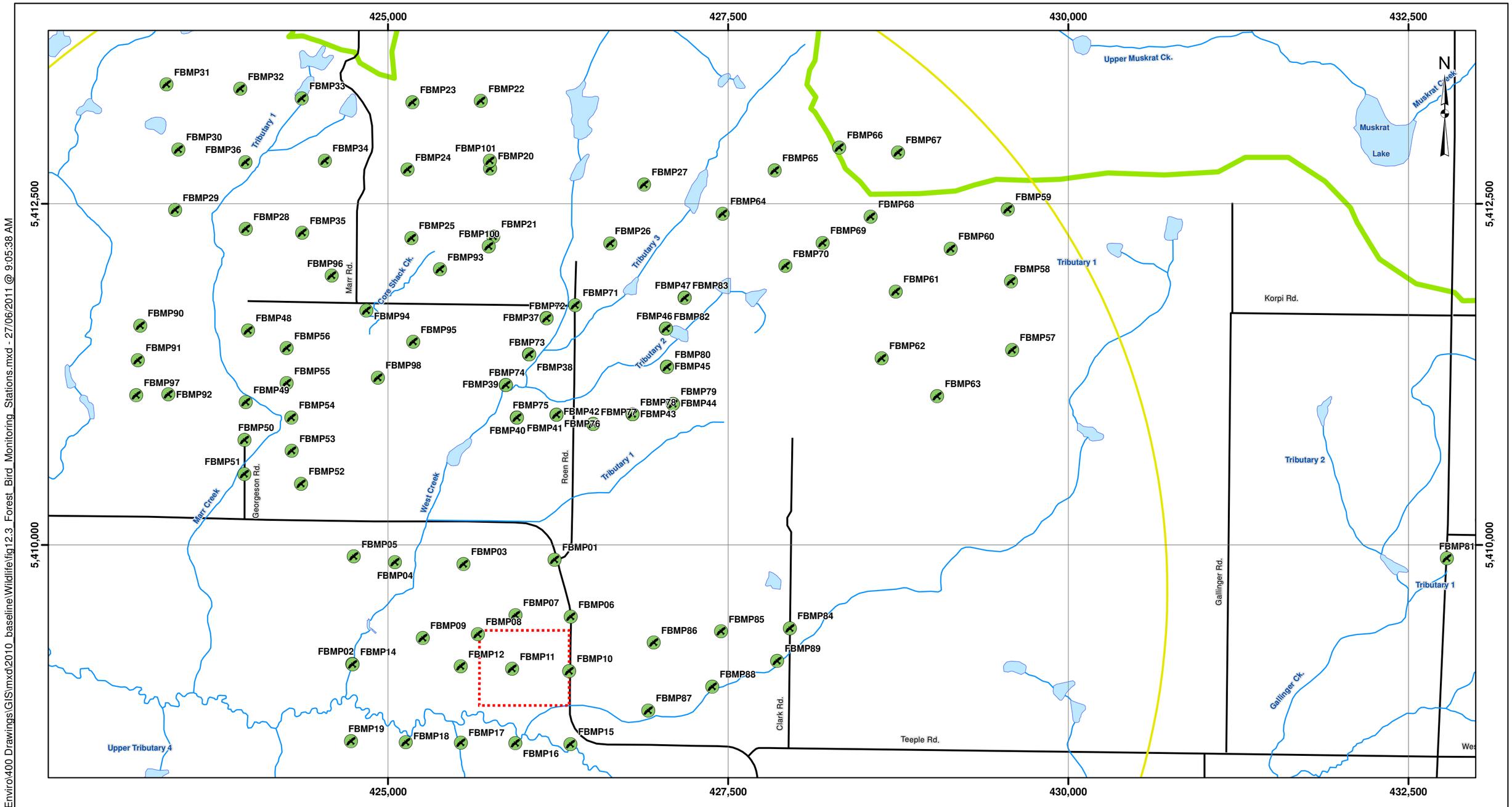
FIG No. 12.2

12.2.2.1.4 Forest Bird Monitoring

Bird monitoring was conducted in 2009 and 2010 at 100 stations in and near the Local Study Area (Appendix VI-4 and Appendix VI-5, Figure 12.3) following the Forest Bird Monitoring Program (FBMP) protocol (Konze and McLaren 1997). This method consists of 10-minute listening stations, at least 250 m apart. Surveys began at sunrise and were completed by 11:00 a.m. In 2009, stations were surveyed twice (i.e. FBM01 to FBM19) and the maximum count of each species used in data summaries. In 2010, each station was surveyed once.

Stations were selected using 1:20,000 scale satellite imagery to sample the full range of habitats present in the Local Study Area. Incidental bird observations were recorded consistent with the Inventory Methods for Forest and Grassland Songbirds (BC, RIC 1999b). Standardized field forms (RIC, 1999b) were used to record observed species and habitat features.

Breeding status was assigned using the Ontario Breeding Bird Atlas breeding evidence codes (Cadman et al. 2008).



Forest Bird Monitoring Stations

Local Study Area

Advanced Exploration Project Facility Boundary

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 1,250 m

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TITLE

FOREST BIRD MONITORING STATIONS:
2009 - 2010

PROJECT No. M09559A04

FIG No. 12.3

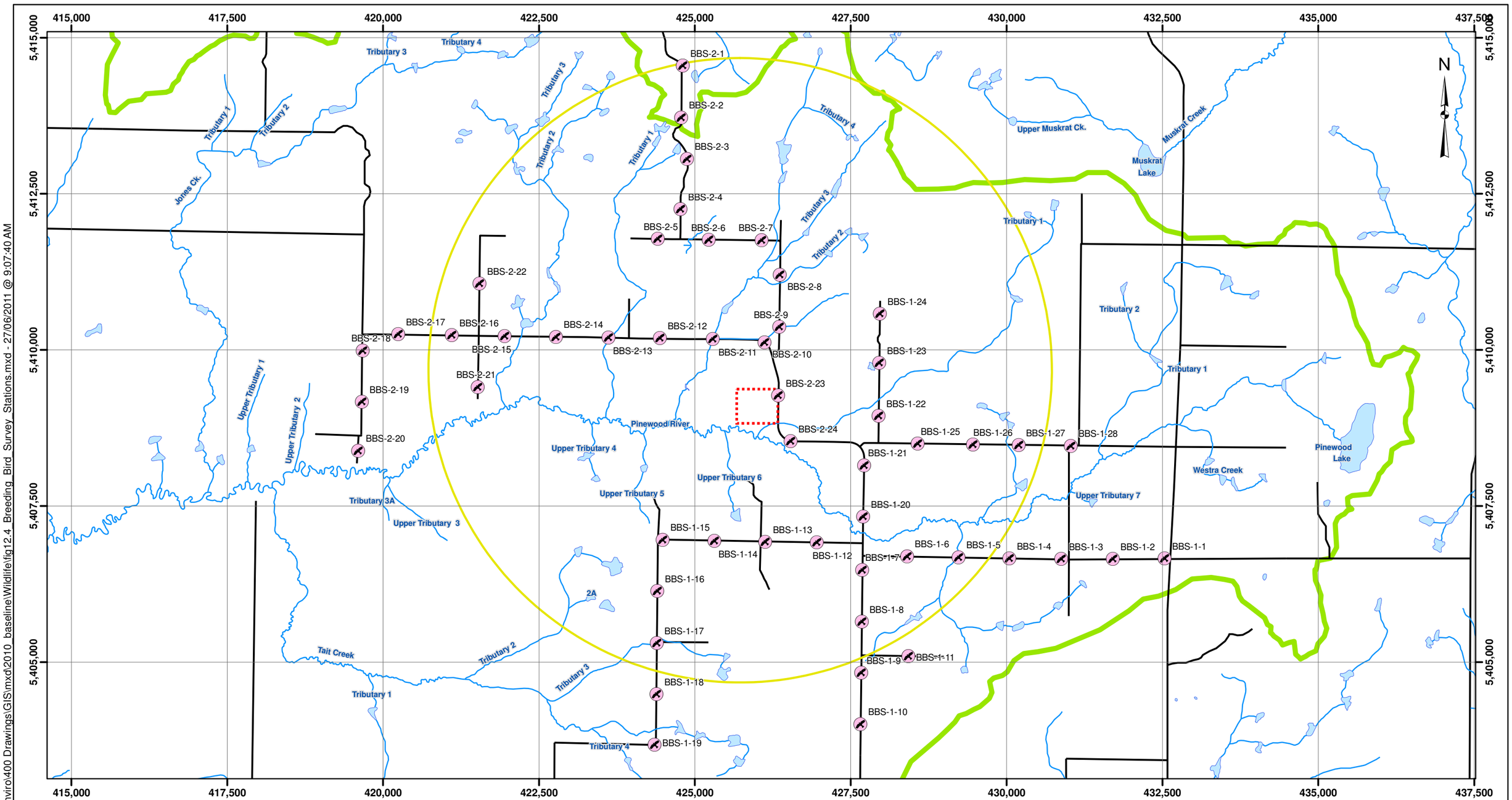
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12.2.2.1.5 Breeding Bird Surveys

Breeding Bird Surveys (BBS 2011) were conducted on June 22, 2010. Compared to Forest Bird Monitoring, this roadside survey allows a broad sample of the local bird community and includes open and anthropogenic habitats as well as forests. Stations were situated at 800 m intervals along roads for a total of 55 stations covering much of the Local Study Area (Figure 12.4, Appendix VI-6 and Appendix VI-7). All birds seen or heard within a 3 minute period less than 400 m from the station were recorded.

Weather conditions during the survey were overcast with brief periods of light drizzle in late morning. Wind was calm to Beaufort 2 and temperature was 17^{o} C to 21^{o} C.

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Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

- Breeding Bird Survey Station
- Local Study Area
- Advanced Exploration Project Facility Boundary
- Pinewood River Watershed

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0 2,500 m

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RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

BREEDING BIRD SURVEY STATIONS:
2010

PROJECT No. M09559A04

FIG No. 12.4

12.2.2.1.6 Migration Monitoring Surveys

Bird migration monitoring was conducted from October 5, 2010 to October 8, 2010. The purpose was to complete a general assessment of the potential of the site as a migratory route and/or stopover habitat based on known regional bird migration patterns (e.g. Harris et al. 2002). The survey was not intended to be a comprehensive assessment of bird migration, which is dependent on weather and other factors and is highly variable between years.

The station was in a field south of the Pinewood River near the middle of the Local Study Area (425745E 5408591N). This site offered an unimpeded view of several km to the north, east, and west. The Hawk Migration Association of North America (HMANA 2011) protocol was followed. Monitoring consisted of standing at a suitable vantage point and recording the numbers of migrating raptors, waterfowl, and other birds. The monitoring period covered up to six hours beginning one half hour before sunrise. Bird observations were summarized into height zones and flight direction. Wind direction, temperature, and other weather parameters were recorded (Table 12.1).

Table 12.1 Migration monitoring details October 5, 2010 to October 8, 2010

DATE	HOURS	WEATHER
October 5 2010	6	Clear. Light SE winds, increasing in late morning. 5 ºC to 16 ºC
October 6 2010	6	Clear. Moderate NW winds, increasing in late morning. 9ºC to 17ºC
October 7 2010	6	Clear. Calm. 1ºC to 16ºC
October 8 2010	4	Clear. Calm. 4ºCto 13ºC

Other observations of bird migration and staging were recorded incidentally during other fieldwork.

12.2.3 Amphibians

12.2.3.1 Field Survey

Survey methods followed the Marsh Monitoring Program Amphibian Surveys (Konze and McLaren, 1997). Standardized field forms were used to record species and general wetland habitat features.

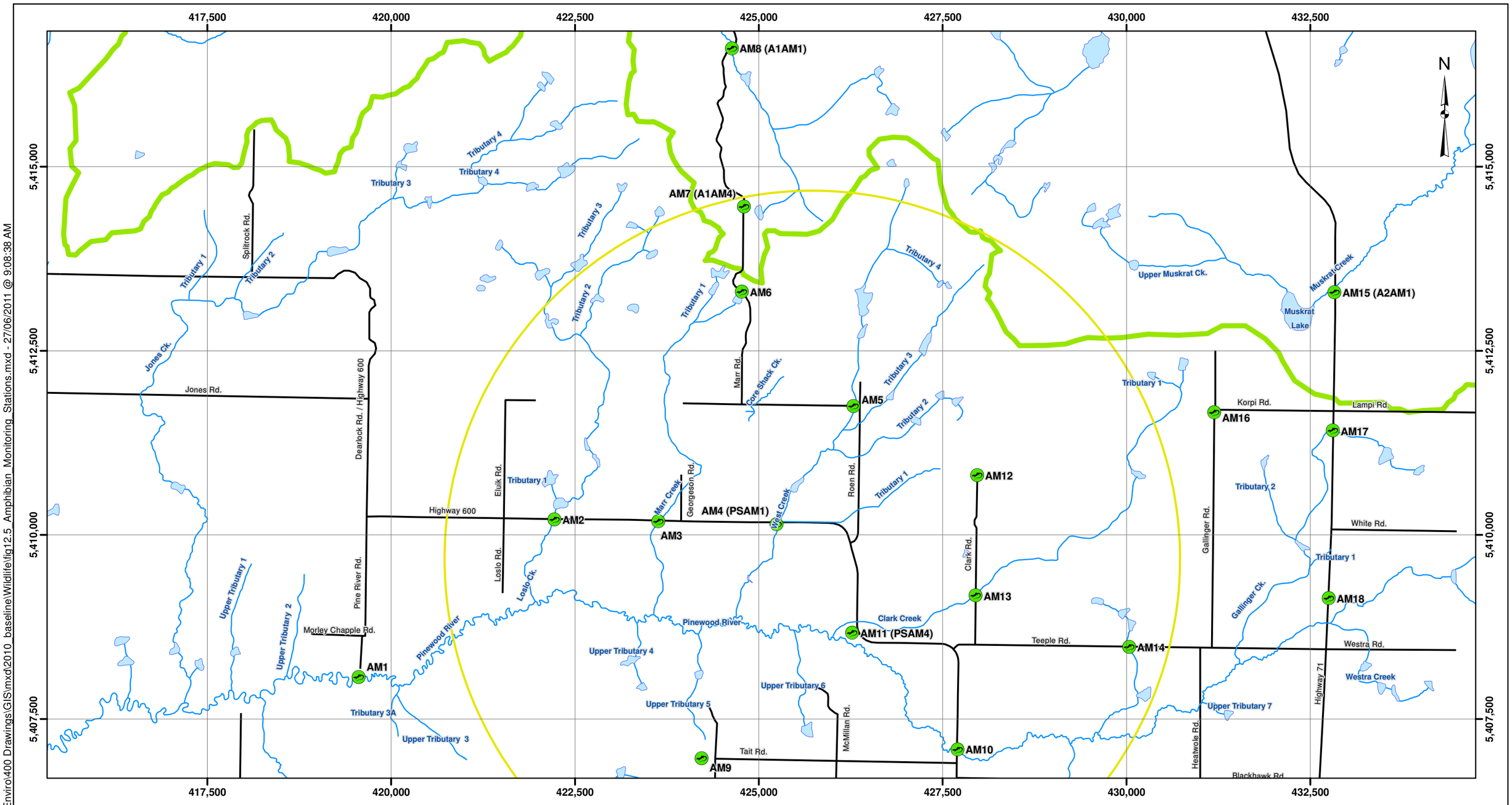
Prior to the first site visit, survey stations were selected using 1:20,000 satellite imagery. Amphibian stations were selected based on both habitat suitability and access to sites. Station locations were ground-truthed in the field.

Amphibian monitoring surveys were conducted three times during the breeding season to ensure early and late season breeders were detected. Survey windows followed suggested dates for northern Ontario Surveys (Konze and McLaren 1997). Due to fluctuating and unseasonal weather, three replica surveys were conducted per survey period to ensure temperature sensitive species were detected. A total of 18 amphibian stations were surveyed in 2009 and 2010 (Figure 12.5).

Point count call surveys were conducted by a single observer. Calling species were recorded during a five minute period with a recording radius of unlimited distance. Surveys documented amphibian species observed and the level of calling (Table 12.2). Surveys were conducted at night, beginning one half hour after sunset (twilight) and were completed by midnight.

Table 12.2 Amphibian Call Level Codes (Konze and McLaren 1997).

CALL LEVEL CODE	DESCRIPTION
0	None heard
1	Individuals can be counted, calls not overlapping
2	Numbers of some individuals can be estimated or counted
3	Full Chorus, calls continuous and overlapping, individuals not distinguishable.



Amphibian Survey Stations (Bracketed labels refer to 2009 stations.)

Local Study Area

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 2,500 m

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TITLE
AMPHIBIAN MONITORING STATIONS
2009 - 2010

PROJECT No. M09559A04

FIG No. 12.5

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12.2.4 Other Taxa

Stick Nests

Stick nest surveys were conducted incidentally with other fieldwork, particularly during the leaf-off period.

Reptiles and Amphibians

Reptile and amphibian surveys were conducted during the spring and summer site visits. Habitat investigations and visual encounter surveys were carried out in suitable habitat. Typical habitat including rocks, logs, leaf litter, and other forms of cover were turned over and replaced. Vernal pools (frog and salamander eggs and larvae), basking logs (turtles), and soil banks (turtle nests) were also examined. Nocturnal road cruises (Konze and McLaren 1997) were conducted during Whip-poor-will and Common Nighthawk surveys.

Mammals

Evidence of mammal presence throughout the Local Study Area was collected through encounter transects, incidental observations, and targeted habitat searches. Harvest records from the three trap lines overlapping the Local Study Area were obtained from the Ontario of Ministry of Natural Resources in Fort Frances for the period 1993 to 2008.

Dragonflies and Damselflies (Odonates)

Incidental observation of odonates was compiled during summer fieldwork, including adults and exuviae (shed larval skins) from stream banks. Selected specimens were collected and identified in the lab.

12.2.5 Sensitive Species

12.2.5.1 Sensitive Species Field Surveys

Targeted surveys were conducted in 2010 based on existing available sensitive species data and 2009 sensitive species observations. As described earlier, a list of sensitive species potentially occurring in the Local Study Area was compiled from existing sources. Targeted surveys for these species were conducted where practical. Whip-poor-will and Bobolink were identified in early 2010 as priority sensitive species and the following paragraphs summarize the rational and methods for the targeted surveys conducted.

12.2.5.1.1 Whip-poor-will and Common Nighthawk

During the amphibian surveys conducted in June 2009, an incidental observation of one Whip-poor-will was recorded calling in the Local Study Area. In December 2009 the status of the Whip-poor-will in Ontario was elevated to Threatened under the *Ontario Endanaged Species Act* (ESA).

Due to the elevated listing status of the Whip-poor-will in Ontario, two targeted surveys were conducted in June of 2010. Inventory methods for Whip-poor-wills followed the *Proposed Survey Technique for Common Nighthawk and Whip-poor-will, Version 1.0* (Holroyd 2009). This survey technique was used because no formally approved standardized method for surveying Whip-poor-will existed in Ontario at the time of the survey. Surveys for Common Nighthawk (*Chordeiles minor*) were conducted concurrently.

Road transect surveys for Whip-poor-will and Common Nighthawk were conducted both in early and late June, 2010. The early June surveys were conducted on June 9, 2010 at 20 locations centered on the Local Study Area. Surveys conducted in late June were

completed on June 22, 2010 and June 24, 2010 at a total of 38 locations in and approximately 2 km outside of the Local Study Area.

Point count surveys were conducted every 1.6 km along a predetermined road route for a period of six minutes per station. Standardized survey field forms were used to record species present and general habitat and weather conditions (wind scale, noise level, and traffic count).

12.2.5.1.2 Bobolink

In April 2010, the Bobolink was recommended by COSEWIC to be federally listed as Threatened. In September 2010, Bobolink was listed as Threatened under the ESA in Ontario. The Bobolink was officially listed Threatened following the 2010 field season, so species-specific surveys were not conducted.

Breeding Bird Survey and Forest Bird Monitoring surveys (described above) targeted Bobolink habitat in 2010. Incidental observations during other fieldwork were also recorded.

12.2.5.1.3 Red-headed Woodpecker

A tape playback survey for Red-headed Woodpecker (*Melanerpes erythrocephalus*) was conducted in June 2010, targeting preferred habitat (open aspen stands, typically grazed by cattle). The survey covered most suitable habitat.

12.2.5.1.4 Other Songbirds

Surveys for Chimney Swift (*Chaetura pelagica*), Olive-sided Flycatcher (*Contopus cooperi*), Golden-winged Warbler (*Vermivora chrysoptera*), Canada Warbler (*Wilsonia canadensis*), and Rusty Blackbird (*Euphagus carolinus*) were conducted using Forest Bird Monitoring and Breeding Bird Surveys methods described above.

12.2.5.1.5 Marsh Birds

Waterfowl and marsh bird monitoring (described above) was used to survey for Black Terns (*Chlidonias niger*), Yellow Rail (*Coturnicops noveboracensis*), and Least Bittern (*Ixobrychus exilis*). Tape playback surveys were used for the latter two species.

12.2.6 Other Significant Wildlife Habitat

Inventory for other significant wildlife habitat as described in MNR (2000) was conducted in 2009 and 2010. Specifically these included winter deer yards, moose winter habitat, colonial bird nest sites, bird migratory staging and stopover areas, reptile and bat hibernacula, moose aquatic feeding areas, calving sites, mineral licks, and denning sites.

12.3 Results

Scientific names of species mentioned in the text are included in Appendix VI-12 to Appendix VI-14.

12.3.1 Avian Community

Owl monitoring data are in Appendix VI-1, waterfowl and marsh bird monitoring data are in Appendix VI-3, Forest Bird Monitoring data are in Appendix VI-5, Breeding Bird Survey data are in Appendix VI-7, and migration monitoring data are in Appendix VI-8.

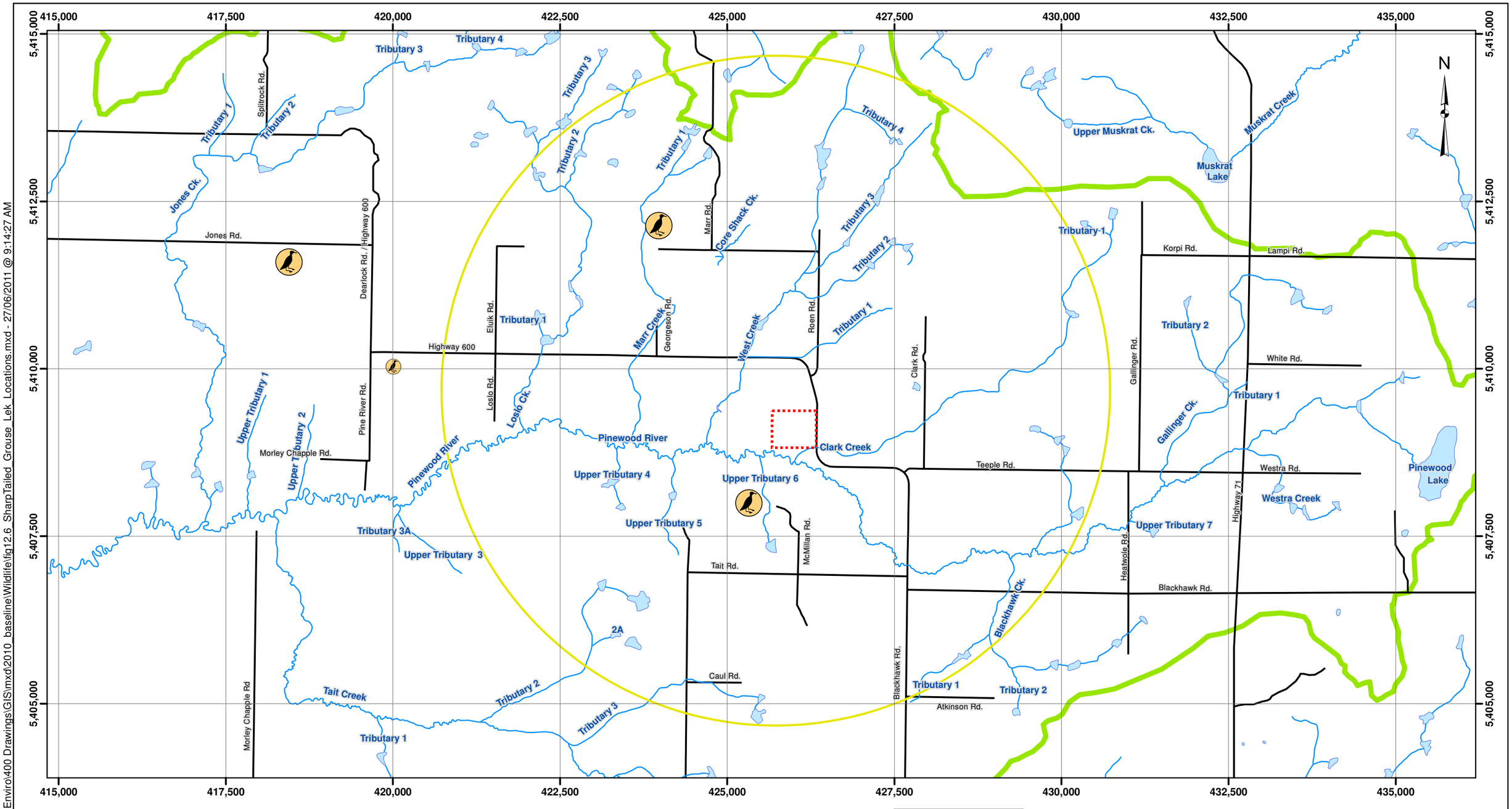
A total of 143 bird species were observed in or adjacent to the Local Study Area in 2009 and 2010 (Appendix VI-12). Of these, 128 are known or suspected to nest in the study area, two (Herring Gull and American White Pelican) are summer residents but lack suitable nesting habitat, and 13 were observed only as migrants. An additional 26 species were tallied on the Stratton Breeding Bird Survey between 1997 and 2009 (BBS 2011).

The breeding bird species composition and density reflect the mixture of deciduous forest, wetland and open field habitats (Table 12.3, Table 12.4). Deciduous forest nesting species including Red-eyed Vireo, Veery, American Robin, and Ovenbird were the most common species at Forest Bird Monitoring stations. Wetland species such as Red-winged Blackbird, Common Yellowthroat, and Wilson's Snipe were also abundant. Savannah Sparrow, Clay-colored Sparrow, and Bobolink are common in agricultural land. Boreal species such as Palm Warbler, Connecticut Warbler, and Gray Jay are largely restricted to the large peatlands and conifer swamp forests. Southern species near the northern limit of their range include Brown Thrasher, Northern Rough-winged Swallow, and Warbling Vireo.

Owl surveys recorded Great Grey Owl and Great Horned Owl, and incidental observations of 5 other owl species were made. All of these species probably nest in the Local Study Area.

A total of three Sharp-tailed Grouse leks were observed in May 2010 (Figure 12.6). The number of displaying adults ranged from 9 to 22 birds. A total of 44 Sharp-tailed Grouse were observed using lek sites within the Local Study Area. These leks are probably traditional locations used by grouse occupying the surrounding landscape (Sandilands 2005) and constitute significant wildlife habitat (MNR 2000).

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Grouse Lek Site

Grouse Single Observation

Local Study Area

Advanced Exploration Project Facility Boundary

Pinewood River Watershed

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

SHARP-TAILED GROUSE LEK LOCATIONS:
2010

PROJECT No. M09559A04

FIG No. 12.6

A summary of waterfowl and marsh bird monitoring data is contained in Table 12.5. The wetland communities located along the Pinewood River, in beaver ponds, and other marshes contribute to the diverse mix of wetland species found in the Local Study Area. Among the more common species are American White Pelican, American Bittern, Ring-necked Duck, and Great Blue Heron. Broods of Canada Goose, Mallard, and Common Goldeneye were commonly seen in the Local Study Area. The abundance of riparian wetlands on this landscape, interspersed with forests and fields may create a locally significant waterfowl nesting area (MNR 2000), but its significance on a provincial scale or regional scale is unknown.

Table 12.3 Most Common Bird Species tallied in Forest Bird Monitoring Point Counts: Local Study Area 2009 and 2010.

SPECIES	MEAN #	FREQUENCY (%)
Red-eyed Vireo	2.09	79
Veery	1.51	74
American Robin	1.31	71
Ovenbird	1.24	64
Red-winged Blackbird	1.16	48
White-throated Sparrow	1.16	64
Common Yellowthroat	1.04	60
Song Sparrow	0.94	46
Wilson's Snipe	0.74	48
Canada Goose	0.73	15
Nashville Warbler	0.64	45
Hermit Thrush	0.54	29
Chestnut-sided Warbler	0.53	34
Least Flycatcher	0.52	31
Blue Jay	0.46	35
Cedar Waxwing	0.45	14
Swamp Sparrow	0.45	24
American Crow	0.44	34
Northern Flicker	0.43	35
American Goldfinch	0.37	29
Brown-headed Cowbird	0.37	18
Savannah Sparrow	0.34	17
Mourning Warbler	0.3	22
Clay-colored Sparrow	0.27	17
Common Raven	0.27	21
Yellow Warbler	0.25	18
Rose-breasted Grosbeak	0.24	19
Bobolink	0.23	11
Black-and-white Warbler	0.2	19
American Bittern	0.18	15
Ruffed Grouse	0.18	16

Table 12.4 Most Common Bird Species Tallied in Breeding Bird Survey Stations: Local Study Area June 22, 2010

SPECIES	MEAN #	FREQUENCY (%)
Red-eyed Vireo	1.71	70.91
Veery	1.24	69.09
White-throated Sparrow	1.11	69.09
Song Sparrow	1.09	67.27
Red-winged Blackbird	1.05	40.00
Clay-colored Sparrow	0.84	40.00
Ovenbird	0.64	45.45
Nashville Warbler	0.60	34.55
Common Yellowthroat	0.56	40.00
Hermit Thrush	0.51	30.91
American Robin	0.49	34.55
American Crow	0.44	30.91
Chestnut-sided Warbler	0.44	32.73
American Goldfinch	0.42	30.91
Bobolink	0.40	20.00
Tree Swallow	0.38	10.91
Savannah Sparrow	0.31	18.18
Alder Flycatcher	0.27	23.64
Mourning Warbler	0.27	23.64
Least Flycatcher	0.25	14.55
Wilson's Snipe	0.25	25.45
Blue Jay	0.24	18.18
Common Raven	0.24	16.36
Chipping Sparrow	0.20	18.18
House Wren	0.16	10.91
Northern Flicker	0.16	16.36
Black-capped Chickadee	0.15	9.09
Rock Dove	0.15	3.64
Black-and-white Warbler	0.13	10.91
European Starling	0.11	7.27

Table 12.5 Bird Species Tallied in Waterfowl Monitoring Stations: Local Study Area 2009 and 2010

SPECIES	FREQUENCY (%)
Red-winged Blackbird	95
American White Pelican	74
American Bittern	58
Veery	53
Ring-necked Duck	37
Great Blue Heron	26
Wilson's Snipe	21
White-throated Sparrow	21
Ovenbird	21
Blue-winged teal	16
Common Yellowthroat	16
Swamp Sparrow	16
Sedge Wren	16
Sora	11
American Robin	11
Canada Goose	11
Nashville Warbler	11
Ruffed Grouse	5
Redhead	5
Mallard	5
Common Nighthawk	5
American Woodcock	5

Several colonial nesting swallow species were observed in the Local Study Area including Cliff Swallows (nesting primarily on bridges), Bank and Northern Rough-winged Swallow (nesting on soil banks, often in gravel pits or eroding river banks) were observed, but no nesting colonies were discovered. Similarly, Great Blue Herons were frequently observed, but no heronries are known to occur in the Local Study Area. No colonial nesting waterbirds are known to nest in the Regional Study Area, given the lack of large water bodies. American White Pelican and Herring Gulls use the Local Study

Area for feeding, but nest on Lake of the Woods, Rainy Lake, and other large lakes in the broader area.

Migration monitoring conducted in October 2010 tallied modest numbers of migrating passerines, raptors, and waterfowl. Weather conditions were mixed, with alternating southerly and northerly winds and clear skies. Small flocks of northern migrants including American Pipits, Horned Larks, Snow Buntings, and Lapland Longspurs were observed. Migrating raptors over three days included 18 Red-tailed Hawks, 6 Sharp-shinned Hawks, an Osprey, and a single Peregrine Falcon. Flocks of up to several hundred Canada Geese were staging in the fields on all three days.

Given the brief observation period, no definitive summary of bird migration in the Local Study Area can be made with existing data. However, the Local Study Area lacks landforms likely to concentrate migrants such as north-south trending ridges, river valleys, shorelines of large lakes, or isolated patches of forest in a non-forested landscape. Elsewhere in Rainy River area, large numbers of staging waterfowl concentrate at the mouth of the Rainy River at Lake of the Woods and in the channel east of the Sable Islands. Shorebirds stage at sewage lagoons and on Sable Island shorelines (Dave Elder pers. comm., Harris et al. 2002). In a regional or provincially context, the Local Study Area is probably no more significant than other parts of Ecoregion 5S as a staging areas for landbirds, shorebirds, or waterfowl (MNR 2000).

Wintering raptors, especially Rough-legged Hawks (*Buteo lagopus*) and owls, are present in the Regional Study Area in small numbers during most winters (Dave Elder pers. comm.), but the area is probably not a significant area on a provincial or regional scale.

12.3.2 Mammal Community

A total of 22 mammal species was observed in the Local Study Area (or indirectly detected through tracks, browsing or scat evidence) or reported from other sources (Table 12.6). No small mammal trapping or targeted bat surveys were conducted. Data on these species were collected through encounter surveys, incidental observations (day and night) and supplemented with local trap line data by the MNR.

Among the most prominent mammals in and around the Local Study Area are large species such as the Black Bear and White-tailed Deer. Typical boreal fauna such as Moose, Timber Wolf, Beaver, and Red Fox are also present. Three mammal species at risk (Franklin's Ground Squirrel, American Badger, and Gray Fox) have been reported from in or near the Regional Study Area, but were not observed in 2009 or 2010 surveys. These species are discussed under *Sensitive Species* section, below.

White-tailed Deer are ubiquitous and were observed in all habitats, most frequently on the edges of fields near hardwood forest. The Rainy River area has one of the highest deer densities in northwestern Ontario, probably due to the interspersion of open fields and forest. No winter deer yards are known from existing documentation or evidence observed in the field, but potential yards (dense cedar swamps; Ecosite 37) make up about 1330 ha of the Regional Study Area or 89 ha of the Local Study Area (MNR Forest Resource Inventory data).

Moose tracks were observed at a few locations in the Local Study Area, however the species appears to be uncommon, perhaps related to the high White-tailed Deer density (and inferred high incidence of brainworm, *Parelaphostrongylus tenuis*). Local residents also feel that Moose are uncommon, but are occasionally seen in the large conifer swamps south of Dearlock on the south side of the Pinewood River. Moose have been declining in the Lake of the Woods area in Ontario and adjacent Minnesota for several

decades (Murray et al. 2009). Potential late winter habitat for moose (dense, mature conifer forest; MNR 2000) in the area consists mainly of black spruce swamp (Ecosites 35, 36). This habitat is common in the Regional Study Area (about 25% of the landscape), but use of these stands by moose for winter habitats is not confirmed. Potential Moose aquatic feeding areas (wetlands with abundant aquatic vegetation) occur in beaver ponds and small lakes throughout the Local Study Area, but no evidence of use by Moose was observed. No Moose calving sites or mineral licks are documented for the Local Study Area nor were found during the 2009 and 2010 surveys.

The most common species reported in fur harvest records are Beaver, American Marten, Red Fox, and Fisher (Table 12.7). Trapped species include several uncommon mammals including Raccoon, Bobcat, and Grey Fox near the northern limit of their range in Ontario. Beaver activity in the Local Study Area is concentrated along the Pinewood River and its tributaries. Several beaver dams and lodges were observed during both the wildlife and aquatic surveys along the Pinewood River and West Creek.

No bat hibernacula or mammal denning sites are documented for the study area (MNR, 2007).



Photo 12.2 Coyote in the Teeple field south of the Pinewood River

Table 12.6 Mammals of the Regional Study Area based on field observations (2009 and 2010)

COMMON NAME	SCIENTIFIC NAME	SOURCE
Rabbits and Hares	**FAMILY LEPORIDAE**	
Snowshoe Hare	*Lepus americanus*	Field Obs.
Squirrels	**FAMILY SCIURIDAE**	
Eastern Chipmunk	*Tamias striatus*	Field Obs.
Woodchuck	*Marmota monax*	Field Obs.
Franklin's Ground Squirrel	*Spermophilus franklinii*	NHIC
Red Squirrel	*Tamiasciurus hudsonicus*	Field Obs.
Beavers	**FAMILY CASTORIDAE**	
Beaver	*Castor canadensis*	Field Obs.
Rats, Mice, and Voles	**FAMILY MURIDAE**	
Muskrat	*Ondatra zibethicus*	Field Obs.
Dogs	**FAMILY CANIDAE**	
Coyote	*Canis latrans*	Field Obs.
Timber Wolf	*Canis lupus*	Field Obs.
Red Fox	*Vulpes vulpes*	Field Obs.
Gray Fox	*Urocyon cinereoargenteus*	Trapline Data
Bear	**FAMILY URSIDAE**	
American Black Bear	*Ursus americanus*	Field Obs.
Raccoon	**FAMILY PROCYONIDAE**	
Raccoon	*Procyon lotor*	Trapline Data
Weasels and Their Allies	**FAMILY MUSTELIDAE**	
River Otter	*Lutra canadensis*	Field Obs.
Fisher	*Martes pennanti*	Trapline Data
American Marten	*Martes americana*	Trapline Data
Long-tailed Weasel	*Mustela frenata*	Trapline Data
American Mink	*Neovison vison*	Trapline Data
Striped Skunk	*Mephitis mephitis*	Field Obs.
Cats	**FAMILY FELIDAE**	
Bobcat	*Lynx rufus*	Trapline Data
Deer	**FAMILY CERVIDAE**	
Moose	*Alces alces*	Field Obs.
White-tailed Deer	*Odocoileus virginianus*	Field Obs.

Natural Heritage Information Centre data (NHIC 2011), and fur harvest returns (MNR).

Table 12.7 Fur Harvest Records from MNR Trapline Data (1993 to 2008).

SPECIES		TRAPLINE		
Common Name	**Scientific Name**	**FF021755**	**FF031698**	**FF021318**
Squirrels	**FAMILY SCIURIDAE**			
Red Squirrel	*Tamiasciurus hudsonicus*	3	6	0
Beavers	**FAMILY CASTORIDAE**			
Beaver	*Castor canadensis*	296	376	
Rats, Mice, and Voles	**FAMILY MURIDAE**			
Muskrat	*Ondatra zibethicus*	9	15	9
Dogs	**FAMILY CANIDAE**			
Coyote	*Canis latrans*	16	9	2
Timber Wolf	*Canis lupus*	0	29	2
Red Fox	*Vulpes vulpes*	31	89	9
Gray Fox	*Urocyon cinereoargenteus*	0	2	0
Cats	**FAMILY FELIDAE**			
Bobcat	*Lynx rufus*	1	0	0
Weasels and Their Allies	**FAMILY MUSTELIDAE**			
River Otter	*Lutra candensis*	21	48	17
Fisher	*Martes pennanti*	23	25	18
American Marten	*Martes americana*	113	292	35
American Mink	*Neovison vison*	8	28	6
Long-tailed Weasel	*Mustela frenata*	17	15	9
Raccoon	**FAMILY PROCYONIDAE**			
Raccoon	*Procyon lotor*	1	4	1
Bear	**FAMILY URSIDAE**			
American Black Bear	*Ursus americanus*	3	0	1

12.3.3 Amphibians and Reptiles

Eight species of amphibians were observed in the Local Study Area (Appendix VI-9). The species include early breeders such as the Spring Peeper, Wood Frog, Northern Leopard Frog, and Boreal Chorus Frog. Late spring breeders include the American Toad, and Tetraploid Gray Treefrog. Summer breeders included the Mink Frog and the Green Frog. No other frog species have been documented in or near the Local Study Area (NHIC 2011). No salamander species were observed, but Blue-spotted Salamander (*Ambystoma* complex) and Central Newt (*Notophthalmus viridescens louisianensis*) are known to occur in the Rainy River area (NHIC 2011).

Northern Spring Peeper was the most abundant species in numbers and frequency of occurrence at amphibian monitoring stations, followed by Boreal Chorus Frog, and Tetraploid Gray Treefrog (Table 12.8). Green Frog was not detected at amphibian monitoring stations but was observed in incidental surveys.

Woodland breeding ponds are common in the Local Study Area, given the flat, poorly drained terrain and clay soils. These fish-free habitats are used particularly by Wood Frog, Boreal Chorus Frog, and Tetraploid Gray Treefrog (MacCulloch 2002). The other frog species also use permanent water bodies for spawning.

Table 12.8 Frequency of occurrence and abundance rank of amphibian species from 18 amphibian monitoring stations: Local Study Area 2010

SPECIES	ABUNDANCE RANK	FREQUENCY (%)
Northern Spring Peeper	1	100
Boreal Chorus Frog	2	89
Gray Treefrog	3	83
Wood Frog	4	67
Eastern American Toad	5	39
Northern Leopard Frog	6	39
Mink Frog	7	11

Reptile species include one snake and two turtle species. A few Eastern Gartersnakes were observed in the Local Study Area. Western Painted Turtles were commonly observed basking on logs along the Pinewood River and its tributaries. Snapping Turtles were observed at Muscrate Lake located on Highway 71 well outside of the Local Study Area. Two Snapping Turtles were observed in or near the Local Study Area, one in the Pinewood river at surface water quality station 10 (SW10) and the other crossing Roan Road. Snapping Turtles are further is discussed under *Sensitive Species section* below.

No turtle nests were observed, but elsewhere on the Rainy River area, road embankments are often used for nesting (pers. obs.). No reptile hibernacula have been documented in the study area (MNR, 2007).

12.3.4 Odonata

A total of 12 species of dragonfly and damselfly were observed in the Local Study Area (Appendix VI-14). This is not a complete list since no significant targeted effort was devoted to odonates, but represents many of the more common species. The list is dominated by species preferring wetlands, ponds, and slow moving streams, whereas species requiring fast rocky streams and those associated with large lakes and river are lacking. Two provincially rare species were observed in the study area (Horned Clubtail and Arrowhead Spiketail) and a third (Green-faced Clubtail) has been reported from the surrounding area (NHIC 2011). These species are discussed in *Sensitive Species* section below.

12.3.5 Sensitive Species

The following section describes the status of sensitive species in the Local Study Area. These include provincially and federally listed species, as well as those considered to be provincially rare (S1 to S3; NHIC 2011). Species not confirmed to occur in the Local Study Area during 2009 and 2010 fieldwork, but reported from other sources are also discussed.

Table 12.9 provides a summary of the species at risk found in the Local Study Area in 2009 and 2010 or reported from the vicinity by NHIC (2011), Ontario Breeding Bird Atlas data (Cadman et al. 2007), or MNR fur harvest data.

Table 12.9 Sensitive occurring in the Local Study Area and adjacent areas: Information sources are field surveys conducted in 2009 and 2010, NHIC (2011), Ontario Breeding Bird Atlas Data (Cadman et al. 2007), and MNR fur harvest data

SPECIES		CONSERVATION STATUS			CONFIRMED IN STUDY AREA?
Name	Scientific Name	SARO	SARA	COSEWIC	
Birds					
American White Pelican	*Pelecanus erythrorhynchos*	T	NAR	NAR	Yes
Short-eared Owl	*Asio flammeus*	SC	SC	SC	Yes
Whip-poor-will	*Caprimulgus vociferus*	T	-	T	Yes
Common Nighthawk	*Chordeiles minor*	SC	T	T	Yes
Olive-sided Flycatcher	*Contopus cooperi*	SC	T	T	Yes
Canada Warbler	*Wilsonia canadensis*	SC	T	T	Yes
Bobolink	*Dolichonyx oryzivorus*	T	-	T	Yes
Bald Eagle	*Haliaeetus leucocephalus*	SC	NAR	SC	Yes
Peregrine Falcon	*Falco peregrinus*	T	SC	T	Yes. Migrant
Golden-winged Warbler	*Vermivora chrysoptera*	SC	-	T	No
Red-headed Woodpecker	*Melanerpes erythrocephalus*	SC	T	T	No
Black Tern	*Chlidonias niger*	SC	-	-	No
Yellow Rail	*Coturnicops noveboracensis*	SC	SC	SC	No
Least Bittern	*Ixobrychus exilis*	T	T	T	No
Chimney Swift	*Chaetura pelagica*	T	T	T	No
Reptile					
Snapping Turtle	*Chelydra serpentina*	SC	SC	SC	Yes
Mammals					
American Badger	*Taxidea taxus*	E	E	E	No
Gray Fox	*Urocyon cinereoargenteus*	T	T	T	No

SC – special concern, T – Threatened, E - Endangered, and NAR- Not at Risk

- ** no breeding evidence noted but are known to breed in the larger region.

12.3.5.1 Sensitive Species Confirmed to Occur in the Study Area

12.3.5.1.1 Threatened Species

The following section provides a summary for each of the Threatened species including conservations status, and a brief description of suitable and available habitat.

Whip-poor-will

Whip-poor-will was listed as Threatened in Ontario (SARO) in December 2009 and received automatic protection under the *Ontario Endangered Species Act* (ESA). Under

the ESA, Whip-poor-will and their general habitat are protected from damage or destruction. The species-specific habitat description, regulations, and recovery strategy are currently being developed by the MNR and have not been provided to the general public. Whip-poor-will were federally designated as Threatened by COSEWIC in April 2009, but have not yet been given a SARA status or added to the SARA schedules.

Whip-poor-wills were observed in the Local Study Area in June of 2009 and June 2010. Whip-poor-wills are associated with open habitats such as barren or sparsely forested rocky outcrops, recent cutovers, and gravel pits. Literature review suggests that ideal Whip-poor-will habitat is not dependant on vegetation species composition but rather on forest structure (Wilson 1985). Ideal home ranges for Whip-poor-will consist of approximately 50% open or sparsely forested habitats for nesting, and 50% open forage habitat. Habitat suitability mapping and modeling indicate that Whip-poor-will nesting habitat is distributed in the Local and Regional Study Area.

Bobolink

In April 2010, Bobolink was identified as Threatened by COSEWIC. In September 2010 Bobolink was listed as Threatened in Ontario, and protected under the ESA.

Bobolinks are a savannah bird species which nest and forage primarily in forage crops such as hayfields and pastures (Jobin *et al*. 1996). Bobolinks also occur in wet prairie, peatlands, and abandoned fields (Dechant et al. 2001).

Habitat suitability mapping and modeling indicate that suitable habitat is present in the Local Study Area and andRegional Study Area due to the extensive agricultural landuse in the area. Bobolink were identified in the Local Study Area in 2009 and 2010.

American White Pelican

American White Pelican are listed as Threatened in Ontario and are protected under the ESA, but are not listed federally. The American White Pelicans observed in the Local Study Area are likely part of a well documented colony known to occupy five nesting islands in Ontario waters of Lake of the Woods (American White Pelican Recovery Team, 2010). American White Pelicans have very large home ranges, and are often found foraging at ranges greater than 50 km from the breeding colonies (King 2005, King and Michot 2002).

American White Pelicans were observed foraging in large numbers (four to twenty flocked birds) in the Local Study Area and Regional Study Area in 2009 and 2010. American White Pelicans are foraging habitat generalists that can make use of many types of aquatic environments to forage (Findholt and Anderson 1995a,b) and are frequently found foraging in water bodies throughout the Rainy River watershed.

Peregrine Falcon

Peregrine Falcon is listed as Threatened in Ontario and is protected under the ESA. A single adult Peregrine Falcon was observed on May 4, 2010 in the Local Study Area and another during migration monitoring on October 2, 2010. Peregrine Falcons nest on cliff sites and tall manmade structures such as bridges. Based on the lack of suitable nesting sites in or near the Local Study Area, and the timing of these observations, it is assumed that these were passage birds migrating to and from the Arctic rather than local nesting birds (Brian Ratcliff, pers. comm.).



Photo 12.3 Peregrine Falcon (migrant) observed in Local Study Area

12.3.5.1.2 Special Concern Species

Six species of special concern were identified in the Local Study Area during the 2009 and 2010 baseline studies. The following section provides a summary for each species, including a brief description of the species' federal and provincial conservations status, and a brief description of suitable and available habitat in the Local Study Area.

Short-eared Owl

Short-eared Owl is federally and provincially listed as a Special Concern species. The Short-eared Owl is a nomadic grassland-nesting owl that tends to shift nesting sites from year to year, largely due to its dependence on small mammals as a food source (COSEWIC 2008).

A single adult Short-eared Owl was observed during the early morning in song bird surveys conducted in 2009. Short-eared Owl was not observed in or near the Local Study Area during the 2010 surveys, but may nest in the surrounding marshes, pastures and hayfields.

Common Nighthawk

The Common Nighthawk is listed as Threatened federally, and as a species of Special Concern in Ontario. The Common Nighthawk is an aerial foraging, crepuscular bird found across North and Central America. The breeding range covers all of Ontario south of the Hudson Bay Lowland, and they nest in open habitats including naturally occurring rock outcrops, pasture, forest openings, and peat bogs (COSEWIC 2007a).

Common Nighthawks were observed through incidental observations during waterfowl surveys in 2009 and were again observed in the Local Study Area during targeted surveys conducted in 2010. Although no evidence of nesting was observed, suitable nesting habitat occurs on rock outcrops throughout the Local Study Area and Regional Study Area.

Canada Warbler

The Canada Warbler is federally listed as Threatened and provincially listed as Special Concern. The Canada Warbler typically breeds in mixed forests with a dense shrub layer,

and its range extends from the Yukon Territory to northeastern North America (COSEWIC 2008b).

A singing male Canada Warbler was observed once in the Local Study Area during the forest bird monitoring surveys in 2009. This warbler is likely an uncommon nesting species in the local deciduous forest.

Olive-sided Flycatcher

The Olive-sided Flycatcher is federally listed as Threatened and provincially listed as a species of Special Concern in Ontario. Olive-sided flycatcher breeding habitat consists coniferous or mixed forest stands adjacent to open foraging grounds such as cutovers, old burns, meadows, rivers, peat lands, swamps, and ponds (COSEWIC 2007b)

Observations of two non-singing Olive-sided Flycatchers during forest bird monitoring surveys in 2009 may represent migrants rather than nesting individuals. Although Olive-sided Flycatchers breed in the Rainy River watershed, no breeding evidence was observed during the 2009 and 2010 baseline studies in the Local Study Area.

Bald Eagle

Bald Eagle is federally listed as Not at Risk and provincially listed as a species of Special Concern in Ontario.

In June 2010, an active Bald Eagle nest was identified in the Local Study Area. This nest apparently successfully fledged young. Two documented Bald Eagle nests identified in the NHIC (2011) database in the Local Study Area were last recorded as active in 1999. Another nest was reported near the mouth of the Pinewood River at the Rainy River during the Breeding Bird Atlas (Cadman et. al. 2007). Bald Eagles regularly fly over the Local Study Area throughout the spring, summer and fall.

Snapping Turtle

Snapping turtles are listed as a special concern provincial and hold no status federally. Adult Snapping Turtles were observed in 2010 in Local Study Area. No evidence of nesting was observed.

12.3.5.2 Sensitive Species Potentially Occurring in the Study Area

Gray Fox

Two Gray Fox (Threatened provincially and federally) were trapped between 1993 and 2008 on one of the traplines overlapping the Regional Study Area (the exact capture locations are unknown) (MNR fur harvest data). The status of this species in the Rainy River area is unclear since no evidence of breeding is known (NHIC 2010), suggesting that these individuals represent dispersing animals from Minnesota rather than part of an established population.

American Badger

American Badgers are occasionally reported in Rainy River area. None were observed in the Local Study Area, but there are two records in the NHIC (2011) database near Emo, about 20 km south (from ~1960's). Consultation with local landowners also provided no records.

Least Bittern

Least Bitterns are a rare and local breeder in Ontario. One possible breeding record in Rainy River area at Lake of the Woods was identified during the Breeding Bird Atlas (Cadman, et. al. 2007). No Least Bitterns were observed in the Local Study Area despite call playback surveys in suitable habitat.

Yellow Rail

Yellow Rails were identified a possible breeding in the Stratton area, during the Breeding Bird Atlas (Cadman et. al. 2007). Breeding habitat is in sedge dominated habitats where

the substrate remains damp or has up to 15 cm of standing water throughout the breeding season (Cadman et. al. 2007). No Yellow Rails were found in the Local Study Area despite call playback surveys in suitable habitat.

Red-headed Woodpecker

Red-headed Woodpeckers are known to breed in Rainy River area (Cadman et. al. 2007). Suitable habitat includes mature popular stands with open understory where cattle have been grazing. No Red-headed Woodpeckers were located in the Local Study Area despite call playback surveys in suitable habitat.

Black Tern

Black Terns nest in marshes on Lake of the Woods west of the Regional Study Area (Cadman et. al. 2007). Preferred nesting habitat includes large marshes with a 50:50 open water and emergent vegetation (Cadman et. al 2007). No Black Terns were observed in the Local Study Area during 2009 or 2010 fieldwork. Marshes in the area may be too small to provide suitable habitat.

Golden-winged Warbler

Golden-winged Warblers are listed as possible breeding in Rainy River area (Cadman et. al 2007). No Golden-winged Warblers were observed in the Local Study Area during 2009 or 2010 fieldwork, but suitable habitat is present (alder and willow thickets and young hardwood stands).

Chimney Swift

Chimney Swifts were identified as breeding in Rainy River area during the Breeding Bird Atlas (Cadman et. al. 2007). Nesting is associated with chimneys in urban areas. The Stratton Breeding Bird Survey Route lists only one occurrence. No Chimney Swifts were documented within the Local Study Area.

12.3.5.3 Provincially Rare Species

Franklin Ground Squirrel (Spermophilus franklini) (S3)

The NHIC (2011) database includes five records of Franklin Ground Squirrel in or adjacent to the Local Study Area. They include two records from 1929, two for 1946, and one for 1976. None were observed in the Local Study Area in 2009 or 2010.

Forster's Tern (Sterna fosteri) (S2)

A single adult Forster's Tern was observed in the Local Study Area in June 2009. Although the species was observed in suitable nesting habitat (marsh), no further nesting evidence was observed.

Black-billed Magpie (Pica hudsonia) (S3)

Black-billed Magpies are a common nesting species in the Regional Study Area and the Local Study Area and generally in the Rainy River area. Habitat is field edges and around barns and other human structures.

Horned Clubtail (Arigomphus cornutus*)* (S3)

Horned Clubtail is fairly common on the Pinewood River in the Local Study Area and generally on streams and lakes in the Rainy River and Lake of the Woods areas.

Arrowhead Spiketail (Cordulegaster obliqua) (S2)

A single adult Arrowhead Spiketail was collected in 2010 on the Pinewood River in the Local Study Area. The species is known from only one other record in Rainy River area (Colin Jones pers. comm.).

Green-faced Clubtail (Gomphus viridifrons) (S1)

Green-faced Clubtail is reported in the NHIC (2011) database from the Rainy River south of the Regional Study Area.

13. VEGETATION

13.1 Study Objectives

The objectives of the vegetation baseline were to describe the ecosystems of the Regional Study Area and the Local Study Area, identify rare plant communities, and search for plant species at risk.

13.2 Methodology

The methodology for the vegetation baseline consisted of pre-field investigation followed by field surveys. Field sampling generally followed the protocols described in the Ontario Parks Inventory and Monitoring Program (McCaul et al. 2008).

13.2.1 Pre-field Investigation

Pre-field investigation included a review of aerial photographs and Forest Resource Inventory (FRI) maps to identify vegetation community types. Life science inventories and wetland evaluations for the surrounding area (Harris and Foster 2003, Harris and Foster 2004a-d, Riley and Michaud 1989) were consulted to identify plant communities and species known to occur in the area.

The Ontario Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC) was queried for rare species and vegetation community occurrences in the three 10 km by 10 km blocks that encompass the Local Study Area (i.e. 15VQ21, 15VQ20, 15VQ31). Further information on rare plants known to occur in the study area were found in Bakowsky and Oldham (1998), Harris and Foster (2003), Harris and Foster (2004a-d), Oldham et al. (in prep.), and Oldham and Brinker (2009). The Fort Frances District MNR was also queried for rare species occurrences and other values.

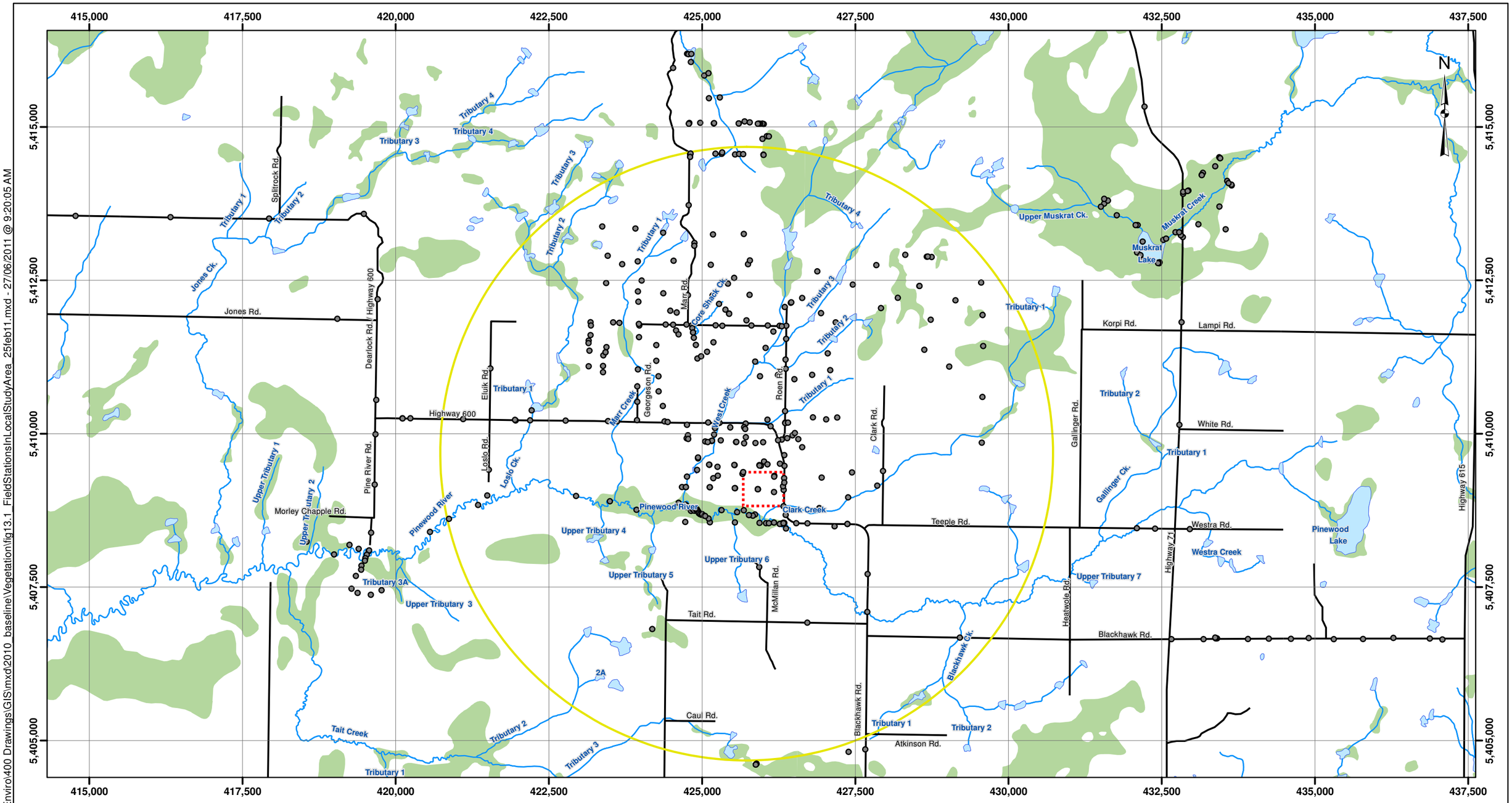
Forest Resource Inventory data provided by MNR was used to create maps and data summaries of ecosites (Racey et al. 1996), forest working groups, and forest age class distribution.

13.2.2 Field Surveys

Fieldwork consisted of surveys conducted on 24 dates between June 2009 and October 2010 for a total of approximately 95 hours. Fieldwork focused on visiting the full range of vegetation types and communities in the Local and Regional Study Area.

Plant and vegetation community observations were recorded at over 300 field stations (Figure 13.1). Data collected included ecosites (Racey et al. 1996), forest vegetation type (V-type) (Sims et al. 1997), and wetland vegetation type (W-type) (Harris et al. 1996). Soil texture, depth, and moisture regime were determined by auguring at selected stations and trees were aged using an increment borer. A plant species inventory was complied and searches for plant species at risk were conducted in appropriate habitats.

Z:\M\VCR\M09559A04 - RainyRiver Enviro\400 Drawings\GIS\mxd\2010_baseline\Vegetation\fig13.1_FieldStationsInLocalStudyArea_25feb11.mxd - 27/06/2011 @ 9:20:05 AM



Survey Locations

Advanced Exploration Project Facility Boundary

Local Study Area

Wetland

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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TO BE READ WITH KLOHN-CRIPPEN REPORT DATED _____

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AS A MUTUAL PROTECTION TO OUR CLIENT, THE PUBLIC AND OURSELVES, ALL REPORTS AND DRAWINGS ARE SUBMITTED FOR THE CONFIDENTIAL INFORMATION OF OUR CLIENT FOR A SPECIFIC PROJECT AND AUTHORIZATION FOR USE AND/OR PUBLICATION OF DATA, STATEMENTS, CONCLUSIONS OR ABSTRACTS FROM OR REGARDING OUR REPORTS AND DRAWINGS IS RESERVED PENDING OUR WRITTEN APPROVAL.

CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

FIELD STATIONS IN THE LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 13.1

A list of plant species observed in the Regional Study Area is in Appendix VII-1. Refer to the appendices for scientific names of plant species mentioned in the text. Ecosite information for field stations is provided in Appendix VII-2.

13.3 Results

13.3.1 Ecoregion 5S (Agassiz Clay Plain Ecoregion)

The Regional Study Area and the Local Study Area are in Ecoregion 5S (Agassiz Clay Plain Ecoregion), which extends from Lake of the Woods east to Fort Frances and south to the Minnesota border (Crins et al. 2009). The area is a flat and poorly drained calcareous clay plain associated with the post-glacial Lake Agassiz lakebed.

The climate is cool-temperate and dry with warm, moist summers and cold winters (Crins et al. 2009). The mean annual temperature is 1.4^{oC} to 2.8^{oC} and mean annual precipitation is 559 mm to 660 mm (Crins et al. 2009).

The underlying bedrock of Ecoregion 5S is Precambrian gneissic and metavolcanic bedrock, but most of the area is covered by deep glaciolacustrine calcareous clay and silt deposits (Crins et al. 2009). Exposed bedrock covers only about 10% of the ecoregion. Moraine deposits and lacustrine and aeolian sands also cover smaller areas. Deep organic soils (peats) have developed on poorly drained depressions sites and make up about 30% to 40% of the landscape.

The vegetation of Ecoregion 5S is predominantly deciduous and mixed forest (26%), sparse forest (including peatlands; 23%), and coniferous forest (9%). Pasture and other agricultural land makes up about 17%. Water bodies including part of Lake of the Woods and the Rainy River, make up most of the remainder (Crins et al. 2009).

This ecoregion comprises the Rainy River Forest Section in the Great Lakes-St.Lawrence Forest Region (Rowe 1972). Vegetation of the Great Lakes-St. Lawrence, boreal, and prairie ecosystems are all present. Great Lakes-St. Lawrence Forest tree species such as Hop-hornbeam (*Ostrya virginiana*), Wild Black Cherry (*Prunus serotina*), American Basswood (*Tilia americana*), and Green Ash (*Fraxinus pennsylvanica*) are present in warmer than average microclimates such as islands and lakeshores. Boreal forest species such as White Spruce, BaLocal Study Aream Fir, Trembling Aspen, and White Birch are frequent. Small remnant prairie and oak savannah communities are present on dry clays and rock outcrops. Bur Oak (*Quercus macrocarpa*) and Northern Pin Oak (*Q. ellipsoidalis*) are often present with prairie grass and forb species. Extensive peatlands with Black Spruce (*Picea mariana*), Tamarack (*Larix laricina*), Eastern White Cedar (*Thuja occidentalis*), willow (*Salix* spp.), and Speckled Alder (*Alnus incana*) occupy low lying, poorly drained sites (Crins et al. 2009). Parts of the area were formerly dominated by red and white pine communities before being logged over. Regeneration after logging and fires has increased the proportion of boreal species such as jack pine, trembling aspen, and white birch. BaLocal Study Aream fir / white spruce / white birch forest is common on uplands, giving way to spruce / fir forest in more moist conditions (Rowe 1972).

13.3.2 Regional Study Area

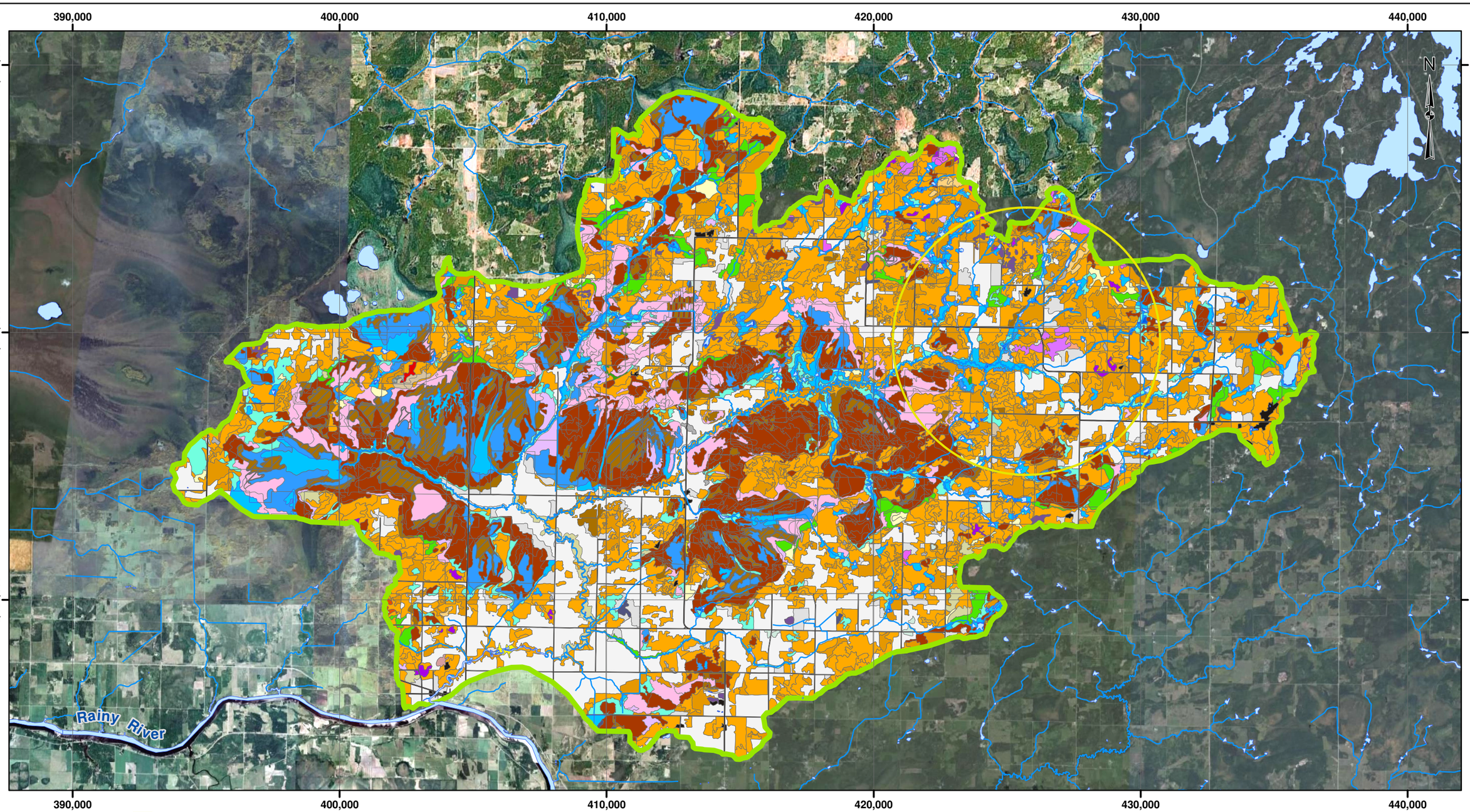
The Regional Study Area consists of the Pinewood River watershed, extending about 43 km east to west from Pinewood Lake in the east to Blue Township in the west and south to the Rainy River. The area is fairly representative of the Ecoregion 5S landscape in terms of soils, vegetation types, and anthropogenic influence.

Trembling aspen (poplar) dominated forest on moist to fresh clay soils (ES 24-33) makes up the majority of the forested land (Figure 13.3, Figure 13.4, Table 13.1). Conifer swamp forest dominated by Black Spruce and Larch (ES34-38) makes up about 26% of

the Regional Study Area. Conifer swamp often occurs in conjunction with open peatlands (bog and fen communities; ES34, 39-43) in flat lakebed depressions. These peatlands constitute the headwaters of several of the Pinewood River tributary streams. Large tracts of peatland are distributed along a broad band in the Pinewood River valley through the middle of the study area and in the west end in Spruce Islands and Cranberry Lake provincial parks, making up most of the Kishkakoesis River subwatershed. Open riparian wetlands (ES 44 to ES 47) are scattered in small patches along streams make up about 8% of the area, mostly as thicket swamp (ES44) and meadow marsh (ES46) on the river and creek floodplains.

Other forest types associated with sandy and coarse loamy soils (ES13 to ES28) make up less than 5% of the Regional Study Area and are restricted to small patches on esker and moraine deposits. Sand and gravel glacial outwash deposits occur about 6 km east of Black Hawk at the east end of the Regional Study Area (Roed 1980). Shallow soils with bedrock knobs make up less than 1% of the Regional Study Area, with most of these ecosites concentrated in the northeast portion.

About 20% of the Regional Study Area is agricultural land (mainly pastures and hayfields), mainly on more well-drained sites.



Local Study Area
Pinewood River Watershed

Forest Resouce Inventory

- Jack pine – Regular
- Jack pine – Reserve
- Jack pine – Barren & scattered
- Jack pine –Barren & scattered reserve
- Jack pine – Protection site (Class 4)
- Cedar – Regular
- Cedar – Barren & scattered
- Cedar – Protection site (Class 4)
- Larch – Regular
- Larch –Barren & scattered
- Larch – Protection site (Class 4)
- Forested treed muskeg
- Forested open muskeg
- Water
- White pine – Regular
- Black spruce – Regular
- Black spruce –Reserve
- Black spruce – Barren & scattered
- Black spruce – Protection site (Class 4)
- White spruce – Regular
- White spruce – Barren & scattered
- White spruce – Barren & scattered reserve
- Spruce forested brush & alder
- Forested brush & alder
- Designated Agricultural Land
- Non-forested grass & meadows
- Forested rock
- Poplar – Regular
- Poplar – Reserve
- Poplar – Barren & scattered
- Poplar – Barren & scattered reserve
- Poplar – Protection site (Class 4)
- Ash – Regular
- Ash – Barren & scattered
- Soft maple – Regular
- White birch – Regular
- White birch – Barren & scattered
- Balsam fir – Regular
- Balsam fir –Barren & scattered
- Roads, other non-forested unclassified

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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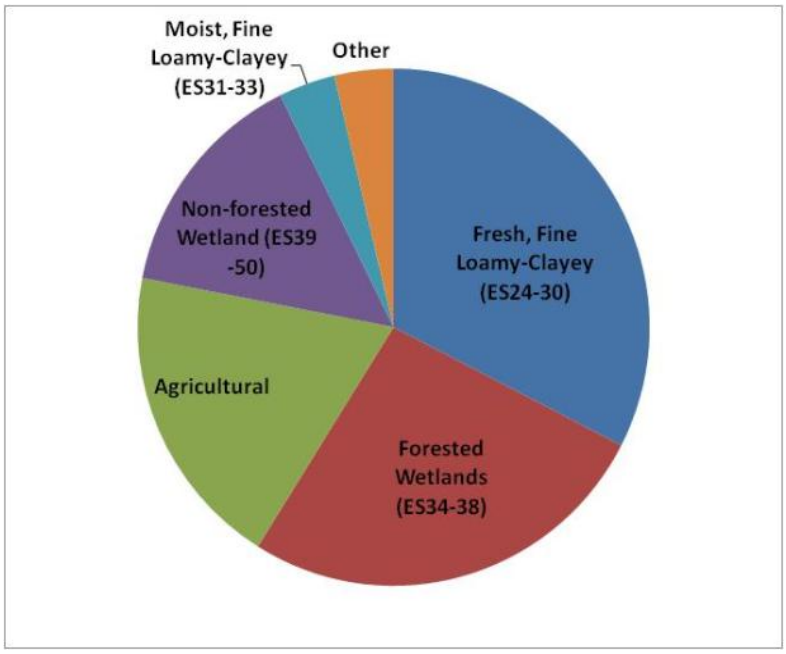
PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
ECOSITE MAP OF REGIONAL STUDY AREA
(OMNR FOREST RESOURCE INVENTORY DATA)

PROJECT No. M09559A04

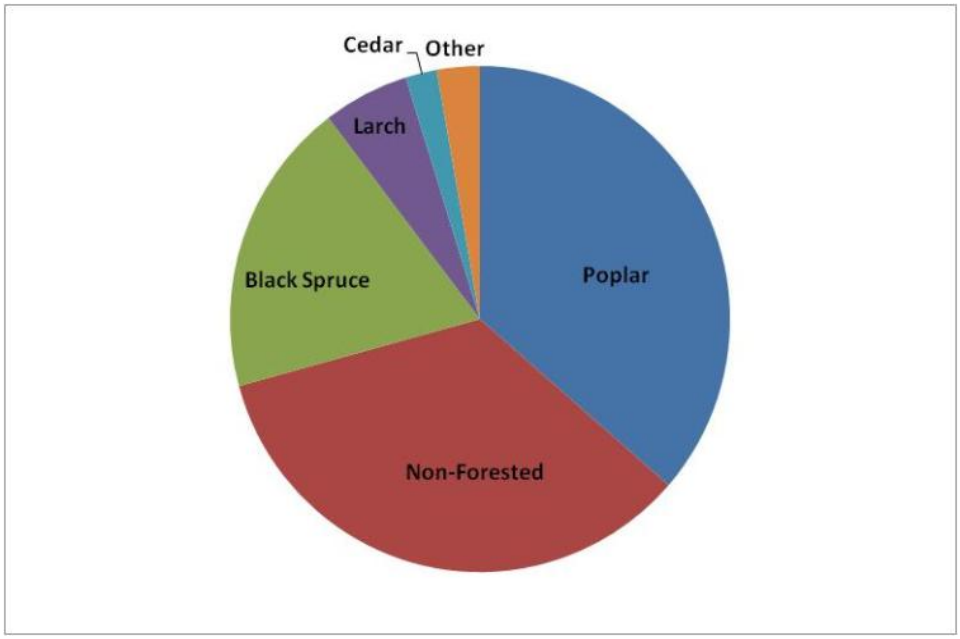
FIG No. 13.2

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Source: MNR FRI Data

Figure 13.3. Ecosites of the Regional Study Area



Source: MNR FRI Data

Figure 13.4. Dominant Forest Tree Species (working groups) of the Regional Study Area

Table 13.1 Ecosites (Racey et al. 1996) of the Regional and Local Study Area

ECOSITE	Regional		Local	
	ha	%	ha	%
Agricultural	11205	19	1078	15
ES4 Cliff	3	<1	0	0
ES7 Rock Barren	113	<1	28	<1
ES9 Sand Barren	20	<1	6	<1
ES12 Black Spruce-Jack Pine: Very Shallow Soil	391	1	163	2
ES13 Jack Pine-Conifer: Dry-Moderately Fresh, Sandy Soil	221	<1	40	1
ES14 Pine-Spruce Mixedwood: Sandy Soil	74	<1	3	<1
ES15 Red Pine-White Pine: Sandy Soil	21	<1	0	0
ES16 Hardwood-Fir-Spruce Mixedwood: Sandy Soil	338	1	176	2
ES17 White Cedar: Fresh-Moist, Coarse-Fine Loamy Soil	5	<1	0	0
ES18 Red Pine-White Pine: Fresh, Coarse Loamy Soil	10	<1	10	<1
ES19 Hardwood-Fir-Spruce Mixedwood: Fresh, Sandy-Coarse Loamy Soil	823	1	14	<1
ES20 Spruce-Pine / Feathermoss: Fresh, Sandy-Coarse Loamy Soil	25	<1	25	<1
ES21 Fir-Spruce Mixedwood: Fresh, Coarse Loamy Soil	39	<1	+	+
ES23 Hardwood-Fir-Spruce Mixedwood: Moist, Sandy-Coarse Loamy Soil	95	<1	+	+
ES24 Red Pine-White Pine: Fresh, Fine Loamy Soil	40	<1	+	+
ES25 Pine-Spruce / Feathermoss: Fresh, Silty Soil	88	<1	0	0
ES26 Spruce-Pine / Feathermoss: Fresh, Fine Loamy-Clayey Soil	173	<1	4	<1
ES27 Fir-Spruce Mixedwood: Fresh, Fine Loamy Soil	584	1	82	1
ES28 Hardwood-Fir-Spruce Mixedwood: Fresh, Silty Soil	48	<1	0	0
ES29 Hardwood-Fir-Spruce Mixedwood: Fresh, Fine Loamy-Clayey Soil	18071	31	3751	52
ES30 Black Ash Hardwood: Fresh, Silty-Clayey Soil	45	<1	+	+
ES31 Spruce-Pine / Feathermoss: Moist, Silty-Clayey Soil	278	<1	22	<1
ES32 Fir-Spruce Mixedwood: Moist, Silty-Clayey Soil	364	1	+	+
ES33 Hardwood-Fir-Spruce Mixedwood: Moist, Silty-Clayey Soil	1453	2	73	1
ES34 Treed Bog: Black Spruce: Organic Soil	278	<1	0	0
ES35 Poor Swamp: Black Spruce: Organic Soil	5615	10	113	2
ES36 Intermediate Swamp: Black Spruce (Tamarack): Organic Soil	7885	13	415	6
ES37 Rich Swamp: Cedar (Other Conifer): Organic Soil	1330	2	89	1
ES38 Rich Swamp: Black Ash (Other Hardwood): Organic-Mineral Soil	299	1	50	1
ES39 Open Bog: Ericaceous Shrub / Sedge / Sphagnum: Organic Soil	56	<1	+	+
ES40 Treed Fen: Tamarack-Black Spruce / Sphagnum: Organic Soil	2093	4	88	1
ES41 Open Poor Fen Ericaceous Shrub / Sedge / Sphagnum: Organic Soil	385	1	78	1
ES42 Open Mod. Rich Fen: Eric. Shrub / Sedge / Sphagnum: Organic	510	1	17	<1
ES43 Open Extr. Rich Fen: Eric. Shrub / Sedge / Brown Moss: Organic	186	<1	+	+
ES44 Thicket Swamp: Mineral Soil	2028	3	245	3
ES45 Shore Fen: Organic Soil	432	1	57	1
ES46 Meadow Marsh: Organic-Mineral Soil	2780	5	495	7
ES47 Sheltered Marsh: Emergent: Sedimentary Peat Substrate	99	<1	51	1
ES49 Open Water Marsh: Subm. / Floating-leaved: Sed. Peat Substr.	+	+	+	+
ES50 Open Water Marsh: Submergent: Mineral Substrate	+	+	+	+
TOTAL	**58502**	**100**	**13618**	**100**

Source: MNR FRI data.
"+" indicates ecosite observed in field studies, but not reported in FRI.

13.3.3 Local Study Area

13.3.4 Uplands

Trembling Aspen (Poplar) dominated mixedwood forest on clay soil (ES29) makes up over half of the Local Study Area. These stands are herb and shrub rich with a dense understorey of mountain maple and hazel and wide diversity of grasses, sedges and forbs. Black ash - trembling aspen forest on fresh to moist clay soil (ES30, ES33) occupies the transition zone between upland and wetland.

Jack Pine forest and rock outcrop (ES7, 12) constitute about 2% of the Local Study Area, scattered in about 25 stands. The largest stand covers over 40 ha near the middle of the study area. The vegetation consists of scattered Jack Pine with Creeping Juniper, Poverty Grass and lichens (Photo 13.7).

A single White Pine dominated mixedwood stand (ES18) of about 10 ha is present. The stand is about 56 years old.

Agricultural habitats consisting mainly of pasture or hayfield make up 14% of the Local Study Area (Photo 13.1). These habitats are dominated by introduced forage species such as Timothy, Smooth Brome Grass, Reed Canary Grass, Alfalfa, and clovers along with Bluejoint Grass and other native graminoids. Agricultural lands are distributed mainly along roads through more well-drained clay sites. Some of the Local Study Area was cleared for pasture prior to about 1930, but was abandoned and has reverted to young Trembling Aspen forest. Other pasture in less well-drained sites has reverted to meadow marsh with Bluejoint Grass, sedges, and other native wetland plant species. The water table apparently rose after these marginal pastures were abandoned, possibly due to increased beaver activity.

13.3.5 Wetlands

About 25% of the Local Study Area consists of wetland including treed and open fen, thicket swamp and meadow marsh (Table 13.1, Figure 13.5).

Treed fen and open fen (ES40, ES41) makes up about 2% of the study area. The vegetation is widely spaced tamarack and black spruce (2 m to 10 m tall) over a *Sphagnum* carpet with sedges and ericaceous shrubs. Other dominant species include Bog Birch and Shrubby Cinquefoil along with a diversity of sedges and herbs. Rich fen and strongly patterned fens characteristic of the peatlands in Agassiz, Spruce Islands, and Cranberry Lake provincial parks are absent in the Local Study Area. Field work discovered that a large area mapped in the FRI as fen near the middle of the study area on the Pinewood River is actually meadow marsh (ES44). Peat depth in fens in Ecoregion 5S ranges from less than 1 m to 3.8 m (Northland Associates Ltd. 1984). The deepest peat is generally under the treed fen (ES40) communities and the shallowest peat occurs along the edges of the peatland associated with conifer swamps.

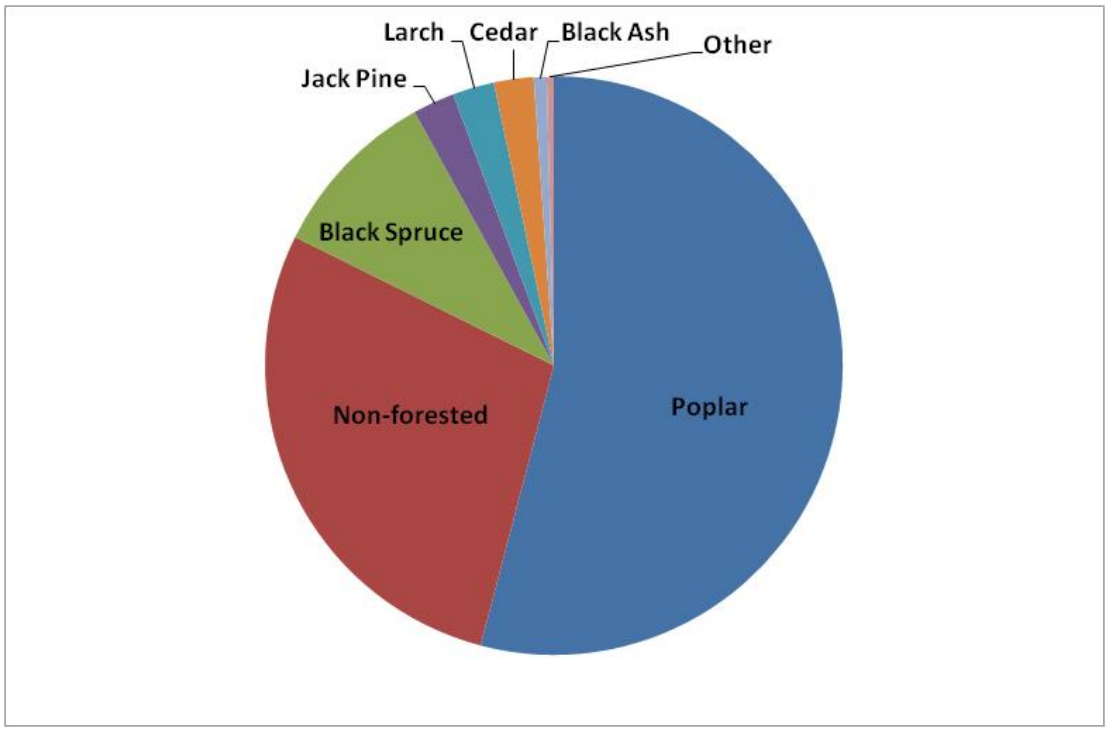
Bog makes up a relatively small part of the study area, constituting about 40 ha near the north end of the study area (misclassified as fen in the FRI) (Photo 13.4). Vegetation is a carpet of *Sphagnum* with ericaceous shrubs and scattered small Black Spruce trees.

Conifer swamp (mainly ES35 to ES37) makes up 9% of the study area, mainly south of the Pinewood River and associated with bog and fen communities at the north edge (Photo 13.3). Most conifer swamp is dominated by Black Spruce and Larch on peat. Poor conifer swamp (ES35) occupies areas with little groundwater flow and therefore lower nutrient availability. An understorey of Labrador Tea and Leatherleaf is present, along with a *Sphagnum* carpet. Intermediate swamp (ES36) occurs where groundwater flow is greater. It is distinguished from poor swamp by the dense understorey of Speckled Alder.

Stands of rich conifer swamp (ES37) dominated by White Cedar are restricted a few small stands where presumably there is greater flow of nutrient rich ground water.

Meadow marsh (ES46) is found on the floodplain of the streams where seasonal flooding prevents *Sphagnum* and other peatland plants from invading and slows the rate of peat accumulation. The soil is shallow peat (< 50 cm) over clay. Dense Bluejoint Grass and tall sedges, such as Lake Sedge, dominate (Photo 13.6). Alder and willow thicket swamp (ES44) occupies the floodplain of the Pinewood River and its tributary streams at slightly higher elevations than the meadow marsh community. This community is characterized by shallow peat with occasional *Sphagnum* hummocks. The floodplain thicket swamp has a dense layer of Bluejoint Grass and Lake Sedge. Shore fen (ES45) is found on the margins of some beaver ponds. Wire Sedge dominates a floating mat of peat along with Leatherleaf.

Vegetation of the open water in the stream channel and beaver ponds consists of scattered patches of submergent and emergent plants rooted in sedimentary peat substrate (ES47, ES49).



Source: MNR FRI Data

Figure 13.5 Dominant Forest Tree Species (working groups) of the Local Study Area

13.3.5.1 Significant Wetlands

No wetlands in or adjacent to the study area have been evaluated under the provincial wetland evaluation system (NHIC 2011). The closest Provincially Significant Wetland is at Spruce Islands, about 15 km to the west (Harris and Foster 2004a). Nonetheless, the Local Study Area is within a landscape with many large wetlands that probably provide significant ecological functions in flood protection, wildlife habitat and carbon storage.

As discussed above, about 25% of the Local Study Area consists of wetland (including swamp, bog, fen, and marsh). Some wetland areas extend beyond the study area into adjacent watersheds as parts of larger wetland complexes. The easternmost arm of the Local Study Area includes part of a larger wetland complex covering over 1400 ha at the headwater of Bremer Creek in the Rainy Lake watershed. At the north end of the Local Study Area, a peatland situated at the headwaters of Log Creek and the East Branch of the Splitrock River in the Lake of the Woods watershed extends over 1540 ha. Several large peatlands south of the Pinewood River also span the study area boundary.



Photo 13.1 Pasture and Hayfields and other Agricultural Land Make Up 15% of the Local Study Area.



Photo 13.2 Trembling Aspen Forest on Clay Soil (ES29) Makes up over Half of the Study Area.



Photo 13.3 Conifer Swamp Community (ES35).



Photo 13.4 Open and Treed Bog (ES34, 39).



Photo 13.5 Riparian Wetlands (ES44, 46) on the Pinewood River and its Tributaries.



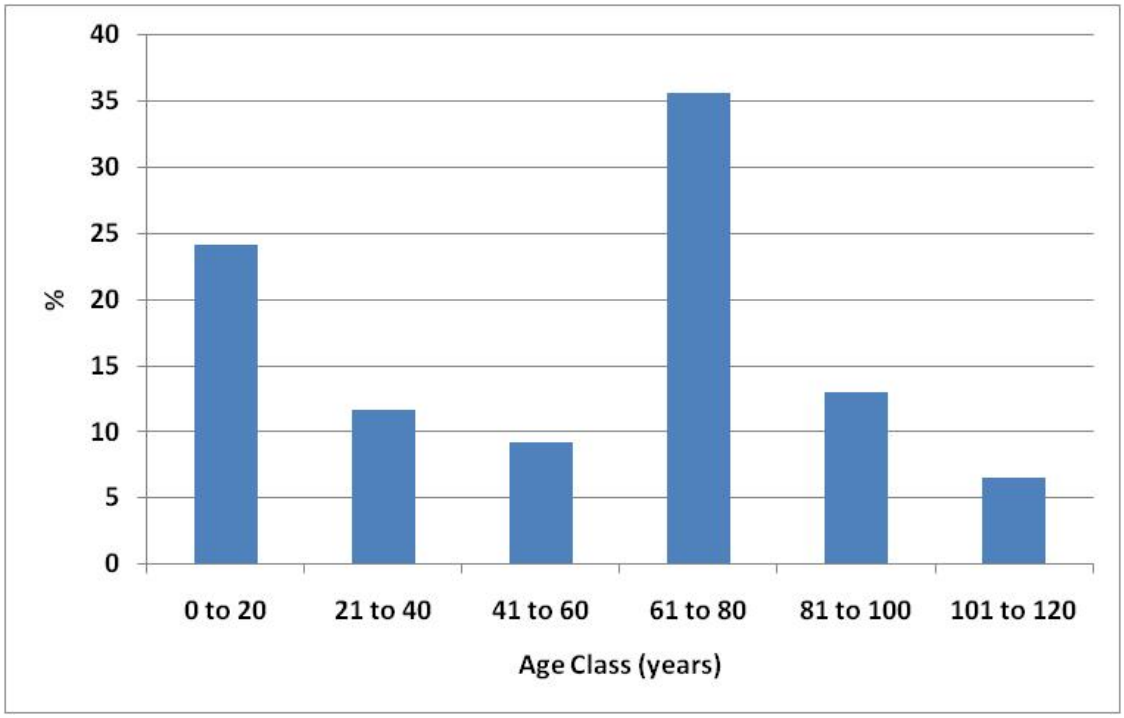
Photo 13.6 Riparian Wetlands (ES44, 46) on the Pinewood River and its Tributaries.



Photo 13.7 Rock Outcrop Community (ES7).

13.3.6 Forest Age Class Distribution

The forest age class distribution of the Local Study Area is shown in Figure 13.6. Over 50% of the forest is in two age classes: 21 years to 40 years and 61 years to 80 years. Logging history and other human activities rather than wild fires are probably the most significant factors influencing forest renewal. The spike at 61 years to 80 years may reflect the abandonment of farms and subsequent succession to poplar forest in the 1930s. The oldest age class consists of forest in the Black Spruce, Cedar, and Larch working groups.



Source: MNR FRI Data

Figure 13.6 Local Study Area Forest Age Class Distribution

13.3.6.1 Other Ecosystems of Interest

Provincially rare communities documented in Rainy River area include Dry Prairie, Mesic Prairie, Dry Oak Savannah, Dry Pine Savannah, and Mesic Oak Savannah (Bakowsky and Oldham 1998). None of these communities have been documented in or near the Local Study Area. Prairie communities are often associated with mafic bedrock (W. Bakowsky pers. comm. 2004), which is apparently absent in the study area. Lack of connectivity with the Lake of the Woods shoreline may also limit dispersal of prairie plants across a landscape dominated by peatland and mesic forest.

13.3.7 Flora

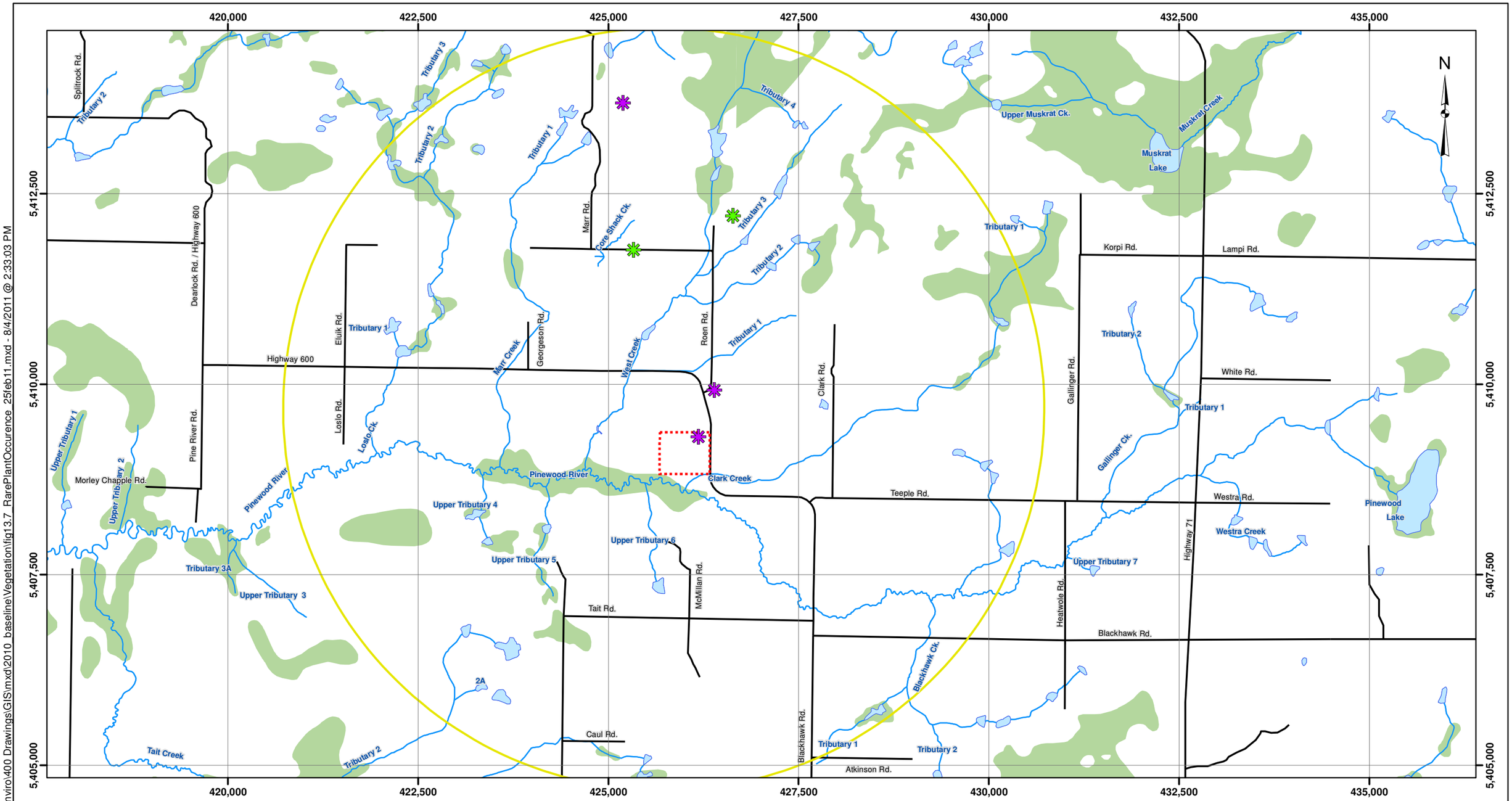
A total of 296 vascular plant species was observed in the Local Study Area in 2009 and 2010 (Appendix VII-1). The species are mostly boreal and Great Lake St. Lawrence in affiliation. Boreal species are particularly well represented in peatland habitats. In contrast with the Lake of the Woods area, very few prairie and savannah indicators (Bakowsky and Oldham 1998) were observed, perhaps related to the absence of mafic bedrock preferred by these species, microclimatic factors, or lack of rocky shorelines. Neither Bur Oak nor Northern Pin Oak was observed. Twenty-two species are introduced weeds, mostly associated with roadsides, pastures and other disturbed habitats.

13.3.8 Species at Risk

Two federally and provincially listed plant species at risk (SAR) occur in the Rainy River area: Small-flowered Lipocarpha (*Lipocarpha micrantha*) and Western Silver-leaf Aster (*Symphyotrichum sericeum*). Neither species was observed in the Regional Study Area or the Local Study Area and are not expected to occur there given the lack of habitat (sandy shorelines and prairie communities on mafic bedrock respectively). Approximately 90 provincially rare plant species (S1 to S3) are documented for Rainy River area (Oldham et al. in prep.), most of which are associated with the shorelines of Lake of the Woods and Rainy Lake, the shores of the Rainy River, or with prairie and savannah habitats.

Two provincially rare plants species (NHIC 2011) were observed in the Local Study Area and there are historical records for another (Table 13.2, Figure 13.7).

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Rare Plant Species

- Field Sedge
- New England Violet

- Advanced Exploration Project Facility Boundary
- Local Study Area
- Wetland

Notes:
1. UTM Zone 15N, WGS84

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2008 - 2010 BASELINE

TITLE
RARE PLANT OCCURENCE IN
THE LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 13.7

Field Sedge

Field Sedge (*Carex conoidea*) was found at two locations on most clay soil in a field and on a roadside (Photo 13.8). S3; G5(Oldham and Brinker 2009).

New England Violet

New England Violet (*Viola novae-angliae)* was discovered on three rock outcrops in the Local Study Area (Photo 13.9). Although provincially rare, it is locally common on rocky habitat and roadsides in Rainy River area. S3; G4Q (Oldham and Brinker 2009).

Muskroot

Muskroot (*Adoxa moschatellina)* was reported to occur in at least one of the 10 km X 10 km blocks encompassing the Local Study Area in 1946 (NHIC 2011). Its preferred habitat is rich moist woods. The species is very inconspicuous and could have been missed in the 2009 and 2010 fieldwork. S1; G5 (Oldham and Brinker 2009).

Table 13.2 Rare Plant occurrences from the Rainy River Resources Local Study Area.

COMMON NAME	SCIENTIFIC NAME	S-RANK	HABITAT	NOTES
New England Violet	*Viola novae-angliae*	S3	Rock Outcrops	Three occurrences
Field Sedge	*Carex conoidea*	S3	Old fields	Two occurrences
Muskroot	*Adoxa moschatellina*	S1	Moist deciduous forest	NHIC records from 1946



Photo 13.8 Field Sedge (*Carex conoidea*) is found on Moist Clay Soil in Several Locations in the Local Study Area.



Photo 13.9 New England Violet (*Viola novae-angliae*) Occurs on Several Rock Outcrops in the Local Study Area.

14. SOCIO-ECONOMIC

14.1 Study Objectives

The socio-economic baseline describes existing social and economic conditions in the Local Study Area and, for certain items, the Regional Study Area. It also delineates a benchmark against which future socio-economic studies can be compared. The First Nations specific socio-economic baseline is described in Section 16.

14.2 Methodology

The socio-economic baseline methodology consisted of the following steps:

- Review available Project information;
- Define study areas;
- Review existing data; and
- Gather additional information from local agencies, enterprises and community members during field investigation.

14.2.1 Project Information

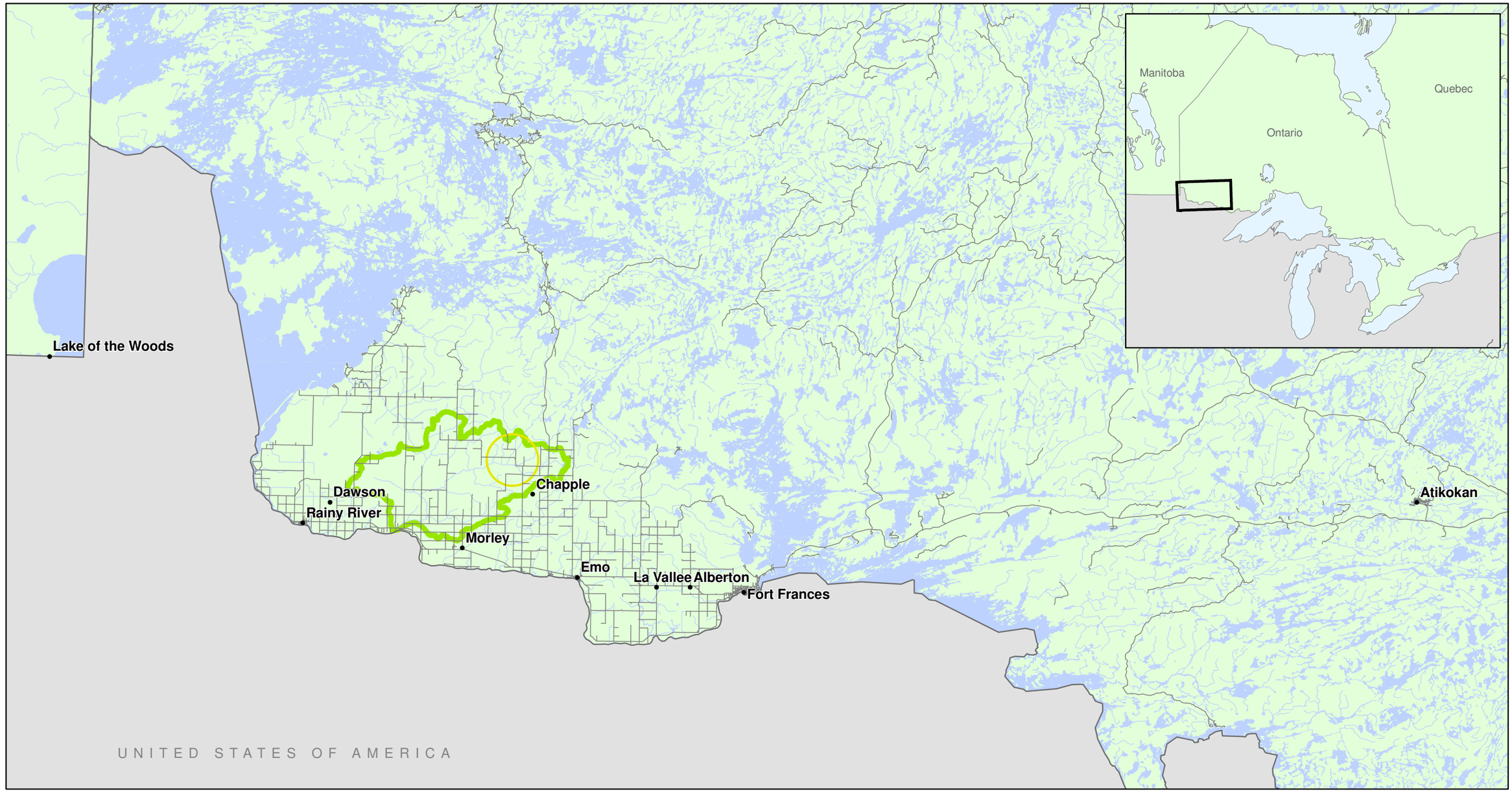
Information related to the potential Rainy River Project was provided by Rainy River Resources. For the purpose of this baseline, information focused on advanced exploration.

14.2.2 Study Area Definition

The Local Study Area and Regional Study Area for the socio-economic baseline were identified and, given the nature of socio-economic features, were defined differently from those defined for the biophysical and biological assessments. The study areas may be further refined as baseline development proceeds.

14.2.2.1 Regional Study Area

The Regional Study Area was broadly defined as the Rainy River area (Figure 14.1).



- Towns and Townships
- Road
- Local Study Area
- Pinewood River Watershed
- Canada

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
REGIONAL STUDY AREA:
RAINY RIVER DISTRICT

PROJECT No. M09559A04

FIG No. 14.1

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The Rainy River area is bounded to the south by the Rainy River (coincident with the United States-Canada border), to the west by Lake of the Woods, to the north by the Kenora District and to the east by the Thunder Bay District. The District is 15,473 km^2 with an average density of 1.4 people per km^2. The Regional Study Area is a relatively broad geographic area (approximately 150 km east-west and 70 km north-south). Communities in the Regional Study Area include:

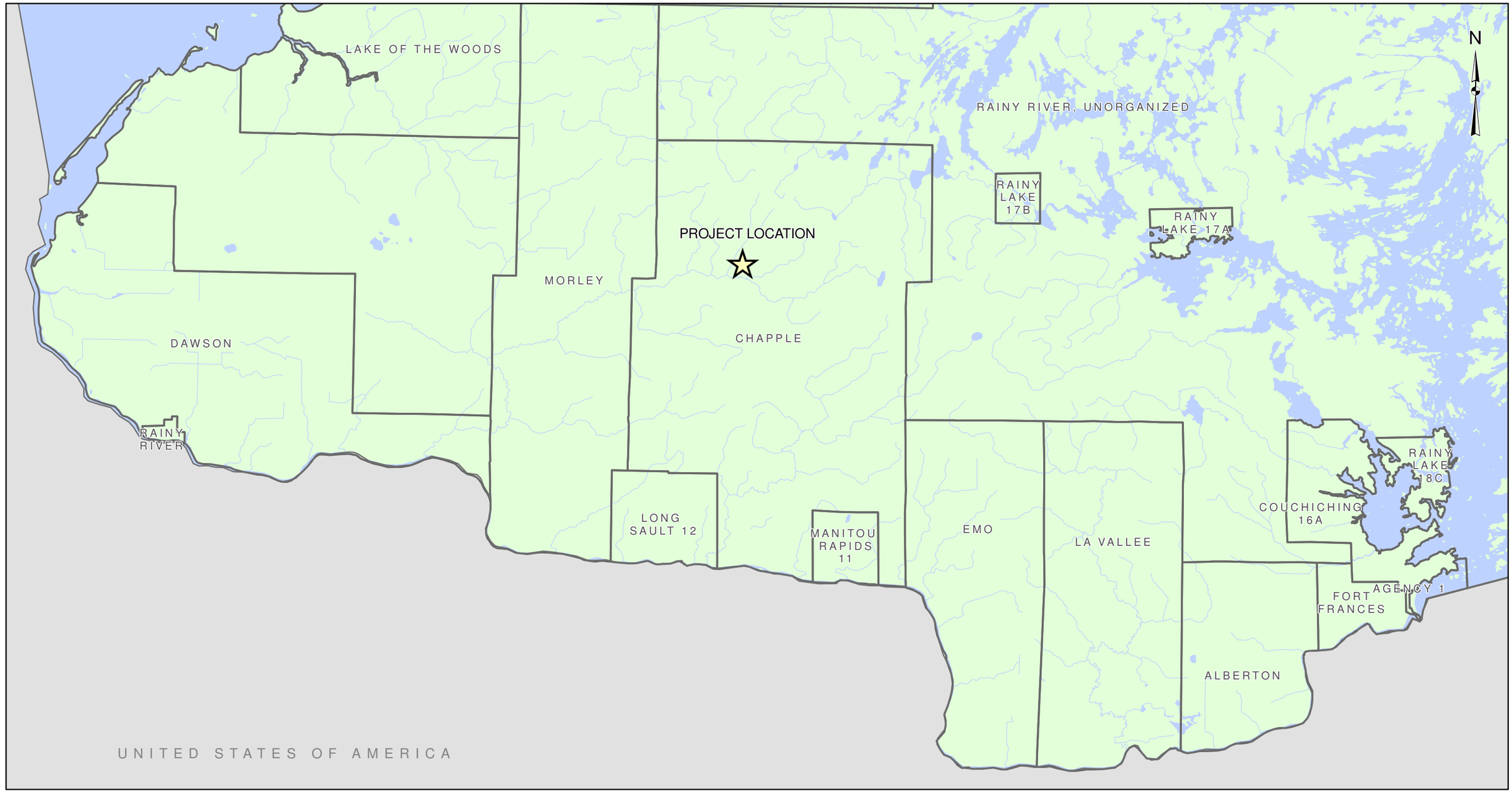
- Town of Fort Frances
- Town of Rainy River
- Township of Alberton
- Township of Atikokan
- Township of Chapple
- Township of Dawson
- Township of Emo
- Township of La Vallee
- Township of Lake of the Woods
- Township of Morley

The Regional Study Area should be refined further during preparation of the final baseline report.

As potential effects of project development (e.g., transportation, economic effects, employment) may be felt to varying degrees beyond the Rainy River area in such communities as Kenora and Thunder Bay, information for these Districts has been included in the baseline as it relates to population, education, employment and income.

14.2.2.2 Local Study Area

The Local Study Area is defined as the Township of Chapple and the area east to the Town of Fort Frances, including the Township of Emo. The locations of the proposed advanced exploration site which is in the Township of Chapple, Emo and Fort Frances are shown in Figure 14.2.



Project Location

Census Subdivisions

Canada

Notes:
1. UTM Zone 15N, WGS84
2. Background imagery from Google Earth

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2008 - 2010 BASELINE

TITLE

LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 14.2

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Fort Frances is the largest municipality and economic centre in the local area. The Rainy River local office is located in Emo.

14.2.3 Review of Existing Data Sources

Preparation of the socio-economic baseline involved reviewing existing data and gathering of information from local sources and Rainy River representatives. Existing data from the following sources were reviewed:

- Statistics Canada (2006) Census Data;
- Ontario Ministry of Natural Resources reports and data;
- Ministry of Finance;
- Service Canada;
- Various online sources (e.g., community websites);
- Reports and presentations provided by Rainy River; and
- Reports of consultation activities.

14.2.4 Field Research

Field research was conducted from November 12, 2008 to November 19, 2008 to compliment desktop research and literature reviews. The 2008 field research involved visiting selected communities, enterprises and government agencies in the Local Study Area including:

- Rainy River Future Development Corporation (RRFDC);
- Fort Frances Chamber of Commerce;
- Emo Agricultural Resource Station;

- Ontario Ministry of Natural Resources;
- Ontario Ministry of Northern Development and Mines; and
- Fort Frances Skills and Employment Source.

Informal discussions were also held with members of the local community where and when possible and appropriate. This includes an open house which Rainy River Resources held on October 6, 2010 at their Emo office. At the open house a presentation was given which shared corporate and project details with the community (for more detail see Section 15.4). In addition, specific discussions were also held with:

- Alan Stone, commercial baitfisher;
- Ken Angus, trapper; and
- Alvin McLean, local resident with a home on Highway 600.

Informal discussions were held with several other local community members who provided information on possible sources of information for the baseline and anecdotal information that helped to formulate the field research. KCB also met with local Rainy River staff to become familiar with local sources of information, concerns and issues.

Since 2008 informal discussions have been ongoing with residents in the area of the proposed advanced exploration site and future, more formal discussions with individuals, communities, and agencies will help refine the 2011 baseline data, particularly as it relates to valued social and economic components. Rainy River has also been conducting ongoing field research to gather socio-economic information.

14.3 Results

14.3.1 Population

The Rainy River area reported a total population of 21,564 at the time of the 2006 Census, a decrease of 2.5% from the 2001 Census population of 22,109 (Table 14.1). This compares to a population increase of 6.6% in Ontario during the same time period.

Table 14.1 Local and Regional Population

AREA	POPULATION		CHANGE 2001 TO 2006 %
	2001	2006	
Rainy River area	22,109	21,564	-2.5
Fort Frances	8,315	8,103	-2.5
Rainy River	981	909	-7.3
Alberton	956	958	+0.2
Atikokan	3,632	3,293	-9.3
Chapple	910	856	-5.9
Dawson	613	620	+1.1
Emo	1,331	1,305	-2
La Vallee	1,073	1,067	-0.6
Lake of the Woods	330	323	-2.1
Morley	526	492	-6.5
Rainy River Unorganized	1,526	1,431	-6.2
Kenora District	61,802	64,419	+4.2
Thunder Bay District	150,860	149,063	-1.2
Ontario	11,410,046	12,160,282	+6.6

Source: Statistics Canada, 2006 Census Community Profiles

Approximately 38% (8,103) of District inhabitants were located in the largest town, Fort Frances. The Township of Emo was home to 1,305 residents (6% of the area population) at the time of the 2006 Census.

While the District as a whole experienced a population decrease of 2.5%, the Township of Chapple experienced a decrease of 5.9%. Other Local Study Area communities experienced decreases similar to the District with Fort Frances and Emo experiencing

decreases of 2.5% and 2% respectively. Alberton and Dawson were the only District communities with population increases, experiencing only marginal increases of 0.2% and 1.1% respectively. The District of Kenora experienced a population increase of 4.2% between the 2001 Census and 2006 Census while the District of Thunder Bay experienced a small population loss.

Information from Ontario Population Projections Update (2009) suggests that the Rainy River area will continue to experience a net decrease in population. Table 14.2 summarizes predicted population trends for the Rainy River area.

Table 14.2 Rainy River area Population Trends

	YEAR						
	2008	**2011**	**2016**	**2021**	**2026**	**2031**	**2036**
Rainy River area Population (thousands)	22.0	21.6	21.2	20.9	20.6	20.3	19.8
Percent Change	-	-1.82%	-1.85%	-1.42%	-1.44%	-1.46%	-2.46%

Source: Ministry of Finance (2009)

The population decline in the Rainy River area is similar to that observed in much of rural Canada, in that an increasing number of people are moving to urban areas due, in large part, to a loss of employment opportunities (e.g., loss of forestry jobs in the District). Geoff Gillon of the RRFDC considered the addition of new economic drivers, including value added wood products, telecommunications and mining, to be critical in reversing current trends in population for the District. The RRFDC produced an economic development plan for the Rainy River area for the years 2006 to 2009 to provide some direction to business development. The plan is summarized in Section 14.3.7.

14.3.2 Demographics

Approximately 49% of the Rainy River area population is male and 51% female, a similar ratio to the communities of Fort Frances and Emo as well as to Canada as a whole (Statistics Canada, 2006).

Rainy River area 2006 Census age distribution is notably different than that of Ontario as a whole. The percentage of the population 19 and under, and 65 and older, is higher than that of Ontario while the percentage of the population of working age (i.e., 20 to 64) is lower. While there is some variation between communities most, the situation in all communities, with the exception of Alberton and La Vallee, is consistent with that of the District.

The median age of the Rainy River area population and most District municipalities is higher than that of the province, in some cases, significantly higher (i.e. median age in Ontario is 39 while the median age of residents of Lake of the Woods and Rainy River is 49.5 and 47.8 respectively). The District of Kenora has a much lower median age of 34.9 years while the median age in the Thunder Bay District is 41.7. Age distribution for Rainy River area and communities, Kenora District, Thunder Bay District, and Ontario is shown in Table 14.3

In 2006, the Rainy River area had a population density of 1.4 residents per square kilometre. The Town of Fort Frances and Township of Emo had much higher densities typical of municipal areas (i.e., 300 and 218 residents per square kilometre respectively). The majority of the Rainy River area, including the Township of Chapple, has population densities reflective of rural areas.

Table 14.3 Age Structure

COMMUNITY	YEARS OF AGE (%)				MEDIAN AGE	% AGE 15+
	0-14	15-19	20-64	65+		
Rainy River area	19.7	7.5	56.7	16.1	41	80.3
Fort Frances	18	6.9	56.4	18.9	42.3	82
Rainy River	16.5	6.6	48.9	27.5	47.8	83
Alberton	19.3	8.3	63.6	7.8	41.6	81.2
Atikokan	17	6.7	58.6	17.6	43	83.1
Chapple	21.6	8.8	56.7	12.9	35.7	77.8
Dawson	23.4	7.3	51.7	18.6	44.2	77.4
Emo	21.5	7.7	53.7	17.2	39.9	78.2
La Vallee	20.7	9.9	60.1	8.9	39.4	79.3
Lake of the Woods	13.9	7.7	58.4	21.5	49.5	84.6
Morley	19.2	9.1	57.2	13.1	39.6	79.8
Rainy River Unorganized	15.7	7	60.3	17.4	47.3	84.6
Kenora District	23.5	8.2	57.2	11.1	34.9	76.5
Thunder Bay District	16.8	6.9	61.1	15.2	41.7	83.2
Ontario	*18.2*	*6.9*	*61.4*	*13.6*	*39*	*81.8*

Source: Statistics Canada, 2006 Census

14.3.3 Education

The proportion of the population above 15 years of age with education beyond the high school level is lower than Ontario's average, in all communities and Districts identified in Table 14.5 except for the District of Thunder Bay. However, the percentage of the population over 15 years of age with an apprenticeship or trades certificate or diploma is higher in all communities and Districts than in Ontario. In particular, the population of Chapple has the lowest percentage of the population over the age of 15 with education beyond high school (34.6%) but the highest percentage of the population (12.5%) with an apprenticeship or trades certificate or diploma.

14.3.3.1 Schools

There are 12 public schools and 3 private schools in the Regional Study Area, which provide elementary and or/secondary schooling (Table 14.4).

Table 14.4 Schools in the Study Area

SCHOOL	LOCATION	PUBLIC/PRIVATE	GRADES OFFERED
Donald Young School	Emo	Public	JK-8
Riverview School	Rainy River	Public	JK-8
Sturgeon Creek Alternative	Morley	Public	SK-12
Nestor Falls School	Lake of the Woods	Public	K-8
Huffman School	Fort Frances	Public	K-5
Robert Moore School	Fort Frances	Public	K-8
Sturgeon Creek School	Chapple	Public	JK-8
Fort Frances High School	Fort Frances	Public	9-12
McCrosson-Tovell School	Lake of the Woods	Public	JK-8
Crossroads School	LaVallee	Public	JK-8
Walker School	Fort Frances	Public	K-8
Rainy River High School	Rainy River	Public	9-12
St. Michael's School	Fort Frances	Private	JK-3
St. Francis School	Fort Frances	Private	4-8
Our Lady of the Way School	Morley	Private	JK-8

Source: Rainy River Future Development Corporation (2007)

The 2009 Report on Ontario's Public Schools indicated that enrolment in Rainy River area schools decreased by 16.49% from the 2002 to 2003 school year to the 2009 to 2010 school year. Discussions are underway regarding the status of three schools in the area; the district school board is recommending or preparing to close two schools between 2008 and 2012, and planning to replace one, provided adequate funding is available (People for Education, 2009).

Table 14.5 Education Characteristics (% of population)

POPULATION SUB-SET	RAINY RIVER AREA	FORT FRANCES	EMO	CHAPPLE	KENORA DISTRICT	THUNDER BAY DISTRICT	ONTARIO
Total Population 15 Years and Over	17,035	6,455	1,015	680	48,860	122,080	9,819,420
Proportion with Less Than High School (or Equivalent) Education	30.2	23.9	36.5	45.6	38.6	26.7	22.2
Proportion with High School or Equivalent Education	28.2	31.8	24.1	19.9	23.9	23.3	26.8
Apprenticeship or Trades Certificate or Diploma	11.6	10.8	11.3	12.5	10.3	11.5	8
College, CEGEP or other non-university certificate or diploma	17.5	18.4	13.8	15.4	15.9	19.8	18.4
University Certificate or Diploma below Bachelor Level	3.2	4.1	3.5	1.5	2.7	2.9	4.1
University certificate, diploma or degree	9.3	11	10.8	5.2	8.6	16	20.5

Source: Statistics Canada (2006)

14.3.4 Income and Employment

In 2005 median earnings for all persons (i.e., males and females combined) and females with income, were lower in Rainy River, Kenora and Thunder Bay Districts than in Ontario as a whole. However, median income for males with earnings was higher in Fort Frances and Thunder Bay District than in Ontario.

For those who worked fulltime in 2005, median earnings in Fort Frances, Emo, and Thunder Bay District were higher than those in the province as a whole. For males working fulltime, median earnings were higher in Rainy River area, Fort Frances, Emo and Thunder Bay District than in the province as whole while for females working fulltime, median earnings were lower in all areas. Table 14.6 summarizes the 2006 Census labour force characteristics for Ontario and the Regional Study Area.

Table 14.6 Median Employment Earnings in 2005

REGION	PERSONS 15+ WITH EARNINGS			PERSONS 15+ WHO WORKED FULL TIME, FULL YEAR		
	Median Earnings	Male	Female	Median Earnings	Male	Female
Rainy River area	25,011	32,206	21,640	44,702	52,804	36,777
Fort Frances	28,891	37,179	24,591	46,479	55,932	38,903
Emo	29,489	32,188	23,068	45,509	56,883	36,066
Chapple	14,399	21,918	11,237	23,734	28,456	20,697
Kenora District	24,504	30,061	20,667	41,376	48,989	34,688
Thunder Bay District	28,565	38,117	22,003	45,685	53,408	37,238
Ontario	*29,335*	*35,702*	*23,755*	*44,748*	*50,057*	*39,914*

Source: Statistics Canada, 2006 Census

In 2006, the participation and employment rates in the Rainy River area were lower than the rest of Ontario, while the unemployment rate was higher in Rainy River, Kenora and Thunder Bay Districts than in Ontario (Table 14.7). However, the unemployment rate in

Emo and Fort Frances was considerably lower than the Rainy River area and the province as a whole.

More recent information obtained from Service Canada's Labour Market Monitor for Northwestern Ontario economic region indicates that the economic region experienced a net loss of employment from December 2009 to December 2010. During the same time the employment rate decreased by 0.2% to 6.3%. Over the same period, the provincial unemployment rate declined from 8.3% to 7.5% (Service Canada, 2010). Employment by industry type in the Rainy River area, selected local communities and Ontario are summarized in Table 14.8.

Table 14.7 Regional Study Area Labour Force Activity

LABOUR FORCE ACTIVITY	RAINY RIVER AREA	FORT FRANCES	EMO	CHAPPLE	KENORA DISTRICT	THUNDER BAY DISTRICT	ONTARIO
Total population 15 years and over	17,040	6,455	1,015	680	48,865	122,080	9,819,420
In the labour force	10,935	4,160	640	420	31,340	77,775	6,587,580
Employed	10,075	3,855	610	415	28,595	71,445	6,164,245
Unemployed	865	305	30	10	2,745	6,330	423,335
Not in the labour force	6,100	2.295	375	260	17,520	44,305	3,321,840
Participation rate %	64.2	64.4	63.1	61.8	64.1	63.7	67.1
Employment rate %	59.1	59.7	60.1	61	58.5	58.5	62.8
Unemployment rate %	7.9	7.3	4.7	2.4	8.8	8.1	6.4

Source: Statistics Canada (2006)

The 2006 Census also provides industrial and occupational characteristics of the labour force. Table 14.8 shows a breakdown of the local and regional labour force by industry type. Of particular note are the following statistics:

- Relative to the provincial average (2.9%), agriculture and other resource-based industries accounted for a larger share of the workforce in all areas. Most notable was Chapple where 26.4% of the workforce is involved in agriculture and other resource-based industries;
- With the exception of Chapple, health care and social services accounted for a larger share of the workforce than in the province as a whole; and
- Other services accounted for a higher level of the workforce in Rainy River, Kenora and Thunder Bay Districts than the province as a whole.

Table 14.9 shows a breakdown of the labour force for Rainy River area and communities and surrounding Districts by occupation. Relative to the provincial average, the following patterns are noted:

- A very large share of the Rainy River area workforce is employed in occupations unique to primary industry and trades, transport and equipment operators and related occupations (26.1% compared to 16.7% for the province as a whole). The difference is significantly higher in Emo and Chapple where the percentage of the workforce employed in these occupations is 39.1% and 54.8% respectively; and
- Overall, the area has relatively smaller labour force shares in the business, finance, and administration related occupations.

Table 14.8 Employment by Industry Type (%)

POPULATION SUB-SET	RAINY RIVER AREA	FORT FRANCES	EMO	CHAPPLE	KENORA DISTRICT	THUNDER BAY DISTRICT	ONTARIO
Total Experienced Labour Force 15 Years and Older	10,800	4,105	640	420	30,660	76,405	6,473,730
Agriculture and other resource-based industries	8.5	4.9	8.6	26.4	8.9	6.4	2.9
Construction	7.3	5.9	14.1	6	5.6	5.3	5.9
Manufacturing	13.5	13.5	6.3	15.5	7.5	9.4	13.9
Wholesale trade	1.9	1.7	3.1	3.6	1.5	2.7	4.8
Retail trade	9.9	11.7	14.8	15.5	13	12.1	11.1
Finance and real estate	3.6	5.5	1.6	0	3	3.8	6.8
Health care and social services	13.5	15.5	15.6	7.1	14.5	13.9	9.5
Educational services	8.1	8.5	10.2	4.8	8.5	8.8	6.7
Business services	9.2	7.3	12.5	8.3	11.4	15.8	19.7
Other services	24.7	25.8	13.3	11.9	26.1	21.9	18.7

Source: Statistics Canada (2006)

Table 14.9 Employment by Occupation Type (%)

POPULATION SUB-SET	RAINY RIVER AREA	FORT FRANCES	EMO	CHAPPLE	KENORA DISTRICT	THUNDER BAY DISTRICT	ONTARIO
Total Experienced Labour Force 15 Years and Older	10,800	4,105	640	420	30,660	76,410	6,473,735
Management	8.6	8.8	8.6	6	8.7	7.7	10.3
Business, Finance and Administration	11.9	15.1	9.4	4.8	12.8	16	18.6
Natural and applied sciences and related occupations	2.6	3.4	0	2.4	4.6	5	7
Health occupations	7	8	10.9	8.3	5.3	7.1	5.3
Social science, education, government service and religion	10.1	11.6	6.3	3.6	11.5	9.6	8.4
Art, Culture, recreation and sport	1.8	1.2	2.3	0	1	2.1	3.1
Sales and service	24.3	28	21.1	13.1	27.9	26.7	23.5
Trades, transport and equipment operators and related occupations	19.9	14.7	35.2	25	19.1	17.5	14.1
Occupations unique to primary industry	6.2	1.7	3.9	29.8	5.4	4	2.6
Occupations unique to pressing, manufacturing and utilities	7.8	7.2	2.3	7.1	3.9	4.2	7.2

Source: Statistics Canada (2006)

The forest industry is the largest single employer in the Rainy River area, accounting for a large proportion of the 'agriculture and other resource-based industries' and 'manufacturing' industry categories in Table 14.8 (Abitibi-Consolidated, 2007). Health care and social services are also major employers in the district. Traditional professional, business and clerical employment, including finance and real estate and business services, are represented less frequently in the Rainy River area than in the remainder of Canada.

The major employers in the Rainy River area are summarized in Table 14.10.

Table 14.10 Major Employers in the Rainy River area, 2010

EMPLOYER	INDUSTRY	LOCATION	APPROXIMATE NUMBER OF EMPLOYEES
AbitibiBowater Incorporated	Pulp and Paper-Manufacturing	Fort Frances	780
Ainsworth	Oriented Strand Board Mill- Manufacturing	Chapple	145
NORFAB (Alberton)	Prefabricated Wood Products- Manufacturing	Alberton	120
Riverside Health Care	Health	District of Rainy River	450
Rainycrest Home for the Aged	Health	Fort Frances	170
Canada Safeway	Retail	Fort Frances	120
Walmart	Retail	Fort Frances	100
Rainy River area School Board	Education	Fort Frances	530
Northwest Catholic School Board	Education	Fort Frances	145
Town of Fort Frances	Municipal Government	Fort Frances	140

Source: Rainy River Future Development Corporation (2010)
(As per communication, Cynde Milette June 23, 2010)

14.3.5 Economy

As of December 2010, the Regional Study Area's labour market conditions and economy appear to be developing positively. Recent activities highlighted in the Service Canada December 2010, Northwest Ontario Labour Market Monitor included:

- The Ontario government provided $4.5 million in winter road funding allocations for 3,000 km of temporary roads (built over frozen ground and waterways) to be developed and maintained for the 2010 to 2011 season;
- Osisko Hammond Reef Gold Ltd., the Fort Frances Chiefs Secretariat and Lac Des Mille Lacs First Nation signed a resource-sharing agreement in December that details the potential for employment and training opportunities for the First Nations communities. Involved parties also agreed to form committees to ensure transparency and communication during project development. This gold project is located northeast of Atikokan;
- Manitou Gold Inc. announced favourable gold anomaly test results from a second phase drill program from the Sherridon property, located in the Upper Manitou Lake area of the Kenora Mining Division; and
- SkyPower Limited expects to begin construction in early 2011 on a new 8.5 megawatt solar park project on Thunder Bay International Airport lands. Energy production from the solar park is anticipated to be enough to power roughly 1,000 homes and up to 15,000 homes over 20 years from the clean energy development.

14.3.6 Industry Sectors

Forest Industry

The forest industry is a significant component of the Rainy River area economy, as reflected in Table 14.10, as three of the ten major employers are forestry related. In addition, there are 56 licensed independent operators that harvest wood in the Crossroute Forest, the Ontario Ministry of Natural Resources designation for the forested areas of the Rainy River area (Figure 14.3). The Crossroute Forest incorporates largely the same area as the Rainy River area. Most of the communities receiving significant wood fibre from

the Crossroute Forest and having substantial employment as a result of forestry in the Crossroute Forest are located in the Rainy River area.

Abitibi-Consolidated holds the Sustainable Forest License for the Crossroute Forest. Under the terms and conditions of the License, Abitibi-Consolidated is responsible for managing the forest, which includes obligations to inventory and plan. The Abitibi-Consolidated 2007 to 2017 Forest Management Plan (FMP) indicates no planned operations in the area of the Proposed Advanced Exploration Site. Operations may be possible in some portions of the Local Study Area.

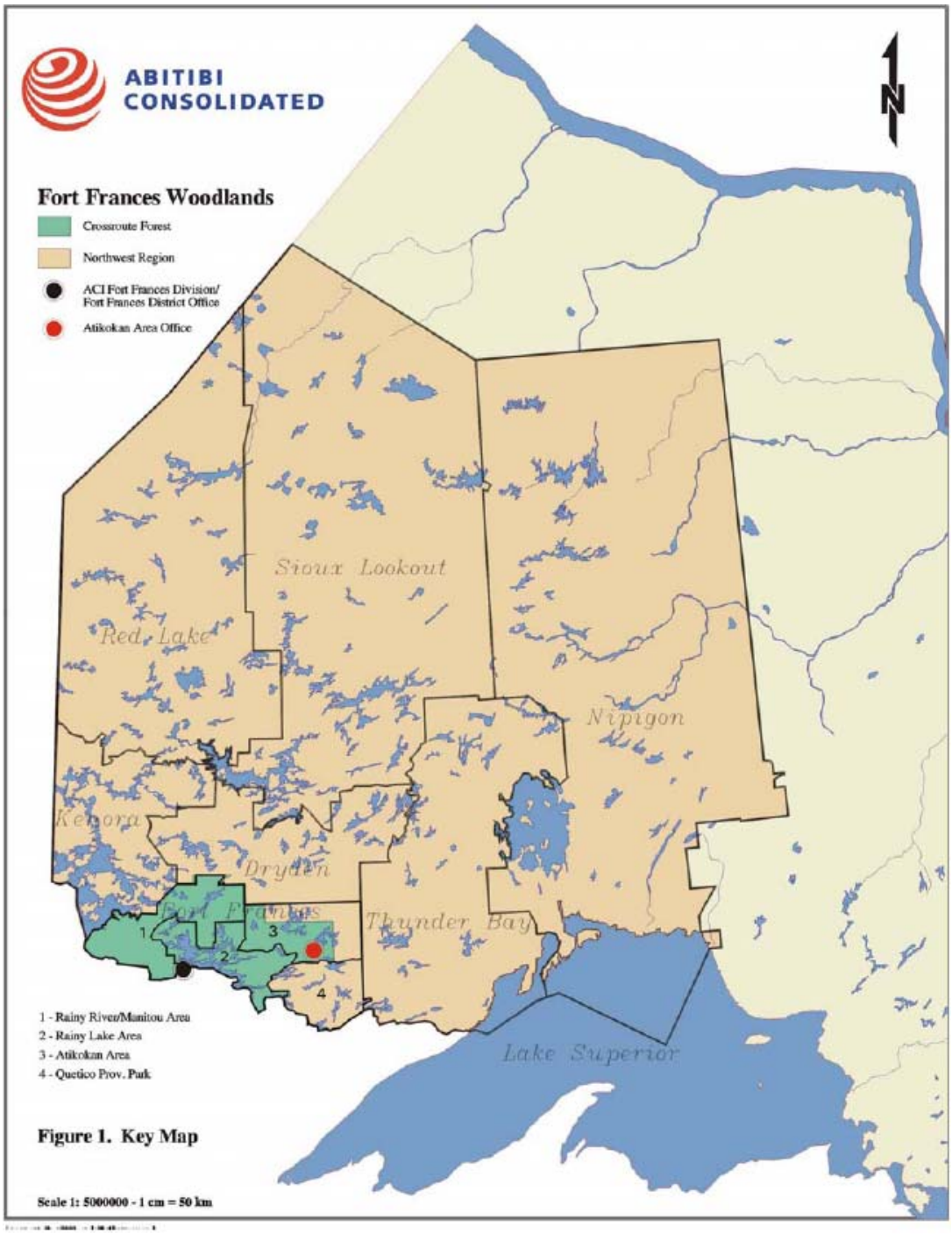


Figure 14.3 Crossroute Forest

Recreation and Tourism

Recreation and tourism are another key component of the Rainy River area economy, with most activities taking place within the Crossroute Forest. A variety of natural resources features in the Regional Study Area were identified in Ontario's Living Legacy Land Use Strategy (OLL) and through previous land use decisions. There are currently 9 Provincial Parks and 9 Conservation Reserves in the Regional Study Area, comprising 564,631 ha and 29,905 ha respectively or 35% and 2% of the total Regional Study Area respectively (Abitibi-Consolidated, 2007). The closest park to the proposed advanced exploration site is Caliper Lake Provincial Park, approximately 30 km from the site.

There are 146 licensed tourism operations in the Regional Study Area, maintaining a total of 244 locations. Approximately one-third of the locations are accessible by road. The remaining two-thirds must be accessed by boat or plane. Abitibi-Consolidated (2007) estimated that the tourism operators in the Regional Study Area directly employed 1,247 workers in 2001. Most of the jobs were full time seasonal positions as 75% of operators shut during winter. It is estimated that 3,262 full year-equivalent jobs are directly and indirectly related to tourism activity in the Regional Study Area. The tourism sector is highly reliant upon US-based visitation. Abitibi-Consolidated (2007) reported that 85% of tourism operations derive at least 90% of their clients from the US. Much of the tourism is related to hunting and fishing.

Recreation activities (i.e., those not involving tourism operators) in the Regional Study Area include camping, hiking, mountain biking, cross country skiing, fishing, birding, canoeing and hunting. Snowmobiling is also a popular recreation activity, and there are five snowmobile clubs operating in the Regional Study Area. Each club has approved trails within a defined geographic area, and provincial funding allows clubs to purchase trail groomers to maintain trails (Abitibi-Consolidated, 2007).

Mining and Aggregate Production

Mineral exploration and mining are key economic activities in Northwestern Ontario. In 2009 there were approximately 300 active projects in Northwestern Ontario with expenditures of approximately $230 million. Projects included industrial mining, diamonds, base metals, platinum, and gold with over 80% of exploration projects focusing on gold. In 2009 there were four operating mines in Northwestern Ontario: Musselwhite, Red Lake, Williams, and David Bell. The nearest operating mine is Red Lake Mine, located in Red Lake, Ontario. The four key gold exploration sites in the Western Wabigoon area, the area in which the potential Rainy River Gold Mine is located are Rainy River, Western Cedartree (Houston Lake Mining Ltd.), Goliath (Treasury Metals Inc.) and Hammond Reef (Osisko).

Agriculture

Agriculture is an important component of the economy in the Regional Study Area. According to the 2006 Census, agriculture and other resource-based industries support 8.5% of the total experienced labour force 15 years and older. Farm cash receipts for main commodities in the Rainy River area totalled $14 million in 2006. Beef cattle ranching and farming is the most important commodity, accounting for $5.7 million of the cash receipts in the region. Dairy cattle are also important, accounting for another $3.1 million. Other important agricultural activities include floriculture, nursery and sod and hay and clover (RRFD #1 (Jeannette Cawston, RRFDC, personal communication December 11, 2008)). Beef and dairy cattle ranching are common in the Local Study Area.

Other Activities

The Regional Study Area has 108 partial or entire traplines, including 19 assigned under Treaty. Currently over 100 people are directly involved in the trapping of fur-bearing animals (Abitibi-Consolidated, 2007). The area around the Proposed Advanced

Exploration Site is located entirely on registered trapline FF021318 (Barb Elliott, MNR, personal communication Jan 9, 2009). The location of trapline FF021318 and traplines neighbouring the Local Study Area will be obtained from the MNR and will be provided in the final baseline report.

There are 47 commercial baitfish harvesters within the Regional Study Area. The harvesters operate on 163 baitfishing blocks averaging 95 km^2 (Abitibi-Consolidated, 2007). The area around the proposed advanced exploration site is located entirely within commercial baitfishing block FF0095 (Barb Elliott, MNR, personal communication January 9, 2009).

There are approximately 20 wild rice harvesting areas within the Regional Study Area. It is estimated that the annual harvest is approximately 161,000 kg per year (Abitibi-Consolidated, 2007). There are no wild rice harvesting areas near the proposed advanced exploration site or in the Local Study Area (Barb Elliott, MNR, personal communication January 9, 2009).

14.3.7 Economic Development

The Rainy River Future Development Corporation RRFDC produced a broad economic development strategy for the Rainy River area for the years 2006 to 2009. In this plan, the RRFDC proposed to:

- Work to encourage foreign investment and keep local money in the area;
- Expand upon local export opportunities; and
- Develop and forward a comprehensive business retention and expansion strategy to bolster and support the existing business community.

The economic development plan included seven strategic directions:

- Agriculture
- Alternative energy
- Export development and business attraction
- Business development
- Immigration
- Tourism
- Telecommunications

Specifically, the plan called for the RRFDC to support the Rainy River Federation of Agriculture's strategy, including supporting agricultural learning tours and educational events and providing assistance to groups of producers wishing to attend exhibitions and trade shows. The plan calls for the support of any district business seeking to expand through exporting and for the continued attendance of the RRFDC at regional trade events to promote inward investment. RRFDC's economic development strategy also calls for a researched and targeted approach to attracting new residents to the region.

The economic development strategy proposes to foster business development through a combination of surveys, workshops, seminars and marketing and to continue to promote tourism, a mainstay of the district's economy for over 75 years. Development related to alternative energy, including wind turbine farms, landfill methane recovery and run of the river hydro Projects, will be investigated and supported, as will work related to improving broadband internet access and e-commerce learning opportunities for district businesses (RRFDC, 2006).

The following update was provided by Geoff Gillon of the RRFDC regarding the successes and failures of the 2006 to 2009 plan:

- **Agriculture** - Some success in encouraging producers to look at value adding their products.

- **Alternative energy** - Little progress on solar and wind energy as the grid in the western portion of Northwestern Ontario cannot accept any additional electricity. All alternative energy Projects have stopped.

- **Export development and inward business attraction** - This area has been slightly successful. Area companies have been assisted in expanding their markets through trade show participation and marketing assistance. There has been some success in valued added wood products such as drawers and furniture.

- **Business development** – Efforts have been concentrated on business expansion and retention. The RRFDC works to keep local businesses in business through training, business support marketing assistance and customer service promotion.

- **Immigration** - The RRFDC has promoted the Rainy River area as a location for agricultural immigration at three events in southern Ontario this year with limited success.

- **Tourism** - The RRFDC has embarked upon an effort to actively market the Town of Fort Frances and Rainy Lake as a tourism destination. This is a significant change from the traditional role as a support centre for area tourisms associations and attractions.

- **Telecommunications** – The RRFDC is working to expand telecommunications services in the area.

Two new areas of will be included in the next economic development strategy:

- Ancillary health care services (e.g. physiotherapists) are being encouraged to move to the area to support the current health care system; and

- Recruiting retired ex-patriot residents for business investment and re-location back to their hometown.

14.3.8 Accommodations

A variety of temporary and permanent accommodation is available in the Local Study Area. Hotel and motel rooms, lodges, campgrounds and RV Parks provide temporary accommodation. The vacancy rate at the hotel and motels varies by season and is generally lower in the summer than in the winter months. It is important to note that specific vacancy rates in the Local Study Area, as in any other community, can fluctuate significantly from establishment to establishment, day to day, or week to week.

A variety of permanent, affordable accommodation consisting of apartments, single-detached homes, semi-detached homes, duplexes, condominiums, and movable dwellings is available in the Local Study Area.

Specifics relative to accommodation units and availability will be provided in the final baseline.

14.3.9 Local Infrastructure and Community Services

Data collected during the 2008 field visit determined that infrastructure, utilities and social services are readily available throughout the Rainy River area. The following categories of infrastructure and utilities are briefly discussed below:

- Traffic and Transportation;
- Water;
- Solid Waste and Sewage;
- Electricity;
- Communications;
- Health Infrastructure and Services; and

- Emergency Services.

Information in these areas will be expanded as required in the final baseline report.

14.3.9.1 Traffic and Transportation

Highway 71 is the main access corridor linking the area to larger centers and international airports. Highway 71 links Kenora to Highway 11 near the Township of Emo. Highway 11 runs east-west through the study area, from the west via the Town of Rainy River and from the east via the Town of Fort Frances. Highway 600 provides access to the area around the Proposed Advanced Exploration Site from Highway 71. A well developed and well maintained network of local roads services the study area.

A CN Railway line runs east-west through the study area and within 40 km of the Proposed Advanced Exploration Site. The line links the study area to the major centres of Winnipeg, Thunder Bay, and Duluth, Minnesota.

The airport in Fort Frances serves the Local Study Area with regular scheduled service. Bearskin Airlines flies to Fort Frances via both Winnipeg and Thunder Bay. The most accessible major airport with flights to most major Canadian cities is in Winnipeg, approximately a four hour drive from the Local Study Area by highway.

14.3.9.2 Water

Various municipal water supply systems supply water to homes in the towns and townships of the study area. Homes and enterprises located outside of the municipal water supply system, including homes near the proposed advanced exploration site, typically derive water from groundwater wells.

Water in Fort Frances is pumped from Rainy Lake and treated at the Rainy River Water Treatment Plant. The plant is classed as a sub-system class 3. It is currently operating at 33% capacity (Town of Fort Frances, 2009). Water in Emo is supplied from an intake on the Rainy River. The water treatment plant was recently upgraded with the support of the Ontario provincial government (MNDM, 2008). The treatment plant currently operates at less than 50% capacity (Township of Emo, 2009).

14.3.9.3 Solid Waste and Sewage

In general, towns and townships have municipal waste collection and sewage services. Municipal waste is collected in Fort Frances and Emo and disposed of in each community's landfill. Municipal waste collection services are not provided in the area of the proposed advanced exploration site.

Sewage generated in Fort Frances is pumped to the Fort Frances Waste Water Treatment Plant. The plant provides primary and secondary treatment and phosphorus removal. The Fort Frances sewage system services 98% of town residents. The remainder use septic fields (Town of Fort Frances, 2008). Sewage from Emo is collected in a sewage lagoon. Treated wastewater is seasonally discharged from the lagoon to Rainy River during periods of high flow. Both of these discharge points are located upstream of the Proposed Advanced Exploration Site. The area around the proposed advanced exploration site is not connected to the municipal sewage network, and either pit toilets or septic fields must be used to manage sewage.

14.3.9.4 Electricity

The study area, including Fort Frances, Emo and the area around the Proposed Advanced Exploration Site is serviced by 'grid' power. Local electricity generating stations include three dams on the Seine; the Calm Lake Generating Station, the Sturgeon Falls Generating Station and the Valerie Falls Generating Station. The Seine River drains into

Rainy Lake, which is essentially a reservoir controlled by a fourth power generation dam at Fort Frances. This dam is owned and controlled by AbitibiBowater Incorporated in Fort Frances. A coal-fired Atikokan Generating Station also generates electricity for the Ontario power grid.

14.3.9.5 Communications

Telephone and television infrastructure is provided to most of the study area, including the area around the proposed advanced exploration site. Mobile phone reception throughout the study area is limited and there is no mobile phone reception in the area immediately around the proposed advanced exploration site.

14.3.9.6 Health Infrastructure and Services

Riverside Health Care Facilities Inc. operates the Emo Health Centre in Emo, the Rainy River Health Centre in Rainy River and the La Verendrye Hospital in Fort Frances. Emo Health Centre has an urgent care department which is open daily Monday to Friday, excluding holidays. Three full time doctor equivalents work at the facility. Rainy River Health Centre has an emergency department with a physician on call 24 hours a day, 7 days a week. La Verendrye Hospital has a full service emergency department offering emergency care 24 hours a day, seven days a week. La Verendrye Hospital is approximately 45 minutes from the proposed advanced exploration site and is the best equipped facility in the area to handle patients with serious injuries (Riverside Health Care, 2008).

14.3.9.7 Emergency Services

The nearest Ontario Provincial Police detachment to the Local Study Area is located in Emo. This detachment is a satellite detachment to the Fort Frances detachment. A volunteer fire department is located in Emo with the closest full-time fire and rescue services being located in Fort Frances. An ambulance station is located in Emo.

14.4 Public Consultation Summary

Discussions have been held with a number of local residents and organizations as described earlier in this document. Although the objective of the contact was generally to gather information, participants had the opportunity to ask questions or provide comments.

In terms of more formal consultation and communications, Rainy River held a Public Open House and Information Session on October 6, 2010 in Emo. The open house was held at the Rainy River Resource's Emo office from 12pm to 4pm. The event also served as the office's grand opening. The Public Information Session was held at 7 pm at the Emo Legion. Eighty-six community members registered their attendance at this meeting. A PowerPoint presentation was given which included corporate details, project history, current status and future plans.

Letters of invitation and a notice were sent to advertise these events. Letters were sent to various stakeholders and communities including First Nations, First Nations Tribal Councils and Organizations, township and district leadership, corporations and community members. The events were also advertised in three newspapers: the Fort Frances Times, West End Weekly and the Chronicle Journal. Neighbouring landowners received a hand-delivered invitation to the open house. Copies of the Public Presentation advertisement, the Rainy River presentations, as well as the sign-in sheet and letter invitations for the October 6, 2010 meeting are included in Appendix VIII-1.

14.5 Summary

The baseline information presented herein provides an overview of the socio-economic conditions in the Local Study Area and the Regional Study Area. Study area boundaries will be refined as the Project advances and the information presented will be updated to the most recent available at the time of preparation of the final baseline document.

15. FIRST NATIONS AND MÉTIS

15.1 Study Objectives

The objective of the First Nations and Métis baseline is to provide an overview of the social, economic, and cultural setting of First Nations and Métis in the Local Study Area and the Regional Study Area. The baseline will also support the development of future consultation activities.

15.2 Methodology

The baseline methodology consisted of the following steps:

- Review available Project information;
- Define study areas;
- Review and update existing data; and
- Gather additional information from First Nations, Tribal Councils, Aboriginal Organizations, government, and media resources.

15.2.1 Review of Existing Data Sources

Rainy River, through management and other key personnel, namely a First Nation Engagement Specialist, conducted all personal communication and consultation with the local First Nations and Métis. KCB completed the desktop literature review portion of the research.

Existing data and literature reviewed by KCB included:

- Census of Canada data;
- Indian and Northern Affairs Canada data;

- Ontario Ministry of Natural Resources reports and data;
- Local Study Area First Nation websites and related online sources;
- Local Study Area media and related online sources;
- Reports and presentations provided by Rainy River; and
- Reports of consultation activities undertaken by Rainy River.

The final First Nations and Métis baseline will be based on direct input from Local and Regional Study Area First Nations and Métis (e.g., via interviews, provision of more current data) in addition to the existing literature and data as described above. This will ensure that the baseline is representative of conditions in the study areas at the time of completion of the baseline.

15.2.2 Study Area Description

The Local Study Area and Regional Study Area for the First Nations and Métis baseline differ from those defined for the biophysical and biological assessments in that they cover a broader area to ensure that all First Nations and Métis with a potential interest in the area around the proposed advanced exploration site are included. The study area definitions reflect the information received from Rainy River and from Lori Churchill.[1] Ms. Churchill recommended that Rainy River initially communicate with First Nations in the Local Study Area to give each Nation an opportunity to decide if, and when, it was appropriate to include the Grand Council Treaty #3 (GCT#3). The studies areas will continue to be refined as baseline studies proceed.

[1] Lori Churchill is the Senior Aboriginal Liaison Officer with the Aboriginal Relations Unit of Ontario Mines and Minerals Branch.

15.2.2.1 2010 Regional Study Area

For the purpose of the 2010 First Nations baseline, the Regional Study Area includes all First Nations and Métis that may have an interest in the area around the proposed advanced exploration site; this includes all First Nations within the Treaty #3 Territory and Region 1 of the Métis Nation of Ontario. Table 15.1 identifies all communities considered to be within the 2010 Regional Study Area.

Table 15.1 First Nations and Métis Communities within the Regional Study Area

#	FIRST NATIONS AND MÉTIS COMMUNITIES	ABORIGINAL AFFILIATION	NEAREST TOWN
1	Anishinaabeg of Naongashiing (Big Island)	Ojibway	Morson
2	Anishinabe of Wauzhushk Onigum (Rat Portage)	Ojibway	Kenora
3	Big Grassy (Mishkosiimiiniiziiibing)	Ojibway	Morson
4	Buffalo Point	Ojibway	Buffalo Point
5	Couchiching	Ojibway	Fort Frances
6	Eagle Lake	Ojibway	Migisi Sahgaigan
7	Grassy Narrows (Asubpeeschoseewagoong Netum Anishnabek)	Ojibway	Grassy Narrows
8	Iskatewizaagegan No. 39 Independent	Ojibway	Kejick
9	Lac Des Mille Lacs	Ojibway	Thunder Bay
10	Lac La Croix	Ojibway	Fort Frances
11	Lac Seul	Ojibway	Hudson
12	Mitaanjigamiing (Stanjikoming)	Ojibway	Fort Frances
13	Naicatchewenin	Ojibway	Devlin
14	Naotkamegwanning Anishinabe (Whitefish Bay)	Ojibway	Pawitik
15	Nigigoonsiminikaaning (Nicickousemenecaning)	Ojibway	Fort Frances
16	Northwest Angle No. 33	Ojibway	Kenora
17	Northwest Angle No. 37	Ojibway	Sioux Narrows
18	Obashkaandagaang (Washagamis Bay)	Ojibway	Keewatin
19	Ochiichagwe'Babigo'ining (Dalles)	Ojibway	Kenora
20	Ojibway Nation of Saugeen (Savant Lake)	Ojibway	Savant Lake
21	Ojibways of Onigaming (Sabaskong)	Ojibway	Nestor Falls
22	Rainy River First Nation	Ojibway	Emo
23	Seine River First Nation	Ojibway	Mine Centre
24	Shoal Lake No. 40 First Nation	Ojibway	Kejick
25	Wabaseemoong Independent Nation (Whitedog)	Ojibway	Whitedog
26	Wabauskang First Nation	Ojibway	Ear Falls
27	Wabigoon Lake Ojibway First Nation	Ojibway	Dryden
28	Kenora Métis Community Council	Métis	Kenora
29	Sunset Country Métis	Métis	Fort Frances
30	Northwest Métis Nation of Ontario Council	Métis	Dryden

Source: Rainy River Resources

15.2.2.2 Local Study Area

For the purpose of the 2010 First Nations baseline, the Local Study Area is a subset of the Regional Study Area that includes nine First Nations within the Rainy River area (Figure 15.1). The nine First Nations considered to be within the Local Study Area are all GTC#3 members and are identified in Table 15.2.

Seven of the nine Local Study Area Nations are members of the Fort Frances Chiefs Secretariat (See Section 16.3.2.3). All nine First Nations within the Local Study Area are considered to be Saulteaux, a branch of the Ojibway Nation (Multicultural Canada 2011). The term Saulteaux originates from the French word that means “people of the rapids.”

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Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)
3. Base map adapted from http://freegrassy.org/learn-more/resources/maps/

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Klohn Crippen Berger

PROJECT
RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE
TREATY #3 AREA MAP INCLUDING REGIONAL AND LOCAL FIRST NATIONS

PROJECT No. M09559A04

FIG No. 15.1

Table 15.2 First Nations within the Local Study Area

#	FIRST NATIONS	INAC FIRST NATION NUMBER	TRIBAL COUNCIL	FORT FRANCIS CHIEFS SECRETARIAT MEMBER	RESERVES NEAR PROJECT SITE	EUCLIDIAN DISTANCE OF RESERVE TO PROJECT SITE (KM)
1	Anishinaabeg of Naongashiing (Big Island)	125	Anishinaabeg of Kabapikotawangag Resource Council	No	Big Island Mainland No. 93	35
					Saug-A-Gaw-Sing No. 1	39
2	Couchiching	126	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Agency 1	
					Couchiching 16A	48
3	Lac La Croix	127	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Neguaguon Lake 25D	151
4	Mishkosiimiiniiziiibing (Big Grassy River)	124	Anishinaabeg of Kabapikotawangag Resource Council	No	Big Grassy River No. 35G	33
5	Mitaanjigamiing (Stanjikoming)	133	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Agency 1	
					Rainy Lake 18C	51
6	Naicatchewenin	128	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Rainy Lake No. 17A	32
					Rainy Lake No. 17B	21
7	Nigigoonsiminikaaning (Nicickousemenecaning)	129	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Agency 1	
					Rainy Lake 26A	81
					Rainy Lake 26B	78
					Rainy Lake 26C	93
8	Rainy River	130	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Manitou Rapids No. 11	21
					Long Sault No.12	21
9	Seine River	132	Pwi-Di-Goo-Zing-Ne-Yaa-Zhing Advisory Services	Yes	Seine River 23A	117
					Seine River 23B	94
					Sturgeon Falls 23	123

Source: INAC First Nation Profiles

All First Nations within the regional and Local Study Areas are identified in Figure 15.1, along with the Rainy River area boundary.

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400,000 450,000 500,000 550,000 600,000

5,450,000

5,400,000

Ontario

N

Manitoba

Quebec

Ontario

Saug-A-Gaw-Sing Indian Reserve No. 1

Big Island Mainland Indian Reserve No. 93

Big Grassy River Reserve No. 35G

Rainy Lake Reserve No. 17A

Rainy Lake Reserve No. 17B

Rainy Lake Indian Reserve No. 26B

Rainy Lake Reserve No.26C

Project Location

Rainy Lake Indian Reserve No.18C

Sturgeon Falls Reserve No. 23

Seine River Reserve No. 23A

Manitou Rapids Reserve No. 11

Seine River Reserve No. 23B

Rainy Lake Reserve No.26A

Couchiching Indian Reserve No.16A

Neguaguon Lake Reserve No. 25D

400,000 450,000 500,000 550,000 600,000

Advanced Exploration Project Facility Boundary

Pinewood River Watershed

prov_ab_p_geo83_e

First Nations

Anishinaabeg of Naongashiing (Big Island)

Couchiching

Lac La Croix

Mishkosiimiiniiziiibing (Big Grassy River)

Mitaanjigamiing (Stanjikoming)

Naicatchewenin

Nigigoonsiminikaaning (Nicickousemenecaning)

Rainy River

Seine River

Notes:
1. UTM Zone 15N, WGS84
2. Waterbodies from NTS (1:50,000)

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0 25 km

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CLIENT

RainyRiver RESOURCES LTD.

Klohn Crippen Berger

PROJECT

RAINY RIVER GOLD PROJECT:
2008 - 2010 BASELINE

TITLE

FIRST NATIONS WITHIN THE LOCAL STUDY AREA

PROJECT No. M09559A04

FIG No. 15.2

In this baseline, detailed profiles have only been presented for First Nations currently considered to be within the Local Study Area.

15.3 Results

15.3.1 Regional Study Area

15.3.1.1 History of the Ojibway

The Ojibway are a woodland people of southeastern Canada and northeastern United States. In the mid-seventeenth century there were approximately 35,000 Ojibway on the continent. Today, the Ojibway are one of the most populous First Nations in North America, with more than 200,000 individuals living throughout their traditional territories. Federally recognized Ojibway reserves are found in Ontario, Manitoba, Minnesota, Michigan, Wisconsin, Montana, and North Dakota.

15.3.1.2 Treaty #3 and the Grand Council #3

GCT #3 existed in "the land where we are all related" being Anishinaabe (a self description used by the Ojibway people) territory at the boundaries with the Dakota Sioux, Assiniboine, and Cree. The GCT #3 is the traditional government of the Anishinaabe Nation in Treaty #3 (Grand Council #3, 2011). The Ogichidaa, or Premier" signed the Selkirk Treaty in 1817 in what is now Winnipeg, MB. The territory of the Anishinaabe Nation was a key to Canadian Confederation, and in and around 1859 a treaty was concluded between the Anishinaabe and the British who wanted to plan a route between Fort Garry and Fort William (now Thunder Bay, Ontario and Winnipeg, MB). A $3 annuity was agreed to and this agreement figured strongly in the negotiations that would finalize Treaty #3 between 1869 and 1873. Treaty #3 was planned to be the first post Confederation treaty, but the Anishinaabe held firm to their position that they would not cede lands nor allow farming or settlement in their territory. On October 3, 1873, the "owners" of the 55,000 square miles of territory agreed to be shared between the

Anishinaabe and the British, had their representatives sign Treaty #3. The Chiefs negotiated, among other things, that their "business" would be allowed within the entire territory and that both the lands and resources would be shared between them as "brothers". Today, the GCT #3 is comprised of the twenty eight nations within the Treaty #3 area (Grand Council #3 2011).

Today the GCT#3 is the political government for the 28 First Nations in the Treaty #3 area" (Grand Council of Treaty 3 2011c). Of the 28 member Nations, 26 are located in Northwestern Ontario and 2 are located in Manitoba. The mandate of the GCT #3 is to protect, preserve, and enhance Treaty and Aboriginal rights within the Anishinaabe Nation (Grand Council of Treaty 3 2011d). This is achieved by focusing on inherent jurisdiction, sovereignty, nation-building, traditional governance, and furthering the Anishinaabe Nation's goal of self-determination (Grand Council of Treaty 3 2011d). The GCT #3 is currently lead by Grand Chief Diane Kelly and supported by teams of staff and councils.

15.3.1.3 History of the Métis Nation

The Métis have a distinct history, culture, identity, language and territory (including waterways) that is unique to their Nation (Métis Nation 2011). As described by the Métis Nation of Ontario, "Métis settlements emerged as an outgrowth of the fur trade, along freighting waterways and watersheds. In Ontario, these settlements were part of larger regional communities, interconnected by the highly mobile lifestyle of the Métis, the fur trade network, seasonal rounds, extensive kinship connections and a shared collective history and identity" (Métis Nation 2011).

15.3.1.4 Traditional Language

Ojibway

The traditional Aboriginal language of all First Nations within the Regional Study Area is Ojibway (Statistics Canada 1996). Also known as Anishinabe to its speakers, the Ojibway language is an Algonquian language that has five main dialects (Native Language of the Americas 2011). Though each distinctive, speakers of each dialect are able to communicate with one another. The Ojibwe language is more than a means of communication, it also contains "the unique Ojibwe worldview and way of thinking, the Anishinaabe connection to the past, to the earth, and to the future" (Treton 2001, pg.5).

Michif

Michif is a Métis specific language that originated from a combination of distinct languages. In Ontario, this combination is comprised of old European and old First Nation languages. Today, Michif is still spoken in some Métis communities, and efforts to revitalize and preserve the language are underway (Métis Nation 2011b).

15.3.2 Local Study Area

15.3.2.1 Tribal Councils within the Local Study Area

Two Tribal Councils are affiliated with the nine nations within the Local Study Area. Brief profiles of the Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services and the Anishinaabeg of Kabapikotawangag Resource Council Inc. are provided below.

15.3.2.1.1 Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services

Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services is a Tribal Council that has been comprised of seven member nations since April 1998. All First Nations affiliated with this Tribal Council are located within the Local Study Area; these are: the Naicatchewenin First Nation, the Rainy River First Nations, the Couchiching First Nation, the Lac La Croix First Nation, Nicickousemenecaning First Nation, Seine River

First Nation, and Mitaanjigamiing First Nation. One representative from each of the member Nations forms the Board of Directors which governs this Council. The mission of the Council is to "provide advisory services and training which will enhance the overall management skills and opportunities of the area First Nations" (Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services 2011). Services provided by the Council include: economic development, housing, financial, technical, Indian registration, and fire protection. Furthermore, each of these service areas have specific departments which oversee and provide related tasks (Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services 2011b).

15.3.2.1.2 The Anishinaabeg of Kabapikotawangag Resource Council Inc.

The Anishinaabeg of Kabapikotawangag Resource Council Inc. (the Resource Council) is affiliated with six First Nations, two of which, the Anishnaabeg of Naongashiing First Nation and the Big Grassy River First Nation, are located within the Local Study Area. Other Nations affiliated with the Resource Council are: the Anishinabe of Wauzhushk Onigum First Nations, the Northwest Angle No.33 First Nations, the Northwest Angle No.37 First Nations, and the Ojibways of Onigaming First Nation. Historically, the Anishinaabeg of Kabapikotawangag are known as *the People of the Lake*, *the Spirit Lake*, or known as *the Lake of the Woods* (Anishinaabeg of Kabapikotawangag Resource Council 2011a).

The Resource Council is an Aboriginal non-profit organization that provides advisory and technical services to member Nations. It has provided such services as economic development, education, fisheries, technical and health since it was established in 1995. An extension of the Resource Council's economic development services includes initiatives and support for mining (Anishinaabeg of Kabapikotawangag Resource Council 2011b). The main Council office is located in the Northwest Angle #37 First Nation and a secondary office is located in Kenora.

The Resource Council is governed by a board, guided by an Elders Council and directed by the Kabopikotawangag Protocol. In 1998 this protocol was established and "founded on the Anishinaabe language, culture and traditions, along with provincial and federal policies provides the guidelines for the legal and political structures of the organization" (Anishinaabeg of Kabapikotawangag Resource Council 2011a). The Resource Management Unit was an important development from the 2002 reaffirmation of the Kabapikotawangag Protocol, which focuses on the Anishinaabeg of Kabapikotawangag's commitment to protect and preserve its resources (Anishinaabeg of Kabapikotawangag Resource Council 2011c).

15.3.2.2 First Nations Governing Bodies within the Local Study Area

There are two First Nations governing bodies within the Local Study Area: GCT#3 and the Fort Frances Chiefs Secretariat. GCT#3 was discussed in Section 16.3.1.2 and the Fort Frances Chiefs Secretariat is discussed in this section.

The Fort Frances Chiefs Secretariat is a regional governing body in the Rainy River area. The Chiefs of the seven Nations within the District, as identified in Table 15.3, comprise the Secretariat, which works as a collective authority, to represent the Anishnaabe of the region (Fort Frances Chiefs Secretariat 2011). The Chiefs collectively identify and address common issues through advocacy and partnership while representing each of their Nations (Fort Frances Chiefs Secretariat 2011). Some of the Secretariat's specific areas of focus are policing, education, and health services.

Table 15.3 Fort Frances Chiefs Secretariat Member Nations

#	FIRST NATIONS	LOCATION	CHIEF
1	Couchiching	RR#2, RMB 2027, Fort Frances, ON	Chief Charles McPherson
2	Lac La Croix	P.O. Box 640, Fort Frances, ON	Chief Leon Jourdain
3	Naicatchewenin	P.O. Box 15 –RR# 1, Devlin, ON	Chief Wayne Smith
4	Nigigoonsiminikaaning (Nicickousemenacing)	P.O. Box 68, Fort Frances, ON	Chief William Windego
5	Rainy River	P.O. Box 450, Emo, ON	Chief Jim Leonard II
6	Seine River	P.O. Box 134, Mine Centre, ON	Chief Earl Klyne
7	Mitaanjigamiing (Stanijkoming)	P.O. Box 609, Fort Frances, ON	Chief Madeline Henderson

15.3.2.3 Local Study Area First Nations

As stated earlier, the 2010 First Nations baseline focuses on the nine First Nations within the Local Study Area. There are varying types of publically available information for each of the Nations and this is reflected in the following profiles.

15.3.2.3.1 The Anishinaabeg of Naongashiing First Nation, Big Island

The Anishinaabeg of Naongashiing (Big Island) First Nation people are descendants of the Salteaux Ojibway, a semi-nomadic people (Anishnaabeg of Naongashing First Nation 2011). The traditional territory of the Anishinaabeg of Naongashiing was included in the 1873 #3 Treaty and, in the mid 1920's, the Anishinaabeg of Naongashiing became legally recognized as a band. Today, the First Nation is governed by an elected Chief and Council. The appointment date for the current Chief, Wesley Big George, and Council was December 15, 2009 and their term expires on December 14, 2013 (INAC 2011). The Nation's character is clearly defined by their mission statement, which proclaims, "To ensure, enhance and protect the culture, traditions, land, language, resources, health, social and economic well being of the Anishinaabeg of Naongashiing" (Anishinaabeg of Naongashiing 2010).

The Anishinaabeg of Naongashiing have a 4330 ha land base located in the Lake of the Woods catchment along the southern edge of the Aulneau Peninsula (Anishnaabeg of

Naongashing First Nation 2011). Though the Nation has twelve reserves, the majority of members and community amenities are located on the Saug-a-gaw-sing No.1 reserve on the south east shore of the Lake of the Woods (Anishnaabeg of Naongashing First Nation 2011). The on-reserve population of the Anishinaabeg of Naongashiing First Nation was approximately 153 members in January 2011 (INAC 2011).

Traditionally, the Anishinaabeg of Naongashiing economy was based on activities such as hunting, fishing, gathering, trapping, and harvesting and these activities are a central component of the Anishinaabeg of Naongashiing First Nation's history, culture, and economy. Although the nature of the Anishinaabeg of Naongashiing economy began to change in the late 18th century with the onset of the fur trade and the Hudson's Bay Company (Anishnaabeg of Naongashing First Nation 2011). Traditional use activities such as trapping, fishing, and forestry are still practiced by most members as their main occupation (Anishinaabeg of Naongashiing 2010). As owners of the largest commercial fishing licence quota in Treaty #3, the Nation's main export and source of revenue in the summer is fishing. Employment in Anishnabeg of Naongashing First Nation centers around several local industries including the band office, wild rice harvesting, fish processing, fish sales operation, and a variety of institutions (retail and financial) located in Rainy River (Anishnaabeg of Naongashing 2011).

Members residing on Saug-a-gaw-sing No.1 are served by such community services as: a registered nurse provided by Health Canada, a fire hall, a hospital and ambulance service (located in Rainy River), child and family services worker, law enforcement services (Ontario Provincial police and Treaty 3 police), and a local maintenance worker (Anishnaabeg of Naongashing First Nation 2011). Elementary school students attend the First Nation operated Big Grassy Elementary School (junior kindergarten to Grade 8) or the elementary school in McCrosson/Tovell. All secondary school students (Grade 9 to Grade 12) attend high school in Rainy River. Off-reserve members and

members on other reserves are served by the community services in the area in which they reside.

15.3.2.3.2 Couchiching First Nation

Couchiching First Nation is an Anishinaaabe community located east of Fort Frances on Rainy Lake. The Nation's current location is significant to their history, as their Anishinaabe ancestors used the nearby Couchiching falls as a gathering place and, in spring, Anishinaabe would gather for ceremonies, to harvest manomin (wild rice), and to fish (Couchiching First Nation 2011). Today, the First Nation is governed by an elected Chief and Council. The appointment date for the current Chief, Charles McPherson, and Council was March 8, 2010 and their term expires on March 7, 2012 (INAC 2011).

The Couchiching First Nation has a land base of approximately 6,436 ha on two reserves east of Fort Frances (i.e., Couchiching 16A and Agency 1). Of the January 2011 population of 2,094, approximately 643 individuals lived on Band reserves, 44 on other reserves, and 1406 lived off reserve (INAC 2011). Couchiching First Nation members are all considered to be "Status Indians" under the *Indian Act*, as the Nation does not administer its own citizenship or membership code (Couchiching First Nation 2011).

Couchiching First Nation members are serviced by the community's programs and services. These include: child and family care, a child care centre, education programs, the Giizhikaandag Healing Centre, Addictions Treatment and Support, and such recreational amenities as a bingo hall and golf course (Couchiching First Nation 2011).

According to the Couchiching First Nation web-site, challenges and issues currently facing the First Nation include the Couchiching First Nation toll booth initiative, the road to nowhere (Hwy 11) for Couchiching First Nation, and Pither's Point Park (Couchiching First Nation 2010).

According to the First Nation, the reasons for enacting the Toll Booth Initiative are related to a lack of compensation for land for Highway 11, unaddressed concerns regarding contaminated soils that have forced residents from their homes and other outstanding claims and grievances with federal and provincial governments.

Regarding Pither's Park, Couchiching, Stanjikoming, Nigigoonsiminikaaning, and Naicatchewenin First Nations are currently in dispute with the Town of Fort Frances, and the federal and provincial governments over the fact that while the Town's lease for the park expired on May 1, 2009, the Town still maintains that the park belongs to the municipality while the First Nations want control to revert to the First Nations.

15.3.2.3.3 Lac La Croix First Nation

Lac La Croix First Nation members identify themselves as the 'Anishinabe people of *Zhingwaako Zaaga'igan*.' Translated from Ojibway to English, *Zhingwaako Zaaga'igan* means "Lake of the Pines" and refers to the pines that surround the lake. The Nation's current name, Lac La Croix, translates from French to mean "the Lake of the Cross" and was given to the Nation by the Department of Indian and Northern Affairs Canada (Lac La Croix First Nation 2010).

Pines are believed to provide protection to the community and are of special significance to Anishinabe cultural practices and beliefs (Lac La Croix First Nation 2010). Such traditional practices as harvesting fish and game for spring and fall feasts, and honouring the spirits and the spiritual connection of Zhingwaako Zaaga'igan center around pines. In the past, the forests of this region were known to have a limitless amount of pine, which was considered to be sacred, along with the lake and surrounding environment, by the respected Elders of the community. Today this spiritual connection to the land is still central to the Anishinabe people of Lac La Croix. Cultural practices, values, and beliefs are intrinsically linked to the preservation and respect for the natural environment.

The Lac La Croix First Nation is located approximately 95 km east of Fort Frances. The First Nation has one reserve, Neguaguon Lake 25D which encompasses approximately 6214 ha (INAC 2011). Access to the community is via Flanders Road, an 80 km all weather road accessed by Highway 11 approximately 40 km west of Atikokan (Lac La Croix First Nation 2010) .

The First Nation is governed by an elected Chief and Council. The appointment date for the current Chief, Leon Jourdain, and Council was January 13, 2010 and their term expires on January 12, 2012 (INAC 2011). Of the January 2011 population of 417, approximately 288 individuals lived on the Band reserve, 11 on other reserves, and 118 lived off reserve (INAC 2011).

The *Zhing Waako Za'Iganing* School is the local elementary and secondary school that community members attend. In addition to the school, the Nation also has its own Health Center.

One of Lac La Croix First Nation's significant economic initiatives is its Ojibway Power and Energy Group Ltd. (OPEG) partnership with the Chant Group. Lac La Croix First Nation is the majority shareholder in this partnership, which was developed to pursue the hydroelectric development potential of the Namakan River in North Western Ontario (Chant Group 2011). On January 4, 2006, the Minister of Natural Resources Ontario awarded OPEG the rights, to develop three sites on lands co-managed between the Lac La Croix First Nation and the Crown (Chant Group 2011).

15.3.2.3.4 The Mishkosiimiiniiziiibing First Nation, (Big Grassy River)

The Mishkosiimiiniiziiibing First Nation, also known as Big Grassy River, is a small Ojibway community located in Northwestern Ontario, on the shores of Lake of the Woods in the Lake of the Woods Catchment (Big Grassy River First Nation 2011a). Big

Grassy River First Nation has eleven Clans which are named after different animals. The original Ojibway Clan names and their English translations are: *Awasii* (Bullhead), *Numay* (Sturgeon), Anini-Shib (Mallard), Makwa (Bear), Moose (Moose), *Moosh-Ko-O-Si* (Blue Heron), *Pi-Zhew* (Lynx), *Migisi* (Eagle), *Atik* (Caribou/Elk), *Miki-Nok* (Snapping Turtle), and Crane (Big Grassy River First Nation 2011b). Today, the First Nation is governed by an elected Chief and Council. The appointment date for the current Chief, Carol Copenace, and Council was January 7, 2011 and their term expires on January 16, 2013 (INAC 2011).

The Big Grassy First Nation is located approximately 130 km northwest of Fort Frances. The First Nation has six reserves encompassing approximately 7731 ha. Of the January 2011 population of 701, 221 individuals lived on the Band reserve, 39 on other reserves, and 441 lived off reserve (INAC 2011).

Education is provided in the community through the Council operated Pegamigaabo School, for Grades Junior Kindergarten to Grade 8 (Big Grassy River First Nation 2011d). The Pegamigaabo School also provides such amenities for recreation and extracurricular activities as two playgrounds, a baseball field, a soccer field, and an outdoor skating rink (Big Grassy River First Nation 2011d).

Big Grassy River First Nation is taking steps towards strengthening the community's economy and creating jobs. The First Nation received funding from the Northern Communities Investment Readiness Program (NCIR) in 2009 to develop a community profile on the Invest in Ontario website to attract investors and to undertake an inventory of its land assets to determine the best way to increase investment and promote economic development (Ontario 2009).

15.3.2.3.5 Mitaanjigamiing (Stanjikoming) First Nation

Since 1873 the Mitaanjigamiing First Nation has been officially known as the Stanjikoming First Nation. In 2009 the First Nation began the process of officially changing their name from Stanjikoming back to Mitaanjigamiing as the name 'Stanjikoming' has no meaning or significance to the Nation, whereas, Mitaanjigamiing means "where shallow water runs in to deep water" in Ojibwe. This name change will not be legally recognized until approved by INAC.

Mitaanjigamiing First Nation is located approximately 16 km north of Fort Frances on the east side of Mitaanjigamiing Bay on Rainy Lake. The First Nation has two reserves (i.e., Agency 1 and Rainy Lake 18C) totalling approximately 1577 ha. The Mitaanjigamiing First Nation and the Governments of Canada and Ontario are negotiating to resolve an outstanding Treaty Land Entitlement (TLE) claim. The TLE claims are intended to compensate First Nations who did not receive all the land to which they were entitled under historic treaties (Government of Ontario).

The current Chief, Janice Henderson, and Council were selected through a custom electoral process on May 16, 2011 (INAC 2011). In January 2011 the Mitaanjigamiing First Nation had a total registered population of approximately 141 members, with 98 members living on reserve and 43 living off-reserve (INAC 2011c).

The Mitaanjigamiing First Nation's territory has undergone significant changes as a result of such developments as the Fort Frances dam which was built for the paper bill and resultant rising water levels in Rainy Lake (Mitaanjigamiing First Nation 2011). Traditionally, Mitaanjigamiing territory was rich with manomin (wild rice), muskrats, ducks, geese, and other fowl (Mitaanjigamiing First Nation 2011). However, many of the rice growing areas were flooded when the water rose.

Today, a focus of the Nation is the potential development of an eco tourism lodge (Nation Talk 2011). Supported by the Northern Ontario Heritage Fund Corporation, the Nation is currently exploring the market potential, and evaluating locations and partner options for developing the eco tourism lodge (Nation Talk 2011).

The Band Administration Office, Health Center, and Recreational Center are amongst the infrastructure that supports the community. Both elementary and secondary students are bused to Fort Frances to attend school (Mitaanjigamiing First Nation 2011). A satellite location for the Seven Generations Education Institute Secondary School is available in the community (7 Generations.org).

15.3.2.3.6 The Naicatchewenin First Nation, Anishinaabeg of Nagaajiwanaang

The Naicatchewenin First Nation, also known as the Anishinaabeg of Nagaajiwanaang, and formerly known as the Northwest Bay First Nation is located approximately 60 km northwest of Fort Frances. (Naicatchewenin First Nations 2009). The First Nation has three reserves (i.e., Agency 1 (shared with three other First Nations), Rainy Lake No. 17A, Rainy Lake No. 17B) located in the Rainy Lake catchment and totalling approximately 2,503 ha. The main Naicatchewenin community is located on Rainy Lake 17A.

The current Chief, Wayne Smith, and Council were appointed January 6, 2010 and their term expires January 5, 2012 (INAC 2011). As of January 2011, the Naicatchewenin First Nation had a registered population of approximately 395 with 271 living on reserve, one living on another First Nation's reserve, and 123 living off reserve (INAC 2011d). Overall, 43% of the Naicatchewenin First Nation population is 20 years of age and under, 52% of the population is 21 to 60 years of age, and 5% of the population is 61 years of age or older (Naicatchewenin First Nation 2009).

Several Naicatchewenin First Nation community services are provided within the main community including fire protection, emergency first response team, emergency preparedness-community emergency control group, recreation services and carpentry (Naicatchewenin First Nations 2009). On-reserve Naicatchewenin First Nation amenities include the Band Office and Medical Building, a fire hall, a community hall, a gymnasium, a round house, and a warehouse/workshop (Naicatchewenin First Nations 2009).

The First Nation is interested in economic development and actively participates in the local economy. Chief and Council have set up the Naicatchewenin Development Corporation to explore economic opportunities that could benefit Band members. In 2009, the First Nation received funding from the Northern Communities Investment Readiness program (NCIR) for two training workshops aimed at assessing current economic performance, identifying community specific economic goals, prioritizing potential investment opportunities and completing a strategic economic development plan (Government of Ontario).

One of the businesses in the Naicatchewenin community is the Kish-Gon-Dug Canada company, which makes hand crafted furniture (e.g., chairs, tables, garden accessories, etc.) from environmentally harvested Western Red Cedar (Kish Gon Dug Canada 2010).

15.3.2.3.7 Nigigoonsiminikaaning First Nation

The Nigigoonsiminikaaning First Nation, formerly known as Nicickousemenecaning and as Red Gut First Nation, is small Ojibway community located in Northwestern Ontario, along the shores of Rainy Lake at Red Gut Bay (Aboriginal Canada Portal 2003). Nigigoonsiminikaaning's territory is an area rich with Anishnaabeg history and culture (Nigigoonsiminikaaning First Nation 2006). Committed to revitalizing its traditional Ojibway language, Nigigoonsiminikaaning has developed camps and programs to teach language and culture amongst its members (Nigigoonsiminikaaning First Nation 2006).

The First Nation has four reserves (i.e., Agency 1 (shared with three other First Nations), Rainy Lake 26A, Rainy Lake 26B and Rainy Lake 26C) totalling approximately 4100 ha. The current Chief, William Windego, and Council were appointed July 19, 2010 and their term expires July 18, 2012 (INAC 2011). As of January 2011, the Nigigoonsiminikaaning First Nation had a registered population of 316 with 144 living on reserve, two living on another First Nation's reserve, and 170 living off reserve (INAC 2011d).

Situated approximately 40 kilometres from Fort Frances, Nigigoonisiminikaaning First Nation is a relatively physically and economically isolated community from the rest of Canada (Nigigoonsiminikaaning First Nation 2006). Traditionally, the community's economy centered around fishing but due to over fishing and tourism this sector has weakened (Nigigoonsiminikaaning First Nation 2006).

Services within the community are provided by the Band Administration and voluntary organizations. The Band Administration oversees such services as community health, education, social services, policing, housing and economic development; while, voluntary organizations and committees provide recreation, education, housing, economic development, and a volunteer fire department services (Nigigoonsiminikaaning First Nation 2006). These services are provided through a band administration office, a health center, a recreation center, daycare center and fire hall. Schooling is provided for elementary students at the Mine Centre School, 20 kilometres from the community in Mine Centre, Ontario. Secondary students commute to Fort Frances for secondary school (Nigigoonsiminikaaning First Nation 2006).

15.3.2.3.8 Rainy River First Nations

The Rainy River First Nations are Ojibway peoples whose ancestors lived along the shores of the Rainy River, from Rainy Lake to the east to the western regions of the Lake of the Woods (Rainy River First Nations 2011). Also known as *Manitou Rapids* and *Manidoo bawitigong*, the Rainy River First Nations name means 'the Great Spirit Rapids'

or 'Spirit Rapids' (Seven Generations Education Institute 2011). The Rainy River First Nations includes seven separate nations that were administratively amalgamated by Canada into one First Nation from 1913 through to the 1960's (INAC 2005b). The seven Nations which today comprise the Rainy River First Nations were all signatories to Treaty #3.

In May 2005, the Rainy River First Nations and the Governments of Canada and Ontario signed a historic land claim agreement which resolved an outstanding grievance related to this Treaty (INAC 2005a). Under this agreement, the Rainy River First Nations will receive approximately $71 million in compensation and a commitment for additional reserve lands to be designated by the Governments of Canada and Ontario (INAC 2005a).

The Rainy River First Nations traditional territory is rich with natural resources. The plants and animals in the surrounding woodlands, lakes, and rivers have characterized the traditional use activities of the Rainy River First Nations; these include fishing, trapping, hunting, and gathering of plants, roots and berries (Native American Encyclopedia 2010). In particular, Rainy River sturgeon are recognized as an intrinsic part of Rainy River Ojibway culture and economy (Holzkamm *et al*. 1988).

Today, the Rainy River First Nation has two reserves: Manitou Rapids Reserve 11 and Long Sault Reserve 12. The population of the Rainy River First Nations is approximately 756 members (INAC 2005a), of which about 240 live on reserve land (Native American Encyclopedia 2010). For schooling, elementary students are bussed off reserve to Emo and Stratton and secondary students attend high school in Fort Frances (Seven Generations Education Institute 2011). The Seven Generations Education Institution Secondary School also has a satellite location within the community. Other community amenities include a community hall, a recreation centre, a health clinic, a Mennonite

church, a homemakers program, a fire hall, Child and Family Services, an ambulance service and First Nations Policing (Native American Encyclopedia 2010).

Forestry, farming, and land leasing are central to the Rainy River First Nations economy. Several locally owned and operated businesses are related to these industries. These include a sawmill, a wild rice processor and distributor, and an economic development company (Native American Encyclopedia 2010).

15.3.2.3.9 Seine River First Nation

The Seine River First Nation is located along the shores of the Seine River, in an area well known for its lake sturgeon spawning grounds (Wake 1997).

The First Nation has three reserves (i.e., Seine River 23A, Seine River 23B, and Sturgeon Falls 23 approximately 5152 ha. The current Chief, Earl Klyne, and Council were appointed February 11, 2010 and their term expires February 10, 2012 (INAC 2011). As of January 2011, the Seine River First Nation had a registered population of 716 with 319 living on reserve, nine living on another First Nation's reserve, and 387 living off reserve (INAC 2011).

Community development, health, education, economic development, and cultural development are the five core areas around which the community's services are centered (Seine River First Nation 2011). These core areas of focus are supported by the community's infrastructure, which includes a band administration office, a health center, a police detachment, a fire hall, high speed internet and basic sanitary services (Government of Canada 2003). Many community activities take place in their Seine River First Nation community center and roundhouse. The community center facilitates various recreational activities with its basketball and volleyball courts, exercise room, library, offices, full kitchen, stage area, and change rooms (Valley Builders 2007).

Seine River First Nation's commitment to active, healthy lifestyles is demonstrated by its participation in the Active Circle Community Program, which "supports Aboriginal youth and communities to become vibrant, active and healthy through sport and recreation" (Active Circle 2011).

15.3.2.4 Local Study Area Socio-Economic Setting

In general, the community characteristics of the First Nations and Métis within the Local Study Area are similar to one another and demonstrate similar departures from Canadian averages. Much of the information in this section, other than the INAC population figures, is dated and will be updated as the studies progress.

Table 15.4 summarizes the January 2011 INAC registered population profiles of the Local Study Area First Nations. Total populations range from 316 to 2094 registered members with on own reserve populations ranging from 98 to 643 members.

Table 15.4 INAC Population Profiles

FIRST NATION	TOTAL POPULATION	ON OWN RESERVE	ON OTHER RESERVES	OFF RESERVE
Anishnaabeg of Naongashiing	380	153	27	198
Couchiching	2094	643	44	1406
Lac La Croix	417	288	11	118
Mishkosiimiiniiziiibing (Big Grassy)	701	221	39	441
Mitaanjigamiing (Stanjikoming)	141	98	0	43
Nigigoonsiminikaaning (Nicickousemenecaning)	316	144	2	170
Naicatchewenin	395	271	1	123
Rainy River	N/A	N/A	N/A	N/A
Seine River	716	319	9	387

Source: INAC First Nation Profiles January 2011
Information was not available for the Rainy River First Nation.

As shown in Table 15.5, the demographics of the Local Study Area First Nations also reveal commonalities between the communities. In particular, the proportion of population aged 0 years to 19 years is 16% to 29% higher than that of the rest of Canada, and the proportion of population aged 65 years and over is 8% to 14% lower than the rest of Canada.

Table 15.5 Local Study Area First Nations Demographics Summary

BAND	POPULATION CHARACTERISTICS			AGE CHARACTERISTICS (%)		
	Total	% Male	% Female	0-19	20-64	65+
Anishinaabeg of Naongashing (Big Island)[1]	115	52	58	43	52	0
Couchiching[1]	600	51	49	38	57	5
Lac La Croix						
Mishkosiimiiniiziiibing[2] (Big Grassy)	175	54	46	40	60	0
Mitaanjigamiing (Stanjikoming)	80	56	44	38	50	13
Naicatchewenin[3]	336[1]			43[4]	52[5]	5[6]
Nigigoonsiminikaaning (Nicickousemenecaning)	95	58	42	42	47	0
Rainy River	-	-	-	-	-	-
Seine River	230	52	48	46	48	7
CANADA	*31,612,897*	*49*	*51*	*24*	*62*	*14*

Source: Canada Census (1996, 2001 and 2006). Please note that statistics presented in this table only include registered members living on reserves. Data are prone to rounding and may not necessarily add to 100%.

Notes:
1 Based on 1996 data, as 2001 and 2006 data not available.
2 Based on 2001 data, as 2006 data not available.
3 Based on December 4, 2003 Naicatchewenin First Nation data.
4 Age category: 20 years of age and under, (Based on December 4, 2003 Naicatchewenin First Nation data)
5 Age category: 21-60 years of age, (Based on December 4, 2003 Naicatchewenin First Nation data)
6 Age category: 61 years of age and older, (Based on December 4, 2003 Naicatchewenin First Nation data)
Note that the information presented in Table 15.5 is for First Nations living on reserves only and that the data are prone to rounding and may not necessarily add to 100%.

15.3.2.4.1 Employment

Four of the 9 Local Study Area First Nations had INAC workforce statistics available which summarized major industries. Of these four Nations the industries of employment were: manufacturing/construction, health/education, wholesale/retail, agriculture/ resource-based, and 'other'.

Table 15.6 Local Study Area First Nations Workforce Characteristics

WORKFORCE CHARACTERISTICS			
Community	**Participation Rate %**	**Employment Rate %**	**Unemployment Rate %**
Anishinaabeg of Naongashing (Big Island)[1]	71.4	50.0	30.0
Couchiching[1]	64.0	57.0	12.7
Lac La Croix			
Mishkosiimiiniiziiibing[2] (Big Grassy)	64.0	0	100
Mitaanjigamiing (Stanjikoming)	70.0	70.0	0.0
Naicatchewenin[3]	47.4	36.8	22.2
Nigigoonsiminikaaning (Nicickousemenecaning)	90.9	72.7	20.0
Rainy River	-	-	-
Seine River	53.6	42.9	26.7
CANADA	*66.8*	*62.4*	*6.6*

Source: Canada Census (1996, 2001 and 2006). Please note that statistics presented in this table only include registered members living on reserves. Data are prone to rounding and may not necessarily add to 100%.

Notes:
1 Based on 1996 data, as 2001 and 2006 data not available.
2 Based on 2001 data, as 2006 data not available.
3 Based on December 4, 2003 Naicatchewenin First Nation data.

As shown in Table 15.6, the rate of employment varied between communities from 0% to 72.7%, with most communities much lower than the Canadian average of 62.4%. However, the rate of employment for Nigigoonsiminikaaning (Nicickousemenecaning) and Mitaanjigamiing (Stanjikoming) was notably higher than the Canadian average. The participation rate in these communities as well as in Anishinaabeg of Naongashing (Big Island) is also higher than the Canadian average.

Furthermore, the unemployment rate is much higher amongst the First Nations, ranging from 12.7% to 100% while the Canadian average was 6.6%. Employment within the First Nations may be largely part-time and thus reflected in the unemployment rate, instead of the employment rate.

According to Service Canada information published in December 2009, several First Nation communities in Northwestern Ontario were approved for funding under the Ontario government's New Relationships Fund. This fund assists Aboriginal communities and organizations to participate in consultations with government and the private sector. Projects are designed to enhance skills training and economic development. Recipients included: Big Grassy, Eagle Lake, Fort William, Big Trout Lake, Lac Seul, Long Lake #58, Naicatchewenin, North Caribou Lake, Ojibways of Onigaming, Ojibways of the Pic River, Pays Plat, Pic Mobert, Pikangikum, Rainy River, Red Rock, Stanjikoming, Wabaseemoong, Wabauskang, Wabigoon Lake, Whitesand, Keewaytinook Okimakanak Tribal Council and Seven Generations Education Institute.

15.4 Consultation

All nine First Nations within the Local Study Area are affiliated with and supported by the Grand Council Treaty #3 and its *Manito Aki Inakonigaawin* or 'The Great Earth Law' (Grand Council Treaty #3 2011b). In 2008, the Chiefs in Assembly affirmed through consensus that any and all consultation approaches within Treaty #3 Nations would be guided by the established Resource Law. Together, the Lands and Resources Team and the Office of the Ogichidaakwe support their member nations through consultation processes according to this law. Key terms defined in the *Manito Aki Inakonigaawin,* which may be of importance to the Rainy River Resources 2010 Baseline are:

- "Consult" means undertake a process of communication with the Nation pursuant to this Law and in light of Anishinabe traditions;

- "Environment" means the entire environment of the Anishinaabe as it affects them and the exercise of their rights and responsibilities, and includes the spiritual, social, physical, ecological and economic environment; and

- "Lands" includes wetlands, rivers, and lakes (The Anishinaabe Nation in Treaty #3 1997).

Furthermore, the *Manito Aki Inakonigaawin* outlines the following key concepts related to consultation with Treaty #3 Nations.

- **Responsibility of proponents**: The proponents of a development have a responsibility to consult with and seek the consent of the Nation in a timely manner.

- **Objectives of consultation**: The Grand Council and the proponents should, through consultation:

  - Understand potential effects of the development on the environment in Treaty #3 territory and on the rights of the Anishinaabe;

  - Determine conditions of authorization; and,

  - Seek a mutually beneficial continuing relationship between the proponents and the Anishinaabe.

- **Consultation about proposed developments:** The proponents of a proposed development should initiate consultation before preparing engineering or construction plans for the development.

- **Traditional Consultation:** Notwithstanding this Law a proponent may consult the Nation in the traditional manner (The Anishinaabe Nation in Treaty #3 1997).

15.4.1 First Nations Consultation Overview, Local Study Area

Rainy River Resources has initiated communications with First Nation communities, to inform them of Project developments and to respond to concerns and questions from

local community members. Rainy River believes that maintaining open communication with First Nations, local community members, regulatory agencies and other stakeholders is a necessary component of Project initiation and advancement.

15.4.2 Approach

Rainy River Resources consultation activities are coordinated and directed by their First Nations Engagement Specialist. In an agreement with the Fort Frances Chiefs Secretariat it was outlined that the First Nations Engagement Specialist would work with Rainy River to communicate company initiatives and work closely with each of the signatory First Nations. The First Nations Engagement Specialist was hired in August 2010 and works primarily from the new Rainy River office located in Emo.

The partnership to hire the First Nations Engagement Specialist is unique. While the position is funded by Rainy River Resources, candidate selection was conducted jointly by Rainy River and the seven participating First Nations. The First Nation Engagement Specialist is an employee of the local tribal council, Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services, but reports jointly to the tribal council Executive Director and Rainy River's Director of Environment and Sustainability. This unique employment relationship has been mutually beneficial to Rainy River and the First Nations in that there is a designated person who has a comprehensive understanding of the project.

15.4.3 Memorandum of Understanding

Rainy River and the Fort Frances Chiefs Secretariat, as representatives of the Rainy River area First Nations, (Naicatchewenin First Nation, Mitaanjigamiing First Nation, Couchiching First Nation, Nigigoonsiminikaaning First Nation, Lac La Croix First Nation and Seine River First Nation) together as the 'First Nations', signed a Memorandum of Understanding (MOU) at the Rainy River Project site on May 13, 2010. As part of the MOU, Rainy River agreed to inform the First Nations in advance of its

exploration proposals and timetables, and to conduct all exploration activities in an environmentally responsible manner. Rainy River also committed to offer employment opportunities to qualified First Nations members, as well as the opportunity to bid on contracts for services and equipment in an open bidding process. The MOU also included an agreement that Rainy River Resources would hire a First Nations Engagement Specialist to liaise between themselves and the First Nations.

15.4.4 Impact and Benefits Agreement

Under the MOU, Rainy River and the Fort Frances Chiefs Secretariat Member First Nations have also committed to develop and implement an Impact and Benefits Agreement (IBA) to realize their objectives in a mutually beneficial manner. The IBA will include provisions concerning:

- Support for mineral production within the project area;
- The relationship between the parties and the impact and benefits on the First Nations communities and their traditional lands;
- A process which sets out the requirements of notice and consultation during the development, construction and operation phase of the Rainy River Project;
- A process that will enable the First Nations communities to access information to satisfy themselves that mining activities which are carried out within their traditional territory comply with relevant federal and provincial legislation including compliance with environmental legislation;
- First Nations rights with respect to access to and maintenance of their traditional territory without adversely affecting Rainy River's continuing operations;
- Identification by the First Nations of registered trap lines and "sensitive sites" having significance to the communities or individuals within the communities, so that Rainy River can avoid and protect such sites to the extent reasonably possible;

- Identification of the training needs and human resources capacity of the First Nations communities, including employment, business development, investment opportunities and other related enterprises as both parties may see fit to include;

- Identification of potential sources and responsible agencies to work towards the establishment of a social-economic fund for the use and benefit of the First Nations communities, with funding to be related in a predictable and reasonable way to the economic scale and value of the exploitation of the resource identified in the area designated as the Rainy River Project area; and

- A process for resolving disputes or disagreements arising out of the terms and provisions or the interpretation of the IBA.

15.4.5 Summary of Consultation and Communications

15.4.5.1 Fort Frances Chiefs Secretariat Consultation Activities

Rainy River initiated preliminary discussions with the Fort Frances Chiefs Secretariat in April of 2007. New management at Rainy River has since taken consultation activities to a higher level including direct discussions with the member Tribal Area First Nations. In September 2010, Rainy River Resources initiated individual community consultation with the Fort Frances Tribal Area First Nations. Initial community contact was made to the leadership via phone call and email. The purpose of the initial contact was to: introduce Stacey Jack, First Nation Engagement Specialist, and to request a meeting to discuss Rainy River Resources, the proposed advanced exploration program and to discuss how the community wanted to be consulted on the proposed advanced exploration and other initiatives of Rainy River Resources.

Meetings were held with the leadership of Couchiching, Mitaanjigamiing, Naicatchewenin, Nigigoonsiminikaaning, Seine River and Rainy River First Nations. Lac La Croix First Nation leadership had advised that due to their busy schedule, they would not be able to meet until a later date.

Most comments received during the Chief and Council meetings were centered on the issues of potential jobs and training opportunities. Based on these specific comments, Rainy River Resources has supported a diamond driller's helpers program with Confederation College, developed a 40 hour field technician course that will be run by Rainy River Resources directly and hired First Nations community members at the project area (Photo 15.1). In addition, all contractors selected to bid on the proposed advanced exploration program ramp development are required to develop a training program that will employ First Nations membership throughout the underground development phase.



Photo 15.1 A Participant in the 40 hour Field Technician Course gets Ready to Go Out in the Field.

15.4.5.2 Local Study Area First Nations

Consultation and engagement activities are ongoing with Local Study Area First Nations. This section describes general activities aimed at all Local Study Area First Nations and

also discusses specific activities undertaken with the Fort Frances Secretariat member nations as well as with the Big Island and Big Grassy First Nations.

15.4.5.2.1 General

The following other activities have taken place as a result of the meetings;

1. Job advertisements have been sent to communities for posting in the band offices and in the community newsletters.

2. Naicatchewenin First Nation came to the project area for a tour on September 30th (Photo 15.2). Tour participants included Elders, leadership and youth/working age individuals. The purpose of the tour was to:

    a. familiarize the community with the project and the proposed advanced exploration
    b. to provide the youth with an opportunity to ask questions about mining industry careers and employment opportunities
    c. Familiarize the Elders with the physical location and landscape of the project area.



Photo 15.2 Naicatchewenin First Nation Community Members Examine ome Core with Rainy River Resources' Geologists.



Photo 15.3 Naicatchewenin First Nation Community Tour.

3. A Rainy River Resources newsletter was developed. Each community was provided with enough copies to distribute to each household. The newsletter will be developed and distributed on a quarterly basis in order to ensure an accurate and timely flow of information.

4. All Chiefs, Councils and community members were invited to the October 6, 2010 Open House and Public Presentation on the proposed advanced exploration program. While leadership were invited through email and co-ordination with Tammy Ryll of the Fort Frances Chiefs Secretariat, community members were invited through public postings in their respective band office and in community newsletters. The Public Presentation session was also advertised in three newspapers: the Fort Frances Times, West End Weekly as well as the Chronicle Journal. Neighbouring landowners received a hand-delivered invitation to the open house. Copies of the Public Presentation advertisement, the Rainy River presentations, as well as the sign-in sheet and letter invitations for the October 6, 2010 meeting are included in Appendix VIII-1.

5. A meeting was held on October 7, 2010 between senior representatives of Rainy River Resources and the representative Chiefs of the Fort Frances Chiefs Secretariat in which both parties re-iterated their satisfaction in their working and consultation relationship. Both parties have committed to continue to work closely together to ensure the commitments made in the May 2010 MOU are met.

6. A site tour was provided to the Rainy River First Nations Watershed Program manager on October 25, 2010. The Rainy River First Nations Watershed Program has an extensive history in raising public awareness to promote involvement in the protection, conservation, and revitalization of the Rainy River watershed.

7. The Notice of Project Status developed for the Ministry of Northern Development, Mines and Forestry was sent out the First Nations on October 28, 2010.

8. Mitaanjigamiing First Nation came for a tour of the proposed Rainy River Project site on February 8, 2011 (Photo 15.4)



Photo 15.4 Mitaanjigaming First Nation Members Site Tour, February 8, 2011

Future activities planned include a variety of fact sheets, participation in community events (i.e. career and health fairs), participation in a traditional ceremony and additional tours at the project area.

15.4.5.2.2 Big Island and Big Grassy First Nations

Rainy River started communications with Big Island and Big Grassy First Nations in September, 2010. While Rainy River was initially not able to contact the Chief or Council of Big Grassy First Nation to arrange a time to meet, a suitable time was eventually agreed upon to meet at the Big Island Band office to discuss the project. On October 18, 2010 Kyle Stanfield, Rainy River's Director of Environment and

Sustainability, Kyle Stanfield, met with the leadership of Big Island First Nation. While the meeting was organized through Chief Wesley Big George, he was not able to attend the meeting. The meeting was very positive and the discussion centered on job opportunities as the project moves to advanced exploration. Rainy River was able to contact Big Grassy First Nation in January of 2011 and subsequent Kyle Stanfield met with the Chief and Council at the First Nation Band Office on January 31, 2011. The meeting was very positive and focused on discussing Rainy River's exploration program as well as how Big Grassy First Nation can become more involved in opportunities presented by exploration activities.

Letters sent to the Big Island Chief and Council and Big Grassy First Nations Chief are included in Appendix IX-1.

15.4.5.3 Métis Nation of Ontario (MNO)

Rainy River also started communications with the Métis Nation of Ontario (MNO) in May 2010 with agreement to meet with the MNO Consultation Committee. After various communications it was agreed to meet on October 5, 2010 in Fort Frances to discuss Rainy River's plans. The meeting was held and it was agreed to keep in touch as the project progresses. Rainy River also committed to providing a site tour to the MNO in the near future. Rainy River provided a copy of the Advanced Exploration Notice of Project Status to the MNO on November 18, 2010. The letter sent to the MNO is included in Appendix IX-1

15.4.5.4 Aboriginal Relations Unit of Ontario Mines and Minerals Branch

Rainy River Resources has maintained ongoing communications with representatives from the Aboriginal Relations Unit of the Ministry of Northern Development, Mines and Forestry. Ms. Churchill is specifically involved with Treaty 3 First Nations and meets regularly with local First Nations, including the Fort Frances Chief Secretariat. This

included a meeting with some First Nations within the Local Study Area and Regional Study Area on December 11, 2008 and December 12, 2008.

15.4.5.5 Training Programs

Rainy River has supported a diamond drillers helpers program with Confederation College which has been underway since October 2010. Rainy River also developed a 40 hour field technician course that was run directly at the site and resulting in the hiring of a First Nations community member. Photo 15.5 shows the November 2010 graduates of the program. In addition, all contractors selected to bid on the proposed advanced exploration program ramp development are required to develop a training program that will employ First Nations membership throughout the underground development phase. More detailed information on the drillers helpers program is included in Appendix IX.



Photo 15.5 First Nations Class 1 Graduates of the Diamond Driller Helpers Program. November 8, 2010

15.5 Conclusion

The 2010 Rainy River First Nations and Métis Baseline provides a foundation for future activities; however, the desktop review revealed an incomplete set of information regarding First Nations bands and Métis in the Local Study Area and further data collection and analysis in concert with study area First Nations and Métis will be required to develop a baseline of sufficient detail for the Environmental Assessment process.

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APPENDIX I - 1

Surface Water Quality Database

		pH	Conductivity	TDS	TSS	Turbidity	Colour	Total Ammonia-N	Total Kjeldahl Nitrogen (TKN)	Dissolved Chloride (Cl)	Fluoride (F-)	Orthophosphate (P)	Nitrate (N)	Nitrite (N)	Nitrate + Nitrite	Dissolved Sulphate (SO4)	Alkalinity (Total as CaCO3)	Acidity as CaCO3	Total Cyanide (CN)	WAD Cyanide	Total BOD	Total COD	DOC	TOC	Total Animal/Vegetable Oil and Grease	Total Oil & Grease	Total Oil & Grease Mineral/ Synthetic	Total Coliform (Confirmed)	Fecal Coliform	E. Coli	Heterotrophic Plate Count	D. Aluminum (Al)	T. Aluminum (Al)	D. Antimony (Sb)	T. Antimony (Sb)	D. Arsenic (As)	T. Arsenic (As)	D. Barium (Ba)	T. Barium (Ba)	D. Beryllium (Be)	T. Beryllium (Be)	D. Bismuth (Bi)	T. Bismuth (Bi)	D. Boron (B)	T. Boron (B)	D. Cadmium (Cd)	T. Cadmium (Cd)	D. Calcium (Ca)	T. Calcium (Ca)	D. Chromium (Cr)	T. Chromium (Cr)	D. Cobalt (Co)	T. Cobalt (Co)	D. Copper (Cu)	
OPWQO Aquatic Life Criteria		6.5-8.5																	0.005																0.1											0.001		0.0009		**OPWQO Aqua**
CCME Aquatic Life Criteria		6.5-9						0.35-73			0.12		2.9	0.2					0.005																0.05											0.001				**CCME Aquati**
Location	**Sample Date**		uS/cm	mg/L	mg/L	NTU	TCU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	Col./100 mL	Col./100 mL	Col./100 mL	Col./1 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	**Location**
SW1 (RRW-1)	08/16/2007	7.5	262	-	8	-	-	0.03	-	-	-	-	-	-	-	3.5	140	18	ND	-	-	-	-	-	-	-	-	-	-	-	0.54	-	-	ND	-	ND	-	ND	-	ND	-	0.001	-	0.0007	-	**SW1 (RRW-1)**
SW1	11/15/2008	8.0	214	133	2	4.1	-	ND	-	9	ND	ND	ND	ND	ND	ND	89	12	ND	0.0020	ND	83	30.2	30.2	ND	ND	ND	0.061	0.21	0.0006	ND	ND	ND	0.014	0.015	ND	ND	0.020	ND	ND	ND	ND	26	26	ND	ND	ND	0.004	**SW1**
SW1	5/12/2009	7.1	191	120	3	3.3	-	ND	-	5	ND	ND	ND	ND	ND	ND	93	ND	ND	0.0015	ND	60	24.2	21.3	ND	ND	ND	-	-	-	-	0.072	0.2	ND	ND	ND	ND	0.06	0.016	ND	ND	ND	ND	0.020	0.02	ND	ND	ND	ND	0.002	**SW1**
SW1	7/4/2009	7.6	300	192	24	20	-	ND	-	ND	ND	ND	0.2	ND	0.2	ND	146	20	0.0019	0.0014	ND	82	29.8	29.7	ND	ND	ND	TNTC	384	374	TNTC	0.005	1.1	ND	ND	0.002	0.003	0.021	0.032	ND	ND	ND	ND	0.021	0.018	ND	ND	0.0009	0.001	**SW1**
SW1	8/10/2009	7.9	358	235	3	2.0	-	0.180	-	11	ND	ND	ND	ND	ND	ND	181	10	ND	0.0009	ND	67	28.6	29.4	ND	ND	ND	10	22	22	258	0.049	0.058	ND	ND	0.002	0.002	0.022	0.05	ND	ND	ND	ND	0.011	0.021	ND	ND	ND	ND	**SW1**
SW1	9/9/2009	7.8	367	245	3	2.5	-	0.220	-	10	ND	ND	ND	ND	ND	ND	184	24	0.0010	0.0013	ND	68	24.6	25.6	ND	ND	ND	-	-	-	-	0.036	0.1	ND	ND	0.002	0.003	0.028	0.024	ND	ND	ND	ND	0.020	0.02	ND	ND	ND	ND	0.002	**SW1**
SW1	10/8/2009	7.8	390	256	5	6.3	-	0.170	-	11	0.10	0.010	ND	ND	ND	ND	193	ND	0.0009	0.0011	ND	55	22.4	21.8	ND	ND	ND	40	20	20	84	-	0.087	-	ND	-	0.001	-	0.028	-	ND	-	ND	-	0.028	-	ND	-	ND	-	**SW1**
SW1	11/5/2009	7.7	328	220	12	6.3	-	0.230	-	15	ND	ND	ND	ND	ND	ND	130	ND	ND	ND	ND	64	23.5	23.8	ND	ND	ND	53	34	27	20	-	0.1	-	ND	-	ND	-	0.036	-	ND	-	ND	-	0.014	-	ND	-	36	-	ND	-	**SW1**
SW1	12/21/2009	7.6	443	296	10	12	-	0.280	-	24	ND	ND	ND	ND	ND	ND	180	31	ND	0.0015	ND	84	31.2	30.7	0.70	0.70	ND	196	4	4	8	0.08	0.85	ND	ND	0.001	ND	0.028	0.027	ND	ND	ND	ND	0.02	ND	0.004	ND	51	53	ND	ND	0.004	**SW1**
SW1	2/8/2010	7.8	440	270	15	15	-	0.080	-	12	ND	0.020	ND	ND	ND	ND	206	26	ND	0.0011	ND	67	26.3	26.3	ND	ND	ND	194	9	ND	8	0.100	0.89	ND	ND	ND	0.001	0.023	0.021	ND	ND	ND	ND	0.02	0.02	ND	ND	52	58	ND	ND	0.0007	0.001	**SW1**
SW1	2/22/2010	7.6	452	296	19	26	-	0.160	-	11	ND	0.050	ND	ND	ND	ND	215	56	ND	ND	ND	66	24.2	25.2	ND	ND	ND	70	2	2	-	0.080	1.1	ND	ND	0.001	0.002	0.028	0.026	ND	ND	ND	ND	0.025	0.02	ND	ND	52	58	ND	ND	0.0009	0.0012	0.003	**SW1**
SW1	3/25/2010	7.7	177	114	8	7.8	-	ND	-	6	ND	0.010	ND	0.1	0.1	ND	77	14	ND	ND	ND	53	18.7	18.4	ND	ND	ND	13	ND	ND	-	0.072	0.35	ND	ND	ND	ND	0.052	0.016	ND	ND	ND	ND	0.011	0.015	ND	ND	20	22	ND	ND	ND	0.002	**SW1**
SW1	5/3/2010	7.9	271	174	4	3.5	130	0.220	1.3	16	ND	0.020	ND	ND	ND	ND	106	10	ND	ND	ND	65	25.3	24	-	-	-	-	-	-	-	0.079	0.22	ND	ND	ND	ND	0.023	0.018	ND	ND	ND	ND	0.020	0.016	ND	ND	30	32	ND	ND	ND	0.001	**SW1**
SW1A	6/2/2010	7.7	226	148	8	7.2	150	ND	1.6	9	ND	0.100	ND	ND	ND	ND	103	10	ND	0.0015	ND	87	37.5	37.8	-	-	-	-	-	-	-	0.057	0.24	ND	ND	0.001	0.002	0.049	0.02	ND	ND	ND	ND	0.021	0.016	ND	ND	29	30	ND	ND	ND	ND	**SW1A**
SW1A	6/24/2010	7.6	222	140	6	3	170	0.05	1.2	6	ND	0.030	ND	ND	ND	ND	106	32	ND	0.0008	ND	80	30.4	28.4	ND	ND	ND	-	-	-	-	0.022	0.23	ND	ND	0.001	0.001	0.015	0.019	ND	ND	ND	ND	0.019	0.019	ND	ND	30	29	ND	ND	ND	0.002	**SW1A**
SW1A	7/26/2010	7.5	260	166	14	12	190	ND	2.4	7	ND	0.07	ND	0.02	ND	ND	125	ND	ND	0.0018	ND	100	38.9	36.7	ND	ND	ND	-	-	-	-	0.009	0.17	ND	ND	0.002	0.003	0.015	0.018	ND	ND	ND	ND	0.019	0.017	ND	ND	34	33	ND	ND	ND	0.001	**SW1A**
SW1A	8/23/2010	7.9	331	220	11	20	130	ND	1.6	6	0.10	0.03	ND	ND	ND	ND	163	10	ND	0.0020	ND	93	35.3	32.9	ND	ND	ND	-	-	-	-	0.01	0.39	ND	ND	0.001	0.002	0.003	0.019	0.024	ND	ND	ND	ND	0.021	0.023	ND	ND	43	42	ND	ND	ND	0.001	**SW1A**
SW1A	9/30/2010	7.5	196	118	17	13	210	ND	1.3	7	ND	0.02	ND	ND	ND	ND	86	ND	ND	0.0015	ND	92	35.6	31.2	ND	ND	ND	-	-	-	-	0.033	0.39	0.0009	ND	ND	0.001	0.014	0.018	ND	ND	ND	ND	0.016	0.019	ND	ND	24	26	ND	ND	ND	0.002	**SW1A**
SW1A	11/4/2010	7.9	248	160	9	6.0	160	ND	1.1	10	ND	ND	ND	ND	ND	ND	111	13	ND	0.0011	ND	73	26.3	26.5	ND	ND	ND	-	-	-	-	0.021	0.16	ND	ND	ND	ND	0.014	0.015	ND	ND	ND	ND	0.016	0.014	ND	ND	31	31	ND	ND	ND	ND	**SW1A**
SW1A	12/6/2010	7.6	245	156	6	3.9	140	ND	1.0	7	ND	0.01	ND	ND	ND	ND	114	17	ND	0.0013	ND	75	24.7	25.1	ND	ND	ND	-	-	-	-	0.019	0.16	ND	ND	ND	ND	0.013	0.015	ND	ND	ND	ND	ND	0.012	ND	ND	30	31	ND	ND	ND	ND	**SW1A**
SW1A	12/28/2010	7.7	296	176	8	9.4	100	0.06	1.1	7	ND	0.02	ND	ND	ND	ND	139	16	ND		ND	68	23.8	23.9	ND	ND	ND	-	-	-	-	0.02	0.17	ND	ND	ND	ND	0.014	0.016	ND	ND	ND	ND	0.016	ND	ND	ND	35	35	ND	ND	ND	0.001	**SW1A**
SW2 (RRW-2)	8/16/2007	7.9	398	-	44	-	-	0.01	-	-	-	-	-	-	-	5.5	236	22	ND	-	-	-	-	-	-	-	-	-	-	-	0.91	-	-	ND	-	0.004	-	-	-	ND	-	0.002	-	0.0011	-	**SW2 (RRW-2)**
SW2	11/15/2008	8.0	200	122	3	2.3	-	ND	-	2	ND	ND	ND	ND	ND	ND	102	15	ND	0.0013	ND	64	22.4	22.6	ND	ND	ND	-	-	-	10	-	0.043	0.1	ND	ND	ND	ND	0.012	0.011	ND	ND	ND	ND	0.002	ND	ND	ND	27	24	ND	ND	ND	0.001	**SW2**
SW2	5/13/2009	7.2	243	155	1	1.3	-	ND	-	5	ND	ND	ND	ND	ND	ND	122	ND	ND	0.0012	ND	35	16.5	15.0	ND	ND	ND	-	-	-	-	0.049	0.029	ND	ND	ND	ND	0.018	0.076	ND	ND	ND	ND	0.013	0.03	ND	ND	30	34	ND	ND	ND	0.002	**SW2**
SW2	7/4/2009	7.6	338	230	2	1.8	-	ND	-	ND	ND	ND	ND	ND	ND	ND	184	20	0.0016	0.0013	ND	53	18.8	19.5	ND	ND	ND	ND	2	2	104	ND	0.023	ND	ND	-	0.001	0.015	0.018	ND	ND	ND	ND	0.010	ND	ND	ND	44	45	ND	ND	ND	ND	**SW2**
SW2	8/10/2009	7.8	405	265	4	2.5	-	0.180	-	2	0.1	0.01	ND	ND	ND	ND	223	16	ND	ND	ND	44	19.2	19.7	ND	ND	ND	0.010	7	6	94	0.030	0.036	ND	ND	0.001	ND	0.067	0.021	ND	ND	ND	ND	0.014	0.01	ND	ND	54	56	ND	ND	ND	0.001	**SW2**
SW2	9/9/2009	7.8	445	296	1	2.1	-	0.150	-	2	ND	ND	ND	ND	ND	ND	243	36	0.0007	0.0012	ND	40	15.4	15.7	ND	ND	ND	-	-	-	-	ND	0.009	0.0005	ND	-	0.001	0.004	0.02	ND	ND	ND	ND	0.012	ND	ND	ND	61	78	ND	ND	ND	ND	**SW2**
SW2	10/8/2009	7.6	388	260	1	2.4	-	0.190	-	3	ND	0.01	ND	ND	ND	ND	206	16	0.0007	0.0007	ND	31	13.9	13.1	ND	ND	ND	60	ND	ND	90	-	0.015	-	ND	-	0.001	-	0.058	-	ND	ND	ND	-	0.021	-	ND	ND	52	-	ND	-	ND	-	**SW2**
SW2	11/5/2009	7.9	354	230	2	3.1	-	0.240	-	5	ND	ND	ND	ND	ND	ND	179	12	ND	0.0008	ND	40	15.3	15.2	ND	ND	ND	16	ND	ND	10	-	0.047	-	ND	-	ND	ND	0.064	-	ND	ND	ND	-	43	-	ND	ND	-	ND	**SW2**
SW2	12/21/2009	7.5	236	147	12	8.7	-	0.260	ND	ND	ND	ND	ND	ND	ND	ND	123	15	ND	0.0016	ND	91	34.3	34.4	ND	ND	ND	208	2	6	15	0.094	0.7	ND	ND	0.001	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	34	33	ND	ND	0.0006	0.0009	0.002	**SW2**
SW2	2/8/2010	7.8	307	180	13	6.5	-	0.080	-	ND	ND	ND	ND	ND	ND	ND	163	12	ND	0.0013	ND	81	31.9	30.9	ND	ND	ND	64	1	1	-	0.15	0.1	ND	ND	0.001	ND	0.017	0.029	ND	ND	ND	ND	ND	0.011	ND	ND	42	50	ND	ND	0.0006	0.0006	0.001	**SW2**
SW2	2/22/2010	7.7	345	214	48	40.0	-	0.100	-	3	ND	0.02	ND	ND	ND	ND	180	34	ND	0.0010	ND	76	27.6	29.5	ND	ND	ND	TNTC	ND	ND	-	0.071	3.2	ND	ND	0.001	0.003	0.047	0.052	ND	ND	ND	ND	0.019	0.012	ND	ND	51	54	ND	0.005	0.0013	0.0034	0.003	**SW2**
SW2	3/25/2010	7.8	194	126	7	4.4	-	ND	-	1	ND	ND	ND	ND	ND	ND	100	12	ND	ND	ND	40	15.2	15.2	ND	ND	ND	31	1	1	-	0.069	0.28	ND	ND	ND	ND	0.067	0.019	ND	ND	ND	ND	ND	0.012	ND	ND	25	26	ND	ND	ND	0.002	**SW2**
SW2	5/3/2010	7.9	262	160	25	12.0	71	0.170	0.8	3	ND	ND	ND	ND	ND	ND	129	12	ND	0.0012	ND	38	16.3	15.8	-	-	-	-	-	-	-	0.066	0.38	ND	ND	ND	ND	0.027	0.022	ND	ND	ND	ND	0.016	0.013	ND	ND	34	34	ND	ND	ND	0.002	**SW2**
SW2	6/2/2010	7.8	172	110	5	3.3	140	ND	1.1	2	ND	0.02	ND	ND	ND	ND	88	ND	ND	0.0011	ND	58	27.1	27.8	ND	ND	ND	-	-	-	-	0.035	0.085	ND	ND	ND	ND	0.001	0.013	ND	ND	ND	ND	0.011	ND	ND	ND	24	25	ND	ND	ND	0.001	**SW2**
SW2	6/24/2010	7.6	188	120	13	3.4	140	ND	1.0	ND	ND	ND	ND	ND	ND	ND	99	18	ND	0.0008	ND	64	23.3	23.1	ND	ND	ND	-	-	-	-	0.013	0.23	ND	ND	ND	ND	0.001	0.013	0.014	ND	ND	ND	ND	0.011	ND	ND	ND	27	25	ND	ND	ND	0.002	**SW2**
SW2	7/26/2010	7.5	191	120	8	2.6	160	ND	1.2	2	ND	0.03	ND	ND	ND	ND	98	ND	ND	0.0012	ND	72	28.3	26.3	ND	ND	ND	-	-	-	-	0.013	0.13	ND	ND	0.002	0.002	0.01	0.011	ND	ND	ND	ND	0.010	ND	ND	ND	27	25	ND	ND	ND	0.001	**SW2**
SW2	8/23/2010	8.0	283	184	17	17.0	88	ND	1.1	1	ND	0.02	ND	ND	ND	ND	149	ND	ND	0.0008	ND	65	23.4	23.2	ND	ND	ND	-	-	-	-	0.01	0.2	ND	ND	ND	0.002	0.003	0.006	0.043	ND	ND	ND	ND	0.012	0.02	ND	ND	39	41	ND	ND	0.0005	ND	**SW2**
SW2	9/30/2010	7.4	136	84	8	3.2	180	ND	1.0	ND	ND	ND	ND	ND	ND	ND	69	ND	ND	0.0014	ND	79	28.4	25.3	ND	ND	ND	-	-	-	-	0.029	0.17	ND	ND	ND	ND	ND	0.01	0.012	ND	ND	ND	ND	0.01	0.011	ND	ND	19	20	ND	ND	ND	ND	**SW2**
SW2	11/4/2010	7.8	149	92	3	3.8	140	ND	0.8	2	ND	ND	ND	ND	ND	ND	76	ND	ND	0.0009	ND	64	23.1	23.2	ND	ND	ND	-	-	-	-	0.023	0.11	ND	ND	ND	ND	ND	ND	0.009	0.01	ND	ND	ND	ND	0.024	ND	ND	ND	21	19	ND	ND	ND	ND	**SW2**
SW2	12/6/2010	7.8	206	148	3	3.3	99	ND	0.8	1	ND	ND	ND	ND	ND	ND	108	ND	ND	0.0012	ND	62	20.0	20.7	ND	ND	ND	-	-	-	-	0.017	0.1	0.0009	ND	ND	ND	ND	0.01	0.011	ND	ND	0.001	ND	ND	ND	ND	ND	29	28	ND	ND	ND	ND	**SW2**
SW2	12/28/2010	7.8	232	146	3	5.7	100	ND	0.8	ND	ND	0.02	ND	ND	ND	ND	118	ND	ND		ND	53	20.4	21.4	ND	ND	ND	-	-	-	-	0.021	0.13	ND	ND	ND	ND	0.012	0.013	ND	ND	ND	ND	ND	ND	ND	ND	ND	30	31	ND	ND	ND	ND	**SW2**
SW3	11/15/2008	7.9	206	125	1	2.3	-	ND	-	5	ND	ND	ND	ND	ND	ND	95	13	ND	0.0017	ND	75	27.3	26.8	N/A	N/A	N/A	-	-	-	20	-	0.036	0.13	0.0006	ND	ND	ND	0.013	0.013	ND	ND	ND	ND	0.012	ND	ND	ND	26	26	ND	ND	ND	0.001	**SW3**
SW3	5/12/2009	7.2	180	110	2	2.5	-	ND	-	ND	ND	ND	ND	ND	ND	ND	92	ND	ND	0.0014	ND	51	20.4	19.1	ND	ND	ND	-	-	-	-	0.073	0.14	ND	ND	ND	ND	0.034	0.015	ND	ND	ND	ND	0.013	0.022	ND	ND	22	23	ND	ND	ND	0.002	**SW3**
SW3	7/4/2009	7.7	288	186	11	8.3	-	ND	-	ND	ND	ND	ND	ND	ND	ND	148	12	0.0017	0.0013	ND	75	25.8	26.3	ND	ND	ND	1	6	6	240	0.007	0.12	ND	ND	0.001	0.002	0.014	0.026	ND	ND	ND	ND	0.015	0.016	ND	ND	36	39	ND	ND	ND	ND	**SW3**
SW3	8/10/2009	7.8	296	195	15	4.7	-	0.150	-	ND	ND	ND	ND	ND	ND	ND	155	10	ND	0.0008	ND	67	29.6	28.3	ND	ND	ND	2	9	9	36	0.08	0.18	ND	ND	0.001	0.002	0.0410	0.016	ND	ND	ND	ND	0.017	0.012	ND	ND	37	39	ND	ND	ND	0.0020	**SW3**
SW3	9/9/2009	7.7	291	192	4	6.3	-	0.200	-	ND	ND	ND	ND	ND	ND	ND	150	22	0.0011	0.0014	ND	72	25.7	25.8	ND	ND	ND	ND	ND	ND	-	0.066	0.15	0.0008	ND	0.002	0.002	0.043	0.014	ND	ND	ND	ND	0.017	0.014	ND	ND	39	48	ND	ND	ND	0.002	**SW3**
SW3	10/8/2009	7.7	312	205	5	6.7	-	0.190	-	4	ND	0.02	ND	ND	ND	ND	162	ND	ND	0.0007	ND	59	22.6	23.0	ND	ND	ND	40	ND	ND	78	-	0.097	-	ND	-	0.001	-	0.042	-	ND	ND	ND	-	0.025	-	ND	ND	-	41	-	ND	-	ND	**SW3**
SW3	11/5/2009	7.8	314	205	6	4.7	-	0.230	-	7	0.1	ND	ND	ND	ND	ND	147	12	ND	ND	ND	59	22.5	22.8	ND	ND	ND	102	36	26	17	-	0.066	-	ND	-	ND	-	0.033	-	ND	ND	ND	-	0.013	-	ND	ND	-	ND	-	ND	-	ND	**SW3**
SW3	12/21/2009	7.8	402	265	7	7.8	-	0.280	-	12	ND	0.02	ND	ND	ND	ND	194	29	ND	0.1200	ND	71	25.7	25.6	0.8	0.8	ND	240	2	2	5	0.097	0.48	ND	ND	0.001	ND	0.036	0.022	ND	ND	ND	ND	0.013	ND	ND	ND	51	53	ND	ND	0.006	0.002	**SW3**
SW3	2/8/2010	7.8	475	298	7	8.5	-	ND	-	12	ND	0.02	ND	ND	ND	ND	232	36	ND	0.0013	ND	68	25.8	26.2	ND	ND	ND	23	12	12	-	0.076	0.36	ND	ND	0.001	ND	0.024	0.019	ND	ND	ND	ND	0.015	0.012	ND	ND	59	63	ND	ND	0.0005	0.0007	0.002	**SW3**
SW3	2/22/2010	7.6	513	336	11	15	-	0.090	-	14	ND	0.02	ND	ND	ND	ND	248	48	ND	0.0011	ND	71	26.8	27.4	ND	ND	ND	TNTC	4	5	-	0.061	0.52	ND	ND	0.001	0.001	0.037	0.022	ND	ND	ND	ND	0.022	0.015	ND	ND	59	66	ND	ND	0.0011	0.0014	0.001	**SW3**
SW3	5/3/2010	7.8	267	170	4	3.4	97	0.20	1.1	8	ND	0.02	ND	ND	ND	ND	121	12	ND	0.0008	ND	58	21.9	21.9	-	-	-	-	-	-	-	0.063	0.13	ND	ND	ND	ND	0.029	0.019	ND	ND	ND	ND	0.016	0.026	ND	ND	31	36	ND	ND	ND	0.001	**SW3**
SW3	6/2/2010	7.7	221	140	5	4.6	150	ND	1.3	5	ND	0.05	ND	ND	ND	ND	107	10	ND	0.0014	ND	74	32.5	32.8	-	-	-	-	-	-	-	0.038	0.14	ND	ND	0.001	0.001	0.033	0.017	ND	ND	ND	ND	0.017	0.014	ND	ND	30	30	ND	ND	ND	0.001	**SW3**
SW3	6/24/2010	7.9	253	160	9	13	170	ND	1.7	4.0	ND	0.04	ND	ND	ND	ND	129	10	ND	0.0010	ND	100	35.4	33.8	ND	ND	ND	-	-	-	-	0.017	0.31	0.0006	ND	ND	0.002	0.003	0.013	0.017	ND	ND	ND	ND	0.011	0.018	ND	ND	34	36	ND	ND	ND	0.001	**SW3**
SW3	9/30/2010	7.4	197	120	4	4.3	160	ND	1.1	4.0	ND	0.02	ND	ND	ND	ND	94	ND	ND	0.0015	ND	80	31.5	28.1	ND	ND	ND	-	-	-	-	0.025	0.12	ND	ND	ND	ND	0.015	0.015	ND	ND	ND	ND	0.015	0.017	ND	ND	26	27	ND	ND	ND	ND	**SW3**
SW3	11/4/2010	7.9	228	144	13	6.1	130	ND	1.0	5.0	ND	0.01	ND	ND	ND	ND	111	ND	ND	0.0010	ND	70	25.6	26.9	ND	ND	ND	-	-	-	-	0.021	0.17	ND	ND	ND	0.001	0.013	0.014	ND	ND	ND	ND	0.019	0.01	ND	ND	30	30	ND	ND	ND	ND	**SW3**
SW3	12/6/2010	7.6	283	188	4	3.2	89	ND	0.9	5.0	ND	0.01	ND	ND	ND	ND	140	19	ND	0.0011	ND	65	22.1	23.3	ND	ND	ND	-	-	-	-	0.011	0.18	ND	ND	ND	ND	0.013	0.019	ND	ND	ND	ND	ND	0.013	ND	ND	36	45	ND	ND	ND	0.002	**SW3**
SW3	12/28/2010	7.7	334	218	7	9.3	77	ND	1.0	5.0	ND	0.03	ND	ND	ND	ND	164	10	ND		ND	56	20.8	20.8	ND	ND	ND	-	-	-	-	0.013	0.16	ND	ND	ND	ND	0.017	0.017	ND	ND	ND	ND	ND	ND	ND	ND	ND	42	40	ND	ND	ND	ND	**SW3**
SW4	11/15/2008	7.7	105	68	2	0.5	-	ND	-	5	ND	ND	ND	ND	ND	ND	45	10	ND	0.0014	ND	67	25.2	27.1	ND	ND	ND	ND	-	-	-	0.015	0.037	0.0005	ND	ND	ND	0.007	0.007	ND	ND	ND	ND	ND	ND	ND	ND	12	13	ND	ND	ND	ND	**SW4**
SW4	5/12/2009	6.7	80	49	ND	0.7	-	0.060	-	5	ND	ND	ND	ND	ND	ND	33	ND	ND	0.0011	ND	47	18.8	19.5	ND	ND	ND	-	-	-	-	0.02	0.027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	ND	ND	ND	ND	ND	**SW4**
SW4	7/4/2009	7.1	97	60	9	1.6	-	0.110	-	ND	ND	ND	ND	ND	ND	ND	39	10	0.0015	0.0012	ND	58	20.7	19.9	ND	ND	ND	2	2	2	286	0.02	0.077	ND	ND	ND	ND	0.005	0.006	ND	ND	ND	ND	ND	ND	ND	ND	10	12	ND	ND	ND	ND	**SW4**
SW4	8/10/2009	7.0	127	80	6	1.8	-	0.170	-	14	ND	ND	ND	ND	ND	ND	51	12	ND	0.0007	ND	57	20.9	21.3	ND	ND	ND	3	2	2	161	0.032	0.053	ND	ND	ND	ND	0.008	0.042	ND	ND	ND	ND	ND	ND	ND	ND	12	16	ND	ND	ND	ND	**SW4**
SW4	9/9/2009	7.1	107	71	2	1.7	-	0.180	-	7	ND	ND	ND	ND	ND	ND	47	14	0.0007	0.0012	ND	59	18.5	19.2	ND	ND	ND	-	-	-	-	0.012	0.021	ND	ND	ND	ND	0.037	0.007	ND	ND	ND	ND	ND	ND	ND	ND	13	16	ND	ND	ND	ND	**SW4**
SW4	10/8/2009	7.1	122	75	4	2.8	-	0.170	-	9	ND	ND	ND	ND	ND	ND	47	13	ND	ND	ND	48	19.3	17.3	ND	ND	ND	ND	ND	ND	80	-	0.018	-	ND	-	ND	-	0.031	-	ND	-	ND	-	0.013	-	ND	-	12	-	ND	-	**SW4**
SW4	11/5/2009	7.1	105	70	1	0.8	-	0.240	-	ND	ND	ND	ND	ND	ND	ND	42	14	ND	ND	ND	52	20.3	20.8	ND	ND	ND	40	ND	ND	18	-	0.013	-	ND	-	ND	-	0.035	-	ND	-	ND	-	ND	-	ND	-	19	-	ND	-	**SW4**
SW4	12/21/2009	7.0

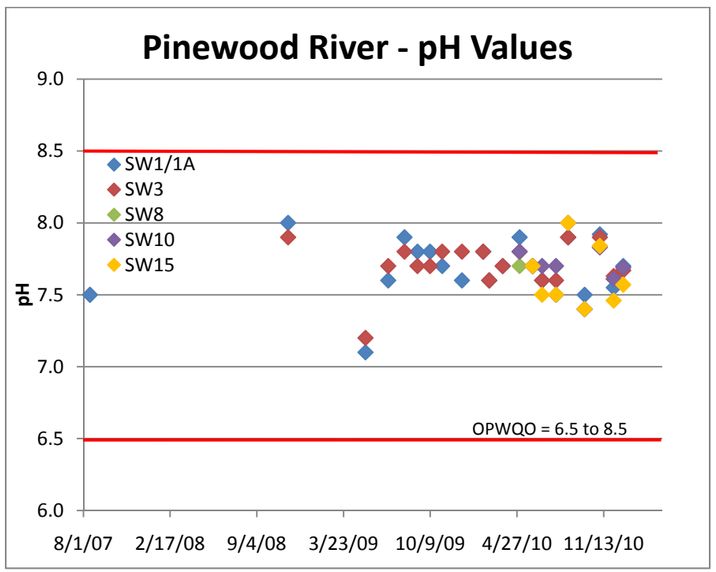
			D. Iron (Fe)	T. Iron (Fe)	D. Lead (Pb)	T. Lead (Pb)	D. Lithium (Li)	T. Lithium (Li)	D. Magnesium (Mg)	T. Magnesium (Mg)	D. Manganese (Mn)	T. Manganese (Mn)	Mercury (Hg)	D. Molybdenum (Mo)	T. Molybdenum (Mo)	D. Nickel (Ni)	T. Nickel (Ni)	D. Phosphorus (P)	D. Potassium (K)	T. Potassium (K)	D. Selenium (Se)	T. Selenium (Se)	D. Silicon (Si)	T. Silicon (Si)	D. Silver (Ag)	T. Silver (Ag)	D. Sodium (Na)	T. Sodium (Na)	D. Strontium (Sr)	T. Strontium (Sr)	D. Tellurium (Te)	T. Tellurium (Te)	D. Thallium (Tl)	T. Thallium (Tl)	D. Thorium (Th)	T. Thorium (Th)	D. Tin (Sn)	T. Tin (Sn)	D. Titanium (Ti)	T. Titanium (Ti)	D. Tungsten (W)	T. Tungsten (W)	D. Uranium (U)	T. Uranium (U)	D. Vanadium (V)	T. Vanadium (V)	D. Zinc (Zn)	T. Zinc (Zn)	D. Zirconium (Zr)	T. Zirconium (Zr)
OPWQO Aquatic Life Criteria	**ic Life Criteria**			0.3		0.001-0.005							0.0002		0.04		0.025				0.1				0.0001								0.0003										0.005		0.006		0.02		
CCME Aquatic Life Criteria	**e Life Criteria**			0.3		0.001-0.007							0.000004		0.073		0.025-0.15				0.001				0.0001								0.0008												0.03			
Location	**Sample Date**	**Sample Date**	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SW1 (RRW-1)	08/16/2007	08/16/2007	-	1.51	-	ND	-	-	-	-	-	ND		ND			0.004			-	-	0.0006	-	-	ND		-						ND										0.004		-			
SW1	11/15/2008	11/15/2008	0.21	0.33	0.0005	ND	ND	ND	11	12	0.008	0.01	0.000002	ND	ND	0.002	0.001	ND	2.4	1.9	ND	ND	4.4	5	ND	ND	5.3	5	0.059	0.063	ND	ND	ND	ND	ND	ND	0.002	ND	ND	0.008	ND	ND	0.0006	0.0007	ND	ND	0.021	0.006	ND	ND
SW1	5/12/2009	5/12/2009	0.24	0.29	ND	ND	ND	ND	9.2	11	0.024	0.028	ND	ND	ND	ND	0.001	ND	1.6	1.7	ND	ND	0.78	1.2	ND	ND	4.5	4.4	0.054	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0003	0.0005	0.001	0.001	0.032	0.006	ND	ND
SW1	7/4/2009	7/4/2009	ND	1.60	ND	0.0009	ND	0.007	16	17	ND	0.099	ND	ND	ND	0.002	0.004	ND	2.1	2.5	ND	ND	2.2	4.8	ND	ND	5.1	5.2	0.1	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	ND	ND	0.0006	0.0008	0.001	0.004	ND	0.015	ND	0.002
SW1	8/10/2009	8/10/2009	0.22	0.2	ND	ND	0.006	0.005	19	19	0.073	0.061	ND	ND	ND	0.002	0.002	ND	2.1	2.3	ND	ND	2.6	2.7	ND	ND	5.5	5.8	0.12	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0005	0.0006	0.001	0.001	0.009	0.027	ND	ND
SW1	9/9/2009	9/9/2009	0.18	0.16	ND	ND	0.006	0.008	19	25	0.029	0.037	ND	ND	ND	0.002	0.002	ND	2.9	3.8	ND	ND	2.3	3.1	ND	ND	6	7.8	0.12	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0005	0.0007	ND	ND	0.029	ND	ND	ND
SW1	10/8/2009	10/8/2009	-	0.18	-	ND	-	0.007	-	20	-	0.038		ND	-	ND	0.002	ND	-	3.3	-	ND	-	1.8	-	ND	-	6.1	-	0.12	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0008	-	ND	-	-	ND	-	ND
SW1	11/5/2009	11/5/2009	-	0.25	-	ND	-	0.006	-	16	-	0.015	ND	ND	-	ND	0.001	ND	-	3.5	-	ND	-	5.2	-	ND	-	8.9	-	0.085	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0007	-	0.001	-	0.018	-	ND
SW1	12/21/2009	12/21/2009	0.53	1.2	ND	ND	0.007	0.009	22	23	0.16	0.16	ND	ND	ND	0.002	0.002	ND	2.3	2.3	ND	ND	7.6	9.5	ND	ND	12	12	0.12	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.042	ND	ND	0.0009	0.001	ND	0.004	0.02	0.005	ND	0.001
SW1	2/8/2010	2/8/2010	0.87	1.8	ND	ND	0.008	0.009	22	24	0.16	0.18	ND	ND	ND	0.001	0.002	ND	2.2	2.5	ND	ND	8.3	11	ND	ND	8.7	9.3	0.14	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.031	ND	ND	0.0009	0.001	ND	0.003	0.015	0.007	ND	0.001
SW1	2/22/2010	2/22/2010	1.1	2.5	0.0008	0.0006	0.009	0.01	22	25	0.41	0.46	ND	ND	ND	0.002	0.003	0.10	2.5	2.8	ND	ND	8.1	11	ND	ND	8.2	9	0.14	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.068	ND	ND	0.0009	0.001	0.001	0.004	0.031	0.007	ND	0.002
SW1	3/25/2010	3/25/2010	0.21	0.42	ND	ND	ND	ND	9	9.4	0.023	0.027	ND	ND	ND	0.001	0.001	ND	2	2.2	ND	ND	3.1	3.9	ND	ND	3.8	3.6	0.048	0.052	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	0.0004	0.0005	0.002	0.002	0.016	0.005	ND	ND
SW1	5/3/2010	5/3/2010	0.2	0.27	ND	ND	ND	ND	13	14	0.012	0.013	ND	ND	ND	0.002	0.002	ND	2.2	2.3	ND	ND	3.1	3.9	ND	ND	6.6	7.2	0.069	0.081	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0008	0.0009	ND	0.001	0.019	ND	ND	ND
SW1A	6/2/2010	6/2/2010	0.38	0.73	ND	ND	ND	ND	11	13	0.043	0.07	ND	ND	ND	0.002	0.002	ND	1.3	1.5	ND	ND	3.1	3.7	ND	ND	4.8	5.2	0.064	0.075	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.0004	0.0005	0.001	0.002	0.036	0.006	ND	ND
SW1A	6/24/2010	6/24/2010	0.31	0.5	ND	ND	ND	ND	12	12	ND	0.04	ND	ND	ND	0.003	0.002	0.069	1.6	1.6	ND	ND	4.2	4.8	ND	ND	3.6	3.8	0.067	0.067	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.016	ND	ND	0.0004	0.0004	ND	0.001	0.006	ND	ND	ND
SW1A	7/26/2010	7/26/2010	0.4	0.88	ND	ND	ND	ND	14	13	0.002	0.13	ND	ND	ND	0.002	0.002	ND	1.3	1.3	ND	ND	4.3	4.5	ND	ND	4.0	3.8	0.082	0.084	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.0003	0.0004	ND	0.002	ND	0.007	ND	ND
SW1A	8/23/2010	8/23/2010	0.19	0.72	ND	ND	0.006	0.006	19	17	0.016	0.097	ND	ND	ND	0.002	0.003	ND	1.9	1.9	ND	ND	5.6	6.2	ND	ND	4.8	4.5	0.11	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	ND	ND	0.0006	0.0006	0.001	0.002	ND	ND	ND	0.001
SW1A	9/30/2010	9/30/2010	0.31	0.73	ND	ND	ND	ND	10	11	ND	0.036	ND	ND	ND	0.001	0.002	ND	1.5	1.7	ND	ND	4.3	5.3	ND	ND	4.1	4.1	0.056	0.056	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND	0.0003	ND	ND	0.002	ND	0.007	ND	ND
SW1A	11/4/2010	11/4/2010	0.15	0.41	ND	ND	ND	ND	14	13	0.012	0.021	ND	ND	ND	0.001	ND	ND	2.1	2.1	ND	ND	4.7	5.0	ND	ND	5.3	5.1	0.073	0.072	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0005	0.0006	ND	0.001	ND	0.007	ND	ND
SW1A	12/6/2010	12/6/2010	0.25	0.57	ND	ND	ND	ND	13	14	0.02	0.047	ND	ND	ND	0.001	0.001	ND	1.3	1.4	ND	ND	4.7	5.3	ND	ND	4.5	4.4	0.066	0.075	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0005	0.0006	ND	ND	ND	0.008	ND	ND
SW1A	12/28/2010	12/28/2010	0.48	0.77	ND	ND	ND	ND	16	15	0.074	0.078	ND	ND	ND	0.001	ND	ND	1.3	1.3	ND	ND	6	6.3	ND	ND	4.8	4.5	0.086	0.081	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	0.0007	0.0007	ND	0.001	ND	ND	ND	ND
SW2 (RRW-2)	8/16/2007	8/16/2007	-	1.61	-	ND	-	-	-	-	-	-	ND	-	0.001	-	0.005	-	-	-	-	0.0005	-	-	-	ND	-	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-	0.005	-	0.007	-	-	-
SW2	11/15/2008	11/15/2008	0.15	0.26	ND	ND	ND	ND	11	10	0.009	0.026	ND	ND	ND	0.001	0.001	ND	1.2	1	ND	ND	4.1	3.8	ND	ND	1.6	1.4	0.043	0.04	ND	ND	ND	0.00007	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0005	ND	ND	ND	ND	ND	ND
SW2	5/13/2009	5/13/2009	0.17	ND	ND	ND	ND	ND	12	13	0.031	0.025	ND	ND	ND	ND	0.001	ND	1.2	0.95	ND	ND	2.5	2.7	ND	ND	1.9	2.7	0.053	0.062	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND	0.0003	0.0004	0.001	ND	0.033	ND	ND	ND
SW2	7/4/2009	7/4/2009	ND	0.48	ND	ND	ND	ND	17	17	ND	0.18	ND	ND	ND	0.002	0.002	ND	0.76	0.81	ND	ND	4.4	4.3	ND	ND	1.9	1.8	0.072	0.074	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006	0.0006	ND	ND	ND	0.007	ND	ND
SW2	8/10/2009	8/10/2009	0.13	0.29	ND	ND	ND	ND	19	21	0.37	0.41	ND	ND	ND	0.002	0.002	ND	0.71	0.51	ND	ND	5	5.5	ND	ND	2.2	2.2	0.094	0.094	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0005	0.0006	ND	0.002	0.04	ND	ND	ND
SW2	9/9/2009	9/9/2009	ND	ND	ND	ND	0.006	25	30	0.19	0.11	ND	ND	ND	ND	0.001	0.001	ND	1.3	1.5	ND	ND	5.7	6.9	ND	ND	2.6	3.2	0.1	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0007	0.0010	ND	ND	0.018	ND	ND	ND
SW2	10/8/2009	10/8/2009	-	0.46	-	ND	-	ND	-	20	-	0.36	ND	ND	-	ND	0.001	ND	-	1.1	-	ND	-	5.8	-	ND	-	2.6	-	0.08	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0009	-	ND	-	0.031	-	ND
SW2	11/5/2009	11/5/2009	-	0.26	-	ND	-	ND	-	18	-	0.074	ND	ND	-	ND	ND	ND	-	1.6	-	ND	-	5.1	-	ND	-	2.9	-	0.067	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0006	-	ND	-	0.023	-	ND
SW2	12/21/2009	12/21/2009	1.1	1.6	ND	ND	ND	ND	13	13	0.17	0.17	ND	ND	ND	0.001	0.001	ND	0.91	0.9	ND	ND	6.5	7.9	ND	ND	1.8	1.5	0.049	0.047	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.025	ND	ND	0.0003	0.0003	ND	0.002	0.021	ND	ND	ND
SW2	2/8/2010	2/8/2010	1.5	1.4	ND	ND	ND	ND	16	19	0.26	0.33	ND	ND	ND	0.002	0.002	ND	1.1	1.3	ND	ND	7.8	8.8	ND	ND	2.1	2.5	0.063	0.074	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND	0.0005	0.0006	0.001	ND	0.005	0.022	ND	ND
SW2	2/22/2010	2/22/2010	1.4	8	ND	0.0024	ND	0.007	21	22	0.85	0.91	ND	ND	ND	0.002	0.006	ND	1.6	1.9	ND	ND	8.2	16	ND	ND	3	2.7	0.078	0.088	ND	ND	ND	0.00006	ND	0.001	ND	ND	ND	0.15	ND	ND	0.0008	0.0011	0.001	0.011	0.03	0.021	ND	0.004
SW2	3/25/2010	3/25/2010	0.23	0.48	0.0005	ND	ND	ND	9.7	10	0.051	0.063	ND	ND	ND	ND	0.001	ND	1.3	1.5	ND	ND	3.3	4	ND	ND	1.8	1.3	0.038	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	0.0003	0.0004	0.001	0.002	0.027	0.006	ND	ND
SW2	5/3/2010	5/3/2010	0.12	0.55	ND	ND	ND	ND	13	15	0.022	0.034	ND	ND	ND	0.001	0.002	ND	1.3	1.2	ND	ND	3.2	4	ND	ND	2.4	2.3	0.056	0.062	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	0.0006	0.0007	ND	0.002	0.023	0.007	ND	ND
SW2	6/2/2010	6/2/2010	0.23	0.38	ND	ND	ND	ND	9.2	10	0.021	0.025	ND	ND	ND	0.001	0.001	ND	1	0.54	ND	ND	2.3	2.6	ND	ND	1.6	1.2	0.037	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0001	0.0002	0.001	ND	0.042	ND	ND	ND
SW2	6/24/2010	6/24/2010	0.27	0.51	ND	ND	ND	ND	10	10	ND	0.037	ND	ND	ND	0.002	0.002	0.028	0.5	0.49	ND	ND	3.2	3.4	ND	ND	1.2	1.1	0.041	0.042	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0003	ND	ND	ND	ND	ND	ND
SW2	7/26/2010	7/26/2010	0.49	0.78	ND	ND	ND	ND	10	9.3	ND	0.06	ND	ND	ND	0.002	0.002	ND	0.56	0.51	ND	ND	4.6	4.5	ND	ND	1.0	0.9	0.042	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0001	0.0001	ND	0.001	ND	ND	ND	ND
SW2	8/23/2010	8/23/2010	0.16	0.86	ND	ND	ND	ND	15	15	0.004	0.32	ND	ND	ND	0.002	0.003	ND	0.64	0.73	ND	ND	5.7	6.2	ND	ND	1.3	1.6	0.063	0.068	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0003	0.0003	ND	0.002	ND	0.006	ND	ND
SW2	9/30/2010	9/30/2010	0.25	0.47	ND	ND	ND	ND	7.6	8	0.007	0.023	ND	ND	ND	ND	0.001	ND	0.53	0.59	ND	ND	3.5	3.9	ND	ND	1	0.97	0.031	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND	ND	0.002	0.001	ND	0.006	ND	ND
SW2	11/4/2010	11/4/2010	0.2	0.37	0.0044	ND	ND	ND	8.6	8	0.018	0.023	ND	ND	ND	ND	ND	ND	0.71	0.65	ND	ND	ND	3.6	0.00005	ND	1.2	1.1	0.035	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0001	0.0002	0.001	ND	ND	ND	ND	ND
SW2	12/6/2010	12/6/2010	0.3	0.53	ND	ND	ND	ND	11	12	0.035	0.061	ND	ND	ND	ND	ND	ND	0.55	0.6	ND	ND	ND	4.6	ND	ND	1.4	1.4	0.041	0.045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0004	0.0003	ND	ND	ND	ND	ND	ND
SW2	12/28/2010	12/28/2010	0.52	0.76	ND	ND	ND	ND	13	13	0.074	0.086	ND	ND	ND	ND	ND	ND	0.62	0.63	ND	ND	ND	5.5	ND	ND	1.6	1.5	0.048	0.047	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	0.0003	0.0003	ND	ND	ND	ND	ND	ND
SW3	11/15/2008	11/15/2008	0.13	0.22	ND	ND	ND	ND	12	12	0.004	0.006	ND	ND	ND	ND	ND	ND	1.6	1.6	ND	ND	4.4	4.6	ND	ND	3.2	3.1	0.054	0.055	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0004	0.0004	ND	ND	ND	ND	ND	ND
SW3	5/12/2009	5/12/2009	0.2	0.22	ND	ND	ND	ND	9	10	0.02	0.022	ND	ND	ND	ND	0.001	ND	1.2	1.1	ND	ND	2.5	2.6	0.046	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0003	0.0004	0.001	ND	0.025	0.006	ND	ND
SW3	7/4/2009	7/4/2009	ND	0.28	ND	ND	ND	ND	15	16	ND	0.041	ND	ND	ND	0.002	0.002	ND	0.76	0.87	ND	ND	3.2	3.6	ND	ND	3.2	3.3	0.08	0.086	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0005	0.0006	ND	0.001	ND	0.016	ND	ND
SW3	8/10/2009	8/10/2009	0.16	0.20	ND	ND	0.005	ND	15	17	0.0350	0	ND	ND	ND	0.0010	0.002	ND	0.77	0.64	ND	ND	2.5	3	ND	ND	2.6	2.9	0.085	0.087	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.007	ND	ND	0.0004	0.0004	ND	0.002	0.036	ND	ND	ND
SW3	9/9/2009	9/9/2009	0.12	0.13	ND	ND	ND	0.005	17	19	0.025	0.025	ND	ND	ND	0.001	0.002	ND	1.5	1.6	ND	ND	2.1	2.7	ND	ND	3	3.4	0.09	0.097	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0004	0.0005	0.006	ND	0.031	ND	ND	0.002
SW3	10/8/2009	10/8/2009	-	0.16	-	ND	-	ND	-	16	-	0.022	ND	-	ND	-	0.002	ND	-	1.6	-	ND	-	3.7	-	ND	-	2.8	-	0.083	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0004	-	ND	-	0.042	-	ND
SW3	11/5/2009	11/5/2009	-	0.16	-	ND	-	ND	-	16	-	0.012	ND	-	ND	-	0.001	ND	-	3	-	ND	-	4.8	-	ND	-	4.3	-	0.075	ND	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	0.0007	-	ND	-	0.011	-	ND
SW3	12/21/2009	12/21/2009	0.46	0.85	0.00025	0.00025	0.005	0.006	21	22	0.18	0.2	ND	ND	ND	0.001	0.002	ND	2.1	2.2	ND	ND	7	8.2	ND	ND	6.1	6.1	0.1	0.11	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019	ND	ND	ND	ND	0.0002	0.0003	ND	0.001	0.02	ND	ND	ND
SW3	2/8/2010	2/8/2010	0.81	1.3	ND	ND	0.007	0.006	24	26	0.39	0.43	ND	ND	ND	0.002	0.002	ND	2.3	2.4	ND	ND	8.4	9.9	ND	ND	7	7.1	0.12	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	0.0008	0.0008	ND	0.001	0.02	ND	ND	ND
SW3	2/22/2010	2/22/2010	0.95	1.8	ND	ND	0.008	0.008	25	28	1.5	1.6	ND	ND	ND	0.002	0.002	ND	2.3	2.4	ND	ND	8.7	11	ND	ND	7.3	8	0.12	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028	ND	ND	0.0008	0.0009	ND	0.002	0.027	0.005	ND	0.001
SW3	3/25/2010	3/25/2010	0.41	0.36	0.0026	ND	ND	ND	9.6	9.8	0.038	0.033	ND	ND	ND	0.002	0.002	ND	2.4	2.1	ND	ND	3.5	3.8	ND	ND	3.6	2.4	0.049	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.016	0.01	ND	ND	0.0004	0.0005	0.002	0.002	0.044	0.022	ND	ND
SW3	5/3/2010	5/3/2010	0.15	0.27	ND	ND	ND	ND	14	15	0.015	0.02	ND	ND	ND	0.001	0.001	ND	1.6	1.9	ND	ND	3.2	3.6	ND	ND	4.1	4.4	0.073	0.073	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0006	0.0007	ND	0.001	0.023	ND	ND	ND
SW3	6/2/2010	6/2/2010	0.27	0.45	ND	ND	ND	ND	11	13	0.04	0.05	ND	ND	ND	0.001	0.002	ND	1	1.1	ND	ND	3.2	3.8	ND	ND	3.2	3.2	0.059	0.064	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND	0.0003	0.0003	ND	0.001	0.033	ND	ND	ND
SW3	6/24/2010	6/24/2010	0.22	0.4	ND	ND	ND	ND	13	12	ND	0.035	ND	ND	ND	0.002	0.002	0.069	1.6	1.4	ND	ND	4.8	4.9	ND	ND	2.8	2.6	0.065	0.065	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	0.0002	0.0003	ND	0.001	ND	ND	ND	ND
SW3	7/26/2010	7/26/2010	0.56	1.1	ND	ND	ND	ND	13	14	0.01	0.17	ND	ND	ND	0.002	0.002	ND	0.91	1.0	ND	ND	4.9	5.6	ND	ND	2.5	2.5	0.066	0.073	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	0.0003	0.0004	0.001	0.002	ND	0.009	ND	ND
SW3	8/23/2010	8/23/2010	0.53	1.0	ND	ND	ND	ND	14	14	0.018	0.12	ND	ND	ND	0.002	0.002	0.1	1.0	1.1	ND	ND	6.6	7.2	ND	ND	2.6	2.7	0.076	0.08	ND	ND	ND	ND	ND	ND	ND	0.0005	ND	0.017	ND	ND	0.0005	0.0005	ND	0.002	ND	0.013	ND	0.001
SW3	9/30/2010	9/30/2010	0.2	0.35	ND	ND	ND	ND	11	11	0.006	0.03	ND	ND	ND	0.002	0.001	ND	1.4	1.4	ND	ND	4.5	4.7	ND	ND	2.8	2.7	0.053	0.052	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0002	0.0003	0.001	ND	ND	0.012	ND	0.002
SW3	11/4/2010	11/4/2010	0.16	0.41	ND	ND	ND	ND	13	13	0.014	0.022	ND	ND	ND	ND	ND	ND	1.5	1.5	ND	ND	4.7	5.0	ND	ND	3.3	3.1	0.063	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0005	0.0005	0.001	ND	ND	ND	ND	ND
SW3	12/6/2010	12/6/2010	0.18	0.59	ND	ND	ND	ND	15	19	0.013	0.06	ND	ND	ND	ND	0.002	ND	1.1	1.5	ND	ND	4.9	6.5	ND	ND	3.6	4.4	0.067	0.093	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	0.0006	0.0007	ND	ND	0.005	ND	ND	ND
SW3	12/28/2010	12/28/2010	0.39	0.69	ND	ND	ND	ND	18	17	0.11	0.12	ND	ND	ND	0.001	0.001	ND	1.3	1.2	ND	ND	6.2	6.6	ND	ND	4.3	3.8	0.086	0.078	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	0.0008	0.0007	ND	0.001	ND	ND	ND	ND
SW4	11/15/2008	11/15/2008	0.11	0.12	ND	ND	ND	ND	5.7	6.1	0.011	0.019	ND	ND	ND	ND	ND	ND	0.85	0.96	ND	ND	3.3	3.6	ND	ND	2.9	3.1	0.026	0.027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW4	5/12/2009	5/12/2009	0.14	ND	ND	ND	ND	ND	3.7	4.3	0.015	0.017	ND	ND	ND	ND	ND	ND	1.6	0.95	ND	ND	1.6	1.9	ND	ND	2.7	2.6	0.015	0.016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	0.006	ND	ND
SW4	7/4/2009	7/4/2009	ND	0.26	ND	ND	ND	ND	4.9	5.3	ND	0.019	ND	ND	ND	ND	ND	ND	0.53	0.63	ND	ND	1	1.3	ND	ND	3.4	3.6	0.021	0.024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND
SW4	8/10/2009	8/10/2009	0.29	0.22	ND	ND	ND	ND	5.1	6.2	0.059	0.039	ND	ND	ND	ND	ND	ND	0.58	0.78	ND	ND	1.4	1.9	ND	ND	4.6	5.9	0.026	0.034	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.034	ND	ND
SW4	9/9/2009	9/9/2009	0.14	0.1	ND

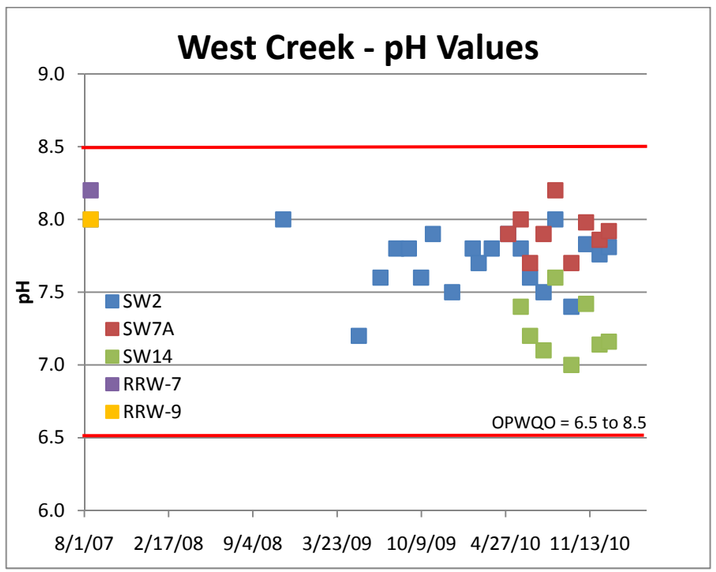
		pH	Conductivity	TDS	TSS	Turbidity	Colour	Total Ammonia-N	Total Kjeldahl Nitrogen (TKN)	Dissolved Chloride (Cl)	Fluoride (F-)	Orthophosphate (P)	Nitrate (N)	Nitrite (N)	Nitrate + Nitrite	Dissolved Sulphate (SO4)	Alkalinity (Total as CaCO3)	Acidity as CaCO3	Total Cyanide (CN)	WAD Cyanide	Total BOD	Total COD	DOC	TOC	Total Animal/Vegetable Oil and Grease	Total Oil & Grease	Total Oil & Grease Mineral/ Synthetic	Total Coliform (Confirmed)	Fecal Coliform	E. Coli	Heterotrophic Plate Count	D. Aluminum (Al)	T. Aluminum (Al)	D. Antimony (Sb)	T. Antimony (Sb)	D. Arsenic (As)	T. Arsenic (As)	D. Barium (Ba)	T. Barium (Ba)	D. Beryllium (Be)	T. Beryllium (Be)	D. Bismuth (Bi)	T. Bismuth (Bi)	D. Boron (B)	T. Boron (B)	D. Cadmium (Cd)	T. Cadmium (Cd)	D. Calcium (Ca)	T. Calcium (Ca)	D. Chromium (Cr)	T. Chromium (Cr)	D. Cobalt (Co)	T. Cobalt (Co)	D. Copper (Cu)	
OPWQO Aquatic Life Criteria		6.5-8.5																	0.005											100		0.075												0.2		0.0001-0.0005				0.001		0.0009		**OPWQO Aqua**
CCME Aquatic Life Criteria		6.5-9						0.35-73			0.12		2.9	0.2					0.005																										0.05				0.001				**CCME Aquati**
Location	**Sample Date**		uS/cm	mg/L	mg/L	NTU	TCU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	Col./100 mL	Col./100 mL	Col./100 mL	Col./1 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	**Location**
		pH	Conductivity	TDS	TSS	Turbidity	Colour	Total Ammonia-N	Total Kjeldahl Nitrogen (TKN)	Dissolved Chloride (Cl)	Fluoride (F-)	Orthophosphate (P)	Nitrate (N)	Nitrite (N)	Nitrate + Nitrite	Dissolved Sulphate (SO4)	Alkalinity (Total as CaCO3)	Acidity as CaCO3	Total Cyanide (CN)	WAD Cyanide	Total BOD	Total COD	DOC	TOC	Total Animal/Vegetable Oil and Grease	Total Oil & Grease	Total Oil & Grease Mineral/ Synthetic	Total Coliform (Confirmed)	Fecal Coliform	E. Coli	Heterotrophic Plate Count	D. Aluminum (Al)	T. Aluminum (Al)	D. Antimony (Sb)	T. Antimony (Sb)	D. Arsenic (As)	T. Arsenic (As)	D. Barium (Ba)	T. Barium (Ba)	D. Beryllium (Be)	T. Beryllium (Be)	D. Bismuth (Bi)	T. Bismuth (Bi)	D. Boron (B)	T. Boron (B)	D. Cadmium (Cd)	T. Cadmium (Cd)	D. Calcium (Ca)	T. Calcium (Ca)	D. Chromium (Cr)	T. Chromium (Cr)	D. Cobalt (Co)	T. Cobalt (Co)	D. Copper (Cu)	
OPWQO Aquatic Life Criteria		6.5-8.5																	0.005											100		0.075												0.2		0.0001-0.0005				0.001		0.0009		**OPWQO Aqua**
CCME Aquatic Life Criteria		6.5-9						0.35-73			0.12		2.9	0.2					0.005																		0.05				0.001												**CCME Aquati**
Location	**Sample Date**		uS/cm	mg/L	mg/L	NTU	TCU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	Col./100 mL	Col./100 mL	Col./100 mL	Col./1 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	**Location**
SW7A	7/26/2010	7.9	383	246	25	18	72	ND	0.9	2	ND	0.02	ND	ND	ND	ND	200	ND	ND	0.0010	ND	53	19.8	18.5	ND	ND	ND	-	-	-	-	0.009	0.14	ND	ND	0.001	0.002	0.023	0.025	ND	ND	ND	ND	0.017	0.014	ND	ND	54	53	ND	ND	ND	0.001	**SW7A**
SW7A	8/23/2010	8.2	472	310	15	60	50	ND	1.8	5	ND	0.01	ND	ND	ND	ND	250	ND	ND	ND	ND	73	16.7	19.4	ND	ND	ND	-	-	-	-	0.009	1	ND	ND	0.001	0.003	0.021	0.074	ND	ND	ND	ND	0.017	0.022	ND	ND	64	63	ND	ND	0.003	0.002	**SW7A**
SW7A	9/30/2010	7.7	220	134	8	7.2	150	ND	0.9	2	ND	0.01	ND	ND	ND	ND	111	ND	ND	0.0014	ND	61	23.3	21.6	0.9	0.9	ND	-	-	-	-	0.017	0.33	ND	ND	0.001	0.002	0.016	0.02	ND	ND	ND	ND	0.011	0.014	ND	ND	31	33	ND	ND	ND	0.003	**SW7A**
SW7A	11/4/2010	8.0	253	160	3	3.1	95	ND	0.8	3	ND	ND	ND	ND	ND	ND	128	ND	ND	0.0010	ND	48	18.5	18.8	ND	ND	ND	-	-	-	-	0.017	0.25	ND	ND	ND	ND	ND	0.017	ND	ND	ND	ND	0.017	0.025	ND	ND	37	35	ND	ND	ND	ND	**SW7A**
SW7A	12/6/2010	7.9	308	212	6	32	66	ND	0.7	3	ND	0.01	ND	ND	ND	ND	160	13	ND	0.0008	ND	49	15.7	16.8	ND	ND	ND	-	-	-	-	0.009	0.87	ND	ND	ND	ND	0.001	0.016	0.03	ND	ND	ND	ND	0.011	ND	ND	42	42	ND	ND	ND	ND	**SW7A**
SW7A	12/28/2010	7.9	382	244	2	3.6	64	0.06	0.7	5	ND	0.02	ND	ND	ND	ND	190	ND	ND		ND	38	15.5	15.5	ND	ND	ND	-	-	-	-	0.01	0.09	ND	ND	ND	ND	0.022	0.022	ND	ND	ND	ND	ND	ND	ND	ND	48	52	ND	ND	ND	ND	**SW7A**
SW8	5/3/2010	7.7	241	154	ND	1.7	99	0.180	1	21	ND	0.01	ND	ND	ND	ND	82	10	ND	0.0012	ND	56	20.5	20.8	-	-	-	-	-	-	-	0.040	0.110	ND	ND	ND	ND	0.019	0.014	ND	ND	ND	ND	0.012	0.013	ND	ND	23	24	ND	ND	ND	ND	**SW8**
SW9	5/3/2010	7.8	221	140	1	1.4	130	0.190	1.4	2	ND	0.01	ND	ND	ND	ND	102	12	ND	0.0013	ND	68	25.7	24.9	-	-	-	-	-	-	-	0.053	0.076	ND	ND	ND	ND	0.025	0.017	ND	ND	ND	ND	0.012	0.012	ND	ND	27	28	ND	ND	ND	0.001	**SW9**
SW10	5/3/2010	7.8	252	160	2	2.9	140	0.180	1.4	15	ND	0.01	ND	ND	ND	ND	97	10	ND	0.0013	ND	69	26.9	25.7	-	-	-	-	-	-	-	0.110	0.190	ND	ND	ND	ND	0.026	0.017	ND	ND	ND	ND	0.015	0.025	ND	ND	29	29	ND	ND	ND	0.001	**SW10**
SW10	6/2/2010	7.7	211	132	4	4.4	210	ND	1.5	10	ND	0.09	ND	ND	ND	ND	96	ND	ND	0.0014	ND	79	38.6	38.7	-	-	-	-	-	-	-	0.081	0.150	ND	ND	0.001	0.001	0.042	0.017	ND	ND	ND	ND	0.018	0.014	ND	ND	28	26	ND	ND	ND	ND	**SW10**
SW10	6/24/2010	7.7	215	134	4	2.5	180	ND	1.2	ND	ND	ND	ND	ND	ND	ND	103	22	ND	0.0009	ND	85	31.5	29.1	ND	ND	ND	-	-	-	-	0.026	0.140	ND	ND	0.001	0.001	0.019	0.017	ND	ND	ND	ND	0.018	0.018	ND	ND	28	27	ND	ND	ND	0.002	**SW10**
SW10	7/26/2010	7.7	253	160	16	4.9	190	ND	1.6	7	ND	0.08	ND	ND	ND	ND	122	ND	ND	0.0014	ND	100	37.4	36.0	ND	ND	ND	-	-	-	-	0.013	0.17	ND	ND	ND	0.002	0.002	0.014	0.017	ND	ND	ND	ND	0.017	0.016	ND	ND	34	33	ND	ND	ND	0.001	**SW10**
SW10	8/23/2010	8.0	314	200	7	10	150	ND	1.7	6	ND	0.04	ND	ND	ND	ND	157	ND	ND	ND	ND	98	35.5	33.4	ND	ND	ND	-	-	-	-	0.008	0.24	ND	ND	0.002	0.002	0.016	0.02	ND	ND	ND	ND	0.017	0.021	ND	ND	42	42	ND	ND	ND	ND	**SW10**
SW10	9/30/2010	7.4	186	114	4	4.8	210	ND	1.4	7	ND	0.06	ND	ND	ND	ND	81	ND	ND	0.0016	ND	92	37.0	31.5	0.9	0.9	ND	-	-	-	-	0.041	0.16	ND	ND	ND	0.001	0.015	0.016	ND	ND	ND	ND	0.015	0.016	ND	ND	24	25	ND	ND	ND	0.001	**SW10**
SW10	11/4/2010	7.8	233	148	23	4.8	160	ND	1.1	10	ND	ND	ND	ND	ND	ND	103	ND	ND	0.0011	ND	74	27.8	28.0	ND	ND	ND	-	-	-	-	0.025	0.15	ND	ND	ND	ND	0.014	0.015	ND	ND	ND	ND	0.019	0.011	ND	ND	28	31	ND	ND	ND	ND	**SW10**
SW10	12/6/2010	7.6	246	166	4	4.0	120	ND	1.0	7	ND	0.01	ND	ND	ND	ND	116	18	ND	0.0008	ND	70	24.9	25.1	ND	ND	ND	-	-	-	-	0.021	0.11	ND	0.0007	ND	ND	0.013	0.014	ND	ND	ND	ND	ND	0.012	ND	ND	31	30	ND	ND	ND	ND	**SW10**
SW10	12/28/2010	7.7	280	182	2	4.6	110	ND	1.0	7	ND	0.02	ND	ND	ND	ND	130	15	ND		ND	65	24.0	24.7	ND	ND	ND	-	-	-	-	0.019	0.2	ND	ND	ND	ND	0.012	0.013	ND	ND	ND	ND	ND	ND	ND	ND	32	34	ND	ND	ND	ND	**SW10**
SW11	5/3/2010	7.5	135	86	4	2.3	130	ND	1.0	2	ND	ND	ND	ND	ND	ND	67	18	ND	0.0013	ND	71	27.4	26.1	-	-	-	-	-	-	-	0.046	0.130	ND	ND	ND	ND	0.022	0.009	ND	ND	ND	ND	0.010	ND	ND	ND	17	17	ND	ND	ND	ND	**SW11**
SW11	6/2/2010	7.4	129	80	2	1.2	210	ND	1.4	2	ND	0.02	ND	ND	ND	ND	65	ND	ND	0.0015	ND	88	40.4	40.5	-	-	-	-	-	-	-	0.039	0.048	ND	ND	ND	ND	0.015	0.01	ND	ND	ND	ND	0.012	ND	ND	ND	18	18	ND	ND	ND	ND	**SW11**
SW11	6/24/2010	7.2	136	90	2	2.7	220	ND	1.3	ND	ND	ND	ND	ND	ND	ND	70	20	ND	0.0012	ND	97	36.9	36.6	ND	ND	ND	-	-	-	-	0.025	0.065	ND	ND	ND	ND	0.011	0.014	ND	ND	ND	ND	ND	ND	ND	ND	20	20	ND	ND	0.0006	0.001	**SW11**
SW11	7/26/2010	7.3	159	100	10	3.6	240	ND	1.3	ND	ND	0.06	ND	ND	ND	ND	80	12	ND	0.0018	ND	110	37.0	37.8	ND	ND	ND	-	-	-	-	0.029	0.046	ND	ND	0.002	0.003	0.015	0.03	ND	ND	ND	ND	0.01	ND	ND	0.0012	21	21	ND	ND	ND	ND	**SW11**
SW11	8/23/2010	7.5	216	138	8	4.2	170	ND	1.7	2	ND	0.02	ND	ND	ND	ND	112	28	ND	ND	ND	98	27.2	34.6	ND	ND	ND	-	-	-	-	0.02	0.042	ND	ND	0.002	0.002	0.013	0.02	ND	ND	ND	ND	ND	0.013	ND	ND	29	30	ND	ND	0.0024	ND	**SW11**
SW11	9/30/2010	7.1	126	80	1	2.0	190	ND	1.3	1	ND	ND	ND	ND	ND	ND	62	12	ND	0.0014	ND	90	32.6	31.7	ND	ND	ND	-	-	-	-	0.028	0.1	0.001	ND	ND	ND	0.008	0.009	ND	ND	ND	ND	ND	0.01	ND	ND	16	18	ND	ND	ND	ND	**SW11**
SW11	11/4/2010	7.5	130	82	1	2.0	150	ND	1.2	2	ND	ND	ND	ND	ND	ND	66	15	ND	0.0011	ND	93	32.3	32.8	ND	ND	ND	-	-	-	-	0.035	0.1	ND	ND	ND	ND	0.009	0.01	ND	ND	ND	ND	0.013	ND	ND	ND	18	19	ND	ND	ND	ND	**SW11**
SW11	12/6/2010	7.4	156	96	2	6.4	160	ND	1.6	2	ND	ND	ND	ND	ND	ND	80	20	ND	0.0010	ND	83	31.8	32.5	ND	ND	ND	-	-	-	-	0.026	0.064	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.01	ND	ND	21	21	ND	ND	ND	ND	**SW11**
SW11	12/28/2010	7.4	185	108	1	2.7	170	0.06	1.3	2	ND	ND	ND	ND	ND	ND	93	18	ND		ND	90	33.4	34.1	ND	ND	ND	-	-	-	-	0.042	0.14	ND	ND	ND	ND	0.011	0.012	ND	ND	ND	ND	ND	ND	ND	ND	23	24	ND	ND	0.0009	0.0011	ND	**SW11**
SW12	5/3/2010	7.8	174	106	1	1.5	55	0.160	0.9	1	ND	0.01	ND	ND	ND	ND	86	ND	ND	0.0010	ND	38	15.4	15.4	-	-	-	-	-	-	-	0.045	0.063	ND	ND	ND	ND	0.02	0.01	ND	ND	ND	ND	ND	ND	ND	ND	20	21	ND	ND	ND	0.001	**SW12**
SW12A	6/2/2010	7.1	71	46	9	2.5	120	ND	1.0	2	ND	0.01	ND	ND	ND	ND	33	ND	ND	0.0012	ND	55	22	22.5	-	-	-	-	-	-	-	0.074	0.14	ND	ND	ND	ND	0.044	0.008	ND	ND	ND	ND	ND	ND	ND	ND	11	10	ND	ND	ND	ND	**SW12A**
SW12A	6/24/2010	6.9	69	46	11	3.8	140	0.08	1.0	ND	ND	ND	ND	ND	ND	ND	34	22	ND	0.0007	ND	60	22	21	0.9	0.9	ND	-	-	-	-	0.069	0.2	ND	ND	ND	ND	0.01	0.01	ND	ND	ND	ND	ND	ND	ND	ND	10	10	ND	ND	0.0005	0.002	**SW12A**
SW12A	7/26/2010	6.8	78	50	46	5.5	150	ND	1.3	1	ND	ND	ND	ND	ND	ND	38	14	ND	0.0011	ND	67	22.6	21.7	0.6	0.6	ND	-	-	-	-	0.078	0.15	ND	ND	ND	ND	0.011	0.012	ND	ND	ND	ND	ND	ND	ND	ND	11	11	ND	ND	0.0008	0.001	**SW12A**
SW12A	8/23/2010	7.1	86	54	17	7.4	130	ND	1.3	1	ND	0.01	ND	ND	ND	ND	41	25	ND	ND	ND	67	22.6	20.4	ND	ND	ND	-	-	-	-	0.061	0.14	ND	ND	ND	ND	0.01	0.012	ND	ND	ND	ND	ND	ND	ND	ND	12	12	ND	ND	0.0007	ND	**SW12A**
SW12A	9/30/2010	6.7	58	36	23	6.7	130	ND	1.2	ND	ND	ND	ND	ND	ND	ND	25	10	ND	0.0015	ND	66	23.1	21.2	ND	ND	ND	-	-	-	-	0.12	0.38	ND	0.0008	ND	ND	0.009	0.02	ND	ND	ND	ND	ND	ND	ND	ND	8.4	8.2	ND	ND	ND	0.002	**SW12A**
SW12A	11/4/2010	7.2	65	40	6	5.1	100	ND	1.0	ND	ND	ND	ND	ND	ND	ND	31	11	ND	0.0009	ND	55	19.4	19.7	ND	ND	ND	-	-	-	-	0.067	0.2	ND	0.0005	ND	ND	0.008	0.009	ND	ND	ND	ND	0.011	ND	ND	ND	9.2	9.6	ND	ND	ND	0.001	**SW12A**
SW12A	12/6/2010	6.9	89	58	8	8.3	150	0.11	1.3	1	ND	ND	ND	ND	ND	ND	43	27	ND	0.0014	3	73	22.1	24.4	ND	ND	ND	-	-	-	-	0.071	0.31	ND	ND	ND	0.001	0.012	0.016	ND	ND	ND	ND	ND	ND	0.0008	0.0028	ND	**SW12A**
SW12A	12/28/2010	6.9	103	66	17	17	200	0.22	1.5	2	ND	ND	ND	ND	ND	ND	49	39	ND	-	11	82	24.3	28	ND	ND	ND	-	-	-	-	0.084	0.57	0.0006	ND	0.001	0.001	0.011	0.017	ND	ND	ND	ND	ND	ND	ND	ND	13	14	ND	ND	0.0032	0.001	**SW12A**
SW13	5/3/2010	7.9	225	140	13	4.2	62	0.200	1.0	2	ND	0.01	ND	ND	ND	ND	114	12	ND	0.0011	ND	44	17.6	16.9	-	-	-	-	-	-	-	0.070	0.180	ND	0.6	ND	ND	0.019	0.017	ND	ND	ND	ND	0.010	0.011	ND	ND	29	31	ND	ND	ND	ND	**SW13**
SW13	6/2/2010	7.8	231	140	6	3.3	92	ND	0.9	1	ND	0.02	ND	ND	ND	ND	121	ND	ND	0.0012	ND	56	24.1	25.3	-	-	-	-	-	-	-	0.017	0.068	ND	ND	ND	ND	0.012	0.013	ND	ND	ND	ND	0.014	0.011	ND	ND	31	31	ND	ND	ND	ND	**SW13**
SW13	6/24/2010	7.6	232	150	ND	0.9	100	ND	0.9	ND	ND	ND	ND	ND	ND	ND	121	22	ND	0.0007	ND	58	23.0	22.5	ND	ND	ND	-	-	-	-	0.010	0.037	ND	ND	ND	ND	0.013	0.014	ND	ND	ND	ND	0.012	0.013	ND	ND	33	32	ND	ND	ND	0.002	**SW13**
SW13	7/26/2010	7.6	275	174	6	5.5	120	ND	1.2	2	ND	0.03	ND	ND	ND	ND	142	ND	ND	0.0010	ND	74	27.6	26.8	ND	ND	ND	-	-	-	-	0.006	0.054	ND	ND	ND	ND	0.002	0.002	0.015	ND	ND	ND	0.016	0.013	ND	ND	37	37	ND	ND	ND	0.005	**SW13**
SW13	8/23/2010	7.8	292	186	25	15	73	ND	1.2	2	ND	0.02	ND	ND	ND	ND	153	24	ND	ND	ND	62	23.3	22.5	ND	ND	ND	-	-	-	-	0.007	0.22	ND	ND	0.001	0.001	0.013	0.016	ND	ND	ND	ND	0.012	0.015	ND	ND	39	38	ND	ND	ND	ND	**SW13**
SW13	9/30/2010	7.5	215	132	ND	1.1	98	ND	0.8	ND	ND	ND	ND	ND	ND	ND	108	5	ND	0.0013	ND	60	21.8	20.2	ND	ND	ND	-	-	-	-	0.007	0.023	ND	ND	ND	ND	0.012	0.012	ND	ND	ND	ND	0.011	0.012	ND	ND	28	29	ND	ND	ND	ND	**SW13**
SW13	11/4/2010	7.9	225	144	2	7	82	ND	0.9	2	ND	ND	ND	ND	ND	ND	116	ND	ND	0.0009	ND	56	21.4	21.3	ND	ND	ND	-	-	-	-	0.006	0.031	ND	ND	ND	ND	0.011	0.011	ND	ND	ND	ND	0.013	ND	ND	ND	30	31	ND	ND	ND	ND	**SW13**
SW13	12/6/2010	7.7	269	168	4	3	57	ND	0.7	2	ND	ND	ND	ND	ND	ND	142	17	ND	0.0010	ND	55	18.4	18.7	ND	ND	ND	-	-	-	-	ND	0.08	ND	ND	ND	ND	0.012	0.013	ND	ND	ND	ND	ND	0.012	ND	ND	36	36	ND	ND	ND	ND	**SW13**
SW13	12/28/2010	7.8	322	188	1	3.2	54	ND	0.8	2	ND	ND	ND	ND	ND	ND	166	14	ND		ND	46	18.0	18.2	ND	ND	ND	-	-	-	-	0.006	0.069	ND	ND	ND	ND	0.014	0.014	ND	ND	ND	ND	ND	ND	ND	ND	41	40	ND	ND	ND	ND	**SW13**
SW14	6/2/2010	7.4	103	66	4	1	170	ND	1.0	2	ND	0.01	ND	ND	ND	ND	51	ND	ND	0.0014	ND	72	31.8	33.6	-	-	-	-	-	-	-	0.038	0.041	ND	ND	ND	ND	0.03	0.009	ND	ND	ND	ND	ND	ND	ND	ND	15	16	ND	ND	ND	ND	**SW14**
SW14	6/24/2010	7.2	115	76	ND	0.6	170	ND	0.8	ND	ND	ND	ND	ND	ND	ND	59	22	ND	0.0009	ND	75	28.7	27.3	ND	ND	ND	-	-	-	-	0.026	0.035	ND	ND	ND	ND	0.012	0.012	ND	ND	ND	ND	ND	ND	ND	ND	17	17	ND	ND	ND	0.001	**SW14**
SW14	7/26/2010	7.1	135	86	8	3.5	210	ND	1.3	ND	ND	0.06	ND	ND	ND	ND	68	ND	ND	0.0012	ND	90	33.7	31.4	ND	ND	ND	-	-	-	-	0.025	0.039	ND	ND	0.002	0.002	0.013	0.014	ND	ND	ND	ND	ND	ND	ND	ND	19	19	ND	ND	ND	ND	**SW14**
SW14	8/23/2010	7.6	141	88	17	9.4	160	ND	1.2	2	ND	0.01	ND	ND	ND	ND	72	11	ND	ND	ND	81	31.0	29	ND	ND	ND	-	-	-	-	0.017	0.055	ND	0.0013	0.001	0.001	0.013	0.014	ND	ND	ND	ND	ND	ND	ND	ND	19	19	ND	ND	ND	ND	**SW14**
SW14	9/30/2010	7.0	95	60	8	2.2	200	ND	1.0	1	ND	ND	ND	ND	ND	ND	46	ND	ND	0.0013	ND	83	32.7	28.7	ND	ND	ND	-	-	-	-	0.04	0.081	ND	ND	ND	ND	0.008	0.008	ND	ND	ND	ND	ND	ND	ND	ND	13	14	0.2	ND	ND	ND	**SW14**
SW14	11/4/2010	7.4	93	58	2	0.8	170	ND	0.8	2	ND	ND	ND	ND	ND	ND	46	11	ND	0.0009	ND	74	27.1	26.6	ND	ND	ND	-	-	-	-	0.035	0.068	ND	ND	ND	ND	0.006	0.007	ND	ND	ND	ND	ND	ND	ND	ND	13	14	ND	ND	ND	ND	**SW14**
SW14	12/6/2010	7.1	111	84	ND	0.6	140	ND	0.8	2	ND	ND	ND	ND	ND	ND	57	20	ND	0.0012	ND	69	25.5	25.6	ND	ND	ND	-	-	-	-	0.031	0.054	ND	ND	ND	ND	0.008	0.008	ND	ND	ND	ND	ND	ND	ND	ND	15	16	ND	ND	ND	ND	**SW14**
SW14	12/28/2010	7.2	127	78	1	1.3	150	0.06	1.0	1	ND	ND	ND	ND	ND	ND	62	23	ND		ND	73	28.2	28.2	ND	ND	ND	-	-	-	-	0.046	0.046	ND	ND	ND	ND	0.009	0.009	ND	ND	ND	ND	ND	ND	ND	ND	17	17	ND	ND	ND	ND	**SW14**
SW15	6/2/2010	7.7	154	98	33	34	240	ND	1.6	5	ND	0.07	ND	ND	ND	ND	74	ND	ND	0.0016	ND	91	40.5	44.5	-	-	-	-	-	-	-	0.200	1.700	ND	ND	0.001	0.002	0.024	0.027	ND	ND	ND	ND	0.011	0.013	ND	ND	21	23	ND	ND	ND	0.0010	ND	**SW15**
SW15	6/24/2010	7.5	162	102	29	18	270	ND	1.3	ND	ND	ND	ND	ND	ND	ND	79	12	ND	0.0012	ND	110	39.8	38.8	ND	ND	ND	-	-	-	-	0.069	0.830	ND	ND	0.001	0.002	0.015	0.022	ND	ND	ND	ND	0.012	0.016	ND	ND	24	24	ND	ND	ND	0.003	**SW15**
SW15	7/26/2010	7.5	178	114	5	5.9	270	ND	1.4	ND	ND	0.06	ND	ND	ND	ND	87	ND	ND	0.0013	ND	100	42.1	39.6	1.1	1.1	ND	-	-	-	-	0.046	0.31	ND	ND	0.002	0.002	0.015	0.017	ND	ND	ND	ND	0.013	0.010	ND	ND	24	24	ND	ND	ND	0.002	**SW15**
SW15	8/23/2010	8.0	239	150	12	29	240	ND	1.6	5	ND	0.02	ND	ND	ND	ND	116	ND	ND	ND	ND	99	37.1	35.7	ND	ND	ND	-	-	-	-	0.027	0.32	ND	0.0012	0.002	0.002	0.017	0.021	ND	ND	ND	ND	0.012	0.014	ND	ND	32	33	ND	ND	ND	0.002	**SW15**
SW15	9/30/2010	7.4	154	100	16	16	270	ND	1.3	3	ND	0.01	ND	ND	ND	ND	71	ND	ND	0.0016	ND	100	42.6	37.3	ND	ND	ND	-	-	-	-	0.09	0.81	ND	ND	0.001	0.001	0.015	0.02	ND	ND	ND	ND	ND	0.013	ND	ND	21	22	ND	ND	ND	0.002	**SW15**
SW15	11/4/2010	7.8	188	118	8	12	240	ND	1.2	4	ND	ND	ND	ND	ND	ND	89	ND	ND	0.0011	ND	99	34.1	36.1	ND	ND	ND	-	-	-	-	0.073	0.36	ND	ND	ND	ND	0.014	0.016	ND	ND	ND	ND	0.01	ND	ND	ND	25	26	ND	ND	ND	ND	**SW15**
SW15	12/6/2010	7.5	209	144	33	12	160	ND	1.1	4	ND	ND	ND	ND	ND	ND	100	19	ND	0.0016	ND	83	30.5	32.1	ND	ND	ND	-	-	-	-	0.046	0.4	ND	ND	ND	ND	0.013	0.017	ND	ND	ND	ND	ND	0.010	ND	ND	28	30	ND	ND	ND	ND	**SW15**
SW15	12/28/2010	7.6	251	156	13	16	150	0.08	1.1	4	ND	0.02	ND	ND	ND	ND	120	14	ND	-	ND	78	27.4	29.6	ND	ND	ND	-	-	-	-	0.042	0.53	ND	ND	ND	ND	0.014	0.017	ND	ND	ND	ND	ND	ND	ND	0.0002	30	31	ND	ND	ND	0.001	**SW15**
SW16	6/2/2010	7.5	101	64	33	7.3	85	ND	0.8	4	ND	0.02	ND	ND	ND	ND	37	ND	ND	0.0010	ND	36	17	17.5	-	-	-	-	-	-	-	0.100	0.200	ND	ND	ND	ND	0.029	0.013	ND	ND	ND	ND	ND	ND	ND	ND

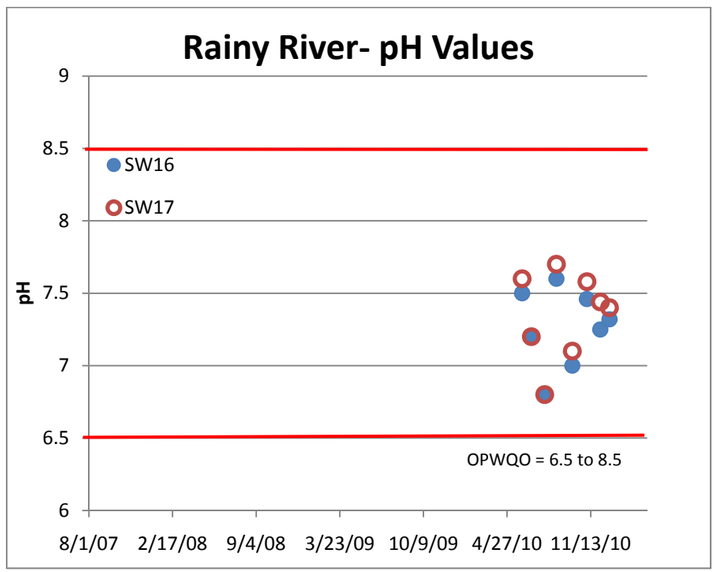
			D. Iron (Fe)	T. Iron (Fe)	D. Lead (Pb)	T. Lead (Pb)	D. Lithium (Li)	T. Lithium (Li)	D. Magnesium (Mg)	T. Magnesium (Mg)	D. Manganese (Mn)	T. Manganese (Mn)	Mercury (Hg)	D. Molybdenum (Mo)	T. Molybdenum (Mo)	D. Nickel (Ni)	T. Nickel (Ni)	D. Phosphorus (P)	D. Potassium (K)	T. Potassium (K)	D. Selenium (Se)	T. Selenium (Se)	D. Silicon (Si)	T. Silicon (Si)	D. Silver (Ag)	T. Silver (Ag)	D. Sodium (Na)	T. Sodium (Na)	D. Strontium (Sr)	T. Strontium (Sr)	D. Tellurium (Te)	T. Tellurium (Te)	D. Thallium (Tl)	T. Thallium (Tl)	D. Thorium (Th)	T. Thorium (Th)	D. Tin (Sn)	T. Tin (Sn)	D. Titanium (Ti)	T. Titanium (Ti)	D. Tungsten (W)	T. Tungsten (W)	D. Uranium (U)	T. Uranium (U)	D. Vanadium (V)	T. Vanadium (V)	D. Zinc (Zn)	T. Zinc (Zn)	D. Zirconium (Zr)	T. Zirconium (Zr)
OPWQO Aquatic Life Criteria		c Life Criteria		0.3		0.001-0.005							0.0002		0.04		0.025					0.1			0.0001								0.0003										0.005		0.006			0.02		
CCME Aquatic Life Criteria		c Life Criteria		0.3		0.001-0.007							0.000004		0.073		0.025-0.15					0.001			0.0001								0.0008													0.03		
Location	Sample Date	Sample Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			D. Iron (Fe)	T. Iron (Fe)	D. Lead (Pb)	T. Lead (Pb)	D. Lithium (Li)	T. Lithium (Li)	D. Magnesium (Mg)	T. Magnesium (Mg)	D. Manganese (Mn)	T. Manganese (Mn)	Mercury (Hg)	D. Molybdenum (Mo)	T. Molybdenum (Mo)	D. Nickel (Ni)	T. Nickel (Ni)	D. Phosphorus (P)	D. Potassium (K)	T. Potassium (K)	D. Selenium (Se)	T. Selenium (Se)	D. Silicon (Si)	T. Silicon (Si)	D. Silver (Ag)	T. Silver (Ag)	D. Sodium (Na)	T. Sodium (Na)	D. Strontium (Sr)	T. Strontium (Sr)	D. Tellurium (Te)	T. Tellurium (Te)	D. Thallium (Tl)	T. Thallium (Tl)	D. Thorium (Th)	T. Thorium (Th)	D. Tin (Sn)	T. Tin (Sn)	D. Titanium (Ti)	T. Titanium (Ti)	D. Tungsten (W)	T. Tungsten (W)	D. Uranium (U)	T. Uranium (U)	D. Vanadium (V)	T. Vanadium (V)	D. Zinc (Zn)	T. Zinc (Zn)	D. Zirconium (Zr)	T. Zirconium (Zr)
OPWQO Aquatic Life Criteria		c Life Criteria		0.3		0.001-0.005							0.0002		0.04		0.025					0.1			0.0001								0.0003										0.005		0.006			0.02		
CCME Aquatic Life Criteria		c Life Criteria		0.3		0.001-0.007							0.000004		0.073		0.025-0.15					0.001			0.0001								0.0008													0.03		
Location	Sample Date	Sample Date	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SW7A	7/26/2010	7/26/2010	ND	0.55	ND	ND	ND	ND	20	19	ND	0.092	ND	ND	ND	0.001	0.002	ND	1.3	1.2	ND	ND	6.3	6.5	ND	ND	2.3	2.1	0.088	0.088	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006	0.0007	ND	0.001	ND	ND	ND	ND
SW7A	8/23/2010	8/23/2010	ND	1.9	ND	0.0008	0.007	0.008	25	25	ND	0.32	ND	0.002	0.002	0.001	0.003	ND	1.6	1.8	ND	ND	4.6	6.5	ND	ND	5.2	5.2	0.13	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.039	ND	ND	0.0013	0.0013	ND	0.004	ND	0.014	ND	0.001
SW7A	9/30/2010	9/30/2010	0.2	0.58	ND	ND	ND	ND	12	12	0.019	0.038	ND	ND	ND	0.001	0.001	ND	1	1.1	ND	ND	4.1	5.1	ND	ND	1.8	1.8	0.051	0.053	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	0.002	ND	0.0003	0.0004	0.001	0.001	ND	0.008	ND	ND
SW7A	11/4/2010	11/4/2010	0.16	0.55	ND	ND	ND	ND	15	14	0.032	0.06	ND	ND	ND	0.001	ND	ND	1.2	1.1	ND	ND	4.4	4.7	ND	ND	2.4	2.2	0.063	0.056	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	0.0004	0.0004	ND	ND	ND	ND	ND	ND
SW7A	12/6/2010	12/6/2010	0.16	1.9	ND	0.0009	ND	ND	16	17	0.004	0.22	ND	ND	ND	0.001	0.002	ND	1	1.2	ND	ND	4.9	6.5	ND	ND	2.6	2.6	0.066	0.075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.036	ND	ND	0.0006	0.0007	ND	0.003	ND	0.011	ND	ND
SW7A	12/28/2010	12/28/2010	0.42	0.66	ND	ND	ND	ND	19	20	0.12	0.14	ND	ND	ND	ND	ND	ND	1.2	1.3	ND	ND	6	6.6	ND	ND	3.7	3.8	0.092	0.095	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0008	0.0008	ND	ND	ND	0.005	ND	ND
SW8	5/3/2010	5/3/2010	0.1	0.18	ND	ND	ND	ND	10	12	0.010	0.017	ND	ND	ND	ND	0.001	ND	1.2	1.2	ND	ND	2.8	3.2	ND	ND	9.3	10	0.054	0.062	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0003	0.0004	ND	ND	0.017	0.005	ND	ND
SW9	5/3/2010	5/3/2010	ND	0.12	ND	ND	ND	ND	11	13	0.003	0.003	ND	ND	ND	0.002	0.002	ND	1.7	1.7	ND	ND	3.8	4.3	ND	ND	2.2	2.3	0.051	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006	0.0007	ND	ND	0.015	ND	ND	ND
SW10	5/3/2010	5/3/2010	0.24	0.40	ND	ND	ND	0.005	13	12	0.012	0.043	ND	ND	ND	0.001	0.002	ND	1.7	1.8	ND	ND	3.3	3.5	ND	ND	6.8	6.7	0.071	0.068	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0006	0.0006	ND	0.002	0.039	ND	ND	ND
SW10	6/2/2010	6/2/2010	0.4	0.52	ND	ND	ND	ND	11	11	0.039	0.04	ND	ND	0.001	0.002	0.002	ND	1.1	1.2	ND	ND	2.9	3.2	ND	ND	4.8	4.7	0.062	0.065	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0003	0.0003	ND	0.001	0.035	ND	ND	ND
SW10	6/24/2010	6/24/2010	0.3	0.40	ND	ND	ND	0.005	11	11	ND	0.031	ND	ND	ND	0.002	0.002	0.057	1.3	1.2	ND	ND	4.2	4.3	ND	ND	3.7	3.6	0.064	0.065	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0003	0.0003	ND	ND	ND	ND	ND	ND
SW10	7/26/2010	7/26/2010	0.45	0.88	ND	ND	ND	ND	14	13	ND	0.098	ND	ND	ND	0.002	0.002	ND	1.2	1.2	ND	ND	4.9	5	ND	ND	4.4	4.1	0.082	0.083	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	0.0003	0.0003	ND	0.001	ND	0.006	ND	ND
SW10	8/23/2010	8/23/2010	0.23	0.62	ND	ND	ND	0.006	17	17	0.064	0.19	ND	ND	ND	0.002	0.003	ND	1.5	1.5	ND	ND	5.4	5.9	ND	ND	4.6	4.5	0.12	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	0.0006	0.0006	ND	0.002	ND	0.007	ND	ND
SW10	9/30/2010	9/30/2010	0.27	0.43	ND	ND	ND	ND	9.6	10	0.004	0.018	ND	ND	ND	0.001	0.001	ND	1.4	1.5	ND	ND	4.2	4.7	ND	ND	4	4.1	0.056	0.055	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0002	0.0003	0.002	0.0005	ND	0.005	ND	ND
SW10	11/4/2010	11/4/2010	0.16	0.4	ND	ND	0.005	ND	13	13	0.009	0.017	ND	ND	ND	0.001	ND	ND	1.8	2	ND	ND	4.5	5	ND	ND	5.1	5.4	0.07	0.071	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0005	0.0005	0.001	ND	ND	ND	ND	ND
SW10	12/6/2010	12/6/2010	0.22	0.5	ND	ND	ND	ND	13	14	0.01	0.027	ND	ND	ND	0.001	0.001	ND	1.3	1.3	ND	ND	4.9	5.2	ND	ND	4.6	4.4	0.067	0.072	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND	0.0004	0.0005	ND	ND	ND	ND	ND	ND
SW10	12/28/2010	12/28/2010	0.41	0.66	ND	ND	0.005	ND	14	15	0.014	0.07	ND	ND	ND	ND	0.001	ND	1.3	1.3	ND	ND	5.8	6.4	ND	ND	4.7	4.8	0.078	0.079	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	0.0006	0.0006	0.001	ND	ND	ND	ND	ND
SW11	5/3/2010	5/3/2010	0.26	0.40	ND	ND	ND	ND	7.9	9	0.021	0.027	ND	ND	ND	ND	ND	ND	0.68	0.83	ND	ND	1.7	2.1	ND	ND	1.2	1.3	0.028	0.033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND	ND	ND	0.019	0.006	ND	ND
SW11	6/2/2010	6/2/2010	0.41	0.44	ND	ND	ND	ND	8.4	8.8	0.026	0.026	ND	ND	ND	ND	ND	ND	0.35	0.41	ND	ND	2.6	2.7	ND	ND	1.2	1.1	0.034	0.036	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.018	0.006	ND	ND
SW11	6/24/2010	6/24/2010	0.39	0.81	ND	ND	ND	ND	8.9	9.1	ND	0.18	ND	ND	ND	0.001	ND	0.02	0.46	0.42	ND	ND	3.8	3.9	ND	ND	1	1	0.96	0.98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND
SW11	7/26/2010	7/26/2010	1.4	3.1	ND	ND	ND	ND	10	9.7	0.007	1	ND	ND	ND	0.001	0.001	ND	0.48	0.45	ND	ND	5.4	5.2	ND	ND	0.95	0.89	0.052	0.067	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW11	8/23/2010	8/23/2010	0.92	2.2	ND	ND	ND	ND	12	13	ND	0.88	ND	ND	ND	0.001	0.002	ND	0.48	0.49	ND	ND	6.7	6.7	ND	ND	1.1	1.1	0.057	0.059	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND
SW11	9/30/2010	9/30/2010	0.22	0.36	ND	ND	ND	ND	7.6	8.5	ND	0.012	ND	ND	ND	ND	ND	ND	0.56	0.62	ND	ND	4.1	4.6	ND	ND	0.94	0.98	0.029	0.032	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND
SW11	11/4/2010	11/4/2010	0.19	0.34	ND	ND	ND	ND	8.9	9.1	0.008	0.014	ND	ND	ND	ND	ND	ND	0.99	1	ND	ND	4.6	4.7	ND	ND	1.2	1.2	0.034	0.033	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW11	12/6/2010	12/6/2010	0.27	0.55	ND	ND	ND	ND	9.6	10	0.008	0.069	ND	ND	ND	ND	ND	ND	0.64	0.71	ND	ND	5	5.4	ND	ND	1.1	1.2	0.036	0.039	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW11	12/28/2010	12/28/2010	0.82	1.1	ND	ND	ND	ND	11	11	0.29	0.34	ND	ND	ND	ND	ND	ND	0.81	0.82	ND	ND	6.3	6.5	ND	ND	1.3	1.3	0.043	0.043	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW12	5/3/2010	5/3/2010	ND	0.15	ND	ND	ND	ND	9	9.8	0.007	0.011	ND	ND	ND	0.001	0.001	ND	1.2	1.1	ND	ND	2.3	2.5	ND	ND	1.4	1.4	0.038	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0002	ND	ND	0.015	ND	ND	ND
SW12A	6/2/2010	6/2/2010	0.4	0.69	ND	ND	ND	ND	3.3	3.5	0.027	0.037	ND	ND	ND	ND	ND	ND	0.35	0.35	ND	ND	1.2	1.3	ND	ND	0.91	0.77	0.019	0.019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031	0.007	ND	ND
SW12A	6/24/2010	6/24/2010	0.52	0.78	ND	ND	ND	ND	3.3	3.1	ND	0.042	ND	ND	ND	0.001	0.001	0.009	0.21	0.22	ND	ND	1.9	1.9	ND	ND	0.6	0.57	0.019	0.019	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0001	ND	ND	0.005	ND	ND	ND
SW12A	7/26/2010	7/26/2010	0.76	1.4	ND	ND	ND	ND	3.5	3.3	ND	0.12	ND	ND	ND	ND	0.002	ND	0.35	0.3	ND	ND	1.9	1.9	ND	ND	0.64	0.57	0.023	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00005	ND	ND	ND	ND
SW12A	8/23/2010	8/23/2010	0.93	1.3	ND	ND	ND	ND	3.8	3.8	0.018	0.086	ND	ND	ND	ND	0.001	ND	0.29	0.27	ND	ND	1.9	2	ND	ND	0.65	0.63	0.025	0.025	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND
SW12A	9/30/2010	9/30/2010	0.24	0.49	ND	ND	ND	ND	2.8	2.8	0.005	0.021	ND	ND	ND	ND	0.001	ND	0.5	0.5	ND	ND	2	2.3	ND	ND	0.69	0.65	0.013	0.013	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND	0.0002	ND	ND	ND	0.006	0.007	ND	ND
SW12A	11/4/2010	11/4/2010	0.15	0.41	ND	ND	ND	ND	3.2	3.2	0.009	0.015	ND	ND	ND	ND	ND	ND	0.77	0.79	ND	ND	1.8	2.1	ND	ND	1	0.96	0.016	0.016	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0001	ND	ND	ND	0.005	ND	ND
SW12A	12/6/2010	12/6/2010	0.97	2.6	ND	ND	ND	ND	3.7	4.0	0.18	0.44	ND	ND	ND	ND	0.001	ND	1.1	1.3	ND	ND	1.9	2.5	ND	ND	1.2	1.3	0.02	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	0.0001	ND	0.001	0.005	0.009	ND	ND
SW12A	12/28/2010	12/28/2010	2.4	4.6	ND	ND	ND	ND	4	4.1	0.002	0.45	ND	ND	ND	0.001	0.001	ND	1.2	1.3	ND	ND	2.2	3.1	ND	ND	1.2	1.2	0.023	0.023	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND	0.0002	0.0001	0.001	0.003	ND	0.006	ND	ND
SW13	5/3/2010	5/3/2010	0.11	0.28	ND	ND	ND	ND	12	14	0.018	0.023	ND	ND	ND	ND	0.001	ND	1.1	1.3	ND	ND	2.5	3.1	ND	ND	2.1	2.3	0.060	0.070	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	ND	ND	0.0003	0.0005	ND	ND	0.020	0.006	ND	ND
SW13	6/2/2010	6/2/2010	0.12	0.22	ND	ND	ND	ND	13	13	0.029	0.036	ND	ND	ND	ND	ND	ND	0.62	0.59	ND	ND	2.4	2.6	ND	ND	1.9	1.8	0.057	0.060	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0002	ND	ND	0.021	ND	ND	ND
SW13	6/24/2010	6/24/2010	0.18	0.22	ND	ND	ND	ND	13	13	ND	0.025	ND	ND	ND	0.002	0.002	0.029	0.41	0.35	ND	ND	2.5	2.5	ND	ND	1.6	1.6	0.059	0.063	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0001	ND	ND	ND	ND	ND	ND
SW13	7/26/2010	7/26/2010	0.6	1.2	ND	ND	ND	ND	15	14	ND	0.23	ND	ND	ND	0.002	0.002	0.05	0.61	0.59	ND	ND	6	5.7	ND	ND	1.7	1.6	0.069	0.072	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0002	ND	ND	ND	ND	ND	ND
SW13	8/23/2010	8/23/2010	ND	0.41	ND	ND	ND	ND	16	15	ND	0.12	ND	ND	ND	ND	ND	ND	0.69	0.7	ND	ND	6.4	6.5	ND	ND	1.9	1.8	0.076	0.076	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	0.0003	0.0003	ND	0.001	ND	ND	ND	ND
SW13	9/30/2010	9/30/2010	ND	0.12	ND	ND	ND	ND	12	12	0.006	0.016	ND	ND	ND	ND	ND	ND	0.89	0.89	ND	ND	3.5	3.6	ND	ND	1.6	1.6	0.053	0.053	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0002	0.0002	ND	ND	ND	ND	ND	ND
SW13	11/4/2010	11/4/2010	ND	0.16	ND	ND	ND	ND	14	13	0.013	0.023	ND	ND	ND	ND	ND	ND	1	1.1	ND	ND	3.3	3.4	ND	ND	2	2	0.06	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0003	0.0003	ND	ND	ND	ND	ND	ND
SW13	12/6/2010	12/6/2010	0.11	0.3	ND	ND	ND	ND	15	16	0.02	0.042	ND	ND	ND	ND	0.001	ND	0.85	0.95	ND	ND	4.4	4.8	ND	ND	2.1	2.2	0.064	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0004	0.0005	ND	ND	ND	ND	ND	ND
SW13	12/28/2010	12/28/2010	0.26	0.35	ND	ND	ND	ND	18	18	0.068	0.075	ND	ND	ND	ND	ND	ND	0.98	0.94	ND	ND	5.5	5.6	ND	ND	2.3	2.2	0.077	0.073	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0006	0.0006	ND	ND	ND	ND	ND	ND
SW14	6/2/2010	6/2/2010	0.17	0.27	ND	ND	ND	ND	5.8	6.6	0.014	0.015	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	2.1	ND	ND	1.1	0.96	0.025	0.027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.023	ND	ND	ND	ND
SW14	6/24/2010	6/24/2010	0.2	0.21	ND	ND	ND	ND	6.5	6.5	ND	0.025	ND	ND	ND	0.001	ND	0.006	ND	ND	ND	ND	2.8	2.7	ND	ND	0.83	0.81	0.029	0.029	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	ND	ND	ND
SW14	7/26/2010	7/26/2010	0.35	0.91	ND	ND	ND	ND	7.5	6.9	ND	0.27	ND	ND	ND	ND	ND	ND	0.43	0.38	ND	ND	4.5	4.2	ND	ND	0.81	0.73	0.034	0.034	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW14	8/23/2010	8/23/2010	0.25	0.4	ND	ND	ND	ND	8	7.9	ND	0.081	ND	ND	ND	ND	0.001	ND	0.27	0.3	ND	ND	6.4	6.1	ND	ND	0.87	0.87	0.036	0.036	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
SW14	9/30/2010	9/30/2010	0.19	0.26	ND	ND	ND	ND	5.5	5.6	0.003	0.024	ND	ND	ND	ND	ND	ND	0.36	0.37	ND	ND	3.2	3.2	ND	ND	0.81	0.79	0.021	0.021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.0001	0.0001	ND	ND	0.01	0.003	ND	ND
SW14	11/4/2010	11/4/2010	ND	0.18	ND	ND	ND	ND	5.8	5.8	0.002	0.005	ND	ND	ND	ND	ND	ND	0.4	0.41	ND	ND	3.4	3.4	ND	ND	0.91	0.9	0.02	0.021	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW14	12/6/2010	12/6/2010	ND	0.34	ND	ND	ND	ND	6.3	7.2	0.038	0.07	ND	ND	ND	ND	ND	ND	0.24	0.29	ND	ND	4.1	4.6	ND	ND	0.93	1.0	0.023	0.027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW14	12/28/2010	12/28/2010	0.41	0.4	ND	ND	ND	ND	7.1	6.9	0.056	0.06	ND	ND	ND	ND	ND	ND	0.38	0.31	ND	ND	5.3	5	ND	ND	1.1	0.96	0.026	0.026	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SW15	6/2/2010	6/2/2010	0.44	2	ND	0.001	ND	0.006	8.8	11	0.045	0.085	ND	ND	0.002	0.002	0.004	ND	0.72	1.3	ND	ND	2.9	6.7	ND	ND	2.1	2.2	0.040	0.048	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.071	ND	ND	0.0003	0.0004	0.001	0.005	0.022	0.009	ND	0.003
SW15	6/24/2010	6/24/2010	0.42	1.1	ND	0.0006	ND	0.006	9.5	11	ND	0.046	ND	ND	ND	0.002	0.003	0.037	0.68	0.85	ND	ND	3.2	4.9	ND	ND	1.9	2.1	0.045	0.051	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.03	ND	ND	0.0003	0.0004	ND	0.003	ND	ND	ND	0.001
SW15	7/26/2010	7/26/2010	0.52	0.86	ND	ND	ND	ND	11	10	0.005	0.053	ND	ND	ND	0.002	0.002	ND	0.77	0.81	ND	ND	4.5	4.9	ND	ND	2	1.9	0.047	0.049	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	0.0002	0.0003	ND	0.002	ND	ND	ND	ND
SW15	8/23/2010	8/23/2010	0.36	0.91	ND	0.0007	ND	ND	14	13	0.002	0.063	ND	ND	ND	0.002	0.003	ND	1.1	1.2	ND	ND	4.7	5.2	ND	ND	2.9	2.9	0.066	0.069	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.013	ND	ND	0.0004	0.0005	0.001	0.002	ND	0.005	ND	0.001
SW15	9/30/2010	9/30/2010	0.31	0.97	ND	ND	ND	ND	9.1	9.8	0.006	0.029	ND	0.002	ND	0.002	0.002	ND	1.1	1.3	ND	ND	4.2	5.8	ND	ND	1.9	2	0.04	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.034	ND	ND	0.0003	0.0004	ND	0.003	ND	0.009	ND	0.001
SW15	11/4/2010	11/4/2010	0.24	0.67	ND	ND	ND	ND	11	12	0.019	0.032	ND	ND	ND	ND	ND	ND	1.2	1.4	ND	ND	4.5	5.2	ND	ND	2.6	2.6	0.05	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.014	ND	ND	0.0006	0.0006	ND	0.001	ND	0.008	ND	ND
SW15	12/6/2010	12/6/2010	0.3	0.79	ND	ND	ND	ND	12	13	0.018	0.054	ND	ND	ND	ND	ND	ND	0.85	1.1	ND	ND	5	6.2	ND	ND	2.6	2.8	0.05	0.059	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.017	ND	ND	0.0004	0.0005	ND	0.001	ND	0.005	ND	ND
SW15	12/28/2010	12/28/2010	0.45	1.1	ND	ND	0.005	ND	14	14	0.057	0.11	ND	ND	ND	0.001	0.001	ND	0.87	1	ND	ND	5.8	7.2	ND	ND	3.1	3.1	0.06	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.022	ND	ND	0.0006	0.0006	0.001	0.002	ND	ND	ND	ND
SW16	6/2/2010	6/2/2010	0.15	0.34	ND	ND	ND	ND	3.3	3.7	0.019	0.035	ND	ND	ND	ND	0.001	ND	0.83	0.93	ND	ND	1.6	1.8	ND	ND	5.6	5.5	0.026	0.028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.0001

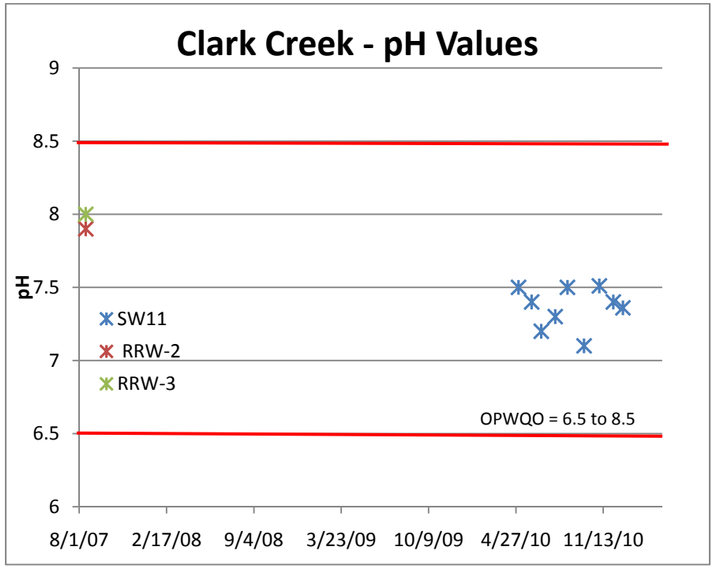
APPENDIX I – 2

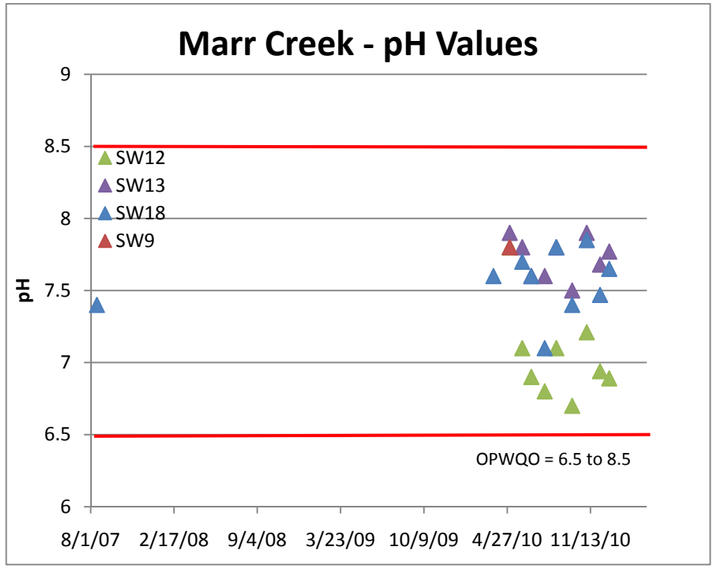
Surface Water Quality Graphs

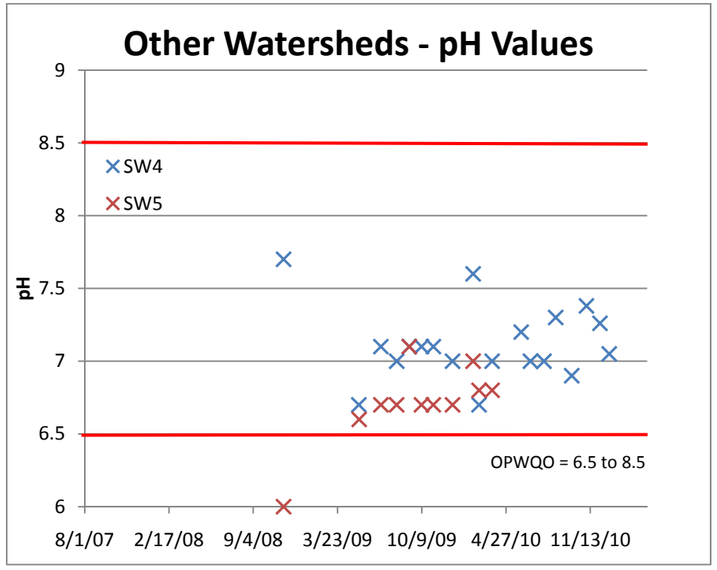

Pinewood River - pH Values
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
SW1/1A
SW3
SW8
SW10
SW15
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

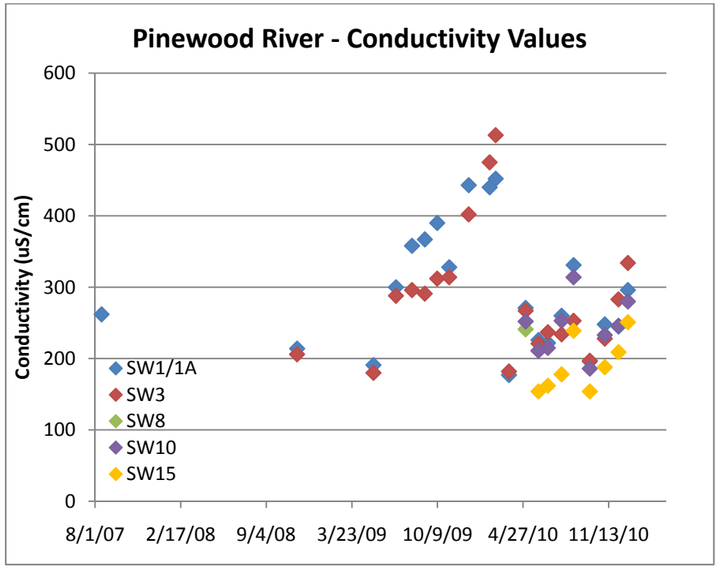

West Creek - pH Values
pH
9.0
8.5
8.0
7.5
7.0
6.5
6.0
SW2
SW7A
SW14
RRW-7
RRW-9
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

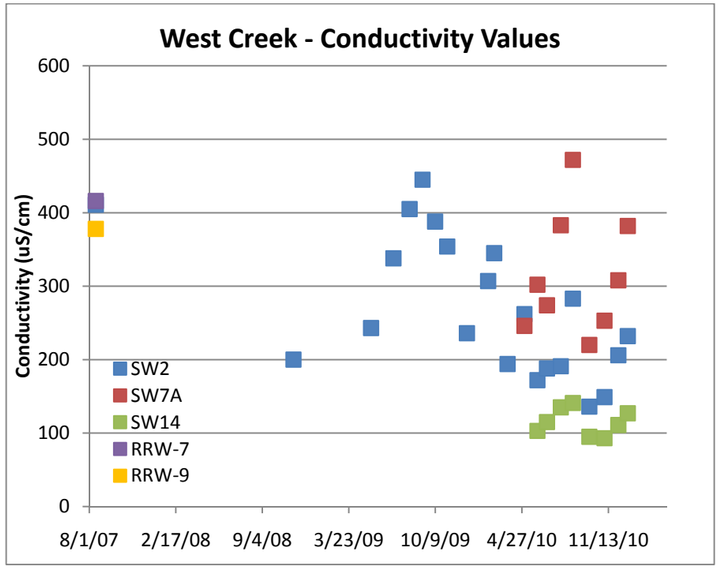

Rainy River- pH Values
pH
9
8.5
8
7.5
7
6.5
6
SW16
SW17
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

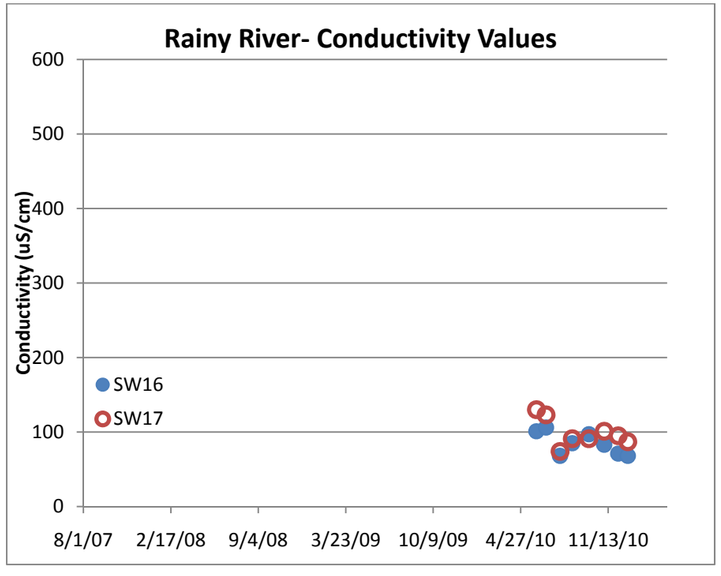

Clark Creek - pH Values
pH
9
8.5
8
7.5
7
6.5
6
SW11
RRW-2
RRW-3
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

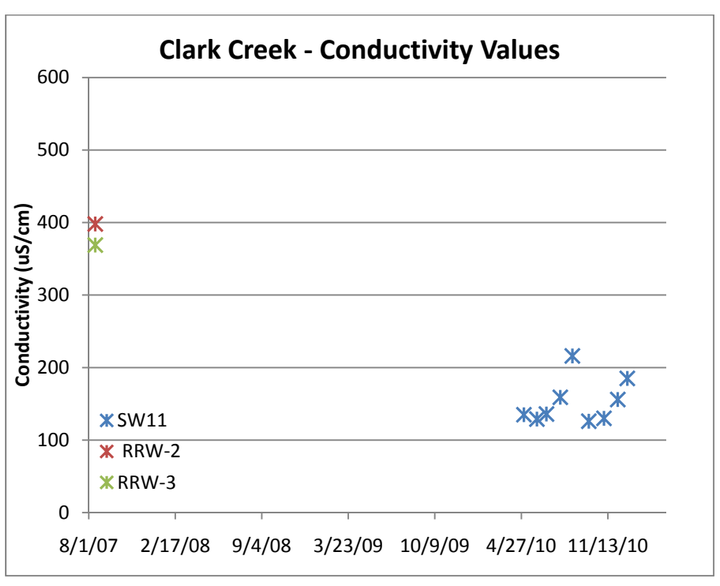

Marr Creek - pH Values
pH
9
8.5
8
7.5
7
6.5
6
SW12
SW13
SW18
SW9
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

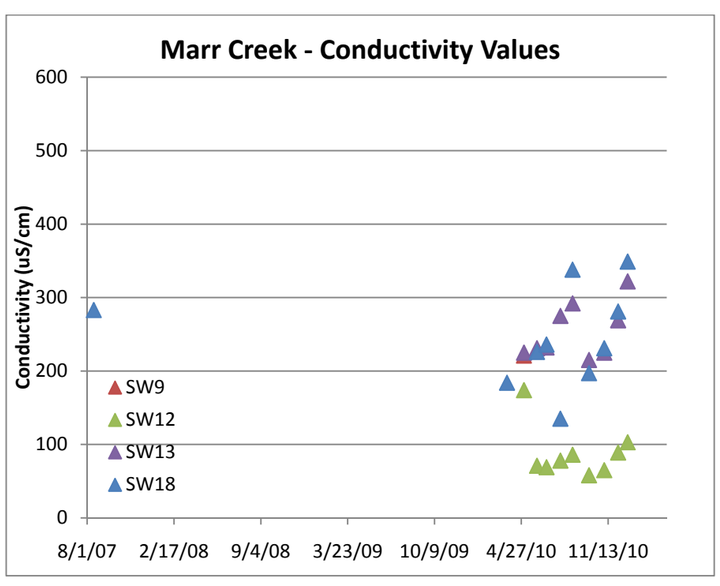

Other Watersheds - pH Values
pH
9
8.5
8
7.5
7
6.5
6
SW4
SW5
OPWQO = 6.5 to 8.5
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

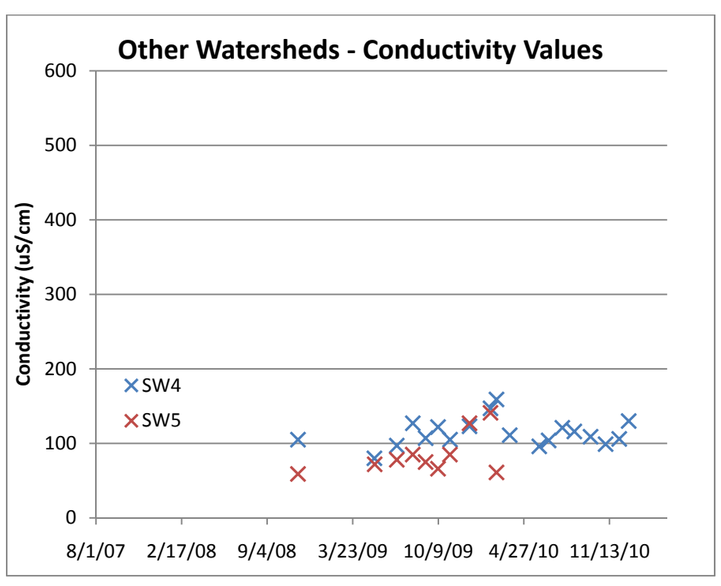

Pinewood River - Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW1/1A
SW3
SW8
SW10
SW15

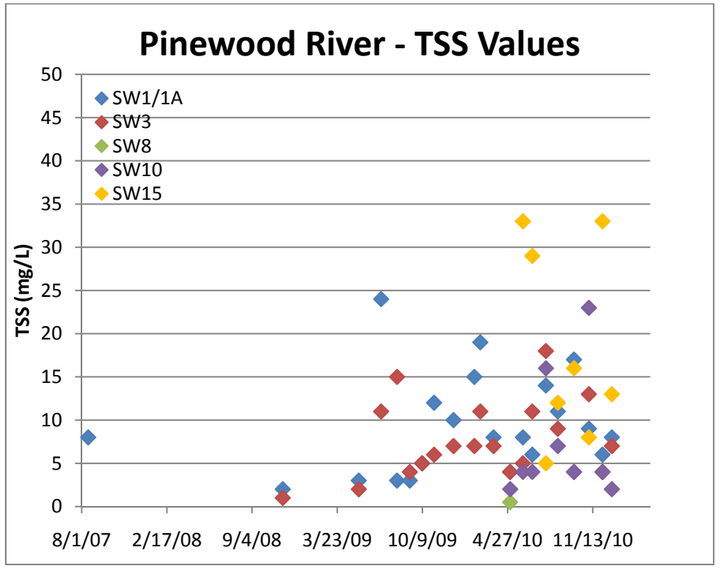

West Creek - Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW2
SW7A
SW14
RRW-7
RRW-9

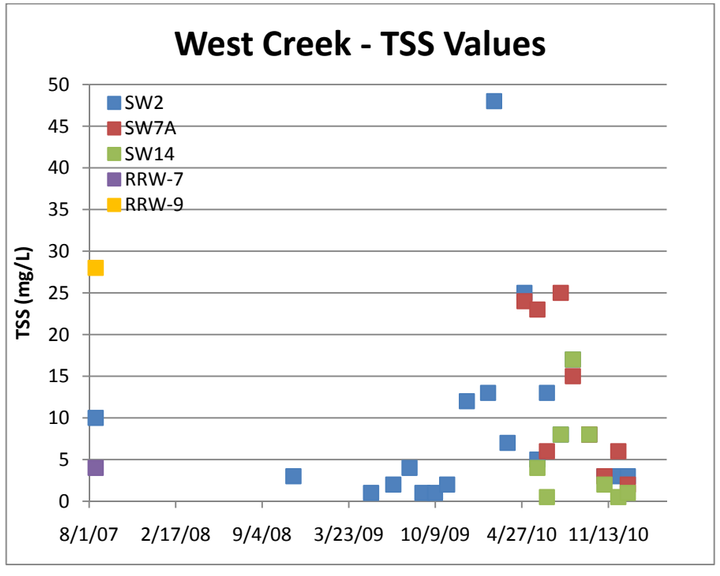

Rainy River- Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW16
SW17

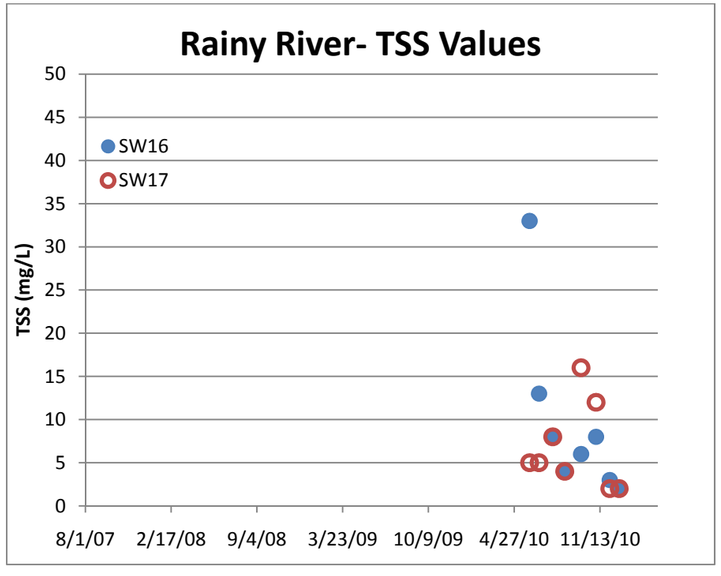

Clark Creek - Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW11
RRW-2
RRW-3

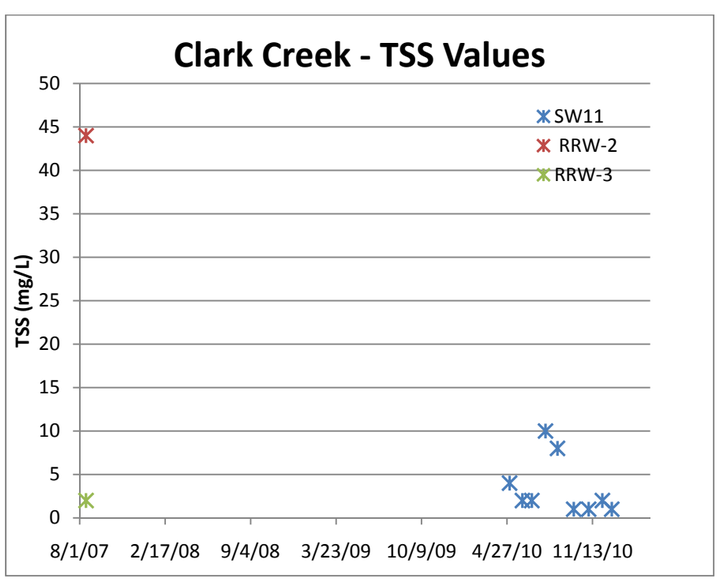

Marr Creek - Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW9
SW12
SW13
SW18

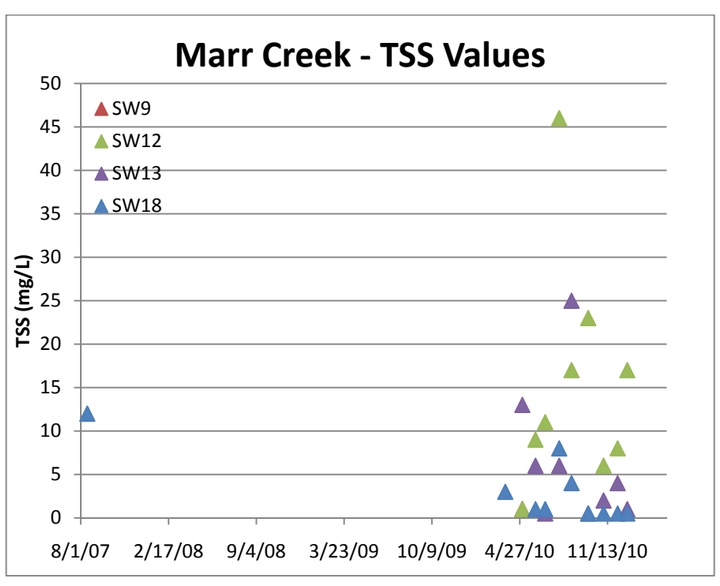

Other Watersheds - Conductivity Values
Conductivity (uS/cm)
600
500
400
300
200
100
0
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10
SW4
SW5

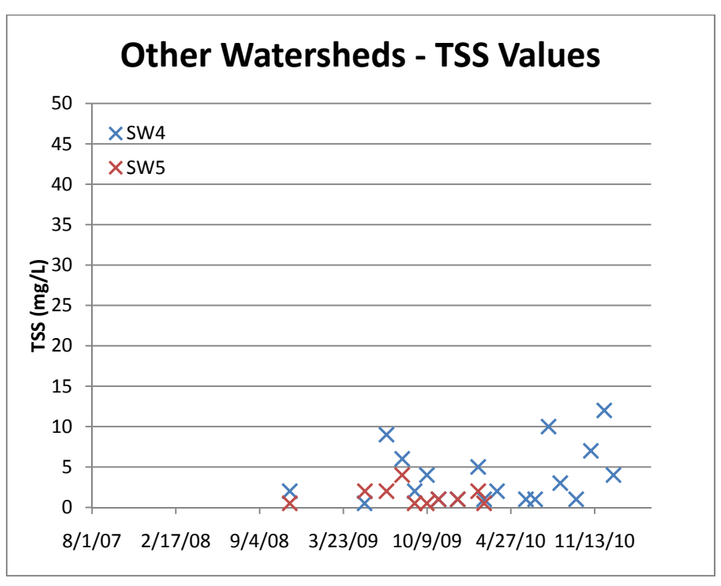

Pinewood River - TSS Values
TSS (mg/L)
SW1/1A
SW3
SW8
SW10
SW15
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

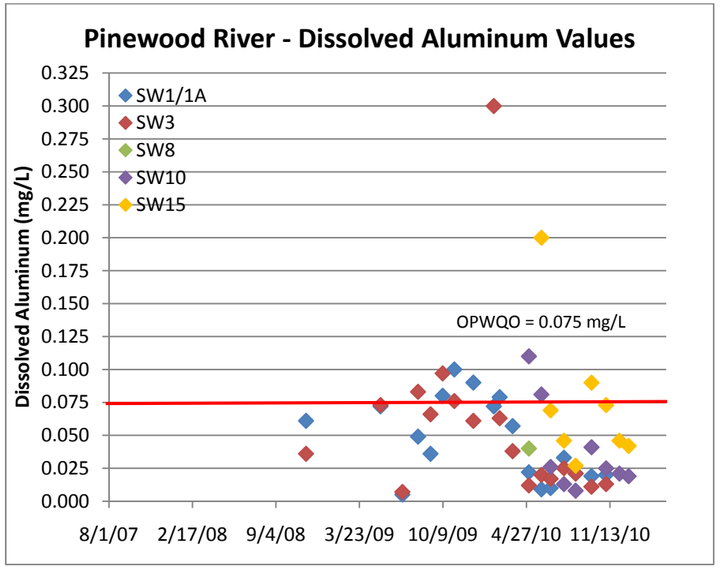

West Creek - TSS Values
TSS (mg/L)
SW2
SW7A
SW14
RRW-7
RRW-9
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

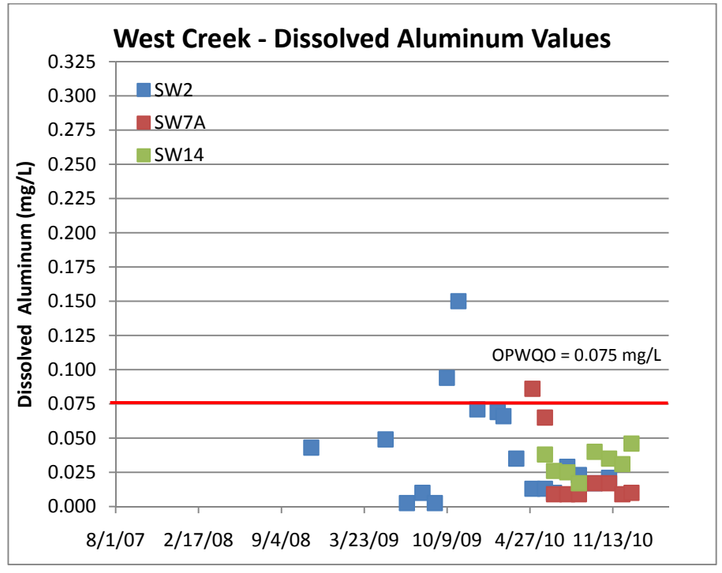

Rainy River- TSS Values
TSS (mg/L)
SW16
SW17
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

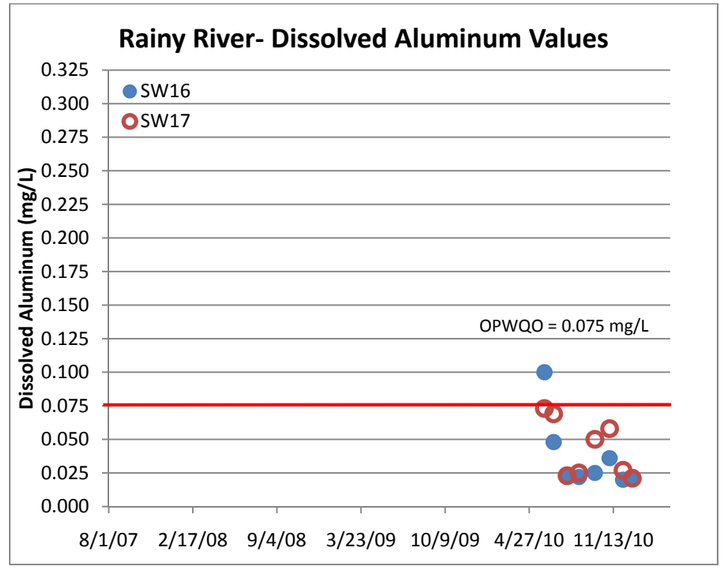

Clark Creek - TSS Values
TSS (mg/L)
SW11
RRW-2
RRW-3
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

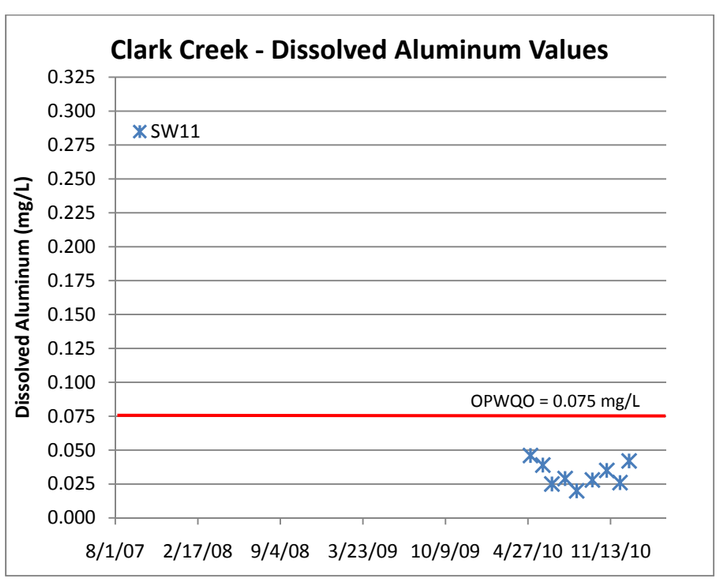

Marr Creek - TSS Values
TSS (mg/L)
SW9
SW12
SW13
SW18
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

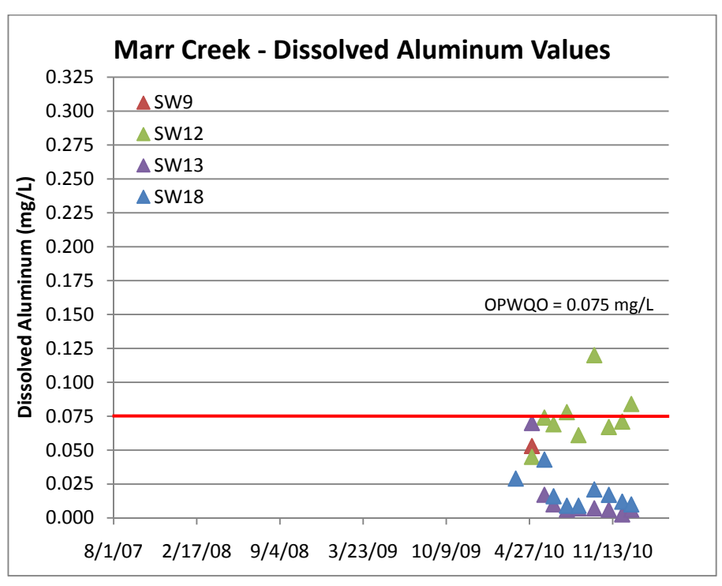

Other Watersheds - TSS Values
TSS (mg/L)
SW4
SW5
0
5
10
15
20
25
30
35
40
45
50
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

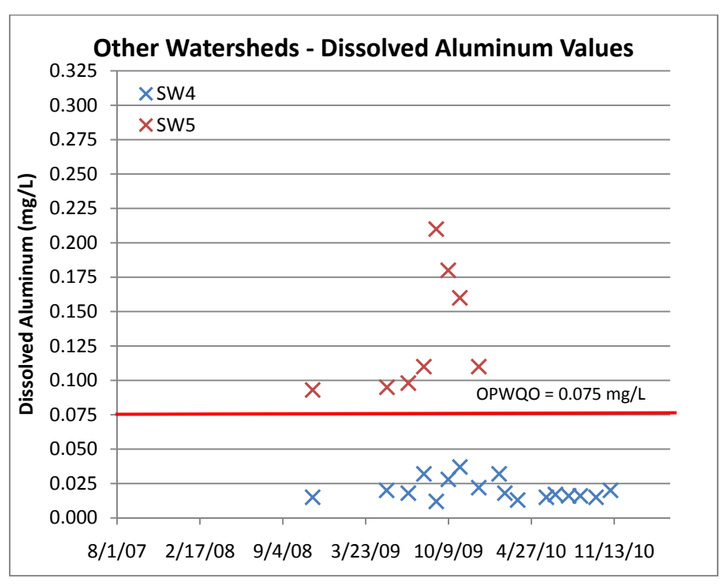

Pinewood River - Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW1/1A
SW3
SW8
SW10
SW15
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

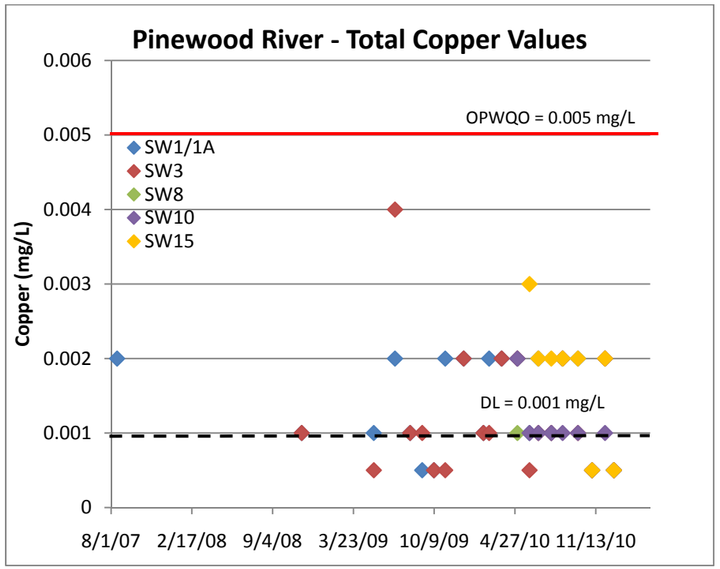

West Creek - Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW2
SW7A
SW14
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

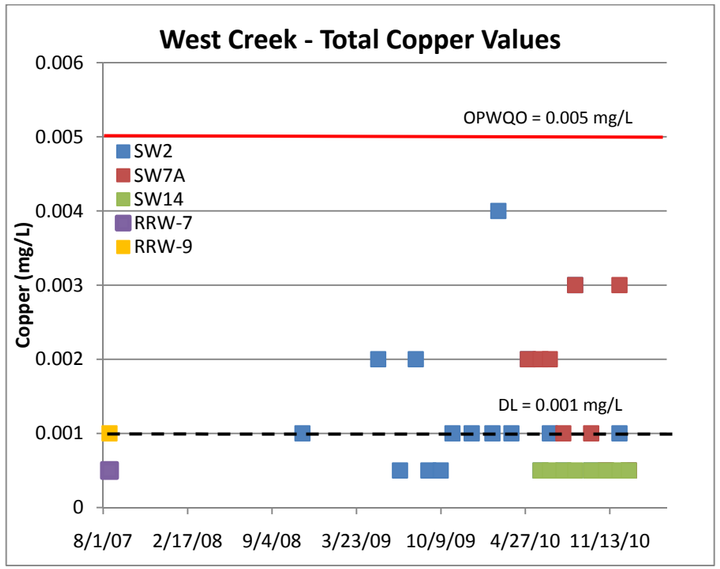

Rainy River- Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW16
SW17
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

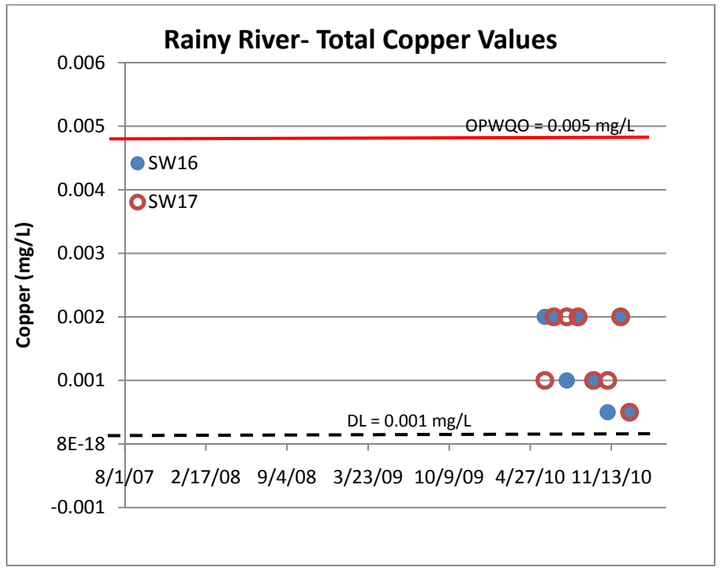

Clark Creek - Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW11
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

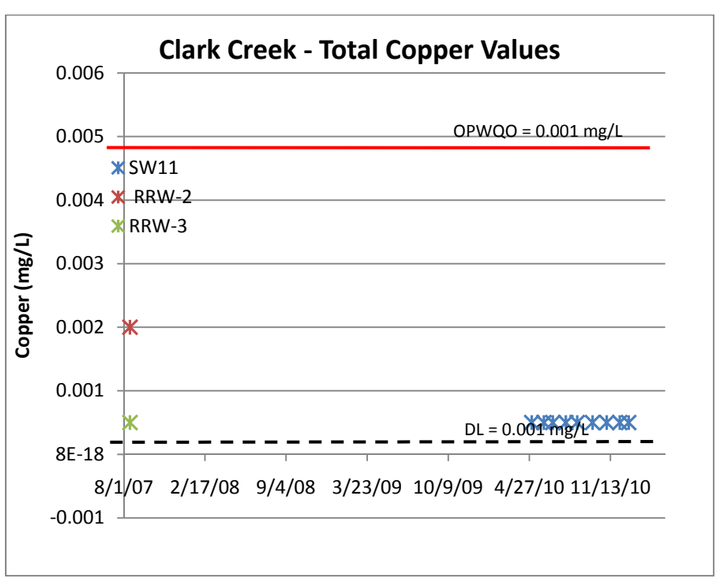

Marr Creek - Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW9
SW12
SW13
SW18
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

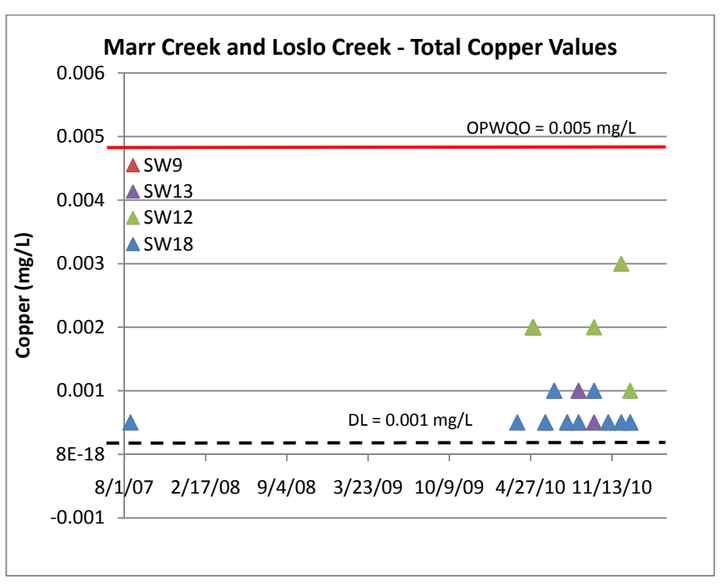

Other Watersheds - Dissolved Aluminum Values
Dissolved Aluminum (mg/L)
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
SW4
SW5
OPWQO = 0.075 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

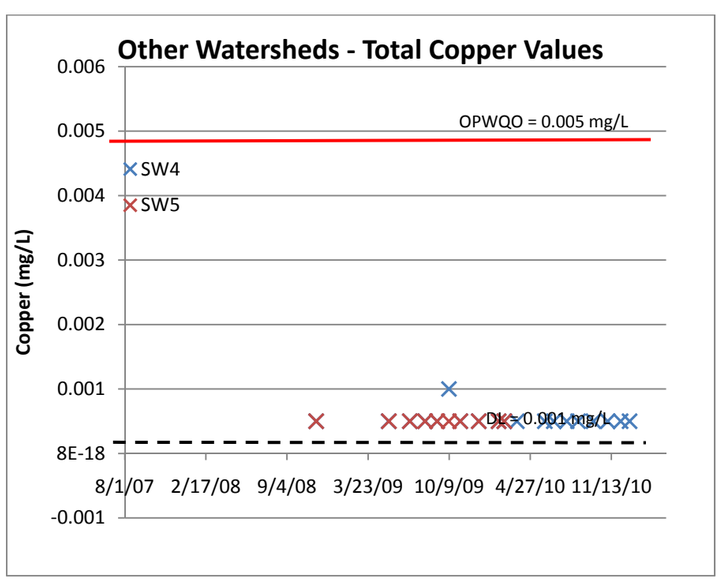

Pinewood River - Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
0
OPWQO = 0.005 mg/L
SW1/1A
SW3
SW8
SW10
SW15
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

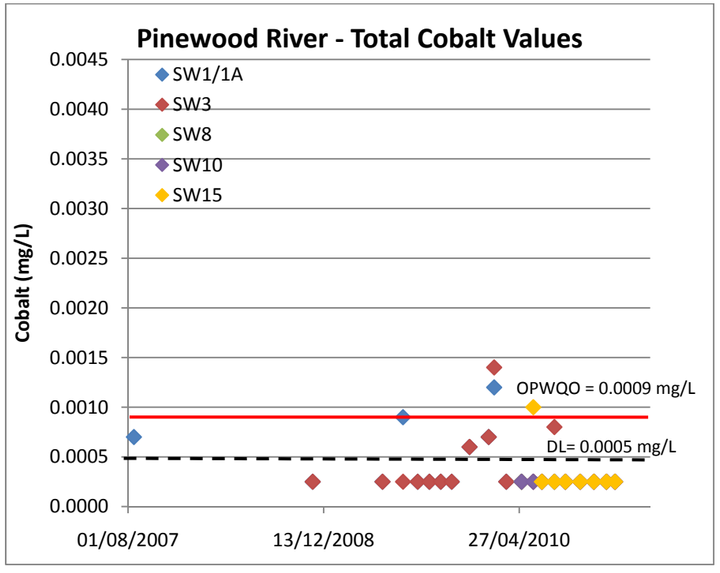

West Creek - Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
0
OPWQO = 0.005 mg/L
SW2
SW7A
SW14
RRW-7
RRW-9
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

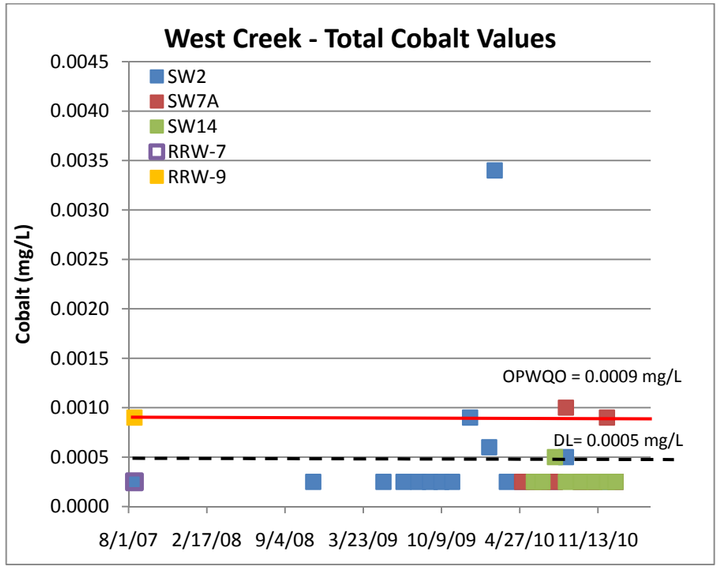

Rainy River- Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
8E-18
-0.001
OPWQO = 0.005 mg/L
SW16
SW17
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

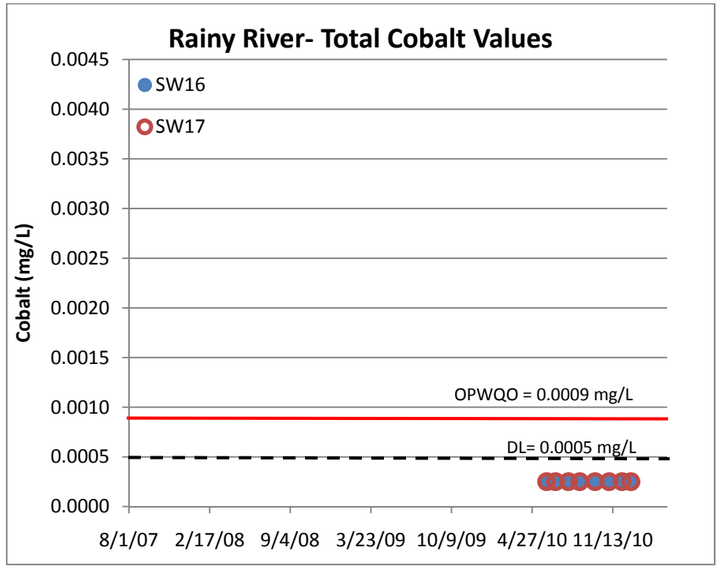

Clark Creek - Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
8E-18
-0.001
OPWQO = 0.001 mg/L
SW11
RRW-2
RRW-3
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

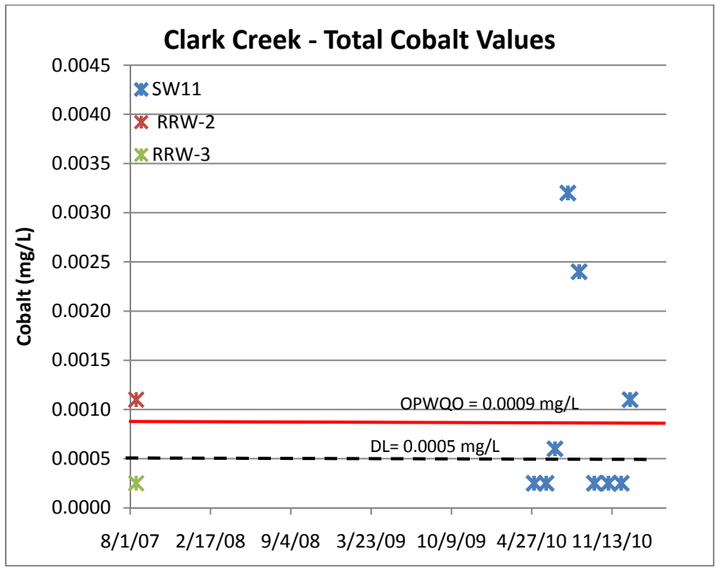

Marr Creek and Loslo Creek - Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
8E-18
-0.001
OPWQO = 0.005 mg/L
SW9
SW13
SW12
SW18
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

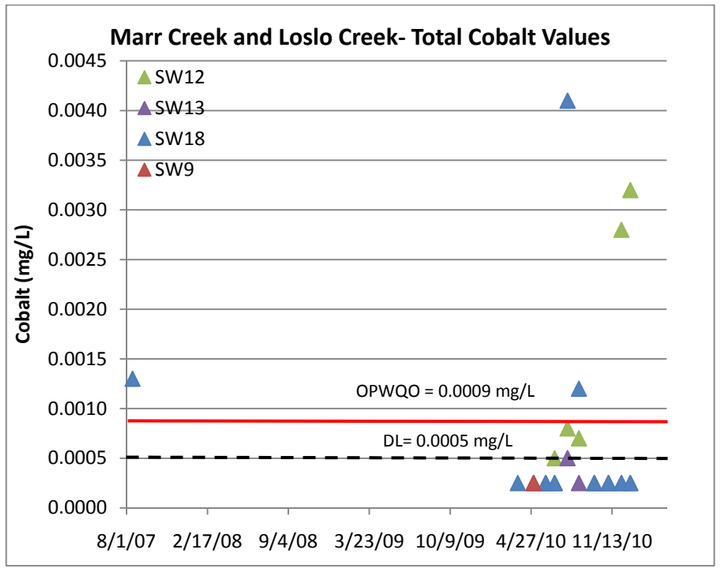

Other Watersheds - Total Copper Values
Copper (mg/L)
0.006
0.005
0.004
0.003
0.002
0.001
8E-18
-0.001
OPWQO = 0.005 mg/L
SW4
SW5
DL = 0.001 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

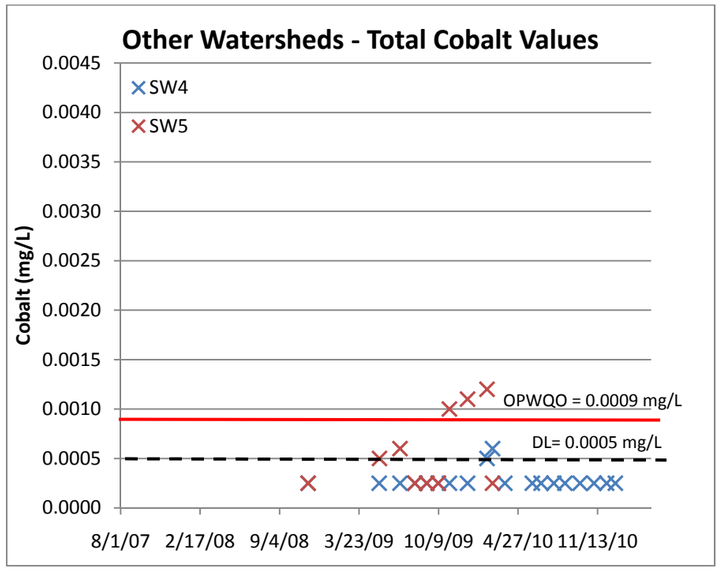

Pinewood River - Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW1/1A
SW3
SW8
SW10
SW15
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
01/08/2007
13/12/2008
27/04/2010

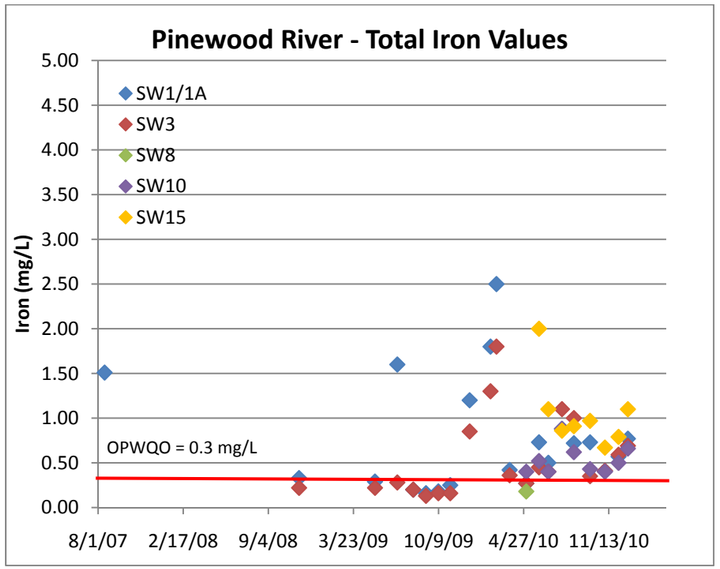

West Creek - Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW2
SW7A
SW14
RRW-7
RRW-9
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

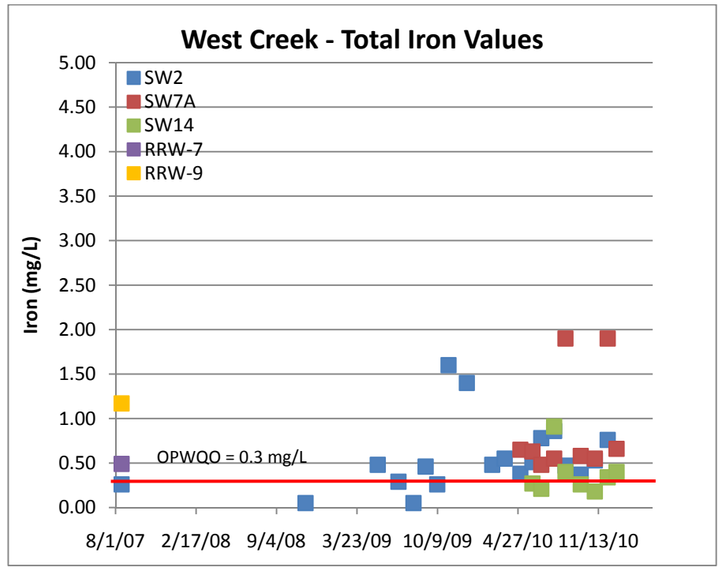

Rainy River- Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW16
SW17
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

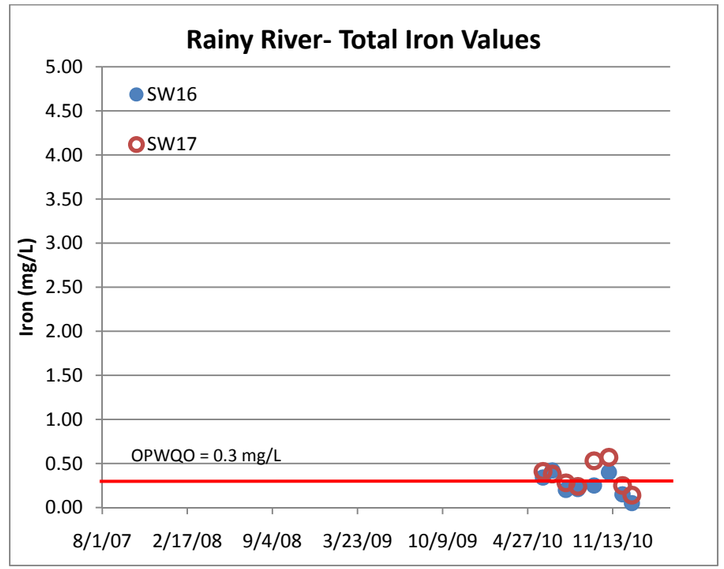

Clark Creek - Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW11
RRW-2
RRW-3
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

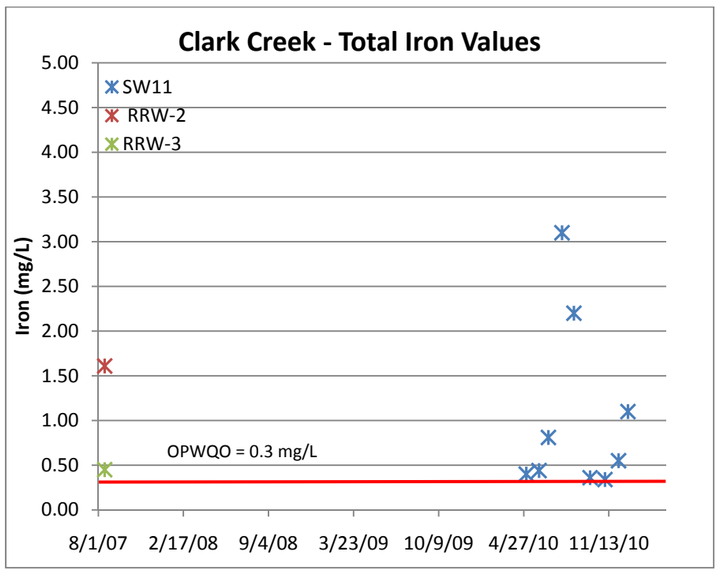

Marr Creek and Loslo Creek- Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW12
SW13
SW18
SW9
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

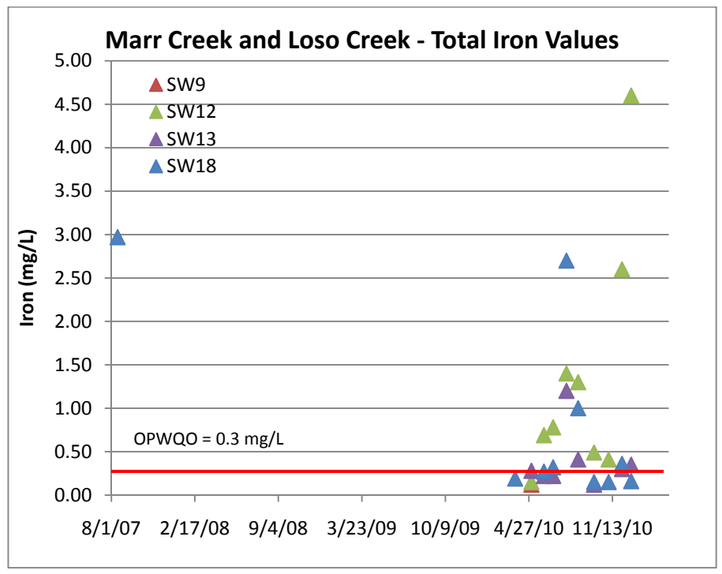

Other Watersheds - Total Cobalt Values
Cobalt (mg/L)
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
SW4
SW5
OPWQO = 0.0009 mg/L
DL= 0.0005 mg/L
8/1/07
2/17/08
9/4/08
3/23/09
10/9/09
4/27/10
11/13/10

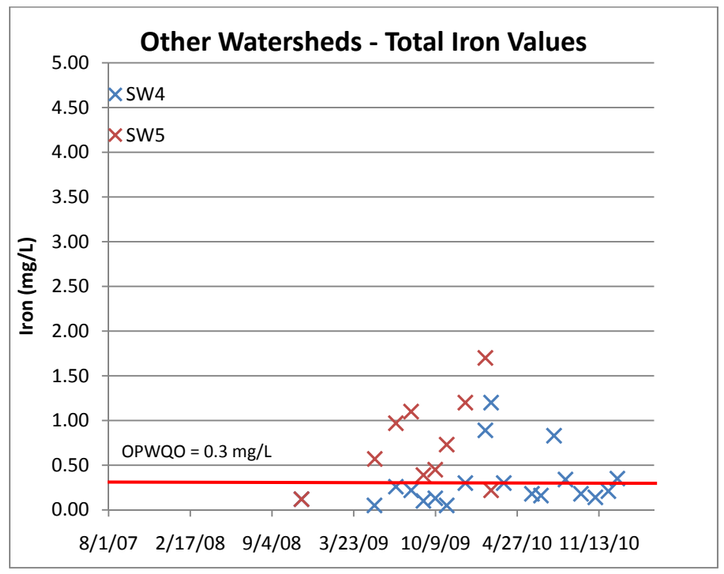




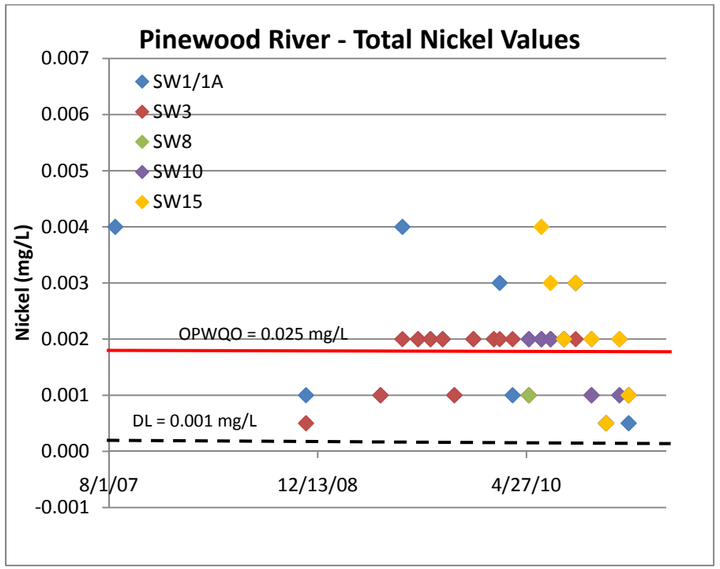


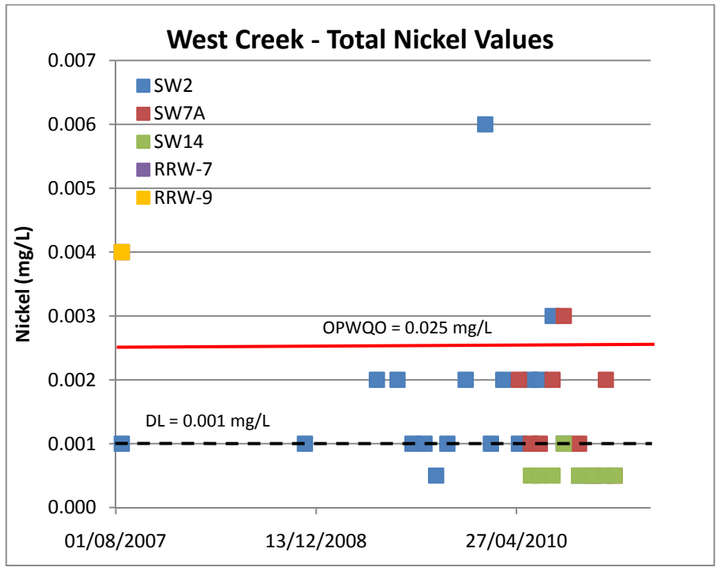


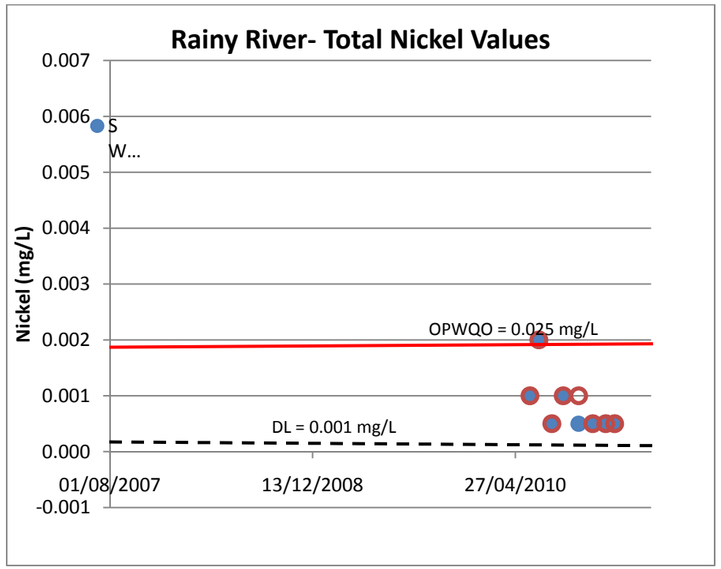


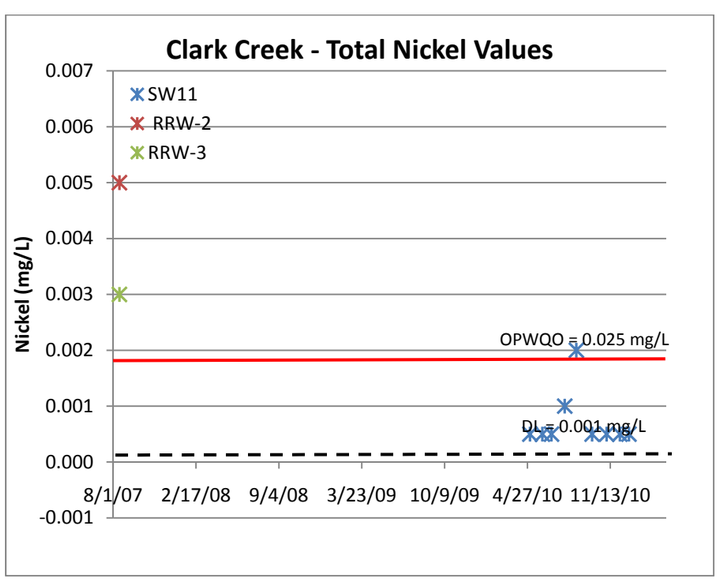


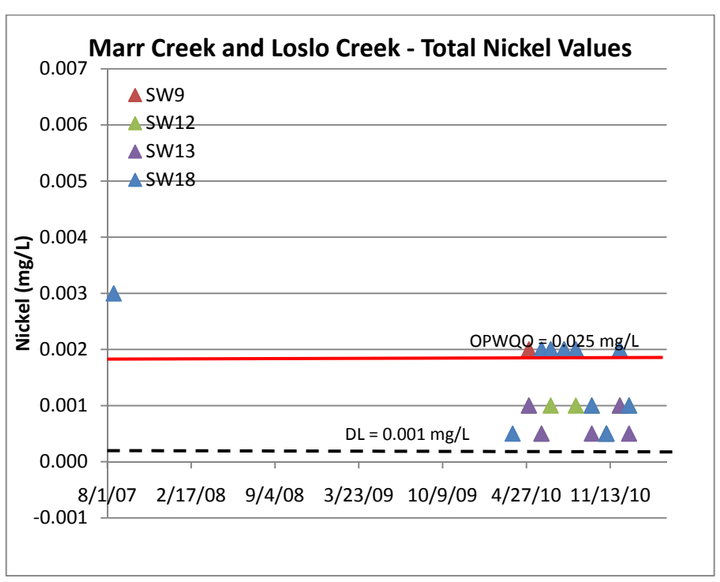
Note: SW2 value of 8 mg/L was removed from dataset to facilitate graphing

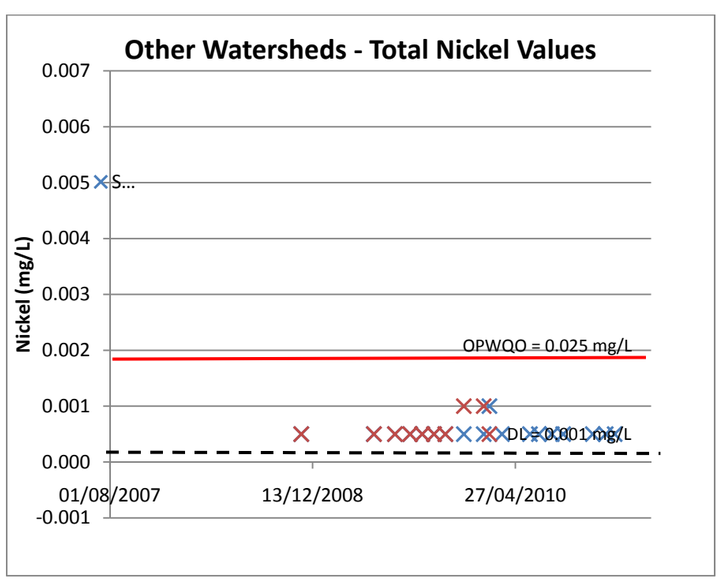




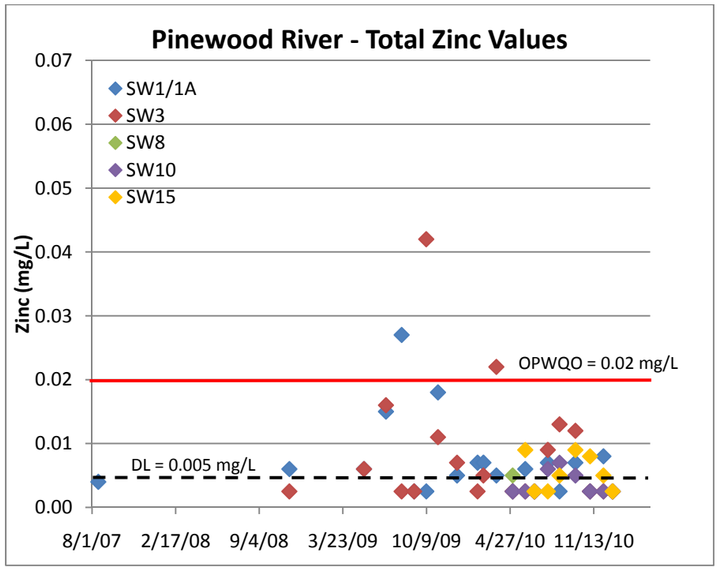


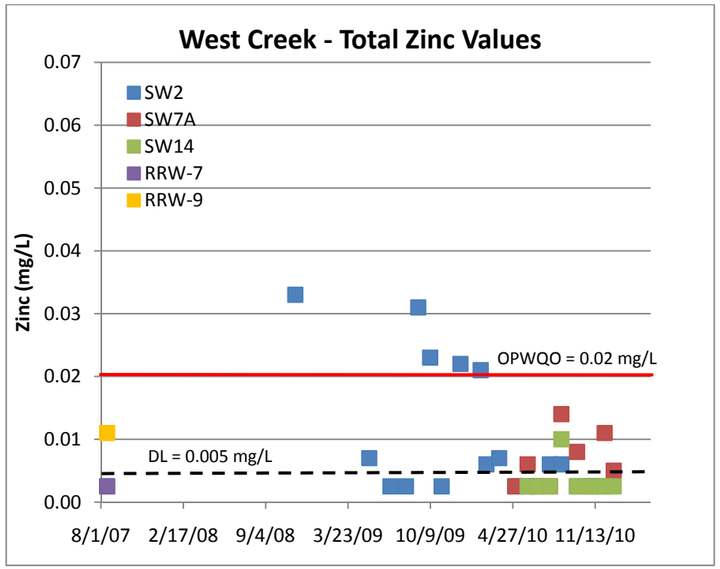


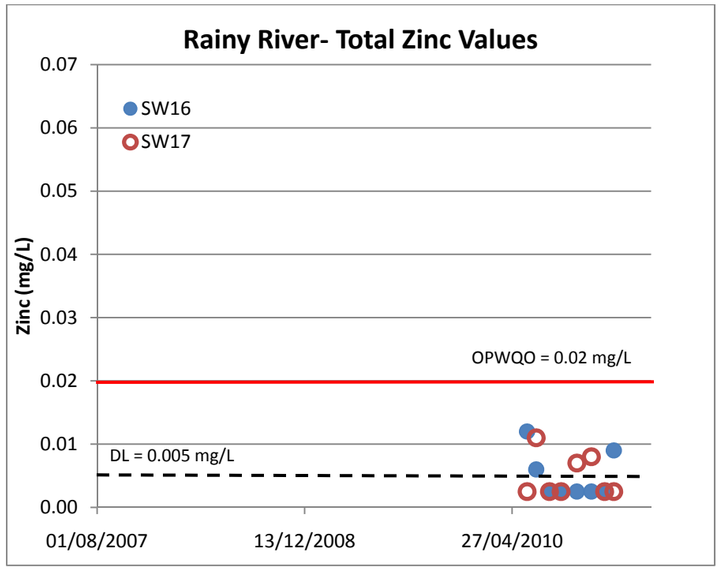


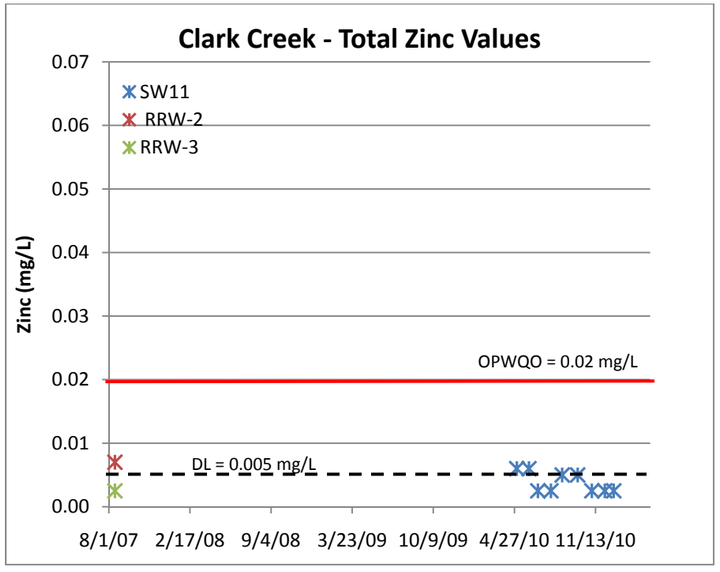


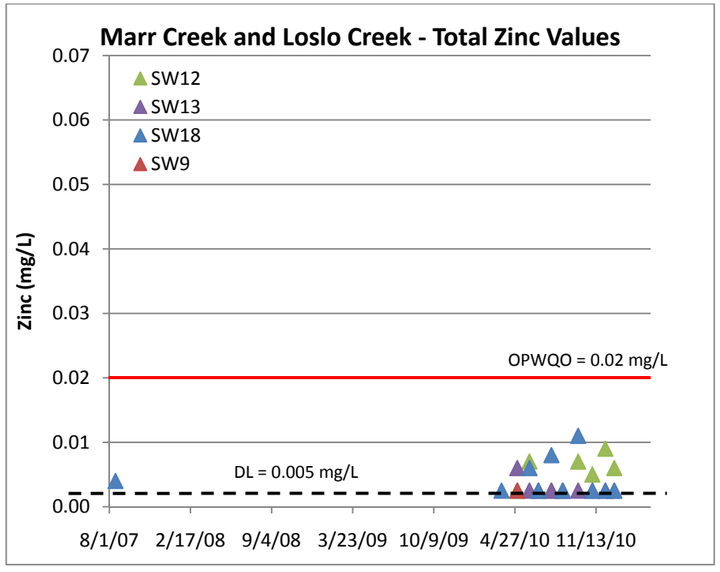
Note: SW4 value of 0.92 mg/L removed from dataset to facilitate graphing

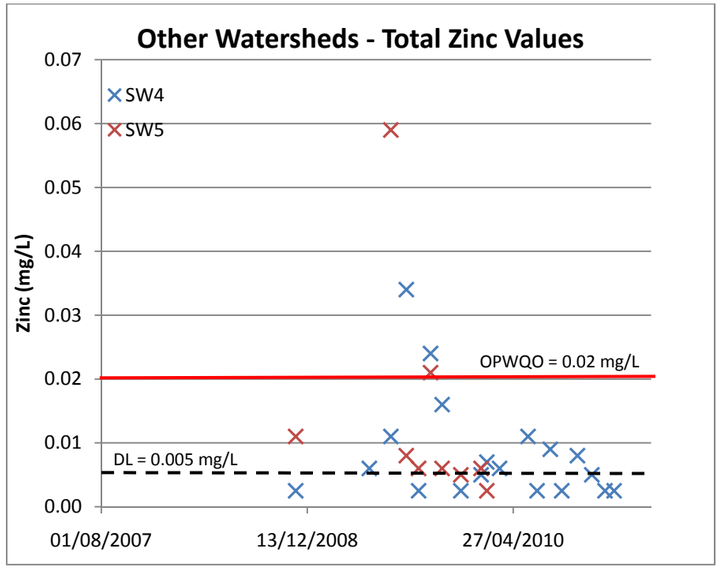












Note: SW5 value of 0.45 mg/L removed from data set to facilitate graphing

APPENDIX I - 3

RPD Calculations

Sampling Date				11/15/2008	11/15/2008	
	Units	**DL**	**5*DL**	**SW-1**	**SW-6**	**RPD**
Microbiological						
Escherichia coli	CFU/100mL	10	50	60	20	**100.00**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	12	ND	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	83	81	**2.44**
Conductivity	umho/cm	2	10	214	215	**0.47**
Total Dissolved Solids	mg/L	10	50	133	130	**2.28**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.1	0.5	30.2	30.3	**0.33**
Total Organic Carbon (TOC)	mg/L	0.1	0.5	30.2	29.8	**1.33**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND (1)	**N/A**
pH	pH			8.0	7.9	**1.26**
Total Suspended Solids	mg/L	1	5	2	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	0.011	**N/A**
Turbidity	NTU	0.1	0.5	4.1	3.9	**5.00**
Alkalinity (Total as CaCO3)	mg/L	1	5	89	87	**2.27**
Dissolved Chloride (Cl)	mg/L	1	5	9	9	**0.00**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Dissolved Aluminum (Al)	ug/L	5	25	61	56	**8.55**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	0.6	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	14	14	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	20	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	26000	24000	**8.00**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	4	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	210	200	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	0.5	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	11000	11000	**0.00**
Dissolved Manganese (Mn)	ug/L	2	10	8	7	**N/A**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	2	1	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	2400	1800	**28.57**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	4400	4300	**2.30**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	5300	4700	**12.00**
Dissolved Strontium (Sr)	ug/L	1	5	59	58	**1.71**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	2	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.6	0.6	**0.00**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	21	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Mercury (Hg)	mg/L	0.0001	0.0005	0.0002	ND	**N/A**
Total Aluminum (Al)	ug/L	5	25	210	200	**4.88**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Barium (Ba)	ug/L	5	25	15	15	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Calcium (Ca)	ug/L	200	1000	26000	27000	**3.77**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	1	1	**N/A**
Total Iron (Fe)	ug/L	100	500	330	340	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Magnesium (Mg)	ug/L	50	250	12000	12000	**0.00**
Total Manganese (Mn)	ug/L	2	10	10	10	**0.00**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	1	1	**N/A**
Total Potassium (K)	ug/L	200	1000	1900	1900	**0.00**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Silicon (Si)	ug/L	50	250	5000	4900	**2.02**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Sodium (Na)	ug/L	100	500	5000	5000	**0.00**
Total Strontium (Sr)	ug/L	1	5	63	62	**1.60**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	8	5	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.7	0.7	**0.00**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	6	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

July

Sampling Date				7/4/2009	7/4/2009	
	Units	**DL**	**5*DL**	**SW 4**	**SW 6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	10	10	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.11	0.12	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	58	63	**8.26**
Conductivity	umho/cm	1	5	97	98	**1.03**
Total Dissolved Solids	mg/L	10	50	60	62	**3.28**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.1	0.5	20.7	19.6	**5.46**
Total Organic Carbon (TOC)	mg/L	0.1	0.5	19.9	20.4	**2.48**
Orthophosphate (P)	mg/L	0.1	0.5	ND (1)	ND (1)	**N/A**
pH	pH			7.1	7.0	**1.42**
Total Suspended Solids	mg/L	1	5	9	2	**127.27**
Dissolved Sulphate (SO4)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.03	ND	ND	**N/A**
Turbidity	NTU	0.1	0.50	1.6	1.5	**6.45**
Alkalinity (Total as CaCO3)	mg/L	1	5	39	39	**0.00**
Dissolved Chloride (Cl)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	18	9	**N/A**
Total Aluminum (Al)	ug/L	5	25	77	86	**11.04**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	5	5	**N/A**
Total Barium (Ba)	ug/L	5	25	6	6	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	10000	11000	**9.52**
Total Calcium (Ca)	ug/L	200	1000	12000	11000	**8.70**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	3	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	3	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	1	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	ND	ND	**N/A**
Total Iron (Fe)	ug/L	100	500	260	240	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	3	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	3	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	4900	5000	**2.02**
Total Magnesium (Mg)	ug/L	50	250	5300	5100	**3.85**
Dissolved Manganese (Mn)	ug/L	2	10	ND	ND	**N/A**
Total Manganese (Mn)	ug/L	2	10	19	19	**0.00**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	1	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	530	560	**N/A**
Total Potassium (K)	ug/L	200	1000	630	600	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	1000	1100	**9.52**
Total Silicon (Si)	ug/L	50	250	1300	1200	**8.00**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	3400	3500	**2.90**
Total Sodium (Na)	ug/L	100	500	3600	3500	**2.82**
Dissolved Strontium (Sr)	ug/L	1	5	21	21	**0.00**
Total Strontium (Sr)	ug/L	1	5	24	23	**4.26**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	11	11	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

August

Sampling Date				8/10/2009	8/10/2009	
	Units	**DL**	**5*DL**	**SW3**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	10	10	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.15	0.11	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	67	33	**68.00**
Conductivity	umho/cm	1	5	296	294	**0.68**
Total Dissolved Solids	mg/L	10	50	195	192	**1.55**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	29.6	29.8	**0.67**
Total Organic Carbon (TOC)	mg/L	0.2	1	28.3	28.8	**1.75**
Orthophosphate (P)	mg/L	0.1	0.5	ND (1)	ND (1)	**N/A**
pH	pH			7.8	7.7	**1.29**
Total Suspended Solids	mg/L	1	5	15	6	**85.71**
Dissolved Sulphate (SO4)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	4.7	3.9	**18.60**
Alkalinity (Total as CaCO3)	mg/L	1	5	155	158	**1.92**
Dissolved Chloride (Cl)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	83	140	**51.12**
Total Aluminum (Al)	ug/L	5	25	180	88	**68.66**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	1	2	**N/A**
Total Arsenic (As)	ug/L	1	5	2	2	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	41	16	**87.72**
Total Barium (Ba)	ug/L	5	25	16	41	**87.72**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	17	14	**N/A**
Total Boron (B)	ug/L	10	50	12	13	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	37000	38000	**2.67**
Total Calcium (Ca)	ug/L	200	1000	39000	39000	**0.00**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	2	1	**N/A**
Total Copper (Cu)	ug/L	1	5	1	4	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	160	210	**N/A**
Total Iron (Fe)	ug/L	100	500	200	ND	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	5	5	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	15000	16000	**6.45**
Total Magnesium (Mg)	ug/L	50	250	17000	16000	**6.06**
Dissolved Manganese (Mn)	ug/L	2	10	35	44	**22.78**
Total Manganese (Mn)	ug/L	2	10	45	35	**25.00**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	1	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	770	740	**N/A**
Total Potassium (K)	ug/L	200	1000	640	650	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	2500	2500	**0.00**
Total Silicon (Si)	ug/L	50	250	3000	2700	**10.53**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	2600	2700	**3.77**
Total Sodium (Na)	ug/L	100	500	2900	2900	**0.00**
Dissolved Strontium (Sr)	ug/L	1	5	85	84	**1.18**
Total Strontium (Sr)	ug/L	1	5	87	85	**2.33**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	5	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	7	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.4	0.4	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.4	0.4	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	2	1	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	36	7	**134.88**
Total Zinc (Zn)	ug/L	5	25	ND	23	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit

ND = Not detected

N/A = Not Applicable

(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly

Grey cells = RPD > 20%

Blue cells = RPD > 50%

September

Sampling Date				9/9/2009	9/9/2009	
	Units	**DL**	**5*DL**	**SW4**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	14	14	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.18	0.19	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	59	53	**10.71**
Conductivity	umho/cm	1	5	107	108	**0.93**
Total Dissolved Solids	mg/L	10	50	71	71	**0.00**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	18.5	17.2	**7.28**
Total Organic Carbon (TOC)	mg/L	0.2	1	19.2	19.4	**1.04**
Orthophosphate (P)	mg/L	0.1	0.5	ND (1)	ND (1)	**N/A**
pH	pH			7.1	7.2	**1.40**
Total Suspended Solids	mg/L	1	5	2	4	**N/A**
Dissolved Sulphate (SO4)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	1.7	1.3	**26.67**
Alkalinity (Total as CaCO3)	mg/L	1	5	47	47	**0.00**
Dissolved Chloride (Cl)	mg/L	10	50	7	6	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	12	10	**N/A**
Total Aluminum (Al)	ug/L	5	25	21	37	**55.17**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	37	34	**8.45**
Total Barium (Ba)	ug/L	5	25	7	8	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	13000	13000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	16000	15000	**6.45**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	2	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	140	140	**N/A**
Total Iron (Fe)	ug/L	100	500	100	180	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	5600	4900	**13.33**
Total Magnesium (Mg)	ug/L	50	250	6700	6700	**0.00**
Dissolved Manganese (Mn)	ug/L	2	10	9	10	**10.53**
Total Manganese (Mn)	ug/L	2	10	10	31	**102.44**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	760	760	**N/A**
Total Potassium (K)	ug/L	200	1000	850	840	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	1700	1600	**6.06**
Total Silicon (Si)	ug/L	50	250	2100	2100	**0.00**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	3300	3300	**0.00**
Total Sodium (Na)	ug/L	100	500	4200	4100	**2.41**
Dissolved Strontium (Sr)	ug/L	1	5	31	29	**6.67**
Total Strontium (Sr)	ug/L	1	5	33	31	**6.25**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	28	35	**22.22**
Total Zinc (Zn)	ug/L	5	25	ND	15	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

October

Sampling Date				10/8/2009	10/8/2009	
	Units	**DL**	**5*DL**	**SW5**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	26	19	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.19	0.25	**27.27**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	120	110	**8.70**
Conductivity	umho/cm	1	5	75	76	**1.32**
Total Dissolved Solids	mg/L	10	50	48	49	**N/A**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	2	10	47	45	**4.35**
Total Organic Carbon (TOC)	mg/L	2	10	44	42	**4.65**
Orthophosphate (P)	mg/L	0.1	0.5	ND (1)	ND (1)	**N/A**
pH	pH			6.7	6.7	**0.00**
Total Suspended Solids	mg/L	1	5	ND	ND	**N/A**
Dissolved Sulphate (SO4)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	1.6	1.2	**28.57**
Alkalinity (Total as CaCO3)	mg/L	1	5	34	33	**2.99**
Dissolved Chloride (Cl)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
. Aluminum (Al)	ug/L	5	25	100	100	**0.00**
. Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
. Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
. Barium (Ba)	ug/L	5	25	7	7	**N/A**
. Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
. Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
. Boron (B)	ug/L	10	50	ND	ND	**N/A**
. Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
. Calcium (Ca)	ug/L	200	1000	10000	10000	**0.00**
. Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
. Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
. Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
. Iron (Fe)	ug/L	100	500	390	390	**N/A**
. Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
. Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
. Magnesium (Mg)	ug/L	50	250	5400	5300	**1.87**
. Manganese (Mn)	ug/L	2	10	20	19	**5.13**
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
. Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
. Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
. Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
. Potassium (K)	ug/L	200	1000	ND	ND	**N/A**
. Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
. Silicon (Si)	ug/L	50	250	6400	6300	**1.57**
. Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
. Sodium (Na)	ug/L	100	500	900	870	**3.39**
. Strontium (Sr)	ug/L	1	5	21	20	**4.88**
. Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
. Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
. Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
. Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
. Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
. Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
. Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
. Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
. Zinc (Zn)	ug/L	5	25	6	5	**N/A**
. Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

November

Sampling Date				11/5/2009	11/5/2009	
	Units	**DL**	**5*DL**	**SW2**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	12	16	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.24	0.24	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	40	39	**2.53**
Conductivity	umho/cm	1	5	354	350	**1.14**
Total Dissolved Solids	mg/L	10	50	230	232	**0.87**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	2	10	15.3	15.2	**0.66**
Total Organic Carbon (TOC)	mg/L	2	10	15.2	15.2	**0.00**
Orthophosphate (P)	mg/L	0.1	0.5	ND	ND	**N/A**
pH	pH			7.9	7.8	**1.27**
Total Suspended Solids	mg/L	1	5	2	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	10	50	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	3.1	3.5	**12.12**
Alkalinity (Total as CaCO3)	mg/L	1	5	179	176	**1.69**
Dissolved Chloride (Cl)	mg/L	10	50	5	6	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
. Aluminum (Al)	ug/L	5	25	47	61	**25.93**
. Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
. Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
. Barium (Ba)	ug/L	5	25	64	19	**108.43**
. Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
. Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
. Boron (B)	ug/L	10	50	ND	ND	**N/A**
. Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
. Calcium (Ca)	ug/L	200	1000	43000	44000	**2.30**
. Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
. Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
. Copper (Cu)	ug/L	1	5	1	ND	**N/A**
. Iron (Fe)	ug/L	100	500	260	360	**N/A**
. Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
. Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
. Magnesium (Mg)	ug/L	50	250	18000	18000	**0.00**
. Manganese (Mn)	ug/L	2	10	74	74	**0.00**
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
. Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
. Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
. Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
. Potassium (K)	ug/L	200	1000	1600	1700	**6.06**
. Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
. Silicon (Si)	ug/L	50	250	5100	5400	**5.71**
. Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
. Sodium (Na)	ug/L	100	500	2900	2800	**3.51**
. Strontium (Sr)	ug/L	1	5	67	67	**0.00**
. Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
. Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
. Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
. Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
. Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
. Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
. Uranium (U)	ug/L	0.1	0.5	0.6	0.5	**18.18**
. Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
. Zinc (Zn)	ug/L	5	25	23	ND	**N/A**
. Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

December

Sampling Date				12/21/2009	12/21/2009	
	Units	**DL**	**5*DL**	**SW 1**	**SW 6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	0.7	1.6	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	31	28	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.28	0.30	**6.90**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	84	79	**6.13**
Conductivity	umho/cm	1	5	443	443	**0.00**
Total Dissolved Solids	mg/L	10	50	296	284	**4.14**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	31.2	30.1	**3.59**
Total Organic Carbon (TOC)	mg/L	0.2	1	30.7	30.1	**1.97**
Orthophosphate (P)	mg/L	0.05	0.25	ND (1)	ND (1)	**N/A**
pH	pH			7.6	7.6	**0.00**
Total Suspended Solids	mg/L	1	5	10	10	**0.00**
Dissolved Sulphate (SO4)	mg/L	5	25	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	12	13	**8.00**
Alkalinity (Total as CaCO3)	mg/L	1	5	180	182	**1.10**
Dissolved Chloride (Cl)	mg/L	5	25	24	24	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	0.7	1.6	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	80	86	**7.23**
Total Aluminum (Al)	ug/L	5	25	850	930	**8.99**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	1	1	**N/A**
Total Arsenic (As)	ug/L	1	5	2	1	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	28	38	**30.30**
Total Barium (Ba)	ug/L	5	25	27	30	**10.53**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	20	20	**N/A**
Total Boron (B)	ug/L	10	50	ND	14	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	51000	52000	**1.94**
Total Calcium (Ca)	ug/L	200	1000	53000	56000	**5.50**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	0.6	0.6	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	4	2	**N/A**
Total Copper (Cu)	ug/L	1	5	2	2	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	530	650	**20.34**
Total Iron (Fe)	ug/L	100	500	1200	1300	**8.00**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	7	6	**N/A**
Total Lithium (Li)	ug/L	5	25	9	7	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	22000	21000	**4.65**
Total Magnesium (Mg)	ug/L	50	250	23000	22000	**4.44**
Dissolved Manganese (Mn)	ug/L	2	10	160	160	**0.00**
Total Manganese (Mn)	ug/L	2	10	160	170	**6.06**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	2300	2100	**9.09**
Total Potassium (K)	ug/L	200	1000	2300	2400	**4.26**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	7600	7400	**2.67**
Total Silicon (Si)	ug/L	50	250	9500	9300	**2.13**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	12000	12000	**0.00**
Total Sodium (Na)	ug/L	100	500	12000	11000	**8.70**
Dissolved Strontium (Sr)	ug/L	1	5	120	130	**8.00**
Total Strontium (Sr)	ug/L	1	5	130	130	**0.00**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	42	53	**23.16**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.9	0.9	**0.00**
Total Uranium (U)	ug/L	0.1	0.5	1.0	1.0	**0.00**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	4	2	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	20	30	**40.00**
Total Zinc (Zn)	ug/L	5	25	5	6	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	1	1	**N/A**

February

Sampling Date				2/8/2010	2/8/2010	
	Units	**DL**	**5xDL**	**SW5**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	54	52	**3.77**
Total Ammonia-N	mg/L	0.05	0.25	0.58	0.57	**1.74**
Total BOD	mg/L	2	10	3	3	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	8	40	150	150	**0.00**
Conductivity	umho/cm	1	5	127	126	**0.79**
Total Dissolved Solids	mg/L	10	50	80	80	**0.00**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	57.8	59.2	**2.39**
Total Organic Carbon (TOC)	mg/L	0.2	1	58.1	59.2	**1.88**
Orthophosphate (P)	mg/L	0.2	1	ND (1)	ND (1)	**N/A**
pH	pH			7.0	7.1	**1.42**
Total Suspended Solids	mg/L	1	5	1	1	**0.00**
Dissolved Sulphate (SO4)	mg/L	20	100	ND (1)	ND (1)	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	1.6	1.5	**6.45**
Alkalinity (Total as CaCO3)	mg/L	1	5	59	61	**3.33**
Dissolved Chloride (Cl)	mg/L	20	100	ND (1)	ND (1)	**N/A**
Nitrite (N)	mg/L	0.01	0.05	0.02	0.01	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	180	180	**0.00**
Total Aluminum (Al)	ug/L	5	25	200	190	**5.13**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	1	**N/A**
Total Arsenic (As)	ug/L	1	5	1	1	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	31	21	**38.46**
Total Barium (Ba)	ug/L	5	25	14	12	**15.38**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	17000	17000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	18000	18000	**0.00**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	1.1	1.1	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	1.1	1.2	**8.70**
Dissolved Copper (Cu)	ug/L	1	5	3	2	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	1200	1200	**0.00**
Total Iron (Fe)	ug/L	100	500	1200	1300	**8.00**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	0.5	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	8800	8900	**1.13**
Total Magnesium (Mg)	ug/L	50	250	9400	9700	**3.14**
Dissolved Manganese (Mn)	ug/L	2	10	330	330	**0.00**
Total Manganese (Mn)	ug/L	2	10	360	360	**0.00**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	1	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	1	1	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	960	740	**N/A**
Total Potassium (K)	ug/L	200	1000	700	710	**1.42**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	11000	11000	**0.00**
Total Silicon (Si)	ug/L	50	250	12000	11000	**8.7**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	2200	1800	**20.00**
Total Sodium (Na)	ug/L	100	500	1800	1800	**0.00**
Dissolved Strontium (Sr)	ug/L	1	5	37	38	**2.67**
Total Strontium (Sr)	ug/L	1	5	37	39	**5.26**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	1	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	35	20	**54.55**
Total Zinc (Zn)	ug/L	5	25	5	9	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

February

Sampling Date				2/22/2010	2/22/2010	
	Units	**DL**	**5xDL**	**SW4**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	62	68	**9.23**
Total Ammonia-N	mg/L	0.05	0.25	0.26	0.24	**8.00**
Total BOD	mg/L	2	10	4	4	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	95	91	**4.30**
Conductivity	umho/cm	1	5	159	157	**1.27**
Total Dissolved Solids	mg/L	10	50	100	102	**1.98**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	33.8	33.5	**0.89**
Total Organic Carbon (TOC)	mg/L	0.2	1	35.5	34.9	**1.70**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND	**N/A**
pH	pH			6.7	6.7	**0.00**
Total Suspended Solids	mg/L	1	5	1	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	4.2	3.4	**21.05**
Alkalinity (Total as CaCO3)	mg/L	1	5	65	65	**0.00**
Dissolved Chloride (Cl)	mg/L	1	5	9	8	**11.76**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	22	36	**48.28**
Total Aluminum (Al)	ug/L	5	25	52	59	**12.61**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	12	21	**N/A**
Total Barium (Ba)	ug/L	5	25	14	13	**7.41**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	19000	18000	**5.41**
Total Calcium (Ca)	ug/L	200	1000	21000	19000	**10.00**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	0.6	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	3	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	670	920	**31.45**
Total Iron (Fe)	ug/L	100	500	1200	1100	**8.70**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	0.7	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	8500	7500	**12.50**
Total Magnesium (Mg)	ug/L	50	250	9900	9200	**7.33**
Dissolved Manganese (Mn)	ug/L	2	10	340	340	**0.00**
Total Manganese (Mn)	ug/L	2	10	410	380	**7.59**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	1	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	710	810	**N/A**
Total Potassium (K)	ug/L	200	1000	790	720	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	6600	6300	**4.65**
Total Silicon (Si)	ug/L	50	250	7500	6900	**8.33**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	5400	4900	**9.71**
Total Sodium (Na)	ug/L	100	500	5500	5000	**9.52**
Dissolved Strontium (Sr)	ug/L	1	5	40	39	**2.53**
Total Strontium (Sr)	ug/L	1	5	46	44	**4.44**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	23	**N/A**
Total Zinc (Zn)	ug/L	5	25	7	6	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

April

Sampling Date				5/3/2010	5/3/2010	
	Units	**DL**	**5xDL**	**SW10**	**SW6**	**RPD**
Calculated Parameters						
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	96	95	**1.05**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	130	120	**8.00**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	10	10	**0.00**
Total Ammonia-N	mg/L	0.05	0.25	0.18	0.20	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	69	67	**2.94**
Colour	TCU	4	20	140	140	**0.00**
Conductivity	umho/	1	5	252	252	**0.00**
Total Dissolved Solids	mg/L	10	50	160	160	**0.00**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	1	1.4	1.2	**15.38**
Dissolved Organic Carbon	mg/L	0.2	1	26.9	27.1	**0.74**
Total Organic Carbon (TOC)	mg/L	0.2	1	25.7	25.6	**0.39**
Orthophosphate (P)	mg/L	0.01	0.05	0.01	0.01	**N/A**
pH	pH			7.8	7.8	**0.00**
Dissolved Phosphorus	mg/L	0.002	0.01	0.023	0.024	**4.26**
Total Phosphorus	mg/L	0.002	0.01	0.029	0.027	**7.14**
Reactive Silica (SiO2)	mg/L	0.5	2.5	6.8	6.8	**0.00**
Total Suspended Solids	mg/L	1	5	2	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	2.9	3.0	**3.39**
Alkalinity (Total as CaCO3)	mg/L	1	5	97	96	**1.04**
Dissolved Chloride (Cl)	mg/L	1	5	15	15	**0.00**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			194	193	**0.52**
Fixed Gases						
Carbon Dioxide	L/m3	0.6	3	2.1	2.2	**4.65**
Calculated Carbon Dioxide	mg/L	1	5	4	4	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	3.3	3.3	**0.00**
Total Sulphur (S)	mg/L	0.5	2.5	3.2	3.2	**0.00**
Dissolved Aluminum (Al)	ug/L	5	25	110	67	**48.59**
Total Aluminum (Al)	ug/L	5	25	190	130	**37.50**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	26	22	**16.67**
Total Barium (Ba)	ug/L	5	25	17	16	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	15	16	**N/A**
Total Boron (B)	ug/L	10	50	25	16	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	29000	29000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	29000	28000	**3.51**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	1	1	**N/A**
Total Copper (Cu)	ug/L	1	5	2	1	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	240	190	**N/A**
Total Iron (Fe)	ug/L	100	500	400	250	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	5	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	13000	12000	**8.00**
Total Magnesium (Mg)	ug/L	50	250	12000	13000	**8.00**
Dissolved Manganese (Mn)	ug/L	2	10	12	10	**18.18**
Total Manganese (Mn)	ug/L	2	10	43	15	**96.55**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	1	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	1700	1800	**5.71**
Total Potassium (K)	ug/L	200	1000	1800	1800	**0.00**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	3300	3100	**6.25**
Total Silicon (Si)	ug/L	50	250	3500	3600	**2.82**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	6800	6600	**2.99**
Total Sodium (Na)	ug/L	100	500	6700	6800	**1.48**
Dissolved Strontium (Sr)	ug/L	1	5	71	67	**5.80**
Total Strontium (Sr)	ug/L	1	5	68	74	**8.45**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	7	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.6	0.6	**0.00**
Total Uranium (U)	ug/L	0.1	0.5	0.6	0.7	**15.38**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	2	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	39	15	**88.89**
Total Zinc (Zn)	ug/L	5	25	ND	5	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

May

Sampling Date				6/2/2010	6/2/2010	
	Units	**DL**	**5xDL**	**SW18**	**SW6**	**RPD**
Calculated Parameters						
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	116	115	**0.87**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	120	130	**8.00**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	ND	10	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	80	84	**4.88**
Colour	TCU	4	20	150	150	**0.00**
Conductivity	umho/cm	1	5	226	227	**0.44**
Total Dissolved Solids	mg/L	10	50	148	140	**5.56**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	1	1.4	1.5	**6.90**
Dissolved Organic Carbon	mg/L	0.2	1	34.0	34.9	**2.61**
Total Organic Carbon (TOC)	mg/L	0.2	1	35.0	35.7	**1.98**
Orthophosphate (P)	mg/L	0.01	0.05	0.03	0.03	**N/A**
Dissolved Oxygen	mg/L			6.34	5.67	**11.16**
pH	pH			7.7	7.7	**0.00**
Dissolved Phosphorus	mg/L	0.002	0.01	0.041	0.041	**0.00**
Total Phosphorus	mg/L	0.002	0.01	0.045	0.041	**9.30**
Reactive Silica (SiO2)	mg/L	0.5	2.5	11	11	**0.00**
Total Suspended Solids	mg/L	1	5	1	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	2.8	2.0	**33.33**
Alkalinity (Total as CaCO3)	mg/L	1	5	117	116	**0.86**
Dissolved Chloride (Cl)	mg/L	1	5	2	2	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			231	218	**5.79**
Fixed Gases						
Carbon Dioxide	L/m3	0.6	3	6.0	5.6	**6.90**
Calculated Carbon Dioxide	mg/L	1	5	11	10	**9.52**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	0.7	0.8	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	0.7	0.8	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	43	51	**17.02**
Total Aluminum (Al)	ug/L	5	25	84	87	**3.51**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	1.0	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	1	1	**N/A**
Total Arsenic (As)	ug/L	1	5	1	1	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	35	42	**18.18**
Total Barium (Ba)	ug/L	5	25	19	19	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	1	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	22	20	**N/A**
Total Boron (B)	ug/L	10	50	16	16	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	30000	31000	**3.28**
Total Calcium (Ca)	ug/L	200	1000	32000	33000	**3.08**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	150	190	**N/A**
Total Iron (Fe)	ug/L	100	500	270	280	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	12000	12000	**0.00**
Total Magnesium (Mg)	ug/L	50	250	13000	14000	**7.41**
Dissolved Manganese (Mn)	ug/L	2	10	25	26	**3.92**
Total Manganese (Mn)	ug/L	2	10	30	32	**6.45**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	1100	1200	**8.70**
Total Potassium (K)	ug/L	200	1000	1100	1200	**8.70**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	4800	4900	**2.06**
Total Silicon (Si)	ug/L	50	250	5100	5300	**3.85**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1900	2100	**10.00**
Total Sodium (Na)	ug/L	100	500	2000	2100	**4.88**
Dissolved Strontium (Sr)	ug/L	1	5	57	58	**1.74**
Total Strontium (Sr)	ug/L	1	5	64	65	**1.55**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.2	0.3	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.5	0.4	**22.22**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	18	35	**64.15**
Total Zinc (Zn)	ug/L	5	25	6	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

June

Sampling Data				6/24/2010	6/24/2010	
	Units	**DL**	**5*DL**	**SW 15**	**SW 6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	79	79	**0.00**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	98	94	**4.17**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	12	14	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	0.07	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	110	99	**10.53**
Colour	TCU	4	20	270	120	**76.92**
Conductivity	umho/cm	1	5	162	161	**0.62**
Total Dissolved Solids	mg/L	10	50	102	104	**1.94**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	1	1.3	1.4	**7.41**
Dissolved Organic Carbon	mg/L	0.2	1	39.8	40.3	**1.25**
Total Organic Carbon (TOC)	mg/L	0.2	1	38.8	39.1	**0.77**
Orthophosphate (P)	mg/L	0.1	0.5	ND (1)	ND (1)	**N/A**
Dissolved Oxygen	mg/L			7.93	8.50	**6.94**
pH	pH			7.5	7.5	**0.00**
Dissolved Phosphorus	mg/L	0.002	0.01	0.037	0.046	**21.69**
Total Phosphorus	mg/L	0.002	0.01	0.063	0.074	**16.06**
Reactive Silica (SiO2)	mg/L	0.5	2.5	7.1	7.0	**1.42**
Total Suspended Solids	mg/L	1	5	29	22	**27.45**
Dissolved Sulphate (SO4)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	18	13	**32.26**
Alkalinity (Total as CaCO3)	mg/L	1	5	79	79	**0.00**
Dissolved Chloride (Cl)	mg/L	10	50	ND (1)	ND (1)	**N/A**
Nitrite (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate (N)	mg/L	1	5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	1	5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			242	234	**3.36**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases			0			
Carbon Dioxide	L/m3	0.6	3	2.0	2.2	**N/A**
Calculated Carbon Dioxide	mg/L	1	5	4	4	**N/A**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	1.0	0.9	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	1.1	1.1	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	69	69	**0.00**
Total Aluminum (Al)	ug/L	5	25	830	970	**15.56**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	1	1	**N/A**
Total Arsenic (As)	ug/L	1	5	2	2	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	15	15	**N/A**
Total Barium (Ba)	ug/L	5	25	22	23	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	12	11	**N/A**
Total Boron (B)	ug/L	10	50	16	15	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	24000	23000	**4.26**
Total Calcium (Ca)	ug/L	200	1000	24000	24000	**0.00**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	0.7	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	3	2	**N/A**
Total Copper (Cu)	ug/L	1	5	2	2	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	420	400	**N/A**
Total Iron (Fe)	ug/L	100	500	1100	1300	**16.67**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	0.6	0.8	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	6	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	9500	9200	**3.21**
Total Magnesium (Mg)	ug/L	50	250	11000	10000	**9.52**
Dissolved Manganese (Mn)	ug/L	2	10	ND	ND	**N/A**
Total Manganese (Mn)	ug/L	2	10	46	65	**34.23**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	3	4	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	680	660	**N/A**
Total Potassium (K)	ug/L	200	1000	850	940	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	3200	3100	**3.17**
Total Silicon (Si)	ug/L	50	250	4900	5100	**4.00**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1900	1800	**5.41**
Total Sodium (Na)	ug/L	100	500	2100	2000	**4.88**
Dissolved Strontium (Sr)	ug/L	1	5	45	43	**4.55**
Total Strontium (Sr)	ug/L	1	5	51	50	**1.98**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	30	42	**33.33**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.3	0.3	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.4	0.4	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	3	3	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	6	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	1	2	**N/A**

July

Sampling Date				7/26/2010	7/26/2010	
	Units	**DL**	**5*DL**	**SW2**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	1.7	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	98	98	**0.00**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	110	110	**0.00**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	ND	ND	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	72	78	**8.00**
Colour	TCU	4	20	160	160	**0.00**
Conductivity	umho/cm	1	5	191	191	**0.00**
Total Dissolved Solids	mg/L	10	50	120	122	**1.65**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	1	1.2	1.2	**0.00**
Dissolved Organic Carbon	mg/L	0.2	1	28.3	27.9	**1.42**
Total Organic Carbon (TOC)	mg/L	0.2	1	26.3	26.3	**0.00**
Orthophosphate (P)	mg/L	0.01	0.05	0.03	0.06	**66.67**
Dissolved Oxygen	mg/L			8.80	8.66	**1.60**
pH	pH			7.5	7.6	**1.32**
Dissolved Phosphorus	mg/L	0.002	0.01	0.050	0.048	**4.08**
Total Phosphorus	mg/L	0.002	0.01	0.068	0.061	**10.85**
Reactive Silica (SiO2)	mg/L	0.5	2.5	9.8	9.9	**1.02**
Total Suspended Solids	mg/L	1	5	8	19	**81.48**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND (1)	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	2.6	10	**117.46**
Alkalinity (Total as CaCO3)	mg/L	1	5	98	98	**0.00**
Dissolved Chloride (Cl)	mg/L	1	5	2	ND (1)	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis			0			
Redox Potential	mV			177	167	**5.81**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	1.7	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases			0			
Carbon Dioxide	L/m3	0.6	3	2.5	2.4	**N/A**
Calculated Carbon Dioxide	mg/L	1	5	5	4	**22.22**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	13	13	**N/A**
Total Aluminum (Al)	ug/L	5	25	130	140	**7.41**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	2	2	**N/A**
Total Arsenic (As)	ug/L	1	5	2	2	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	10	10	**N/A**
Total Barium (Ba)	ug/L	5	25	11	12	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	10	11	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	27000	27000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	25000	27000	**7.69**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	1	1	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	2	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	490	490	**N/A**
Total Iron (Fe)	ug/L	100	500	780	840	**7.41**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	10000	11000	**9.52**
Total Magnesium (Mg)	ug/L	50	250	9300	10000	**7.25**
Dissolved Manganese (Mn)	ug/L	2	10	ND	ND	**N/A**
Total Manganese (Mn)	ug/L	2	10	60	68	**12.50**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	560	580	**N/A**
Total Potassium (K)	ug/L	200	1000	510	540	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	4600	4700	**2.15**
Total Silicon (Si)	ug/L	50	250	4500	4600	**2.20**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1000	1000	**0.00**
Total Sodium (Na)	ug/L	100	500	900	970	**7.49**
Dissolved Strontium (Sr)	ug/L	1	5	42	42	**0.00**
Total Strontium (Sr)	ug/L	1	5	41	43	**4.76**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	6	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.1	0.1	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.1	0.1	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	1	1	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	5	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly
Grey cells = RPD > 20%
Blue cells = RPD > 50%

August

Sampling Date				8/23/2010	8/23/2010	
	Units	**DL**	**5*DL**	**SW11**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	111	113	**1.79**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	120	120	**0.00**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	28	24	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	2	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	98	96	**2.06**
Colour	TCU	4	20	170	160	**6.06**
Conductivity	umho/cm	1	5	216	221	**2.29**
Total Dissolved Solids	mg/L	10	50	138	140	**1.44**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	0.5	1.7	1.7	**0.00**
Dissolved Organic Carbon	mg/L	0.2	1	37.2	36.9	**0.81**
Total Organic Carbon (TOC)	mg/L	0.2	1	34.6	33.7	**2.64**
Orthophosphate (P)	mg/L	0.01	0.05	0.02	0.03	**N/A**
Dissolved Oxygen	mg/L			0.740	3.19	**124.68**
pH	pH			7.5	7.5	**0.00**
Dissolved Phosphorus	mg/L	0.002	0.01	0.034	0.029	**15.87**
Total Phosphorus	mg/L	0.002	0.01	0.062	0.042	**38.46**
Reactive Silica (SiO2)	mg/L	0.5	2.5	15	15	**0.00**
Total Suspended Solids	mg/L	1	5	8	7	**13.33**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	4.2	4.6	**9.09**
Alkalinity (Total as CaCO3)	mg/L	1	5	112	114	**1.77**
Dissolved Chloride (Cl)	mg/L	1	5	2	2	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			172	200	**15.05**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases						
Carbon Dioxide	L/m3	0.6	3	16	12	**28.57**
Calculated Carbon Dioxide	mg/L	1	5	29	21	**32.00**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	18	20	**N/A**
Total Aluminum (Al)	ug/L	5	25	38	42	**10.00**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	2	2	**N/A**
Total Arsenic (As)	ug/L	1	5	2	2	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	13	13	**0.00**
Total Barium (Ba)	ug/L	5	25	20	20	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	13	13	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	29000	29000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	32000	30000	**6.45**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	2.0	2.4	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	730	920	**23.03**
Total Iron (Fe)	ug/L	100	500	2000	2200	**9.52**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	12000	12000	**0.00**
Total Magnesium (Mg)	ug/L	50	250	13000	13000	**0.00**
Dissolved Manganese (Mn)	ug/L	2	10	ND	ND	**N/A**
Total Manganese (Mn)	ug/L	2	10	770	880	**13.33**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	1	1	**N/A**
Total Nickel (Ni)	ug/L	1	5	2	2	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	510	480	**N/A**
Total Potassium (K)	ug/L	200	1000	530	490	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	6700	6700	**0.00**
Total Silicon (Si)	ug/L	50	250	6900	6700	**2.94**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1100	1100	**0.00**
Total Sodium (Na)	ug/L	100	500	1100	1100	**0.00**
Dissolved Strontium (Sr)	ug/L	1	5	59	57	**3.45**
Total Strontium (Sr)	ug/L	1	5	62	59	**4.96**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	19	5	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

September

Sampling Date				9/30/2010	9/30/2010	
	Units	**DL**	**5*DL**	**SW13**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	0.8	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	108	109	**0.92**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	120	120	**0.00**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	10	10	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	60	63	**4.88**
Colour	TCU	2	10	98	97	**1.03**
Conductivity	umho/cm	1	5	215	214	**0.47**
Total Dissolved Solids	mg/L	10	50	132	132	**0.00**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	0.5	0.8	0.9	**11.76**
Dissolved Organic Carbon	mg/L	0.2	1	21.8	22.3	**2.27**
Total Organic Carbon (TOC)	mg/L	0.2	1	20.2	20.4	**0.99**
Orthophosphate (P)	mg/L	0.01	0.05	ND	0.01	**N/A**
Dissolved Oxygen	mg/L			9.06	8.40	**7.56**
pH	pH			7.5	7.5	**0.00**
Dissolved Phosphorus	mg/L	0.002	0.01	0.019	0.025	**27.27**
Total Phosphorus	mg/L	0.002	0.01	0.020	0.024	**18.18**
Reactive Silica (SiO2)	mg/L	0.5	2.5	7.9	7.8	**1.27**
Total Suspended Solids	mg/L	1	5	ND	ND	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	1.1	0.9	**20.00**
Alkalinity (Total as CaCO3)	mg/L	1	5	108	109	**0.92**
Dissolved Chloride (Cl)	mg/L	1	5	ND	1	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			198	186	**6.25**
Petroleum Hydrocarbons			0			
Total Oil & Grease	mg/L	0.5	2.5	ND	0.8	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases						
Carbon Dioxide	L/m3	0.6	3	3.8	4.0	**5.13**
Calculated Carbon Dioxide	mg/L	1	5	7	7	**0.00**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	0.7	0.7	**0.00**
Total Sulphur (S)	mg/L	0.5	2.5	0.6	0.6	**0.00**
Dissolved Aluminum (Al)	ug/L	5	25	7	7	**0.00**
Total Aluminum (Al)	ug/L	5	25	23	25	**8.33**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	12	12	**N/A**
Total Barium (Ba)	ug/L	5	25	12	12	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	11	16	**N/A**
Total Boron (B)	ug/L	10	50	12	13	**8.00**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	28000	27000	**3.64**
Total Calcium (Ca)	ug/L	200	1000	29000	30000	**3.39**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	ND	130	**N/A**
Total Iron (Fe)	ug/L	100	500	120	130	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	12000	12000	**0.00**
Total Magnesium (Mg)	ug/L	50	250	12000	12000	**0.00**
Dissolved Manganese (Mn)	ug/L	2	10	6	5	**N/A**
Total Manganese (Mn)	ug/L	2	10	16	16	**0.00**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	890	920	**N/A**
Total Potassium (K)	ug/L	200	1000	890	930	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	3500	3700	**5.56**
Total Silicon (Si)	ug/L	50	250	3600	3800	**5.41**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1600	1700	**6.06**
Total Sodium (Na)	ug/L	100	500	1600	1700	**6.06**
Dissolved Strontium (Sr)	ug/L	1	5	53	53	**0.00**
Total Strontium (Sr)	ug/L	1	5	53	54	**1.87**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.2	0.2	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.2	0.2	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	2	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable

Grey cells = RPD > 20%
Blue cells = RPD > 50%

(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly

October

Sampling Date				11/4/2010	11/4/2010	
	Units	**DL**	**5*DL**	**SW12A**	**SW6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	31	31	**0.00**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	36	35	**2.82**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	11	16	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	55	54	**1.83**
Colour	TCU	4	20	100	100	**0.00**
Conductivity	umho/cm	1	5	65	64	**1.55**
Total Dissolved Solids	mg/L	10	50	40	40	**N/A**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	0.5	1.0	1.0	**N/A**
Dissolved Organic Carbon	mg/L	0.2	1	19.4	19.5	**0.51**
Total Organic Carbon (TOC)	mg/L	0.2	1	19.7	19.3	**2.05**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND	**N/A**
Dissolved Oxygen	mg/L			8.79	8.61	**2.07**
pH	pH			7.21	7.17	**0.56**
Dissolved Phosphorus	mg/L	0.002	0.01	0.012	0.011	**8.70**
Total Phosphorus	mg/L	0.002	0.01	0.017	0.025	**38.10**
Reactive Silica (SiO2)	mg/L	0.5	2.5	3.6	3.6	**0.00**
Total Suspended Solids	mg/L	1	5	6	5	**18.18**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	5.1	4.2	**19.35**
Alkalinity (Total as CaCO3)	mg/L	1	5	31	32	**3.17**
Dissolved Chloride (Cl)	mg/L	1	5	ND	1	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			282	293	**3.83**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases			0			
Carbon Dioxide	L/m3	0.6	3	5.4	4.9	**9.71**
Calculated Carbon Dioxide	mg/L	1	5	10	9	**10.53**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	67	65	**3.03**
Total Aluminum (Al)	ug/L	5	25	200	210	**4.88**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	0.5	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	8	7	**N/A**
Total Barium (Ba)	ug/L	5	25	9	8	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	11	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	9200	8900	**3.31**
Total Calcium (Ca)	ug/L	200	1000	9600	9400	**2.11**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	1	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	150	110	**N/A**
Total Iron (Fe)	ug/L	100	500	410	580	**34.34**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	3200	3200	**0.00**
Total Magnesium (Mg)	ug/L	50	250	3200	3100	**3.17**
Dissolved Manganese (Mn)	ug/L	2	10	9	9	**N/A**
Total Manganese (Mn)	ug/L	2	10	15	15	**0.00**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	770	750	**N/A**
Total Potassium (K)	ug/L	200	1000	790	770	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	1800	1700	**5.71**
Total Silicon (Si)	ug/L	50	250	2100	1900	**10.00**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	1000	1000	**0.00**
Total Sodium (Na)	ug/L	100	500	960	940	**2.11**
Dissolved Strontium (Sr)	ug/L	1	5	16	15	**6.45**
Total Strontium (Sr)	ug/L	1	5	16	15	**6.45**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	6	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.1	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	5	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

December

Sampling Date				12/6/2010	12/6/2010	
	Units	**DL**	**5*DL**	**SW16**	**SW 6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	27	25	**7.69**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	29	28	**3.51**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	ND	ND	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	ND	ND	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	35	36	**2.82**
Colour	TCU	2	10	42	45	**6.90**
Conductivity	umho/cm	1	5	71	70	**1.42**
Total Dissolved Solids	mg/L	10	50	46	48	**N/A**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	0.5	0.5	0.5	**0.00**
Dissolved Organic Carbon	mg/L	0.2	1	10.8	10.8	**0.00**
Total Organic Carbon (TOC)	mg/L	0.2	1	11.2	11.0	**1.80**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND	**N/A**
Dissolved Oxygen	mg/L			11.2	11.5	**2.64**
pH	pH			7.25	7.29	**0.55**
Dissolved Phosphorus	mg/L	0.002	0.01	0.015	0.017	**12.50**
Total Phosphorus	mg/L	0.002	0.01	0.021	0.024	**13.33**
Reactive Silica (SiO2)	mg/L	0.5	2.5	3.1	3.2	**3.17**
Total Suspended Solids	mg/L	1	5	3	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	3	3	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	2.0	1.7	**16.22**
Alkalinity (Total as CaCO3)	mg/L	1	5	27	25	**7.69**
Dissolved Chloride (Cl)	mg/L	1	5	2	3	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			237	244	**2.91**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases						
Carbon Dioxide	L/m3	0.6	3	0.8	0.9	**11.76**
Calculated Carbon Dioxide	mg/L	1	5	1	2	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	1.6	1.7	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	1.7	1.8	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	20	20	**N/A**
Total Aluminum (Al)	ug/L	5	25	91	73	**21.95**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	9	9	**N/A**
Total Barium (Ba)	ug/L	5	25	10	10	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	1.1	0.5	**75.00**
Total Cadmium (Cd)	ug/L	0.1	0.5	1.0	0.6	**50.00**
Dissolved Calcium (Ca)	ug/L	200	1000	7800	7500	**3.92**
Total Calcium (Ca)	ug/L	200	1000	7400	7600	**2.67**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	1	**N/A**
Total Copper (Cu)	ug/L	1	5	2	2	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	ND	ND	**N/A**
Total Iron (Fe)	ug/L	100	500	150	140	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	2300	2300	**0.00**
Total Magnesium (Mg)	ug/L	50	250	2500	2500	**0.00**
Dissolved Manganese (Mn)	ug/L	2	10	ND	ND	**N/A**
Total Manganese (Mn)	ug/L	2	10	9	9	**N/A**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	700	680	**N/A**
Total Potassium (K)	ug/L	200	1000	750	750	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	1400	1400	**0.00**
Total Silicon (Si)	ug/L	50	250	1600	1600	**0.00**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	3600	3500	**2.82**
Total Sodium (Na)	ug/L	100	500	3600	3500	**2.82**
Dissolved Strontium (Sr)	ug/L	1	5	20	20	**0.00**
Total Strontium (Sr)	ug/L	1	5	22	23	**4.44**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	0.1	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable

Grey cells = RPD > 20%
Blue cells = RPD > 50%

(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly

December

Sampling Date				12/28/2010	12/28/2010	
	Units	**DL**	**5*DL**	**SW 4**	**SW 6**	**RPD**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	52	52	**0.00**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Hardness (CaCO3)	mg/L	1	5	61	63	**3.23**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics			0			
Acidity as CaC03	mg/L	10	50	33	23	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.09	0.09	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	86	82	**4.76**
Colour	TCU	4	20	150	150	**0.00**
Conductivity	umho/cm	1	5	130	125	**3.92**
Total Dissolved Solids	mg/L	10	50	80	76	**5.13**
Fluoride (F-)	mg/L	0.1	0.5	ND	ND	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	1	1.1	1.1	**0.00**
Dissolved Organic Carbon	mg/L	0.2	1	29.0	29.1	**0.34**
Total Organic Carbon (TOC)	mg/L	0.2	1	31.0	30.8	**0.65**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND	**N/A**
Dissolved Oxygen	mg/L			7.72	6.67	**14.59**
pH	pH			7.05	7.04	**0.14**
Dissolved Phosphorus	mg/L	0.002	0.01	0.014	0.017	**19.35**
Total Phosphorus	mg/L	0.002	0.01	0.018	0.016	**11.76**
Reactive Silica (SiO2)	mg/L	0.5	2.5	12	12	**0.00**
Total Suspended Solids	mg/L	1	5	4	2	**N/A**
Dissolved Sulphate (SO4)	mg/L	1	5	ND	ND	**N/A**
Sulphide	mg/L	0.02	0.1	ND	ND	**N/A**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	1.6	1.5	**6.45**
Alkalinity (Total as CaCO3)	mg/L	1	5	52	52	**0.00**
Dissolved Chloride (Cl)	mg/L	1	5	7	6	**15.38**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV			332	320	**3.68**
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.5	2.5	ND	ND	**N/A**
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	2.5	ND	ND	**N/A**
Fixed Gases			0			
Carbon Dioxide	L/m3	0.6	3	12	14	**15.38**
Calculated Carbon Dioxide	mg/L	1	5	22	26	**16.67**
Metals			0			
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Total Sulphur (S)	mg/L	0.5	2.5	ND	ND	**N/A**
Dissolved Aluminum (Al)	ug/L	5	25	20	22	**N/A**
Total Aluminum (Al)	ug/L	5	25	42	38	**10.00**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Total Arsenic (As)	ug/L	1	5	ND	ND	**N/A**
Dissolved Barium (Ba)	ug/L	5	25	9	10	**N/A**
Total Barium (Ba)	ug/L	5	25	9	9	**N/A**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	ND	ND	**N/A**
Total Boron (B)	ug/L	10	50	ND	ND	**N/A**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	14000	14000	**0.00**
Total Calcium (Ca)	ug/L	200	1000	15000	14000	**6.90**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	310	340	**N/A**
Total Iron (Fe)	ug/L	100	500	350	320	**N/A**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Total Lithium (Li)	ug/L	5	25	ND	ND	**N/A**
Dissolved Magnesium (Mg)	ug/L	50	250	6400	6500	**1.55**
Total Magnesium (Mg)	ug/L	50	250	6600	6400	**3.08**
Dissolved Manganese (Mn)	ug/L	2	10	210	220	**4.65**
Total Manganese (Mn)	ug/L	2	10	230	220	**4.44**
Dissolved Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	ND	ND	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	820	860	**N/A**
Total Potassium (K)	ug/L	200	1000	840	810	**N/A**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	5300	5400	**1.87**
Total Silicon (Si)	ug/L	50	250	5400	5200	**3.77**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	4500	3700	**19.51**
Total Sodium (Na)	ug/L	100	500	4500	3900	**14.29**
Dissolved Strontium (Sr)	ug/L	1	5	27	28	**3.64**
Total Strontium (Sr)	ug/L	1	5	28	27	**3.64**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	ND	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable
Grey cells = RPD > 20%
Blue cells = RPD > 50%
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly

APPENDIX I - 4

Laboratory Results
August 2007

PARAMETER	STATION							
	RRW-1	RRW-2	RRW-3	RRW-4	RRW-6	RRW-7	RRW-8	RRW-9
pH	7.5	7.9	8.0	7.4	8.0	8.2	7.6	8.0
Conductivity (µmho/cm)	262	398	369	283	411	416	267	378
Alkalinity (mg/L $CaCO_3$)	140	236	219	163	249	264	147	221
Acidity (mg/L $CaCO_{3)}$	18	22	16	28	12	9	16	15
Sulphate (mg/L)	3.5	5.5	3.8	1.9	2.2	1.9	2.6	3.1
Fluoride (mg/L)	-	-	-	-	-	-	-	-
Total Cyanide (mg/L)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Chloride (mg/L)	-	-	-	-	-	-	-	-
TSS (mg/L)	8	44	2	12	10	4	4	28
E. Coli (CFU/100 mL)	-	-	-	-	-	-	-	-
Ammonia (mg/L)	0.03	0.01	0.01	0.01	0.01	0.01	0.03	0.01
Total Organic Carbon (mg/L)	-	-	-	-	-	-	-	-
T-Mercury (µg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
T-Aluminum (µg/L)	540	910	70	20	20	20	150	120
T-Antimony (µg/L)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
T-Arsenic (µg/L)	4	4	1	2	1	2	2	2
T-Beryllium (µg/L)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
T-Boron (µg/L)	25	25	25	25	25	25	25	25
T-Cadmium (µg/L)	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
T-Calcium (µg/L)	36100	47600	45100	39500	47700	51600	36200	50400
T-Chromium (µg/L)	1	2	0.5	0.5	0.5	0.5	0.5	0.5
T-Cobalt (µg/L)	0.7	1.1	0.25	1.3	0.25	0.25	0.6	0.9
T-Copper (µg/L)	2	2	0.5	0.5	0.5	0.5	0.5	1
T-Iron (µg/L)	1510	1610	450	2970	370	490	980	1170
T-Lead (µg/L)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
T-Molybdenum (µg/L)	0.5	1	0.5	0.5	1	1	0.5	0.5
T-Nickel (µg/L)	4	5	3	3	4	4	3	4
T-Selenium (µg/L)	0.6	0.5	0.4	0.2	0.5	0.2	0.2	0.2
T-Silver (µg/L)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
T-Thallium (µg/L)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
T-Uranium (µg/L)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
T-Vanadium (µg/L)	4	5	1	0.5	0.5	0.5	2	1
T-Zinc (µg/L)	4	7	1.5	4	3	1.5	3	11
hardness	149	208	196	165	205	225	151	209

APPENDIX I - 4

Laboratory Results
November 2008

PARAMETER	STATION			
	SW-1	SW-2	SW-3	SW-4
pH	8.0	8.0	7.9	7.7
Conductivity (µmho/cm)	214	200	206	105
Alkalinity (mg/L $CaCO_3$)	89	102	95	45
Acidity (mg/L $CaCO_{3)}$	12	15	13	10
Sulphate (mg/L)	0.5	0.5	0.5	0.5
Fluoride (mg/L)	0.05	0.05	0.05	0.05
Cyanide (mg/L)	0.0025	0.0025	0.0025	0.0025
Chloride (mg/L)	9	2	5	5
TSS (mg/L)	2	3	1	2
E. Coli (CFU/100 mL)	60	10	20	<10
Ammonia (mg/L)	0.025	0.025	0.025	0.025
Total Organic Carbon (mg/L)	30.2	22.6	26.8	27.1
T-Mercury (µg/L)	0.2	0.05	0.05	0.05
T-Aluminum (µg/L)	210	100	130	37
T-Antimony (µg/L)	0.25	0.25	0.25	0.25
T-Arsenic (µg/L)	0.5	0.5	0.5	0.5
T-Beryllium (µg/L)	0.25	0.25	0.25	0.25
T-Boron (µg/L)	5	5	5	5
T-Cadmium (µg/L)	0.05	0.05	0.05	0.05
T-Calcium (µg/L)	26000	24000	26000	13000
T-Chromium (µg/L)	2.5	2.5	2.5	2.5
T-Cobalt (µg/L)	0.25	0.25	0.25	0.25
T-Copper (µg/L)	1	1	1	0.5
T-Iron (µg/L)	330	260	220	120
T-Lead (µg/L)	0.25	0.25	0.25	0.25
T-Molybdenum (µg/L)	0.5	0.5	0.5	0.5
T-Nickel (µg/L)	1	1	0.5	0.5
T-Selenium (µg/L)	1	1	1	1
T-Silver (µg/L)	0.05	0.05	0.05	0.05
T-Thallium (µg/L)	0.025	0.07	0.025	0.025
T-Uranium (µg/L)	0.7	0.5	0.4	0.05
T-Vanadium (µg/L)	0.5	0.5	0.5	0.5
T-Zinc (µg/L)	6	2.5	2.5	2.5

PARAMETER	STATION			
	SW-1	SW-2	SW-3	SW-4
Temperature	0.8	0.2	2.9	0.9
Dissolved Oxygen	-	90.8	91.9	100
pH	7.74	7.68	7.04	7.72
Conductivity	250	250	100	220

Your Project #: MA8D8999
Site: EWOL,ONTARIO
Your C.O.C. #: 08212935

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2008/12/02
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A865467
Received: 2008/11/27, 11:05

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2008/12/02	BRN SOP-00227 R1.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

KIMBERLEY WEBBER, BBY Customer Service
Email: kim.webber@maxxamanalytics.com
Phone# (604) 444-4808 Ext:259

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A865467
Report Date: 2008/12/02

MAXXAM ANALYTICS INC.
Client Project #: MA8D8999
Site Reference: EWOL,ONTARIO

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		M91146	M91147	M91148		
Sampling Date		2008/11/15	2008/11/15	2008/11/15		
COC Number		08212935	08212935	08212935		
	Units	**SW-1/BD3616-08R**	**SW-2/BD3617-08R**	**SW-3/BD3618-07R**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0020	0.0013	0.0017	0.0005	2776827
RDL = Reportable Detection Limit						

Maxxam ID		M91149	M91150	M91151		
Sampling Date		2008/11/15	2008/11/15	2008/11/15		
COC Number		08212935	08212935	08212935		
	Units	**SW-4/BD3619-08R**	**SW-5/BD3620-08R**	**SW-6/BD3621-08R**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0014	0.0007	0.0014	0.0005	2776827
RDL = Reportable Detection Limit						

Maxxam ID		M91152	M91152		
Sampling Date		2008/11/15	2008/11/15		
COC Number		08212935	08212935		
	Units	**TRP BLANK SW/BD3622-08R**	**TRP BLANK SW/BD3622-08R Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0005	2776827
RDL = Reportable Detection Limit					

Maxxam Job #: A865467
Report Date: 2008/12/02

MAXXAM ANALYTICS INC.
Client Project #: MA8D8999
Site Reference: EWOL,ONTARIO

Package 1	5.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA8D8999
P.O. #:
Site Reference: EWOL,ONTARIO

Quality Assurance Report

Maxxam Job Number: VA865467

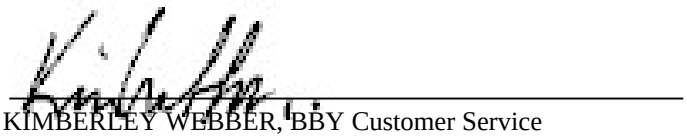
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2776827	TS1	MATRIX SPIKE [M91152-01]	Weak Acid Dissoc. Cyanide (CN)	2008/12/02		104	%	80 - 120
		SPIKE	Weak Acid Dissoc. Cyanide (CN)	2008/12/02		106	%	80 - 120
		BLANK	Weak Acid Dissoc. Cyanide (CN)	2008/12/02	<0.0005		mg/L	
		RPD [M91152-01]	Weak Acid Dissoc. Cyanide (CN)	2008/12/02	NC		%	20

NC = Non-calculable
RPD = Relative Percent Difference

Validation Signature Page

Maxxam Job #: A865467

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



KIMBERLEY WEBBER, BBY Customer Service

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APPENDIX I - 4

Laboratory Results
May 2009

Your Project #: Rainy River
Your C.O.C. #: 13671201, 136712-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/05/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A956950
Received: 2009/05/14, 11:20

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid @	7	2009/05/20	2009/05/22	SLA SOP-00100	APHA SM2310B
Alkalinity	5	N/A	2009/05/20	CAM SOP-00448	SM 2320B
Alkalinity	2	N/A	2009/05/21	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/05/21	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	1	N/A	2009/05/20	CAM SOP-00463	SM 4500 Cl E
Chloride by Automated Colourimetry	6	N/A	2009/05/21	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/05/21	CAM SOP-00416	APHA 5220D
Conductivity	5	N/A	2009/05/20	CAM SOP-00448	SM 2510
Conductivity	2	N/A	2009/05/21	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/05/20	2009/05/21	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2009/05/19	CAM SOP-00446	SM 5310 B
Fluoride	5	2009/05/19	2009/05/20	CAM SOP-00456	APHA 4500FC
Fluoride	2	2009/05/20	2009/05/21	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	4	2009/05/19	2009/05/19	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	3	2009/05/20	2009/05/20	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	7	N/A	2009/05/20	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	7	N/A	2009/05/21	CAM SOP-00447	EPA 6020
Ammonia-N	3	N/A	2009/05/20	CAM SOP-00441	US GS I-2522-90
Ammonia-N	4	N/A	2009/05/21	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water @	5	N/A	2009/05/20	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water @	2	N/A	2009/05/21	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	3	2009/05/15	2009/05/19	CAM SOP-00326	SM 5520 B
Animal and Vegetable Oil & Grease	4	2009/05/15	2009/05/20	CAM SOP-00326	SM 5520 B
Total Oil and Grease	3	2009/05/19	2009/05/19	CAM SOP-00326	EPA 1664A
Total Oil and Grease	4	2009/05/20	2009/05/20	CAM SOP-00326	EPA 1664A
pH	5	N/A	2009/05/20	CAM SOP-00448	SM 4500H
pH	2	N/A	2009/05/21	CAM SOP-00448	SM 4500H
Orthophosphate	1	N/A	2009/05/20	CAM SOP-00461	SM 4500 P-F
Orthophosphate	6	N/A	2009/05/21	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	1	N/A	2009/05/20	CAM SOP-00464	EPA 375.4
Sulphate by Automated Colourimetry	6	N/A	2009/05/21	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/05/20	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	2	N/A	2009/05/19	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	2	N/A	2009/05/20	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	3	N/A	2009/05/21	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) @	3	N/A	2009/05/19	CAM SOP-00326	SM 5520F
TPH (Heavy Oil) @	4	N/A	2009/05/20	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	3	N/A	2009/05/16	CAM SOP-00428	SM 2540D

../2

Your Project #: Rainy River
Your C.O.C. #: 13671201, 136712-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/05/26

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Low Level Total Suspended Solids	4	N/A	2009/05/19	CAM SOP-00428	SM 2540D
Turbidity	3	N/A	2009/05/13	CAM SOP-00417	APHA 2130
Turbidity	4	N/A	2009/05/20	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(3) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6625	CM6625		
Sampling Date		2009/05/12 11:00	2009/05/12 11:00		
COC Number		136712-0	136712-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1818664
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1821709
Total Ammonia-N	mg/L	ND	N/A	0.05	1821339
Total BOD	mg/L	ND	N/A	2	1819849
Total Chemical Oxygen Demand (COD)	mg/L	60	N/A	4	1821909
Conductivity	umho/cm	191	N/A	1	1821101
Total Dissolved Solids	mg/L	120	N/A	10	1820895
Fluoride (F-)	mg/L	ND	N/A	0.1	1821100
Dissolved Organic Carbon	mg/L	24.2	N/A	0.1	1820666
Total Organic Carbon (TOC)	mg/L	21.3	N/A	0.1	1821676
Orthophosphate (P)	mg/L	ND (1)	N/A	0.05	1822207
pH	pH	7.1	N/A	N/A	1821099
Total Suspended Solids	mg/L	3	N/A	1	1819905
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	1822210
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1821996
Turbidity	NTU	3.3	N/A	0.1	1819901
Alkalinity (Total as CaCO3)	mg/L	93	N/A	1	1821092
Dissolved Chloride (Cl)	mg/L	5 (1)	N/A	5	1822200
Nitrite (N)	mg/L	ND	N/A	0.01	1820814
Nitrate (N)	mg/L	ND	N/A	0.1	1820814
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1820814
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	1821457
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	1821466

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6626		
Sampling Date		2009/05/13 12:00		
COC Number		136712-0		
	Units	**SW2**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1818664
Inorganics				
Acidity as CaC03	mg/L	ND	10	1821709
Total Ammonia-N	mg/L	ND	0.05	1821339
Total BOD	mg/L	ND	2	1819849
Total Chemical Oxygen Demand (COD)	mg/L	35	4	1821909
Conductivity	umho/cm	243	1	1821101
Total Dissolved Solids	mg/L	155	10	1820895
Fluoride (F-)	mg/L	ND	0.1	1821100
Dissolved Organic Carbon	mg/L	16.5	0.1	1820666
Total Organic Carbon (TOC)	mg/L	15.0	0.1	1821676
Orthophosphate (P)	mg/L	ND	0.01	1822207
pH	pH	7.2	N/A	1821099
Total Suspended Solids	mg/L	1	1	1819905
Dissolved Sulphate (SO4)	mg/L	ND	1	1822210
Total Cyanide (CN)	mg/L	ND	0.005	1821996
Turbidity	NTU	1.3	0.1	1819901
Alkalinity (Total as CaCO3)	mg/L	122	1	1821092
Dissolved Chloride (Cl)	mg/L	5	1	1822200
Nitrite (N)	mg/L	ND	0.01	1821460
Nitrate (N)	mg/L	ND	0.1	1821460
Nitrate + Nitrite	mg/L	ND	0.1	1821460
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1821457
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1821466

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6627	CM6627		
Sampling Date		2009/05/12 13:00	2009/05/12 13:00		
COC Number		136712-0	136712-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1818664
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1821709
Total Ammonia-N	mg/L	ND	N/A	0.05	1821339
Total BOD	mg/L	ND	N/A	2	1819849
Total Chemical Oxygen Demand (COD)	mg/L	51	52	4	1821909
Conductivity	umho/cm	180	N/A	1	1822572
Total Dissolved Solids	mg/L	110	N/A	10	1820895
Fluoride (F-)	mg/L	ND	N/A	0.1	1822587
Dissolved Organic Carbon	mg/L	20.4	N/A	0.1	1820503
Total Organic Carbon (TOC)	mg/L	19.1	N/A	0.1	1821676
Orthophosphate (P)	mg/L	ND (1)	N/A	0.05	1819995
pH	pH	7.2	N/A	N/A	1822586
Total Suspended Solids	mg/L	2	N/A	1	1819905
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	1819996
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1821996
Turbidity	NTU	2.5	N/A	0.1	1819901
Alkalinity (Total as CaCO3)	mg/L	92	N/A	1	1822564
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	5	1819993
Nitrite (N)	mg/L	ND	N/A	0.01	1820833
Nitrate (N)	mg/L	ND	N/A	0.1	1820833
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1820833
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1821457
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1821466

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6628		
Sampling Date		2009/05/12 16:00		
COC Number		136712-0		
	Units	**SW4**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1818664
Inorganics				
Acidity as CaC03	mg/L	ND	10	1821709
Total Ammonia-N	mg/L	0.06	0.05	1820008
Total BOD	mg/L	ND	2	1819849
Total Chemical Oxygen Demand (COD)	mg/L	47	4	1819999
Conductivity	umho/cm	80	1	1821101
Total Dissolved Solids	mg/L	49	10	1820895
Fluoride (F-)	mg/L	ND	0.1	1821100
Dissolved Organic Carbon	mg/L	18.8	0.1	1820666
Total Organic Carbon (TOC)	mg/L	19.5	0.1	1820656
Orthophosphate (P)	mg/L	ND	0.01	1822207
pH	pH	6.7	N/A	1821099
Total Suspended Solids	mg/L	ND	1	1819905
Dissolved Sulphate (SO4)	mg/L	ND	1	1822210
Total Cyanide (CN)	mg/L	ND	0.005	1821996
Turbidity	NTU	0.7	0.1	1819901
Alkalinity (Total as CaCO3)	mg/L	33	1	1821092
Dissolved Chloride (Cl)	mg/L	5	1	1822200
Nitrite (N)	mg/L	ND	0.01	1821455
Nitrate (N)	mg/L	ND	0.1	1821455
Nitrate + Nitrite	mg/L	ND	0.1	1821455
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1821457
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1821466

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6629	CM6629		
Sampling Date		2009/05/13 10:00	2009/05/13 10:00		
COC Number		136712-0	136712-0		
	Units	**SW5**	**SW5 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	2.6	N/A	0.5	1818664
Inorganics					
Acidity as CaC03	mg/L	ND	ND	10	1821709
Total Ammonia-N	mg/L	0.05	N/A	0.05	1820008
Total BOD	mg/L	ND	N/A	2	1819621
Total Chemical Oxygen Demand (COD)	mg/L	78	N/A	4	1819999
Conductivity	umho/cm	59	N/A	1	1821101
Total Dissolved Solids	mg/L	39	N/A	10	1819670
Fluoride (F-)	mg/L	ND	N/A	0.1	1821100
Dissolved Organic Carbon	mg/L	33.6	N/A	0.1	1820666
Total Organic Carbon (TOC)	mg/L	34.6	N/A	0.1	1820656
Orthophosphate (P)	mg/L	ND (1)	N/A	0.05	1822207
pH	pH	6.6	N/A	N/A	1821099
Total Suspended Solids	mg/L	ND	N/A	1	1819675
Dissolved Sulphate (SO4)	mg/L	ND	N/A	5	1822210
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1821996
Turbidity	NTU	0.7	N/A	0.1	1819900
Alkalinity (Total as CaCO3)	mg/L	27	N/A	1	1821092
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	5	1822200
Nitrite (N)	mg/L	ND	N/A	0.01	1820833
Nitrate (N)	mg/L	ND	N/A	0.1	1820833
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1820833
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	2.6	N/A	0.5	1820165
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1820170

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6630		
Sampling Date		2009/05/13 11:30		
COC Number		136712-0		
	Units	**SW6**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	3.2	0.5	1818664
Inorganics				
Acidity as CaC03	mg/L	ND	10	1821709
Total Ammonia-N	mg/L	ND	0.05	1820008
Total BOD	mg/L	ND	2	1819621
Total Chemical Oxygen Demand (COD)	mg/L	77	4	1819999
Conductivity	umho/cm	61	1	1822572
Total Dissolved Solids	mg/L	38	10	1819670
Fluoride (F-)	mg/L	ND	0.1	1822587
Dissolved Organic Carbon	mg/L	33.5	0.1	1820666
Total Organic Carbon (TOC)	mg/L	35.0	0.1	1820656
Orthophosphate (P)	mg/L	ND (1)	0.05	1822272
pH	pH	6.6	N/A	1822586
Total Suspended Solids	mg/L	1	1	1819675
Dissolved Sulphate (SO4)	mg/L	ND (1)	5	1822283
Total Cyanide (CN)	mg/L	ND	0.005	1821996
Turbidity	NTU	0.6	0.1	1819900
Alkalinity (Total as CaCO3)	mg/L	28	1	1822564
Dissolved Chloride (Cl)	mg/L	ND (1)	5	1822257
Nitrite (N)	mg/L	ND	0.01	1822217
Nitrate (N)	mg/L	0.1	0.1	1822217
Nitrate + Nitrite	mg/L	0.1	0.1	1822217
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	3.2	0.5	1820165
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1820170

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		CM6631	CM6631		
Sampling Date					
COC Number		136712-0	136712-0		
	Units	**TRIP BLANK W0905108**	**TRIP BLANK W0905108 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1818664
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1821709
Total Ammonia-N	mg/L	ND	N/A	0.05	1820008
Total BOD	mg/L	ND	ND	2	1819621
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	1820803
Conductivity	umho/cm	1	N/A	1	1821101
Total Dissolved Solids	mg/L	ND	N/A	10	1819670
Fluoride (F-)	mg/L	ND	N/A	0.1	1821100
Dissolved Organic Carbon	mg/L	0.3	N/A	0.1	1820666
Total Organic Carbon (TOC)	mg/L	0.3	N/A	0.1	1820656
Orthophosphate (P)	mg/L	ND	N/A	0.01	1822207
pH	pH	5.9	N/A	N/A	1821099
Total Suspended Solids	mg/L	ND	N/A	1	1819675
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1822210
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1821996
Turbidity	NTU	0.1	N/A	0.1	1819900
Alkalinity (Total as CaCO3)	mg/L	1	N/A	1	1821092
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	1822200
Nitrite (N)	mg/L	ND	N/A	0.01	1821460
Nitrate (N)	mg/L	ND	N/A	0.1	1821460
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1821460
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1820165
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1820170

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6625	CM6626	CM6627		
Sampling Date		2009/05/12 11:00	2009/05/13 12:00	2009/05/12 13:00		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	1821675
Dissolved Aluminum (Al)	ug/L	72	49	73	5	1821558
Total Aluminum (Al)	ug/L	200	29	140	5	1822211
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	0.5	1821558
Total Antimony (Sb)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1	1821558
Total Arsenic (As)	ug/L	ND	ND	ND	1	1822211
Dissolved Barium (Ba)	ug/L	60	18	34	5	1821558
Total Barium (Ba)	ug/L	16	76	15	5	1822211
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	1821558
Total Beryllium (Be)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	1821558
Total Bismuth (Bi)	ug/L	ND	ND	ND	1	1822211
Dissolved Boron (B)	ug/L	20	13	13	10	1821558
Total Boron (B)	ug/L	20	30	22	10	1822211
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.1	1821558
Total Cadmium (Cd)	ug/L	ND	ND	ND	0.1	1822211
Dissolved Calcium (Ca)	ug/L	22000	30000	22000	200	1821558
Total Calcium (Ca)	ug/L	25000	34000	23000	200	1822211
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	1821558
Total Chromium (Cr)	ug/L	ND	ND	ND	5	1822211
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	0.5	1821558
Total Cobalt (Co)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Copper (Cu)	ug/L	2	1	2	1	1821558
Total Copper (Cu)	ug/L	1	2	ND	1	1822211
Dissolved Iron (Fe)	ug/L	240	170	200	100	1821558
Total Iron (Fe)	ug/L	290	ND	220	100	1822211
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	1821558
Total Lead (Pb)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Lithium (Li)	ug/L	ND	ND	ND	5	1821558
Total Lithium (Li)	ug/L	ND	ND	ND	5	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6625	CM6626	CM6627		
Sampling Date		2009/05/12 11:00	2009/05/13 12:00	2009/05/12 13:00		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	9200	12000	9000	50	1821558
Total Magnesium (Mg)	ug/L	11000	13000	10000	50	1822211
Dissolved Manganese (Mn)	ug/L	24	31	20	2	1821558
Total Manganese (Mn)	ug/L	28	25	22	2	1822211
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	1	1821558
Total Molybdenum (Mo)	ug/L	ND	ND	ND	1	1822211
Dissolved Nickel (Ni)	ug/L	ND	ND	ND	1	1821558
Total Nickel (Ni)	ug/L	1	1	1	1	1822211
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	1821558
Dissolved Potassium (K)	ug/L	1600	1200	1200	200	1821558
Total Potassium (K)	ug/L	1700	950	1100	200	1822211
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	1821558
Total Selenium (Se)	ug/L	ND	ND	ND	2	1822211
Dissolved Silicon (Si)	ug/L	780	2500	1100	50	1821558
Total Silicon (Si)	ug/L	1200	2700	1400	50	1822211
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	1821558
Total Silver (Ag)	ug/L	ND	ND	ND	0.1	1822211
Dissolved Sodium (Na)	ug/L	4500	1900	2500	100	1821558
Total Sodium (Na)	ug/L	4400	2700	2600	100	1822211
Dissolved Strontium (Sr)	ug/L	54	53	46	1	1821558
Total Strontium (Sr)	ug/L	60	62	50	1	1822211
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	1821558
Total Tellurium (Te)	ug/L	ND	ND	ND	1	1822211
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	1821558
Total Thallium (Tl)	ug/L	ND	ND	ND	0.05	1822211
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	1821558
Total Thorium (Th)	ug/L	ND	ND	ND	1	1822211
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	1821558
Total Tin (Sn)	ug/L	ND	ND	ND	1	1822211
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5	1821558
Total Titanium (Ti)	ug/L	7	ND	ND	5	1822211
Dissolved Tungsten (W)	ug/L	ND	ND	ND	1	1821558

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6625	CM6626	CM6627		
Sampling Date		2009/05/12 11:00	2009/05/13 12:00	2009/05/12 13:00		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	1	1822211
Dissolved Uranium (U)	ug/L	0.3	0.3	0.3	0.1	1821558
Total Uranium (U)	ug/L	0.5	0.4	0.4	0.1	1822211
Dissolved Vanadium (V)	ug/L	1	1	1	1	1821558
Total Vanadium (V)	ug/L	1	ND	ND	1	1822211
Dissolved Zinc (Zn)	ug/L	32	ND	25	5	1821558
Total Zinc (Zn)	ug/L	6	33	6	5	1822211
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	1821558
Total Zirconium (Zr)	ug/L	ND	ND	ND	1	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6628	CM6629	CM6630		
Sampling Date		2009/05/12 16:00	2009/05/13 10:00	2009/05/13 11:30		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW4**	**SW5**	**SW6**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	1820401
Dissolved Aluminum (Al)	ug/L	20	93	91	5	1821462
Total Aluminum (Al)	ug/L	27	110	110	5	1822211
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	0.5	1821462
Total Antimony (Sb)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1	1821462
Total Arsenic (As)	ug/L	ND	ND	ND	1	1822211
Dissolved Barium (Ba)	ug/L	ND	47	48	5	1821462
Total Barium (Ba)	ug/L	ND	6	6	5	1822211
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	1821462
Total Beryllium (Be)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	1821462
Total Bismuth (Bi)	ug/L	ND	ND	ND	1	1822211
Dissolved Boron (B)	ug/L	ND	14	13	10	1821462
Total Boron (B)	ug/L	15	13	13	10	1822211
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.1	1821462
Total Cadmium (Cd)	ug/L	ND	ND	ND	0.1	1822211
Dissolved Calcium (Ca)	ug/L	7700	7400	8100	200	1821462
Total Calcium (Ca)	ug/L	8800	8200	8200	200	1822211
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	1821462
Total Chromium (Cr)	ug/L	ND	ND	ND	5	1822211
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	0.5	1821462
Total Cobalt (Co)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Copper (Cu)	ug/L	ND	1	1	1	1821462
Total Copper (Cu)	ug/L	ND	ND	ND	1	1822211
Dissolved Iron (Fe)	ug/L	140	200	160	100	1821462
Total Iron (Fe)	ug/L	ND	120	120	100	1822211
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	1821462
Total Lead (Pb)	ug/L	ND	ND	ND	0.5	1822211
Dissolved Lithium (Li)	ug/L	ND	ND	ND	5	1821462
Total Lithium (Li)	ug/L	ND	ND	ND	5	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6628	CM6629	CM6630		
Sampling Date		2009/05/12 16:00	2009/05/13 10:00	2009/05/13 11:30		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW4**	**SW5**	**SW6**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	3700	3800	3900	50	1821462
Total Magnesium (Mg)	ug/L	4300	4400	4400	50	1822211
Dissolved Manganese (Mn)	ug/L	15	27	4	2	1821462
Total Manganese (Mn)	ug/L	17	34	11	2	1822211
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	1	1821462
Total Molybdenum (Mo)	ug/L	ND	ND	ND	1	1822211
Dissolved Nickel (Ni)	ug/L	ND	ND	ND	1	1821462
Total Nickel (Ni)	ug/L	ND	ND	ND	1	1822211
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	1821462
Dissolved Potassium (K)	ug/L	1600	900	830	200	1821462
Total Potassium (K)	ug/L	950	680	700	200	1822211
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	1821462
Total Selenium (Se)	ug/L	ND	ND	ND	2	1822211
Dissolved Silicon (Si)	ug/L	1600	930	950	50	1821462
Total Silicon (Si)	ug/L	1900	1100	1100	50	1822211
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	1821462
Total Silver (Ag)	ug/L	ND	ND	ND	0.1	1822211
Dissolved Sodium (Na)	ug/L	2700	1200	1200	100	1821462
Total Sodium (Na)	ug/L	2600	860	840	100	1822211
Dissolved Strontium (Sr)	ug/L	15	17	18	1	1821462
Total Strontium (Sr)	ug/L	16	17	17	1	1822211
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	1821462
Total Tellurium (Te)	ug/L	ND	ND	ND	1	1822211
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	1821462
Total Thallium (Tl)	ug/L	ND	ND	ND	0.05	1822211
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	1821462
Total Thorium (Th)	ug/L	ND	ND	ND	1	1822211
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	1821462
Total Tin (Sn)	ug/L	ND	ND	ND	1	1822211
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5	1821462
Total Titanium (Ti)	ug/L	ND	ND	ND	5	1822211
Dissolved Tungsten (W)	ug/L	ND	ND	ND	1	1821462

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6628	CM6629	CM6630		
Sampling Date		2009/05/12 16:00	2009/05/13 10:00	2009/05/13 11:30		
COC Number		136712-0	136712-0	136712-0		
	Units	**SW4**	**SW5**	**SW6**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	1	1822211
Dissolved Uranium (U)	ug/L	ND	ND	ND	0.1	1821462
Total Uranium (U)	ug/L	ND	ND	ND	0.1	1822211
Dissolved Vanadium (V)	ug/L	2	2	2	1	1821462
Total Vanadium (V)	ug/L	ND	ND	ND	1	1822211
Dissolved Zinc (Zn)	ug/L	ND	24	28	5	1821462
Total Zinc (Zn)	ug/L	6	11	8	5	1822211
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	1821462
Total Zirconium (Zr)	ug/L	ND	ND	ND	1	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6631		
Sampling Date				
COC Number		136712-0		
	Units	**TRIP BLANK W0905108**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	1820401
Dissolved Aluminum (Al)	ug/L	ND	5	1821462
Total Aluminum (Al)	ug/L	ND	5	1822211
Dissolved Antimony (Sb)	ug/L	ND	0.5	1821462
Total Antimony (Sb)	ug/L	ND	0.5	1822211
Dissolved Arsenic (As)	ug/L	ND	1	1821462
Total Arsenic (As)	ug/L	ND	1	1822211
Dissolved Barium (Ba)	ug/L	ND	5	1821462
Total Barium (Ba)	ug/L	ND	5	1822211
Dissolved Beryllium (Be)	ug/L	ND	0.5	1821462
Total Beryllium (Be)	ug/L	ND	0.5	1822211
Dissolved Bismuth (Bi)	ug/L	ND	1	1821462
Total Bismuth (Bi)	ug/L	ND	1	1822211
Dissolved Boron (B)	ug/L	ND	10	1821462
Total Boron (B)	ug/L	ND	10	1822211
Dissolved Cadmium (Cd)	ug/L	ND	0.1	1821462
Total Cadmium (Cd)	ug/L	ND	0.1	1822211
Dissolved Calcium (Ca)	ug/L	ND	200	1821462
Total Calcium (Ca)	ug/L	ND	200	1822211
Dissolved Chromium (Cr)	ug/L	ND	5	1821462
Total Chromium (Cr)	ug/L	ND	5	1822211
Dissolved Cobalt (Co)	ug/L	ND	0.5	1821462
Total Cobalt (Co)	ug/L	ND	0.5	1822211
Dissolved Copper (Cu)	ug/L	ND	1	1821462
Total Copper (Cu)	ug/L	ND	1	1822211
Dissolved Iron (Fe)	ug/L	ND	100	1821462
Total Iron (Fe)	ug/L	ND	100	1822211
Dissolved Lead (Pb)	ug/L	ND	0.5	1821462
Total Lead (Pb)	ug/L	ND	0.5	1822211
Dissolved Lithium (Li)	ug/L	ND	5	1821462
Total Lithium (Li)	ug/L	ND	5	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6631		
Sampling Date				
COC Number		136712-0		
	Units	**TRIP BLANK W0905108**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	ND	50	1821462
Total Magnesium (Mg)	ug/L	ND	50	1822211
Dissolved Manganese (Mn)	ug/L	ND	2	1821462
Total Manganese (Mn)	ug/L	ND	2	1822211
Dissolved Molybdenum (Mo)	ug/L	ND	1	1821462
Total Molybdenum (Mo)	ug/L	ND	1	1822211
Dissolved Nickel (Ni)	ug/L	2	1	1821462
Total Nickel (Ni)	ug/L	4	1	1822211
Dissolved Phosphorus (P)	ug/L	ND	100	1821462
Dissolved Potassium (K)	ug/L	ND	200	1821462
Total Potassium (K)	ug/L	ND	200	1822211
Dissolved Selenium (Se)	ug/L	ND	2	1821462
Total Selenium (Se)	ug/L	ND	2	1822211
Dissolved Silicon (Si)	ug/L	ND	50	1821462
Total Silicon (Si)	ug/L	ND	50	1822211
Dissolved Silver (Ag)	ug/L	ND	0.1	1821462
Total Silver (Ag)	ug/L	ND	0.1	1822211
Dissolved Sodium (Na)	ug/L	ND	100	1821462
Total Sodium (Na)	ug/L	ND	100	1822211
Dissolved Strontium (Sr)	ug/L	ND	1	1821462
Total Strontium (Sr)	ug/L	ND	1	1822211
Dissolved Tellurium (Te)	ug/L	ND	1	1821462
Total Tellurium (Te)	ug/L	ND	1	1822211
Dissolved Thallium (Tl)	ug/L	ND	0.05	1821462
Total Thallium (Tl)	ug/L	ND	0.05	1822211
Dissolved Thorium (Th)	ug/L	ND	1	1821462
Total Thorium (Th)	ug/L	ND	1	1822211
Dissolved Tin (Sn)	ug/L	ND	1	1821462
Total Tin (Sn)	ug/L	ND	1	1822211
Dissolved Titanium (Ti)	ug/L	ND	5	1821462
Total Titanium (Ti)	ug/L	ND	5	1822211
Dissolved Tungsten (W)	ug/L	ND	1	1821462

ND = Not detected
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Maxxam Job #: A956950
Report Date: 2009/05/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CM6631		
Sampling Date				
COC Number		136712-0		
	Units	**TRIP BLANK W0905108**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1	1822211
Dissolved Uranium (U)	ug/L	ND	0.1	1821462
Total Uranium (U)	ug/L	ND	0.1	1822211
Dissolved Vanadium (V)	ug/L	1	1	1821462
Total Vanadium (V)	ug/L	ND	1	1822211
Dissolved Zinc (Zn)	ug/L	ND	5	1821462
Total Zinc (Zn)	ug/L	9	5	1822211
Dissolved Zirconium (Zr)	ug/L	ND	1	1821462
Total Zirconium (Zr)	ug/L	ND	1	1822211

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Sample CM6625-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample CM6626-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample CM6627-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
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P.O. #:
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Quality Assurance Report

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1819621	JKU	QC STANDARD	Total BOD	2009/05/21		100	%	85 - 115
		Method Blank	Total BOD	2009/05/21	ND, RDL=2		mg/L	
		RPD [CM6631-03]	Total BOD	2009/05/21	NC		%	25
1819670	HAG	QC STANDARD	Total Dissolved Solids	2009/05/20		100	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/05/20	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/05/20	1.4		%	25
1819675	JDO	QC STANDARD	Total Suspended Solids	2009/05/16		97	%	85 - 115
		Method Blank	Total Suspended Solids	2009/05/16	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/05/16	NC		%	25
1819849	FZH	QC STANDARD	Total BOD	2009/05/21		104	%	85 - 115
		Method Blank	Total BOD	2009/05/21	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/05/21	NC		%	25
1819900	KTH	QC STANDARD	Turbidity	2009/05/13		98	%	85 - 115
		Method Blank	Turbidity	2009/05/13	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/05/13	0.5		%	25
1819901	KTH	QC STANDARD	Turbidity	2009/05/20		99	%	85 - 115
		Method Blank	Turbidity	2009/05/20	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/05/20	7.1		%	25
1819905	JDO	QC STANDARD	Total Suspended Solids	2009/05/19		97	%	85 - 115
		Method Blank	Total Suspended Solids	2009/05/19	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/05/19	NC		%	25
1819993	DRM	MATRIX SPIKE	Dissolved Chloride (Cl)	2009/05/20		103	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/05/20		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/05/20	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/05/20	NC		%	20
1819995	DRM	MATRIX SPIKE	Orthophosphate (P)	2009/05/20		93	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/05/20		97	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/05/20	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/05/20	NC		%	25
1819996	JDE	MATRIX SPIKE	Dissolved Sulphate (SO4)	2009/05/20		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/05/20		108	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/05/20	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/05/20	1		%	25
1819999	C_H	MATRIX SPIKE	Total Chemical Oxygen Demand (COD)	2009/05/21		99	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/05/21		105	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/05/21	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/05/21	NC		%	25
1820008	LHA	MATRIX SPIKE	Total Ammonia-N	2009/05/21		98	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/05/21		98	%	80 - 120
		Method Blank	Total Ammonia-N	2009/05/21	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/05/21	NC		%	25
1820165	FA	MATRIX SPIKE	Total Oil & Grease	2009/05/19		97	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/05/19		100	%	85 - 115
		Method Blank	Total Oil & Grease	2009/05/19	ND, RDL=0.5		mg/L	
		RPD	Total Oil & Grease	2009/05/19	NC		%	25
1820170	FA	MATRIX SPIKE	Total Oil & Grease Mineral/Synthetic	2009/05/19		91	%	75 - 125
		Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/05/19		97	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/05/19	ND, RDL=0.5		mg/L	
		RPD	Total Oil & Grease Mineral/Synthetic	2009/05/19	NC		%	25
1820401	SUK	MATRIX SPIKE	Mercury (Hg)	2009/05/19		101	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/05/19		106	%	79 - 118
		Method Blank	Mercury (Hg)	2009/05/19	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/05/19	NC		%	25
1820503	AHA	MATRIX SPIKE	Dissolved Organic Carbon	2009/05/19		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/05/19		102	%	75 - 125

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
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Quality Assurance Report (Continued)

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1820503	AHA	Method Blank	Dissolved Organic Carbon	2009/05/19	ND, RDL=0.1		mg/L	
		RPD	Dissolved Organic Carbon	2009/05/19	0.4		%	20
1820656	AHA	MATRIX SPIKE	Total Organic Carbon (TOC)	2009/05/19		NC (1)	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/05/19		99	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/05/19	ND, RDL=0.1		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/05/19	0.1		%	20
1820666	AHA	MATRIX SPIKE	Dissolved Organic Carbon	2009/05/19		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/05/19		95	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/05/19	ND, RDL=0.1		mg/L	
		RPD	Dissolved Organic Carbon	2009/05/19	0.3		%	20
1820803	C_H	MATRIX SPIKE	Total Chemical Oxygen Demand (COD)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/05/21		107	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/05/21	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/05/21	3.5		%	25
1820814	CCI	MATRIX SPIKE	Nitrite (N)	2009/05/20		104	%	75 - 125
			Nitrate (N)	2009/05/20		100	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/05/20		106	%	80 - 120
			Nitrate (N)	2009/05/20		102	%	80 - 120
		Method Blank	Nitrite (N)	2009/05/20	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/05/20	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/05/20	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/05/20	NC		%	25
			Nitrate (N)	2009/05/20	NC		%	25
1820833	CCI	MATRIX SPIKE	Nitrite (N)	2009/05/20		104	%	75 - 125
			Nitrate (N)	2009/05/20		98	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/05/20		105	%	80 - 120
			Nitrate (N)	2009/05/20		97	%	80 - 120
		Method Blank	Nitrite (N)	2009/05/20	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/05/20	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/05/20	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/05/20	NC		%	25
			Nitrate (N)	2009/05/20	NC		%	25
			Nitrate + Nitrite	2009/05/20	NC		%	25
1820895	HAG	QC STANDARD	Total Dissolved Solids	2009/05/20		102	%	90 - 110
		Method Blank	Total Dissolved Solids	2009/05/20	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/05/20	2.5		%	25
1821092	YPA	QC STANDARD	Alkalinity (Total as CaCO3)	2009/05/20		100	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/05/20	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/05/20	0.3		%	25
1821100	YPA	MATRIX SPIKE	Fluoride (F-)	2009/05/20		93	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/05/20		93	%	80 - 120
		Method Blank	Fluoride (F-)	2009/05/20	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/05/20	NC		%	25
1821101	YPA	QC STANDARD	Conductivity	2009/05/20		101	%	85 - 115
		Method Blank	Conductivity	2009/05/20	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/05/20	0.3		%	25
1821339	LHA	MATRIX SPIKE	Total Ammonia-N	2009/05/20		89	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/05/20		102	%	80 - 120
		Method Blank	Total Ammonia-N	2009/05/20	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/05/20	NC		%	25
1821455	CCI	MATRIX SPIKE	Nitrite (N)	2009/05/21		103	%	75 - 125
			Nitrate (N)	2009/05/21		100	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/05/21		107	%	80 - 120
			Nitrate (N)	2009/05/21		104	%	80 - 120
		Method Blank	Nitrite (N)	2009/05/21	ND, RDL=0.01		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1821455	CCI	Method Blank	Nitrate (N)	2009/05/21	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/05/21	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/05/21	NC		%	25
			Nitrate (N)	2009/05/21	NC		%	25
			Nitrate + Nitrite	2009/05/21	NC		%	25
1821457	AMJ	Spiked Blank	Total Oil & Grease	2009/05/20		101	%	85 - 115
		Method Blank	Total Oil & Grease	2009/05/20	ND, RDL=0.5		mg/L	
		RPD [CM6625-01]	Total Oil & Grease	2009/05/20	NC		%	25
1821460	CCI	MATRIX SPIKE	Nitrite (N)	2009/05/20		106	%	75 - 125
			Nitrate (N)	2009/05/20		101	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/05/20		105	%	80 - 120
			Nitrate (N)	2009/05/20		99	%	80 - 120
		Method Blank	Nitrite (N)	2009/05/20	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/05/20	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/05/20	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/05/20	NC		%	25
			Nitrate (N)	2009/05/20	NC		%	25
			Nitrate + Nitrite	2009/05/20	NC		%	25
1821462	HRE	MATRIX SPIKE	Dissolved Aluminum (Al)	2009/05/20		106	%	80 - 120
			Dissolved Antimony (Sb)	2009/05/20		108	%	80 - 120
			Dissolved Arsenic (As)	2009/05/20		104	%	80 - 120
			Dissolved Barium (Ba)	2009/05/20		104	%	80 - 120
			Dissolved Beryllium (Be)	2009/05/20		106	%	80 - 120
			Dissolved Bismuth (Bi)	2009/05/20		103	%	80 - 120
			Dissolved Boron (B)	2009/05/20		109	%	80 - 120
			Dissolved Cadmium (Cd)	2009/05/20		103	%	80 - 120
			Dissolved Calcium (Ca)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Chromium (Cr)	2009/05/20		101	%	80 - 120
			Dissolved Cobalt (Co)	2009/05/20		99	%	80 - 120
			Dissolved Copper (Cu)	2009/05/20		98	%	80 - 120
			Dissolved Iron (Fe)	2009/05/20		101	%	80 - 120
			Dissolved Lead (Pb)	2009/05/20		102	%	80 - 120
			Dissolved Lithium (Li)	2009/05/20		103	%	80 - 120
			Dissolved Magnesium (Mg)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Manganese (Mn)	2009/05/20		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/05/20		103	%	80 - 120
			Dissolved Nickel (Ni)	2009/05/20		101	%	80 - 120
			Dissolved Phosphorus (P)	2009/05/20		107	%	80 - 120
			Dissolved Potassium (K)	2009/05/20		106	%	80 - 120
			Dissolved Selenium (Se)	2009/05/20		103	%	80 - 120
			Dissolved Silicon (Si)	2009/05/20		112	%	80 - 120
			Dissolved Silver (Ag)	2009/05/20		101	%	80 - 120
			Dissolved Sodium (Na)	2009/05/20		107	%	80 - 120
			Dissolved Strontium (Sr)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Tellurium (Te)	2009/05/20		105	%	80 - 120
			Dissolved Thallium (Tl)	2009/05/20		101	%	80 - 120
			Dissolved Thorium (Th)	2009/05/20		101	%	80 - 120
			Dissolved Tin (Sn)	2009/05/20		108	%	80 - 120
			Dissolved Titanium (Ti)	2009/05/20		107	%	80 - 120
			Dissolved Tungsten (W)	2009/05/20		106	%	80 - 120
			Dissolved Uranium (U)	2009/05/20		106	%	80 - 120
			Dissolved Vanadium (V)	2009/05/20		103	%	80 - 120
			Dissolved Zinc (Zn)	2009/05/20		101	%	80 - 120
			Dissolved Zirconium (Zr)	2009/05/20		105	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/05/20		101	%	90 - 110

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1821462	HRE	Spiked Blank	Dissolved Antimony (Sb)	2009/05/20		101	%	90 - 110
			Dissolved Arsenic (As)	2009/05/20		100	%	90 - 110
			Dissolved Barium (Ba)	2009/05/20		101	%	90 - 110
			Dissolved Beryllium (Be)	2009/05/20		102	%	90 - 110
			Dissolved Bismuth (Bi)	2009/05/20		100	%	90 - 110
			Dissolved Boron (B)	2009/05/20		107	%	90 - 110
			Dissolved Cadmium (Cd)	2009/05/20		97	%	90 - 110
			Dissolved Calcium (Ca)	2009/05/20		102	%	90 - 110
			Dissolved Chromium (Cr)	2009/05/20		98	%	90 - 110
			Dissolved Cobalt (Co)	2009/05/20		98	%	90 - 110
			Dissolved Copper (Cu)	2009/05/20		97	%	90 - 110
			Dissolved Iron (Fe)	2009/05/20		99	%	90 - 110
			Dissolved Lead (Pb)	2009/05/20		98	%	90 - 110
			Dissolved Lithium (Li)	2009/05/20		98	%	90 - 110
			Dissolved Magnesium (Mg)	2009/05/20		106	%	90 - 110
			Dissolved Manganese (Mn)	2009/05/20		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/05/20		99	%	90 - 110
			Dissolved Nickel (Ni)	2009/05/20		99	%	90 - 110
			Dissolved Phosphorus (P)	2009/05/20		105	%	90 - 110
			Dissolved Potassium (K)	2009/05/20		104	%	90 - 110
			Dissolved Selenium (Se)	2009/05/20		101	%	90 - 110
			Dissolved Silicon (Si)	2009/05/20		108	%	90 - 110
			Dissolved Silver (Ag)	2009/05/20		98	%	90 - 110
			Dissolved Sodium (Na)	2009/05/20		106	%	90 - 110
			Dissolved Strontium (Sr)	2009/05/20		96	%	90 - 110
			Dissolved Tellurium (Te)	2009/05/20		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/05/20		98	%	90 - 110
			Dissolved Thorium (Th)	2009/05/20		99	%	90 - 110
			Dissolved Tin (Sn)	2009/05/20		101	%	90 - 110
			Dissolved Titanium (Ti)	2009/05/20		101	%	90 - 110
			Dissolved Tungsten (W)	2009/05/20		102	%	90 - 110
			Dissolved Uranium (U)	2009/05/20		103	%	90 - 110
			Dissolved Vanadium (V)	2009/05/20		99	%	90 - 110
			Dissolved Zinc (Zn)	2009/05/20		98	%	90 - 110
			Dissolved Zirconium (Zr)	2009/05/20		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/05/20	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/05/20	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/05/20	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/05/20	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/05/20	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/05/20	ND, RDL=100		ug/L	

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1821462	HRE	Method Blank	Dissolved Potassium (K)	2009/05/20	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/05/20	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/05/20	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/05/20	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/05/20	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/05/20	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2009/05/20	NC		%	25
1821466	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/05/20		97	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/05/20	ND, RDL=0.5		mg/L	
		RPD [CM6625-01]	Total Oil & Grease Mineral/Synthetic	2009/05/20	NC		%	25
1821558	HRE	MATRIX SPIKE	Dissolved Aluminum (Al)	2009/05/20		103	%	80 - 120
			Dissolved Antimony (Sb)	2009/05/20		107	%	80 - 120
			Dissolved Arsenic (As)	2009/05/20		103	%	80 - 120
			Dissolved Barium (Ba)	2009/05/20		102	%	80 - 120
			Dissolved Beryllium (Be)	2009/05/20		105	%	80 - 120
			Dissolved Bismuth (Bi)	2009/05/20		101	%	80 - 120
			Dissolved Boron (B)	2009/05/20		105	%	80 - 120
			Dissolved Cadmium (Cd)	2009/05/20		102	%	80 - 120
			Dissolved Calcium (Ca)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Chromium (Cr)	2009/05/20		102	%	80 - 120
			Dissolved Cobalt (Co)	2009/05/20		100	%	80 - 120
			Dissolved Copper (Cu)	2009/05/20		96	%	80 - 120
			Dissolved Iron (Fe)	2009/05/20		101	%	80 - 120
			Dissolved Lead (Pb)	2009/05/20		97	%	80 - 120
			Dissolved Lithium (Li)	2009/05/20		101	%	80 - 120
			Dissolved Magnesium (Mg)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Manganese (Mn)	2009/05/20		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/05/20		106	%	80 - 120
			Dissolved Nickel (Ni)	2009/05/20		100	%	80 - 120
			Dissolved Phosphorus (P)	2009/05/20		114	%	80 - 120
			Dissolved Potassium (K)	2009/05/20		109	%	80 - 120
			Dissolved Selenium (Se)	2009/05/20		101	%	80 - 120
			Dissolved Silicon (Si)	2009/05/20		114	%	80 - 120
			Dissolved Silver (Ag)	2009/05/20		99	%	80 - 120
			Dissolved Sodium (Na)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Strontium (Sr)	2009/05/20		NC (1)	%	80 - 120
			Dissolved Tellurium (Te)	2009/05/20		100	%	80 - 120
			Dissolved Thallium (Tl)	2009/05/20		97	%	80 - 120
			Dissolved Thorium (Th)	2009/05/20		100	%	80 - 120
			Dissolved Tin (Sn)	2009/05/20		108	%	80 - 120
			Dissolved Titanium (Ti)	2009/05/20		105	%	80 - 120
			Dissolved Tungsten (W)	2009/05/20		105	%	80 - 120
			Dissolved Uranium (U)	2009/05/20		108	%	80 - 120
			Dissolved Vanadium (V)	2009/05/20		104	%	80 - 120
			Dissolved Zinc (Zn)	2009/05/20		99	%	80 - 120

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Client Project #: Rainy River
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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1821558	HRE	MATRIX SPIKE	Dissolved Zirconium (Zr)	2009/05/20		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/05/20		99	%	90 - 110
			Dissolved Antimony (Sb)	2009/05/20		100	%	90 - 110
			Dissolved Arsenic (As)	2009/05/20		98	%	90 - 110
			Dissolved Barium (Ba)	2009/05/20		97	%	90 - 110
			Dissolved Beryllium (Be)	2009/05/20		101	%	90 - 110
			Dissolved Bismuth (Bi)	2009/05/20		99	%	90 - 110
			Dissolved Boron (B)	2009/05/20		105	%	90 - 110
			Dissolved Cadmium (Cd)	2009/05/20		97	%	90 - 110
			Dissolved Calcium (Ca)	2009/05/20		99	%	90 - 110
			Dissolved Chromium (Cr)	2009/05/20		98	%	90 - 110
			Dissolved Cobalt (Co)	2009/05/20		97	%	90 - 110
			Dissolved Copper (Cu)	2009/05/20		95	%	90 - 110
			Dissolved Iron (Fe)	2009/05/20		98	%	90 - 110
			Dissolved Lead (Pb)	2009/05/20		94	%	90 - 110
			Dissolved Lithium (Li)	2009/05/20		97	%	90 - 110
			Dissolved Magnesium (Mg)	2009/05/20		106	%	90 - 110
			Dissolved Manganese (Mn)	2009/05/20		97	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/05/20		98	%	90 - 110
			Dissolved Nickel (Ni)	2009/05/20		97	%	90 - 110
			Dissolved Phosphorus (P)	2009/05/20		103	%	90 - 110
			Dissolved Potassium (K)	2009/05/20		106	%	90 - 110
			Dissolved Selenium (Se)	2009/05/20		98	%	90 - 110
			Dissolved Silicon (Si)	2009/05/20		108	%	90 - 110
			Dissolved Silver (Ag)	2009/05/20		96	%	90 - 110
			Dissolved Sodium (Na)	2009/05/20		107	%	90 - 110
			Dissolved Strontium (Sr)	2009/05/20		95	%	90 - 110
			Dissolved Tellurium (Te)	2009/05/20		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/05/20		96	%	90 - 110
			Dissolved Thorium (Th)	2009/05/20		96	%	90 - 110
			Dissolved Tin (Sn)	2009/05/20		100	%	90 - 110
			Dissolved Titanium (Ti)	2009/05/20		102	%	90 - 110
			Dissolved Tungsten (W)	2009/05/20		99	%	90 - 110
			Dissolved Uranium (U)	2009/05/20		102	%	90 - 110
			Dissolved Vanadium (V)	2009/05/20		98	%	90 - 110
			Dissolved Zinc (Zn)	2009/05/20		97	%	90 - 110
			Dissolved Zirconium (Zr)	2009/05/20		99	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/05/20	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/05/20	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/05/20	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/05/20	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/05/20	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/05/20	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/05/20	ND, RDL=1		ug/L	

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1821558	HRE	Method Blank	Dissolved Nickel (Ni)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/05/20	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/05/20	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/05/20	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/05/20	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/05/20	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/05/20	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/05/20	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/05/20	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/05/20	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/05/20	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2009/05/20	NC		%	25
			Dissolved Antimony (Sb)	2009/05/20	NC		%	25
			Dissolved Arsenic (As)	2009/05/20	NC		%	25
			Dissolved Barium (Ba)	2009/05/20	1.6		%	25
			Dissolved Beryllium (Be)	2009/05/20	NC		%	25
			Dissolved Bismuth (Bi)	2009/05/20	NC		%	25
			Dissolved Boron (B)	2009/05/20	2.9		%	25
			Dissolved Cadmium (Cd)	2009/05/20	NC		%	25
			Dissolved Calcium (Ca)	2009/05/20	1.5		%	25
			Dissolved Chromium (Cr)	2009/05/20	NC		%	25
			Dissolved Cobalt (Co)	2009/05/20	NC		%	25
			Dissolved Copper (Cu)	2009/05/20	NC		%	25
			Dissolved Iron (Fe)	2009/05/20	NC		%	25
			Dissolved Lead (Pb)	2009/05/20	NC		%	25
			Dissolved Lithium (Li)	2009/05/20	NC		%	25
			Dissolved Magnesium (Mg)	2009/05/20	1.1		%	25
			Dissolved Manganese (Mn)	2009/05/20	NC		%	25
			Dissolved Molybdenum (Mo)	2009/05/20	NC		%	25
			Dissolved Nickel (Ni)	2009/05/20	NC		%	25
			Dissolved Phosphorus (P)	2009/05/20	NC		%	25
			Dissolved Potassium (K)	2009/05/20	3.3		%	25
			Dissolved Selenium (Se)	2009/05/20	NC		%	25
			Dissolved Silicon (Si)	2009/05/20	1.3		%	25
			Dissolved Silver (Ag)	2009/05/20	NC		%	25
			Dissolved Sodium (Na)	2009/05/20	1.1		%	25
			Dissolved Strontium (Sr)	2009/05/20	2.3		%	25
			Dissolved Tellurium (Te)	2009/05/20	NC		%	25
			Dissolved Thallium (Tl)	2009/05/20	NC		%	25
			Dissolved Thorium (Th)	2009/05/20	NC		%	25
			Dissolved Tin (Sn)	2009/05/20	NC		%	25
			Dissolved Titanium (Ti)	2009/05/20	NC		%	25
			Dissolved Tungsten (W)	2009/05/20	NC		%	25
			Dissolved Uranium (U)	2009/05/20	2.3		%	25
			Dissolved Vanadium (V)	2009/05/20	NC		%	25
			Dissolved Zinc (Zn)	2009/05/20	NC		%	25
			Dissolved Zirconium (Zr)	2009/05/20	NC		%	25
1821675	SUK	MATRIX SPIKE	Mercury (Hg)	2009/05/20		100	%	75 - 125

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1821675	SUK	Spiked Blank	Mercury (Hg)	2009/05/20		99	%	79 - 118
		Method Blank	Mercury (Hg)	2009/05/20	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/05/20	NC		%	25
1821676	AHA	MATRIX SPIKE	Total Organic Carbon (TOC)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/05/21		93	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/05/21	ND, RDL=0.1		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/05/21	5.1		%	20
1821709	DN	Method Blank	Acidity as CaC03	2009/05/22	ND, RDL=10		mg/L	
		RPD [CM6629-05]	Acidity as CaC03	2009/05/22	NC		%	25
1821909	C_H	MATRIX SPIKE [CM6627-06]	Total Chemical Oxygen Demand (COD)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/05/21		108	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/05/21	ND, RDL=4		mg/L	
		RPD [CM6627-06]	Total Chemical Oxygen Demand (COD)	2009/05/21	1.9		%	25
1821996	CP	MATRIX SPIKE	Total Cyanide (CN)	2009/05/21		94	%	75 - 125
		Spiked Blank	Total Cyanide (CN)	2009/05/21		103	%	75 - 125
		Method Blank	Total Cyanide (CN)	2009/05/21	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/05/21	NC		%	25
1822200	DRM	MATRIX SPIKE	Dissolved Chloride (Cl)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/05/21		100	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/05/21	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/05/21	0.07		%	20
1822207	JDE	MATRIX SPIKE	Orthophosphate (P)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/05/21		101	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/05/21	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/05/21	2.2		%	25
1822210	JDE	MATRIX SPIKE	Dissolved Sulphate (SO4)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/05/21		97	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/05/21	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/05/21	1.6		%	25
1822211	JBW	MATRIX SPIKE	Total Aluminum (Al)	2009/05/21		103	%	80 - 120
			Total Antimony (Sb)	2009/05/21		115	%	80 - 120
			Total Arsenic (As)	2009/05/21		NC (1)	%	80 - 120
			Total Barium (Ba)	2009/05/21		102	%	80 - 120
			Total Beryllium (Be)	2009/05/21		104	%	75 - 125
			Total Bismuth (Bi)	2009/05/21		103	%	75 - 125
			Total Boron (B)	2009/05/21		104	%	75 - 125
			Total Cadmium (Cd)	2009/05/21		105	%	80 - 120
			Total Calcium (Ca)	2009/05/21		NC (1)	%	75 - 125
			Total Chromium (Cr)	2009/05/21		101	%	80 - 120
			Total Cobalt (Co)	2009/05/21		102	%	80 - 120
			Total Copper (Cu)	2009/05/21		97	%	80 - 120
			Total Iron (Fe)	2009/05/21		104	%	80 - 120
			Total Lead (Pb)	2009/05/21		101	%	80 - 120
			Total Lithium (Li)	2009/05/21		102	%	75 - 125
			Total Magnesium (Mg)	2009/05/21		NC (1)	%	80 - 120
			Total Manganese (Mn)	2009/05/21		102	%	80 - 120
			Total Molybdenum (Mo)	2009/05/21		108	%	80 - 120
			Total Nickel (Ni)	2009/05/21		100	%	80 - 120
			Total Potassium (K)	2009/05/21		110	%	75 - 125
			Total Selenium (Se)	2009/05/21		100	%	75 - 125
			Total Silicon (Si)	2009/05/21		107	%	75 - 125
			Total Silver (Ag)	2009/05/21		103	%	80 - 120
			Total Sodium (Na)	2009/05/21		NC (1)	%	75 - 125
			Total Strontium (Sr)	2009/05/21		98	%	80 - 120

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1822211	JBW	MATRIX SPIKE	Total Tellurium (Te)	2009/05/21		106	%	75 - 125
			Total Thallium (Tl)	2009/05/21		100	%	80 - 120
			Total Thorium (Th)	2009/05/21		104	%	75 - 125
			Total Tin (Sn)	2009/05/21		107	%	75 - 125
			Total Titanium (Ti)	2009/05/21		104	%	75 - 125
			Total Tungsten (W)	2009/05/21		107	%	75 - 125
			Total Uranium (U)	2009/05/21		103	%	80 - 120
			Total Vanadium (V)	2009/05/21		103	%	80 - 120
			Total Zinc (Zn)	2009/05/21		98	%	80 - 120
			Total Zirconium (Zr)	2009/05/21		107	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/05/21		101	%	80 - 120
			Total Antimony (Sb)	2009/05/21		111	%	82 - 120
			Total Arsenic (As)	2009/05/21		102	%	86 - 119
			Total Barium (Ba)	2009/05/21		104	%	83 - 115
			Total Beryllium (Be)	2009/05/21		99	%	85 - 132
			Total Bismuth (Bi)	2009/05/21		101	%	78 - 120
			Total Boron (B)	2009/05/21		99	%	78 - 133
			Total Cadmium (Cd)	2009/05/21		102	%	85 - 116
			Total Calcium (Ca)	2009/05/21		104	%	75 - 125
			Total Chromium (Cr)	2009/05/21		99	%	80 - 120
			Total Cobalt (Co)	2009/05/21		101	%	82 - 117
			Total Copper (Cu)	2009/05/21		98	%	80 - 117
			Total Iron (Fe)	2009/05/21		103	%	80 - 120
			Total Lead (Pb)	2009/05/21		100	%	80 - 120
			Total Lithium (Li)	2009/05/21		99	%	86 - 131
			Total Magnesium (Mg)	2009/05/21		107	%	80 - 120
			Total Manganese (Mn)	2009/05/21		102	%	80 - 120
			Total Molybdenum (Mo)	2009/05/21		104	%	82 - 117
			Total Nickel (Ni)	2009/05/21		100	%	81 - 117
			Total Potassium (K)	2009/05/21		107	%	75 - 125
			Total Selenium (Se)	2009/05/21		101	%	82 - 118
			Total Silicon (Si)	2009/05/21		104	%	67 - 140
			Total Silver (Ag)	2009/05/21		101	%	80 - 120
			Total Sodium (Na)	2009/05/21		108	%	75 - 125
			Total Strontium (Sr)	2009/05/21		99	%	83 - 120
			Total Tellurium (Te)	2009/05/21		105	%	80 - 116
			Total Thallium (Tl)	2009/05/21		100	%	80 - 129
			Total Thorium (Th)	2009/05/21		99	%	80 - 125
			Total Tin (Sn)	2009/05/21		104	%	83 - 119
			Total Titanium (Ti)	2009/05/21		102	%	60 - 125
			Total Tungsten (W)	2009/05/21		105	%	81 - 123
			Total Uranium (U)	2009/05/21		102	%	82 - 120
			Total Vanadium (V)	2009/05/21		99	%	82 - 118
			Total Zinc (Zn)	2009/05/21		98	%	80 - 120
			Total Zirconium (Zr)	2009/05/21		103	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/05/21	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/05/21	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/05/21	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/05/21	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/05/21	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/05/21	ND, RDL=1		ug/L	
			Total Boron (B)	2009/05/21	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/05/21	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/05/21	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/05/21	ND, RDL=5		ug/L	

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1822211	JBW	Method Blank	Total Cobalt (Co)	2009/05/21	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/05/21	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/05/21	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/05/21	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/05/21	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/05/21	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/05/21	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/05/21	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/05/21	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/05/21	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/05/21	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/05/21	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/05/21	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/05/21	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/05/21	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/05/21	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/05/21	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/05/21	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/05/21	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/05/21	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/05/21	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/05/21	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/05/21	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/05/21	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/05/21	ND, RDL=1		ug/L	
		RPD	Total Arsenic (As)	2009/05/21	2.0		%	25
1822217	CCI	MATRIX SPIKE	Nitrite (N)	2009/05/21		104	%	75 - 125
			Nitrate (N)	2009/05/21		99	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/05/21		106	%	80 - 120
			Nitrate (N)	2009/05/21		104	%	80 - 120
		Method Blank	Nitrite (N)	2009/05/21	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/05/21	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/05/21	ND, RDL=0.1		mg/L	
		RPD	Nitrate (N)	2009/05/21	NC		%	25
1822257	DRM	MATRIX SPIKE	Dissolved Chloride (Cl)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/05/21		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/05/21	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/05/21	0.1		%	20
1822272	JDE	MATRIX SPIKE	Orthophosphate (P)	2009/05/21		111	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/05/21		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/05/21	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/05/21	NC		%	25
1822283	JDE	MATRIX SPIKE	Dissolved Sulphate (SO4)	2009/05/21		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/05/21		100	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/05/21	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/05/21	0.4		%	25
1822564	YPA	QC STANDARD	Alkalinity (Total as CaCO3)	2009/05/21		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/05/21	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/05/21	1.5		%	25
1822572	YPA	QC STANDARD	Conductivity	2009/05/21		100	%	85 - 115
		Method Blank	Conductivity	2009/05/21	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/05/21	0.2		%	25
1822587	YPA	MATRIX SPIKE	Fluoride (F-)	2009/05/21		94	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/05/21		99	%	80 - 120
		Method Blank	Fluoride (F-)	2009/05/21	ND, RDL=0.1		mg/L	

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA956950

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1822587	YPA	RPD	Fluoride (F-)	2009/05/21	NC		%	25

ND = Not detected
NC = Non-calculable
RPD = Relative Percent Difference
QC Standard = Quality Control Standard
SPIKE = Fortified sample
(1) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

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Validation Signature Page

Maxxam Job #: A956950

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



BRAD NEWMAN, Scientific Specialist



GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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IMMEDIATE TEST

REC'D IN WINNIPEG

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #: 136712
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #: C#136712-01-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Site Location:			
				Sampled By:			

REGULATORY CRITERIA:

14-May-09 11:2(
ANTONELLA BRASI
A956950
HSO ENV-68

Note: For regulated drinking water samples

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Alk.,Cond.,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Total Cyanide	Acidity as CaCO3 in liquid	Dissolved Organic Carbon (DOC)	Mercury in Water by CVAA	Dissolved Metals by ICPMS	Total Metals Analysis by ICPMS	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	May 12/09	11am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 bottles with location SW1
2		SW2	May 13/09	12pm	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	(incl. both coc forms)
3		SW3	May 12/09	1pm	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	"
4		SW4	May 12/09	4pm	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	"
5		SW5	May 13/09	10am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	"
6		SW6	May 13/09	1130am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	"
7																			
8																			
9																			
10																			

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

'09 MAY 15 9:12

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Ryan Todd	09/05/14		[illegible] Vicki Hall	09/05/14 09/05/15	11:20AM 9:12		X	6A,8°C@8B 11 4/4/4 5	☐ Yes ☐ No

White: Maxxam Yellow: Client

REC'D IN WINNIPEG

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:	REPORT INFORMATION (if differs from invoice):	PROJECT INFORMATION:	Laboratory Use Only:
#23433 Rainy River Resources Ltd	Company Name: #10142 Klohn Crippen Berger Ltd	Quotation #: A92895	MAXXAM JOB #: / BOTTLE ORDER #: 136712
Evelyn Funk	Contact Name: Ryan Todd	P.O. #:	
303 - 1620 W 8th Ave	Address: 500 - -2955 Virtual Way	Project #: Rainy River	CHAIN OF CUSTODY #: C#136712-01-02 / PROJECT MANAGER: ANTONELLA BRASIL
Vancouver BC V6J 1V4	Vancouver BC V5M 4X6	Project Name:	
(604)639-4491 Fax: (604)639-4492	Phone: (604)251-8554 Fax: (604)251-8510	Site Location:	
etf@rainyriverresources.com	Email: rtodd@klohn.com	Sampled By:	

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Dissolved Solids	Low Level Total Suspended Solids	Animal/Vegetable/Mineral/Tot Oil&Grease	Sublet (MICRO) - TC, EC, E.coli by MF	# of Bottles	Comments
1		SW1	May 12/09	11am	WT		✓	✓	✓	✓	✓	15	(Incl. both cof c forms)
2		SW2	May 13/09	12pm	WT		✓	✓	✓	✓	✓	15	"
3		SW3	May 13/09	1pm	WT		✓	✓	✓	✓	✓	15	"
4		SW4	May 12/09	4pm	WT		✓	✓	✓	✓	✓	15	"
5		SW5	May 13/09	10am	WT		✓	✓	✓	✓	✓	15	"
6		SW6	May 13/09	1130am	WT		✓		✓	✓	✓	15	"
7													
8													
9													
10													

ANALYSIS REQUESTED (Please be specific):

Submitted to ALS to subsub to CANTEST

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
	09/05/14		Vicki Mowat	09/05/14	11:20 AM	

Laboratory Use Only: Time Sensitive ✓ | Temperature (°C) on Receipt | Custody Seal Intact on Cooler?

Your Project #: MA956950
Site: RAINY RIVER
Your C.O.C. #: 08300457

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/05/25

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A923524
Received: 2009/05/20, 08:40

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2009/05/25	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A923524
Report Date: 2009/05/25

MAXXAM ANALYTICS INC.
Client Project #: MA956950
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		O84874	O84875	O84876	O84877		
Sampling Date		2009/05/13	2009/05/13	2009/05/13	2009/05/13		
COC Number		08300457	08300457	08300457	08300457		
	Units	**SW1 (CM6625-09R)**	**SW2 (CM6626-09R)**	**SW3 (CM6627-09R)**	**SW4 (CM6628-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0015	0.0012	0.0014	0.0011	0.0005	3146051

RDL = Reportable Detection Limit

Maxxam ID		O84878	O84879	O84880		
Sampling Date		2009/05/13	2009/05/13	2009/05/13		
COC Number		08300457	08300457	08300457		
	Units	**SW5 (CM6629-09R)**	**SW6 (CM6630-09R)**	**TRIP BLANK W0905108 (CM6631-09R)**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0015	0.0015	0.0010	0.0005	3146051

RDL = Reportable Detection Limit

Maxxam Job #: A923524
Report Date: 2009/05/25

MAXXAM ANALYTICS INC.
Client Project #: MA956950
Site Reference: RAINY RIVER

Package 1	7.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA956950
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VA923524

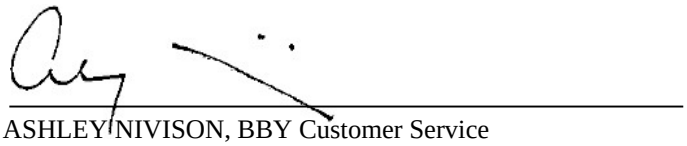
QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3146051 TS1	MATRIX SPIKE	Weak Acid Dissoc. Cyanide (CN)	2009/05/25		112	%	80 - 120
	SPIKE	Weak Acid Dissoc. Cyanide (CN)	2009/05/25		109	%	80 - 120
	BLANK	Weak Acid Dissoc. Cyanide (CN)	2009/05/25	<0.0005		mg/L	
	RPD	Weak Acid Dissoc. Cyanide (CN)	2009/05/25	NC		%	20

NC = Non-calculable
RPD = Relative Percent Difference

Validation Signature Page

Maxxam Job #: A923524

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ASHLEY NIVISON, BBY Customer Service

==========

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APPENDIX I - 4

Laboratory Results
July 2009

Your Project #: MAA984621
Your C.O.C. #: 08302118

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/07/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A935620
Received: 2009/07/13, 09:15

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (Total)	7	N/A	2009/07/13	BRN SOP-00226 R2.0	Based on EPA 9012AR1
Cyanide WAD (weak acid dissociable)	7	N/A	2009/07/13	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.
Client Project #: MAA984621

Maxxam Job #: A935620
Report Date: 2009/07/14

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		P74018	P74019	P74020	P74021		
Sampling Date		2009/07/04	2009/07/04	2009/07/04	2009/07/04		
COC Number		08302118	08302118	08302118	08302118		
	Units	**SW 1/CZ9987-10R**	**SW 2/CZ9988-10R**	**SW 3/CZ9989-10R**	**SW 4/CZ9990-10R**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0014	0.0013	0.0013	0.0012	0.0005	3270781
Cyanide + Thiocyanate	mg/L	0.0019	0.0016	0.0017	0.0015	0.0005	3270254

RDL = Reportable Detection Limit

Maxxam ID		P74022	P74023	P74024	P74024		
Sampling Date		2009/07/04	2009/07/04	2009/07/04	2009/07/04		
COC Number		08302118	08302118	08302118	08302118		
	Units	**SW 5/CZ9991-10R**	**SW 6/CZ9992-10R**	**TRIP BLANK W/DA1333-09R**	**TRIP BLANK W/DA1333-09R Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0012	0.0008	0.0007	N/A	0.0005	3270781
Cyanide + Thiocyanate	mg/L	0.0024	0.0014	0.0007	0.0009	0.0005	3270254

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: A935620
Report Date: 2009/07/14

MAXXAM ANALYTICS INC.
Client Project #: MAA984621

Package 1	15.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MAA984621
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VA935620

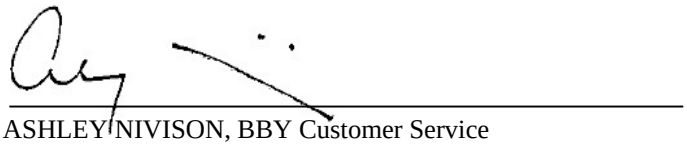
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3270254	TS1	MATRIX SPIKE	Cyanide + Thiocyanate	2009/07/13		105	%	80 - 120
		SPIKE	Cyanide + Thiocyanate	2009/07/13		94	%	80 - 120
		BLANK	Cyanide + Thiocyanate	2009/07/13	<0.0005		mg/L	
		RPD [P74024-01]	Cyanide + Thiocyanate	2009/07/13	NC		%	20
3270781	TS1	MATRIX SPIKE	Weak Acid Dissoc. Cyanide (CN)	2009/07/13		104	%	80 - 120
		SPIKE	Weak Acid Dissoc. Cyanide (CN)	2009/07/13		102	%	80 - 120
		BLANK	Weak Acid Dissoc. Cyanide (CN)	2009/07/13	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2009/07/13	NC		%	20

NC = Non-calculable
RPD = Relative Percent Difference

Validation Signature Page

Maxxam Job #: A935620

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ASHLEY NIVISON, BBY Customer Service

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Your Project #: Rainy River
Your C.O.C. #: 14061901, 140619-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/07/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A984621
Received: 2009/07/07, 10:45

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	7	2009/07/10	2009/07/13	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2009/07/10	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/07/14	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/07/13	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/07/13	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2009/07/10	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/07/10	2009/07/13	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	6	N/A	2009/07/10	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	1	N/A	2009/07/12	CAM SOP-00446	SM 5310 B
Fluoride	7	2009/07/10	2009/07/10	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/07/10	2009/07/10	CAM SOP-00453	EPA 7470
Lab Filtered Metals by ICPMS	7	2009/07/13	2009/07/14	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	6	N/A	2009/07/13	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	1	N/A	2009/07/14	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2009/07/13	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	7	N/A	2009/07/13	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/07/10	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/07/10	2009/07/10	CAM SOP-00326	EPA 1664A
pH	7	N/A	2009/07/10	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/07/13	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/07/13	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/07/10	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	6	N/A	2009/07/11	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	1	N/A	2009/07/12	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (4)	7	2009/07/10	2009/07/10	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2009/07/10	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2009/07/10	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

../2

Maxxam Analytics - Partial/Rush Results

Your Project #: Rainy River
Your C.O.C. #: 14061901, 140619-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/07/14

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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Total cover pages: 2

Maxxam Analytics - Partial/Rush Results

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9987		CZ9988		
Sampling Date		2009/07/04		2009/07/04		
COC Number		140619-0		140619-0		
	Units	**SW 1**	**RDL**	**SW 2**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	0.5	1872438
Inorganics						
Acidity as CaC03	mg/L	20	10	20	10	1873886
Total Ammonia-N	mg/L	ND	0.05	ND	0.05	1873966
Total BOD	mg/L	ND	2	ND	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	82	4	53	4	1873974
Conductivity	umho/cm	300	1	338	1	1874256
Total Dissolved Solids	mg/L	192	10	230	10	1873891
Fluoride (F-)	mg/L	ND	0.1	ND	0.1	1874273
Dissolved Organic Carbon	mg/L	29.8	0.1	18.8	0.1	1874070
Total Organic Carbon (TOC)	mg/L	29.7	0.1	19.5	0.1	1873960
Orthophosphate (P)	mg/L	ND (1)	0.1	ND (1)	0.05	1874002
pH	pH	7.6		7.6		1874266
Total Suspended Solids	mg/L	24	1	2	1	1873725
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	ND (1)	5	1874004
Total Cyanide (CN)	mg/L	ND	0.005	ND	0.005	1874095
Turbidity	NTU	20	0.1	1.8	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	146	1	184	1	1874250
Dissolved Chloride (Cl)	mg/L	ND (1)	10	ND (1)	5	1874001
Nitrite (N)	mg/L	ND	0.01	ND	0.01	1874010
Nitrate (N)	mg/L	0.2	0.1	ND	0.1	1874010
Nitrate + Nitrite	mg/L	0.2	0.1	ND	0.1	1874010
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	0.5	ND	0.5	1873556
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	0.5	1873557

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9989	CZ9990		
Sampling Date		2009/07/04	2009/07/04		
COC Number		140619-0	140619-0		
	Units	**SW 3**	**SW 4**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	ND	0.5	1872438
Inorganics					
Acidity as CaC03	mg/L	12	10	10	1873886
Total Ammonia-N	mg/L	ND	0.11	0.05	1873966
Total BOD	mg/L	ND	ND	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	75	58	4	1873974
Conductivity	umho/cm	288	97	1	1874256
Total Dissolved Solids	mg/L	186	60	10	1873891
Fluoride (F-)	mg/L	ND	ND	0.1	1874273
Dissolved Organic Carbon	mg/L	25.8	20.7	0.1	1874070
Total Organic Carbon (TOC)	mg/L	26.3	19.9	0.1	1873960
Orthophosphate (P)	mg/L	ND (1)	ND (1)	0.1	1874002
pH	pH	7.7	7.1		1874266
Total Suspended Solids	mg/L	11	9	1	1873725
Dissolved Sulphate (SO4)	mg/L	ND (1)	ND (1)	10	1874004
Total Cyanide (CN)	mg/L	ND	ND	0.005	1874095
Turbidity	NTU	8.3	1.6	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	148	39	1	1874250
Dissolved Chloride (Cl)	mg/L	ND (1)	ND (1)	10	1874001
Nitrite (N)	mg/L	ND	ND	0.01	1874010
Nitrate (N)	mg/L	ND	ND	0.1	1874010
Nitrate + Nitrite	mg/L	ND	ND	0.1	1874010
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	1873556
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	1873557

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9991		CZ9992		
Sampling Date		2009/07/04		2009/07/04		
COC Number		140619-0		140619-0		
	Units	**SW 5**	**RDL**	**SW 6**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	0.5	1872438
Inorganics						
Acidity as CaC03	mg/L	24	10	10	10	1873886
Total Ammonia-N	mg/L	0.06	0.05	0.12	0.05	1873966
Total BOD	mg/L	ND	2	ND	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	120	4	63	4	1873974
Conductivity	umho/cm	72	1	98	1	1874256
Total Dissolved Solids	mg/L	45	10	62	10	1873891
Fluoride (F-)	mg/L	ND	0.1	ND	0.1	1874273
Dissolved Organic Carbon	mg/L	43.8	0.1	19.6	0.1	1874070
Total Organic Carbon (TOC)	mg/L	44.7	0.1	20.4	0.1	1873960
Orthophosphate (P)	mg/L	ND (1)	0.3	ND (1)	0.1	1874002
pH	pH	6.7		7.0		1874266
Total Suspended Solids	mg/L	2	1	2	1	1873725
Dissolved Sulphate (SO4)	mg/L	ND (1)	30	ND (1)	10	1874004
Total Cyanide (CN)	mg/L	ND	0.005	ND	0.005	1874095
Turbidity	NTU	1.7	0.1	1.5	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	33	1	39	1	1874250
Dissolved Chloride (Cl)	mg/L	ND (1)	30	ND (1)	10	1874001
Nitrite (N)	mg/L	ND	0.01	ND	0.01	1874010
Nitrate (N)	mg/L	ND	0.1	ND	0.1	1874010
Nitrate + Nitrite	mg/L	ND	0.1	ND	0.1	1874010
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	0.5	ND	0.5	1873556
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	0.5	1873557

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

RESULTS OF ANALYSES OF WATER

Maxxam ID		DA1333		
Sampling Date		2009/07/04		
COC Number		14061901		
	Units	**TRIP BLANK W090618**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1872438
Inorganics				
Acidity as CaC03	mg/L	ND	10	1873886
Total Ammonia-N	mg/L	0.18	0.05	1873964
Total BOD	mg/L	ND	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	8	4	1873974
Conductivity	umho/cm	1	1	1874256
Total Dissolved Solids	mg/L	ND	10	1873891
Fluoride (F-)	mg/L	ND	0.1	1874273
Dissolved Organic Carbon	mg/L	ND	0.1	1874070
Total Organic Carbon (TOC)	mg/L	0.5	0.1	1873960
Orthophosphate (P)	mg/L	ND	0.01	1874002
pH	pH	5.9		1874266
Total Suspended Solids	mg/L	ND	1	1873725
Dissolved Sulphate (SO4)	mg/L	ND	1	1874004
Total Cyanide (CN)	mg/L	ND	0.005	1874095
Turbidity	NTU	0.1	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	ND	1	1874250
Dissolved Chloride (Cl)	mg/L	ND	1	1874001
Nitrite (N)	mg/L	ND	0.01	1874027
Nitrate (N)	mg/L	ND	0.1	1874027
Nitrate + Nitrite	mg/L	ND	0.1	1874027
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1873556
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1873557

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9987	CZ9988	CZ9989	CZ9990		
Sampling Date		2009/07/04	2009/07/04	2009/07/04	2009/07/04		
COC Number		140619-0	140619-0	140619-0	140619-0		
	Units	**SW 1**	**SW 2**	**SW 3**	**SW 4**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	1873599
Dissolved Aluminum (Al)	ug/L	5	ND	7	18	5	1875897
Total Aluminum (Al)	ug/L	1100	23	120	77	5	1874090
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	1875897
Total Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	1874090
Dissolved Arsenic (As)	ug/L	2	1	1	ND	1	1875897
Total Arsenic (As)	ug/L	3	1	2	ND	1	1874090
Dissolved Barium (Ba)	ug/L	21	15	14	5	5	1875897
Total Barium (Ba)	ug/L	32	18	26	6	5	1874090
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	1875897
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	1874090
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	1875897
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Boron (B)	ug/L	21	10	15	ND	10	1875897
Total Boron (B)	ug/L	18	ND	16	ND	10	1874090
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	1875897
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	1874090
Dissolved Calcium (Ca)	ug/L	37000	44000	36000	10000	200	1875897
Total Calcium (Ca)	ug/L	40000	45000	39000	12000	200	1874090
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	1875897
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	1874090
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	1875897
Total Cobalt (Co)	ug/L	0.9	ND	ND	ND	0.5	1874090
Dissolved Copper (Cu)	ug/L	1	ND	ND	ND	1	1875897
Total Copper (Cu)	ug/L	2	ND	4	ND	1	1874090
Dissolved Iron (Fe)	ug/L	ND	ND	ND	ND	100	1875897
Total Iron (Fe)	ug/L	1600	480	280	260	100	1874090
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	1875897
Total Lead (Pb)	ug/L	0.9	ND	ND	ND	0.5	1874090
Dissolved Lithium (Li)	ug/L	ND	ND	ND	ND	5	1875897
Total Lithium (Li)	ug/L	7	ND	ND	ND	5	1874090
Dissolved Magnesium (Mg)	ug/L	16000	17000	15000	4900	50	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9987	CZ9988	CZ9989	CZ9990		
Sampling Date		2009/07/04	2009/07/04	2009/07/04	2009/07/04		
COC Number		140619-0	140619-0	140619-0	140619-0		
	Units	**SW 1**	**SW 2**	**SW 3**	**SW 4**	**RDL**	**QC Batch**
Total Magnesium (Mg)	ug/L	17000	17000	16000	5300	50	1874090
Dissolved Manganese (Mn)	ug/L	ND	ND	ND	ND	2	1875897
Total Manganese (Mn)	ug/L	99	180	41	19	2	1874090
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	1875897
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Nickel (Ni)	ug/L	2	2	2	ND	1	1875897
Total Nickel (Ni)	ug/L	4	2	2	ND	1	1874090
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	1875897
Dissolved Potassium (K)	ug/L	2100	760	760	530	200	1875897
Total Potassium (K)	ug/L	2500	810	870	630	200	1874090
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	1875897
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	1874090
Dissolved Silicon (Si)	ug/L	2200	4400	3200	1000	50	1875897
Total Silicon (Si)	ug/L	4800	4300	3600	1300	50	1874090
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	1875897
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	1874090
Dissolved Sodium (Na)	ug/L	5100	1900	3200	3400	100	1875897
Total Sodium (Na)	ug/L	5200	1800	3300	3600	100	1874090
Dissolved Strontium (Sr)	ug/L	100	72	80	21	1	1875897
Total Strontium (Sr)	ug/L	110	74	86	24	1	1874090
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	1875897
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	1875897
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	1874090
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	1875897
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	1875897
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	1875897
Total Titanium (Ti)	ug/L	40	ND	ND	ND	5	1874090
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	1875897
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	1874090
Dissolved Uranium (U)	ug/L	0.6	0.6	0.5	ND	0.1	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9987	CZ9988	CZ9989	CZ9990		
Sampling Date		2009/07/04	2009/07/04	2009/07/04	2009/07/04		
COC Number		140619-0	140619-0	140619-0	140619-0		
	Units	**SW 1**	**SW 2**	**SW 3**	**SW 4**	**RDL**	**QC Batch**
Total Uranium (U)	ug/L	0.8	0.6	0.6	ND	0.1	1874090
Dissolved Vanadium (V)	ug/L	1	ND	ND	ND	1	1875897
Total Vanadium (V)	ug/L	4	ND	1	ND	1	1874090
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	ND	5	1875897
Total Zinc (Zn)	ug/L	15	7	16	11	5	1874090
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	1875897
Total Zirconium (Zr)	ug/L	2	ND	ND	ND	1	1874090

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Maxxam Analytics - Partial/Rush Results

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9991	CZ9992		DA1333		
Sampling Date		2009/07/04	2009/07/04		2009/07/04		
COC Number		140619-0	140619-0		14061901		
	Units	**SW 5**	**SW 6**	**QC Batch**	**TRIP BLANK W090618**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	1873599	ND	0.0001	1873684
Dissolved Aluminum (Al)	ug/L	95	9	1875897	ND	5	1875897
Total Aluminum (Al)	ug/L	120	86	1874090	ND	5	1875699
Dissolved Antimony (Sb)	ug/L	ND	ND	1875897	ND	0.5	1875897
Total Antimony (Sb)	ug/L	ND	ND	1874090	ND	0.5	1875699
Dissolved Arsenic (As)	ug/L	ND	ND	1875897	ND	1	1875897
Total Arsenic (As)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Barium (Ba)	ug/L	8	5	1875897	ND	5	1875897
Total Barium (Ba)	ug/L	24	6	1874090	ND	5	1875699
Dissolved Beryllium (Be)	ug/L	ND	ND	1875897	ND	0.5	1875897
Total Beryllium (Be)	ug/L	ND	ND	1874090	ND	0.5	1875699
Dissolved Bismuth (Bi)	ug/L	ND	ND	1875897	ND	1	1875897
Total Bismuth (Bi)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Boron (B)	ug/L	ND	ND	1875897	ND	10	1875897
Total Boron (B)	ug/L	ND	ND	1874090	ND	10	1875699
Dissolved Cadmium (Cd)	ug/L	ND	ND	1875897	ND	0.1	1875897
Total Cadmium (Cd)	ug/L	ND	ND	1874090	ND	0.1	1875699
Dissolved Calcium (Ca)	ug/L	10000	11000	1875897	ND	200	1875897
Total Calcium (Ca)	ug/L	11000	11000	1874090	ND	200	1875699
Dissolved Chromium (Cr)	ug/L	ND	ND	1875897	ND	5	1875897
Total Chromium (Cr)	ug/L	ND	ND	1874090	ND	5	1875699
Dissolved Cobalt (Co)	ug/L	ND	ND	1875897	ND	0.5	1875897
Total Cobalt (Co)	ug/L	0.5	ND	1874090	ND	0.5	1875699
Dissolved Copper (Cu)	ug/L	ND	ND	1875897	ND	1	1875897
Total Copper (Cu)	ug/L	ND	1	1874090	1	1	1875699
Dissolved Iron (Fe)	ug/L	330	ND	1875897	ND	100	1875897
Total Iron (Fe)	ug/L	570	240	1874090	ND	100	1875699
Dissolved Lead (Pb)	ug/L	ND	ND	1875897	ND	0.5	1875897
Total Lead (Pb)	ug/L	0.6	ND	1874090	ND	0.5	1875699
Dissolved Lithium (Li)	ug/L	ND	ND	1875897	ND	5	1875897
Total Lithium (Li)	ug/L	ND	ND	1874090	ND	5	1875699

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A984621
Report Date: 2009/07/14

Klohn Crippen Berger Ltd
Client Project #: Rainy River

Maxxam Analytics - Partial/Rush Results

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9991	CZ9992		DA1333		
Sampling Date		2009/07/04	2009/07/04		2009/07/04		
COC Number		140619-0	140619-0		14061901		
	Units	**SW 5**	**SW 6**	**QC Batch**	**TRIP BLANK W090618**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	5200	5000	1875897	ND	50	1875897
Total Magnesium (Mg)	ug/L	5500	5100	1874090	ND	50	1875699
Dissolved Manganese (Mn)	ug/L	ND	ND	1875897	ND	2	1875897
Total Manganese (Mn)	ug/L	120	19	1874090	ND	2	1875699
Dissolved Molybdenum (Mo)	ug/L	ND	ND	1875897	ND	1	1875897
Total Molybdenum (Mo)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Nickel (Ni)	ug/L	ND	ND	1875897	ND	1	1875897
Total Nickel (Ni)	ug/L	ND	1	1874090	ND	1	1875699
Dissolved Phosphorus (P)	ug/L	ND	ND	1875897	ND	100	1875897
Dissolved Potassium (K)	ug/L	ND	560	1875897	ND	200	1875897
Total Potassium (K)	ug/L	ND	600	1874090	ND	200	1875699
Dissolved Selenium (Se)	ug/L	ND	ND	1875897	ND	2	1875897
Total Selenium (Se)	ug/L	ND	ND	1874090	ND	2	1875699
Dissolved Silicon (Si)	ug/L	2100	1100	1875897	ND	50	1875897
Total Silicon (Si)	ug/L	2200	1200	1874090	ND	50	1875699
Dissolved Silver (Ag)	ug/L	ND	ND	1875897	ND	0.1	1875897
Total Silver (Ag)	ug/L	ND	ND	1874090	ND	0.1	1875699
Dissolved Sodium (Na)	ug/L	1000	3500	1875897	ND	100	1875897
Total Sodium (Na)	ug/L	940	3500	1874090	ND	100	1875699
Dissolved Strontium (Sr)	ug/L	23	21	1875897	ND	1	1875897
Total Strontium (Sr)	ug/L	25	23	1874090	ND	1	1875699
Dissolved Tellurium (Te)	ug/L	ND	ND	1875897	ND	1	1875897
Total Tellurium (Te)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Thallium (Tl)	ug/L	ND	ND	1875897	ND	0.05	1875897
Total Thallium (Tl)	ug/L	ND	ND	1874090	ND	0.05	1875699
Dissolved Thorium (Th)	ug/L	ND	ND	1875897	ND	1	1875897
Total Thorium (Th)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Tin (Sn)	ug/L	ND	ND	1875897	ND	1	1875897
Total Tin (Sn)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Titanium (Ti)	ug/L	ND	ND	1875897	ND	5	1875897
Total Titanium (Ti)	ug/L	ND	ND	1874090	ND	5	1875699
Dissolved Tungsten (W)	ug/L	ND	ND	1875897	ND	1	1875897

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Maxxam Job #: A984621
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Klohn Crippen Berger Ltd
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Maxxam Analytics - Partial/Rush Results

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9991	CZ9992		DA1333		
Sampling Date		2009/07/04	2009/07/04		2009/07/04		
COC Number		140619-0	140619-0		14061901		
	Units	**SW 5**	**SW 6**	**QC Batch**	**TRIP BLANK W090618**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Uranium (U)	ug/L	ND	ND	1875897	ND	0.1	1875897
Total Uranium (U)	ug/L	ND	ND	1874090	ND	0.1	1875699
Dissolved Vanadium (V)	ug/L	ND	ND	1875897	ND	1	1875897
Total Vanadium (V)	ug/L	ND	ND	1874090	ND	1	1875699
Dissolved Zinc (Zn)	ug/L	320	ND	1875897	ND	5	1875897
Total Zinc (Zn)	ug/L	450	11	1874090	6	5	1875699
Dissolved Zirconium (Zr)	ug/L	ND	ND	1875897	ND	1	1875897
Total Zirconium (Zr)	ug/L	ND	ND	1874090	ND	1	1875699

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Maxxam Analytics - Partial/Rush Results

GENERAL COMMENTS

SUB-MISC for WAD CYANIDE

Sample CZ9987-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample CZ9990-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Maxxam Analytics - Partial/Rush Results

Quality Assurance Report

Maxxam Job Number: MA984621

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1872484	HAL	QC STANDARD	Total BOD	2009/07/14		101	%	85 - 115
		Method Blank	Total BOD	2009/07/14	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/07/14	0		%	25
1873556	FA	MATRIX SPIKE [CZ9991-01]	Total Oil & Grease	2009/07/10		88	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/07/10		99	%	85 - 115
		Method Blank	Total Oil & Grease	2009/07/10	ND, RDL=0.5		mg/L	
		RPD [CZ9989-01]	Total Oil & Grease	2009/07/10	NC		%	25
1873557	FA	MATRIX SPIKE [CZ9991-01]	Total Oil & Grease Mineral/Synthetic	2009/07/10		89	%	75 - 125
		Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/07/10		95	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/07/10	ND, RDL=0.5		mg/L	
		RPD [CZ9989-01]	Total Oil & Grease Mineral/Synthetic	2009/07/10	NC		%	25
1873599	MC	MATRIX SPIKE	Mercury (Hg)	2009/07/10		104	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/07/10		104	%	84 - 113
		Method Blank	Mercury (Hg)	2009/07/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/07/10	NC		%	25
1873684	MC	MATRIX SPIKE	Mercury (Hg)	2009/07/10		103	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/07/10		102	%	84 - 113
		Method Blank	Mercury (Hg)	2009/07/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/07/10	NC		%	25
1873725	HAG	QC STANDARD	Total Suspended Solids	2009/07/10		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/07/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/07/10	0		%	25
1873886	MAT	Method Blank	Acidity as CaC03	2009/07/13	ND, RDL=10		mg/L	
		RPD [CZ9991-05]	Acidity as CaC03	2009/07/13	NC		%	25
1873891	HAG	QC STANDARD	Total Dissolved Solids	2009/07/10		100	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/07/10	ND, RDL=10		mg/L	
		RPD [DA1333-04]	Total Dissolved Solids	2009/07/10	NC		%	25
1873960	AHA	MATRIX SPIKE	Total Organic Carbon (TOC)	2009/07/11		NC (1)	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/07/11		101	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/07/11	ND, RDL=0.1		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/07/11	11.1		%	20
1873964	ADB	MATRIX SPIKE	Total Ammonia-N	2009/07/13		100	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/07/13		102	%	80 - 120
		Method Blank	Total Ammonia-N	2009/07/13	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/07/13	NC		%	25
1873966	ADB	MATRIX SPIKE	Total Ammonia-N	2009/07/13		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/07/13		96	%	80 - 120
		Method Blank	Total Ammonia-N	2009/07/13	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/07/13	NC		%	25
1873974	SAU	MATRIX SPIKE	Total Chemical Oxygen Demand (COD)	2009/07/13		NC (2)	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/07/13		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/07/13	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/07/13	4.2		%	25
1874001	DRM	MATRIX SPIKE	Dissolved Chloride (Cl)	2009/07/13		NC (2)	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/07/13		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/07/13	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/07/13	1.5		%	20
1874002	DRM	MATRIX SPIKE	Orthophosphate (P)	2009/07/13		100	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/07/13		98	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/07/13	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/07/13	NC		%	25
1874004	DRM	MATRIX SPIKE	Dissolved Sulphate (SO4)	2009/07/13		NC (2)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/07/13		97	%	80 - 120

Klohn Crippen Berger Ltd
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Quality Assurance Report (Continued)

Maxxam Job Number: MA984621

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1874004	DRM	Method Blank	Dissolved Sulphate (SO4)	2009/07/13	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/07/13	0.006		%	25
1874010	CCI	MATRIX SPIKE	Nitrite (N)	2009/07/13		103	%	75 - 125
			Nitrate (N)	2009/07/13		97	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/07/13		104	%	80 - 120
			Nitrate (N)	2009/07/13		99	%	80 - 120
		Method Blank	Nitrite (N)	2009/07/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/07/13	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/07/13	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/07/13	NC		%	25
			Nitrate (N)	2009/07/13	NC		%	25
			Nitrate + Nitrite	2009/07/13	NC		%	25
1874027	CCI	MATRIX SPIKE	Nitrite (N)	2009/07/13		102	%	75 - 125
			Nitrate (N)	2009/07/13		98	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/07/13		104	%	80 - 120
			Nitrate (N)	2009/07/13		98	%	80 - 120
		Method Blank	Nitrite (N)	2009/07/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/07/13	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/07/13	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/07/13	NC		%	25
			Nitrate (N)	2009/07/13	NC		%	25
			Nitrate + Nitrite	2009/07/13	NC		%	25
1874050	KTH	QC STANDARD	Turbidity	2009/07/10		101	%	85 - 115
		Method Blank	Turbidity	2009/07/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/07/10	NC		%	25
1874070	AHA	MATRIX SPIKE	Dissolved Organic Carbon	2009/07/11		112	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/07/10		100	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/07/10	ND, RDL=0.1		mg/L	
		RPD	Dissolved Organic Carbon	2009/07/10	1.1		%	20
1874090	JBW	MATRIX SPIKE	Total Aluminum (Al)	2009/07/13		108	%	80 - 120
			Total Antimony (Sb)	2009/07/13		114	%	80 - 120
			Total Arsenic (As)	2009/07/13		105	%	80 - 120
			Total Barium (Ba)	2009/07/13		102	%	80 - 120
			Total Beryllium (Be)	2009/07/13		102	%	75 - 125
			Total Bismuth (Bi)	2009/07/13		99	%	75 - 125
			Total Boron (B)	2009/07/13		NC (2)	%	75 - 125
			Total Cadmium (Cd)	2009/07/13		102	%	80 - 120
			Total Calcium (Ca)	2009/07/13		NC (2)	%	75 - 125
			Total Chromium (Cr)	2009/07/13		102	%	80 - 120
			Total Cobalt (Co)	2009/07/13		102	%	80 - 120
			Total Copper (Cu)	2009/07/13		95	%	80 - 120
			Total Iron (Fe)	2009/07/13		102	%	80 - 120
			Total Lead (Pb)	2009/07/13		100	%	80 - 120
			Total Lithium (Li)	2009/07/13		NC (2)	%	75 - 125
			Total Magnesium (Mg)	2009/07/13		NC (2)	%	80 - 120
			Total Manganese (Mn)	2009/07/13		102	%	80 - 120
			Total Molybdenum (Mo)	2009/07/13		112	%	80 - 120
			Total Nickel (Ni)	2009/07/13		98	%	80 - 120
			Total Potassium (K)	2009/07/13		NC (2)	%	75 - 125
			Total Selenium (Se)	2009/07/13		99	%	75 - 125
			Total Silicon (Si)	2009/07/13		104	%	75 - 125
			Total Silver (Ag)	2009/07/13		98	%	80 - 120
			Total Sodium (Na)	2009/07/13		NC (2)	%	75 - 125
			Total Strontium (Sr)	2009/07/13		NC (2)	%	80 - 120
			Total Tellurium (Te)	2009/07/13		98	%	75 - 125

Maxxam Analytics - Partial/Rush Results

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Maxxam Analytics - Partial/Rush Results

Quality Assurance Report (Continued)

Maxxam Job Number: MA984621

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1874090	JBW	MATRIX SPIKE	Total Thallium (Tl)	2009/07/13		99	%	80 - 120
			Total Thorium (Th)	2009/07/13		105	%	75 - 125
			Total Tin (Sn)	2009/07/13		108	%	75 - 125
			Total Titanium (Ti)	2009/07/13		105	%	75 - 125
			Total Tungsten (W)	2009/07/13		109	%	75 - 125
			Total Uranium (U)	2009/07/13		103	%	80 - 120
			Total Vanadium (V)	2009/07/13		105	%	80 - 120
			Total Zinc (Zn)	2009/07/13		95	%	80 - 120
			Total Zirconium (Zr)	2009/07/13		111	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/07/13		103	%	80 - 120
			Total Antimony (Sb)	2009/07/13		110	%	82 - 120
			Total Arsenic (As)	2009/07/13		103	%	86 - 119
			Total Barium (Ba)	2009/07/13		102	%	83 - 115
			Total Beryllium (Be)	2009/07/13		102	%	85 - 132
			Total Bismuth (Bi)	2009/07/13		101	%	78 - 120
			Total Boron (B)	2009/07/13		99	%	78 - 133
			Total Cadmium (Cd)	2009/07/13		105	%	85 - 116
			Total Calcium (Ca)	2009/07/13		97	%	75 - 125
			Total Chromium (Cr)	2009/07/13		103	%	80 - 120
			Total Cobalt (Co)	2009/07/13		104	%	82 - 117
			Total Copper (Cu)	2009/07/13		100	%	80 - 117
			Total Iron (Fe)	2009/07/13		101	%	80 - 120
			Total Lead (Pb)	2009/07/13		102	%	80 - 120
			Total Lithium (Li)	2009/07/13		104	%	86 - 131
			Total Magnesium (Mg)	2009/07/13		103	%	80 - 120
			Total Manganese (Mn)	2009/07/13		101	%	80 - 120
			Total Molybdenum (Mo)	2009/07/13		105	%	82 - 117
			Total Nickel (Ni)	2009/07/13		101	%	81 - 117
			Total Potassium (K)	2009/07/13		101	%	75 - 125
			Total Selenium (Se)	2009/07/13		101	%	82 - 118
			Total Silicon (Si)	2009/07/13		103	%	67 - 140
			Total Silver (Ag)	2009/07/13		102	%	80 - 120
			Total Sodium (Na)	2009/07/13		100	%	75 - 125
			Total Strontium (Sr)	2009/07/13		103	%	83 - 120
			Total Tellurium (Te)	2009/07/13		101	%	80 - 116
			Total Thallium (Tl)	2009/07/13		100	%	80 - 129
			Total Thorium (Th)	2009/07/13		103	%	80 - 125
			Total Tin (Sn)	2009/07/13		105	%	83 - 119
			Total Titanium (Ti)	2009/07/13		103	%	60 - 125
			Total Tungsten (W)	2009/07/13		104	%	81 - 123
			Total Uranium (U)	2009/07/13		101	%	82 - 120
			Total Vanadium (V)	2009/07/13		104	%	82 - 118
			Total Zinc (Zn)	2009/07/13		102	%	80 - 120
			Total Zirconium (Zr)	2009/07/13		105	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/07/13	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/07/13	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/07/13	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/07/13	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/07/13	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/07/13	ND, RDL=1		ug/L	
			Total Boron (B)	2009/07/13	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/07/13	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/07/13	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/07/13	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/07/13	ND, RDL=0.5		ug/L	

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1874090	JBW	Method Blank	Total Copper (Cu)	2009/07/13	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/07/13	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/07/13	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/07/13	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/07/13	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/07/13	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/07/13	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/07/13	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/07/13	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/07/13	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/07/13	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/07/13	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/07/13	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/07/13	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/07/13	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/07/13	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/07/13	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/07/13	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/07/13	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/07/13	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/07/13	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/07/13	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/07/13	7, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/07/13	ND, RDL=1		ug/L	
		RPD	Total Aluminum (Al)	2009/07/13	2.7		%	25
			Total Antimony (Sb)	2009/07/13	NC		%	25
			Total Arsenic (As)	2009/07/13	NC		%	25
			Total Barium (Ba)	2009/07/13	4.2		%	25
			Total Beryllium (Be)	2009/07/13	NC		%	25
			Total Boron (B)	2009/07/13	6.6		%	25
			Total Cadmium (Cd)	2009/07/13	NC		%	25
			Total Calcium (Ca)	2009/07/13	3.0		%	25
			Total Chromium (Cr)	2009/07/13	NC		%	25
			Total Cobalt (Co)	2009/07/13	NC		%	25
			Total Copper (Cu)	2009/07/13	NC		%	25
			Total Iron (Fe)	2009/07/13	NC		%	25
			Total Lead (Pb)	2009/07/13	NC		%	25
			Total Magnesium (Mg)	2009/07/13	0.6		%	25
			Total Manganese (Mn)	2009/07/13	NC		%	25
			Total Molybdenum (Mo)	2009/07/13	NC		%	25
			Total Nickel (Ni)	2009/07/13	9.9		%	25
			Total Potassium (K)	2009/07/13	2.4		%	25
			Total Selenium (Se)	2009/07/13	NC		%	25
			Total Silicon (Si)	2009/07/13	14.1		%	25
			Total Silver (Ag)	2009/07/13	NC		%	25
			Total Sodium (Na)	2009/07/13	8.4		%	25
			Total Strontium (Sr)	2009/07/13	3.0		%	25
			Total Thallium (Tl)	2009/07/13	NC		%	25
			Total Titanium (Ti)	2009/07/13	NC		%	25
			Total Uranium (U)	2009/07/13	0.7		%	25
			Total Vanadium (V)	2009/07/13	NC		%	25
			Total Zinc (Zn)	2009/07/13	NC		%	25
1874095	CP	MATRIX SPIKE	Total Cyanide (CN)	2009/07/13		91	%	75 - 125
		Spiked Blank	Total Cyanide (CN)	2009/07/13		99	%	75 - 125
		Method Blank	Total Cyanide (CN)	2009/07/13	ND, RDL=0.005		mg/L	

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1874095	CP	RPD	Total Cyanide (CN)	2009/07/13	NC		%	25
1874250	YPA	QC STANDARD	Alkalinity (Total as CaCO3)	2009/07/10		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/07/10	ND, RDL=1		mg/L	
		RPD [CZ9987-02]	Alkalinity (Total as CaCO3)	2009/07/10	2.0		%	25
1874256	YPA	QC STANDARD	Conductivity	2009/07/10		101	%	85 - 115
		Method Blank	Conductivity	2009/07/10	ND, RDL=1		umho/cm	
		RPD [CZ9987-02]	Conductivity	2009/07/10	0		%	25
1874273	YPA	MATRIX SPIKE						
		[CZ9987-02]	Fluoride (F-)	2009/07/10		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/07/10		98	%	80 - 120
		Method Blank	Fluoride (F-)	2009/07/10	ND, RDL=0.1		mg/L	
		RPD [CZ9987-02]	Fluoride (F-)	2009/07/10	NC		%	25
1875699	ADA	MATRIX SPIKE	Total Aluminum (Al)	2009/07/14		97	%	80 - 120
			Total Antimony (Sb)	2009/07/14		109	%	80 - 120
			Total Arsenic (As)	2009/07/14		99	%	80 - 120
			Total Barium (Ba)	2009/07/14		100	%	80 - 120
			Total Beryllium (Be)	2009/07/14		96	%	75 - 125
			Total Bismuth (Bi)	2009/07/14		98	%	75 - 125
			Total Boron (B)	2009/07/14		93	%	75 - 125
			Total Cadmium (Cd)	2009/07/14		103	%	80 - 120
			Total Calcium (Ca)	2009/07/14		99	%	75 - 125
			Total Chromium (Cr)	2009/07/14		97	%	80 - 120
			Total Cobalt (Co)	2009/07/14		98	%	80 - 120
			Total Copper (Cu)	2009/07/14		96	%	80 - 120
			Total Iron (Fe)	2009/07/14		96	%	80 - 120
			Total Lead (Pb)	2009/07/14		99	%	80 - 120
			Total Lithium (Li)	2009/07/14		96	%	75 - 125
			Total Magnesium (Mg)	2009/07/14		101	%	80 - 120
			Total Manganese (Mn)	2009/07/14		96	%	80 - 120
			Total Molybdenum (Mo)	2009/07/14		105	%	80 - 120
			Total Nickel (Ni)	2009/07/14		95	%	80 - 120
			Total Potassium (K)	2009/07/14		103	%	75 - 125
			Total Selenium (Se)	2009/07/14		98	%	75 - 125
			Total Silicon (Si)	2009/07/14		96	%	75 - 125
			Total Silver (Ag)	2009/07/14		97	%	80 - 120
			Total Sodium (Na)	2009/07/14		NC (2)	%	75 - 125
			Total Strontium (Sr)	2009/07/14		95	%	80 - 120
			Total Tellurium (Te)	2009/07/14		101	%	75 - 125
			Total Thallium (Tl)	2009/07/14		97	%	80 - 120
			Total Thorium (Th)	2009/07/14		101	%	75 - 125
			Total Tin (Sn)	2009/07/14		103	%	75 - 125
			Total Titanium (Ti)	2009/07/14		98	%	75 - 125
			Total Tungsten (W)	2009/07/14		104	%	75 - 125
			Total Uranium (U)	2009/07/14		99	%	80 - 120
			Total Vanadium (V)	2009/07/14		98	%	80 - 120
			Total Zinc (Zn)	2009/07/14		97	%	80 - 120
			Total Zirconium (Zr)	2009/07/14		103	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/07/14		97	%	80 - 120
			Total Antimony (Sb)	2009/07/14		104	%	82 - 120
			Total Arsenic (As)	2009/07/14		99	%	86 - 119
			Total Barium (Ba)	2009/07/14		100	%	83 - 115
			Total Beryllium (Be)	2009/07/14		100	%	85 - 132
			Total Bismuth (Bi)	2009/07/14		98	%	78 - 120
			Total Boron (B)	2009/07/14		99	%	78 - 133
			Total Cadmium (Cd)	2009/07/14		100	%	85 - 116

Maxxam Analytics - Partial/Rush Results

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875699	ADA	Spiked Blank	Total Calcium (Ca)	2009/07/14		95	%	75 - 125
			Total Chromium (Cr)	2009/07/14		98	%	80 - 120
			Total Cobalt (Co)	2009/07/14		97	%	82 - 117
			Total Copper (Cu)	2009/07/14		98	%	80 - 117
			Total Iron (Fe)	2009/07/14		96	%	80 - 120
			Total Lead (Pb)	2009/07/14		98	%	80 - 120
			Total Lithium (Li)	2009/07/14		99	%	86 - 131
			Total Magnesium (Mg)	2009/07/14		99	%	80 - 120
			Total Manganese (Mn)	2009/07/14		97	%	80 - 120
			Total Molybdenum (Mo)	2009/07/14		101	%	82 - 117
			Total Nickel (Ni)	2009/07/14		96	%	81 - 117
			Total Potassium (K)	2009/07/14		98	%	75 - 125
			Total Selenium (Se)	2009/07/14		99	%	82 - 118
			Total Silicon (Si)	2009/07/14		94	%	67 - 140
			Total Silver (Ag)	2009/07/14		95	%	80 - 120
			Total Sodium (Na)	2009/07/14		98	%	75 - 125
			Total Strontium (Sr)	2009/07/14		97	%	83 - 120
			Total Tellurium (Te)	2009/07/14		100	%	80 - 116
			Total Thallium (Tl)	2009/07/14		96	%	80 - 129
			Total Thorium (Th)	2009/07/14		101	%	80 - 125
			Total Tin (Sn)	2009/07/14		99	%	83 - 119
			Total Titanium (Ti)	2009/07/14		100	%	60 - 125
			Total Tungsten (W)	2009/07/14		101	%	81 - 123
			Total Uranium (U)	2009/07/14		97	%	82 - 120
			Total Vanadium (V)	2009/07/14		99	%	82 - 118
			Total Zinc (Zn)	2009/07/14		100	%	80 - 120
			Total Zirconium (Zr)	2009/07/14		100	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/07/14	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/07/14	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/07/14	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/07/14	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/07/14	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/07/14	ND, RDL=1		ug/L	
			Total Boron (B)	2009/07/14	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/07/14	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/07/14	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/07/14	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/07/14	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/07/14	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/07/14	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/07/14	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/07/14	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/07/14	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/07/14	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/07/14	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/07/14	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/07/14	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/07/14	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/07/14	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/07/14	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/07/14	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/07/14	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/07/14	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/07/14	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/07/14	ND, RDL=1		ug/L	

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875699	ADA	Method Blank	Total Tin (Sn)	2009/07/14	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/07/14	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/07/14	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/07/14	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/07/14	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/07/14	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/07/14	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2009/07/14	NC		%	25
1875897	JBW	MATRIX SPIKE	Dissolved Aluminum (Al)	2009/07/14		100	%	80 - 120
			Dissolved Antimony (Sb)	2009/07/14		107	%	80 - 120
			Dissolved Arsenic (As)	2009/07/14		103	%	80 - 120
			Dissolved Barium (Ba)	2009/07/14		102	%	80 - 120
			Dissolved Beryllium (Be)	2009/07/14		98	%	80 - 120
			Dissolved Bismuth (Bi)	2009/07/14		101	%	80 - 120
			Dissolved Boron (B)	2009/07/14		98	%	80 - 120
			Dissolved Cadmium (Cd)	2009/07/14		104	%	80 - 120
			Dissolved Calcium (Ca)	2009/07/14		NC (2)	%	80 - 120
			Dissolved Chromium (Cr)	2009/07/14		101	%	80 - 120
			Dissolved Cobalt (Co)	2009/07/14		103	%	80 - 120
			Dissolved Copper (Cu)	2009/07/14		97	%	80 - 120
			Dissolved Iron (Fe)	2009/07/14		100	%	80 - 120
			Dissolved Lead (Pb)	2009/07/14		101	%	80 - 120
			Dissolved Lithium (Li)	2009/07/14		98	%	80 - 120
			Dissolved Magnesium (Mg)	2009/07/14		101	%	80 - 120
			Dissolved Manganese (Mn)	2009/07/14		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/07/14		105	%	80 - 120
			Dissolved Nickel (Ni)	2009/07/14		99	%	80 - 120
			Dissolved Phosphorus (P)	2009/07/14		97	%	80 - 120
			Dissolved Potassium (K)	2009/07/14		101	%	80 - 120
			Dissolved Selenium (Se)	2009/07/14		103	%	80 - 120
			Dissolved Silicon (Si)	2009/07/14		102	%	80 - 120
			Dissolved Silver (Ag)	2009/07/14		102	%	80 - 120
			Dissolved Sodium (Na)	2009/07/14		102	%	80 - 120
			Dissolved Strontium (Sr)	2009/07/14		99	%	80 - 120
			Dissolved Tellurium (Te)	2009/07/14		104	%	80 - 120
			Dissolved Thallium (Tl)	2009/07/14		101	%	80 - 120
			Dissolved Thorium (Th)	2009/07/14		99	%	80 - 120
			Dissolved Tin (Sn)	2009/07/14		105	%	80 - 120
			Dissolved Titanium (Ti)	2009/07/14		103	%	80 - 120
			Dissolved Tungsten (W)	2009/07/14		105	%	80 - 120
			Dissolved Uranium (U)	2009/07/14		99	%	80 - 120
			Dissolved Vanadium (V)	2009/07/14		102	%	80 - 120
			Dissolved Zinc (Zn)	2009/07/14		102	%	80 - 120
			Dissolved Zirconium (Zr)	2009/07/14		104	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/07/14		100	%	90 - 110
			Dissolved Antimony (Sb)	2009/07/14		101	%	90 - 110
			Dissolved Arsenic (As)	2009/07/14		99	%	90 - 110
			Dissolved Barium (Ba)	2009/07/14		98	%	90 - 110
			Dissolved Beryllium (Be)	2009/07/14		97	%	90 - 110
			Dissolved Bismuth (Bi)	2009/07/14		97	%	90 - 110
			Dissolved Boron (B)	2009/07/14		93	%	90 - 110
			Dissolved Cadmium (Cd)	2009/07/14		100	%	90 - 110
			Dissolved Calcium (Ca)	2009/07/14		99	%	90 - 110
			Dissolved Chromium (Cr)	2009/07/14		99	%	90 - 110
			Dissolved Cobalt (Co)	2009/07/14		100	%	90 - 110

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875897	JBW	Spiked Blank	Dissolved Copper (Cu)	2009/07/14		97	%	90 - 110
			Dissolved Iron (Fe)	2009/07/14		96	%	90 - 110
			Dissolved Lead (Pb)	2009/07/14		97	%	90 - 110
			Dissolved Lithium (Li)	2009/07/14		96	%	90 - 110
			Dissolved Magnesium (Mg)	2009/07/14		99	%	90 - 110
			Dissolved Manganese (Mn)	2009/07/14		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/07/14		101	%	90 - 110
			Dissolved Nickel (Ni)	2009/07/14		100	%	90 - 110
			Dissolved Phosphorus (P)	2009/07/14		93	%	90 - 110
			Dissolved Potassium (K)	2009/07/14		98	%	90 - 110
			Dissolved Selenium (Se)	2009/07/14		99	%	90 - 110
			Dissolved Silicon (Si)	2009/07/14		99	%	90 - 110
			Dissolved Silver (Ag)	2009/07/14		99	%	90 - 110
			Dissolved Sodium (Na)	2009/07/14		100	%	90 - 110
			Dissolved Strontium (Sr)	2009/07/14		98	%	90 - 110
			Dissolved Tellurium (Te)	2009/07/14		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/07/14		96	%	90 - 110
			Dissolved Thorium (Th)	2009/07/14		95	%	90 - 110
			Dissolved Tin (Sn)	2009/07/14		100	%	90 - 110
			Dissolved Titanium (Ti)	2009/07/14		98	%	90 - 110
			Dissolved Tungsten (W)	2009/07/14		100	%	90 - 110
			Dissolved Uranium (U)	2009/07/14		95	%	90 - 110
			Dissolved Vanadium (V)	2009/07/14		101	%	90 - 110
			Dissolved Zinc (Zn)	2009/07/14		100	%	90 - 110
			Dissolved Zirconium (Zr)	2009/07/14		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/07/14	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/07/14	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/07/14	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/07/14	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/07/14	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/07/14	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/07/14	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/07/14	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/07/14	ND, RDL=1		ug/L	

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA984621

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875897	JBW	Method Blank	Dissolved Titanium (Ti)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/07/14	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2009/07/14	NC		%	25
			Dissolved Antimony (Sb)	2009/07/14	NC		%	25
			Dissolved Arsenic (As)	2009/07/14	NC		%	25
			Dissolved Barium (Ba)	2009/07/14	NC		%	25
			Dissolved Beryllium (Be)	2009/07/14	NC		%	25
			Dissolved Bismuth (Bi)	2009/07/14	NC		%	25
			Dissolved Boron (B)	2009/07/14	NC		%	25
			Dissolved Cadmium (Cd)	2009/07/14	NC		%	25
			Dissolved Calcium (Ca)	2009/07/14	0.9		%	25
			Dissolved Chromium (Cr)	2009/07/14	NC		%	25
			Dissolved Cobalt (Co)	2009/07/14	NC		%	25
			Dissolved Copper (Cu)	2009/07/14	0.02		%	25
			Dissolved Iron (Fe)	2009/07/14	NC		%	25
			Dissolved Lead (Pb)	2009/07/14	NC		%	25
			Dissolved Lithium (Li)	2009/07/14	NC		%	25
			Dissolved Magnesium (Mg)	2009/07/14	0.6		%	25
			Dissolved Manganese (Mn)	2009/07/14	NC		%	25
			Dissolved Molybdenum (Mo)	2009/07/14	NC		%	25
			Dissolved Nickel (Ni)	2009/07/14	NC		%	25
			Dissolved Phosphorus (P)	2009/07/14	NC		%	25
			Dissolved Potassium (K)	2009/07/14	NC		%	25
			Dissolved Selenium (Se)	2009/07/14	NC		%	25
			Dissolved Silicon (Si)	2009/07/14	2.5		%	25
			Dissolved Silver (Ag)	2009/07/14	NC		%	25
			Dissolved Sodium (Na)	2009/07/14	0.1		%	25
			Dissolved Strontium (Sr)	2009/07/14	0.9		%	25
			Dissolved Tellurium (Te)	2009/07/14	NC		%	25
			Dissolved Thallium (Tl)	2009/07/14	NC		%	25
			Dissolved Thorium (Th)	2009/07/14	NC		%	25
			Dissolved Tin (Sn)	2009/07/14	NC		%	25
			Dissolved Titanium (Ti)	2009/07/14	NC		%	25
			Dissolved Tungsten (W)	2009/07/14	NC		%	25
			Dissolved Uranium (U)	2009/07/14	NC		%	25
			Dissolved Vanadium (V)	2009/07/14	NC		%	25
			Dissolved Zinc (Zn)	2009/07/14	NC		%	25
			Dissolved Zirconium (Zr)	2009/07/14	NC		%	25

ND = Not detected
NC = Non-calculable
RPD = Relative Percent Difference
QC Standard = Quality Control Standard
SPIKE = Fortified sample
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.
(2) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

Maxxam Analytics - Partial/Rush Results

AUTOFAX
COVER SHEET

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http://www.testing-labs.com

CanTest Ltd.

Professional
Analytical
Services

4606 Canada Way
Burnaby, BC
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

Date: July 10, 2009
To: Maxxam Analytics Inc.
Att'n: Antonella Brasil
From: LINKS Automatic Fax
Subject: Analytical results for Group# 100707064

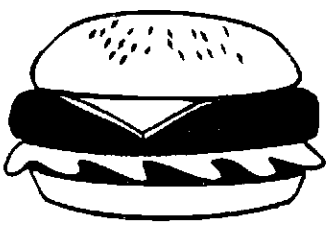
MESSAGE:

The analytical results on these pages are being sent to you via the CANTEST Laboratory Information News and Knowledge System (LINKS) "AutoFax" service. This transmission includes data submitted under the following project information:

CANTEST Group# 100707064
Project Name: CLNT#23433
Project Number:
Submission Date: July 7, 2009
Matrix: Water

A signed final report and invoice will be sent within two weeks.

Thank you for considering CANTEST for your analytical needs. Please feel free to contact a Technical Service Representative at (604) 734-7276 (1-800-665-8566) should you have any questions about the LINKS "AutoFax" or any other CANTEST services.



Food, Nutraceutical and Pharmaceutical Sciences

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REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	GW-1	GW-2	GW-3	GW-4		
DATE SAMPLED:	Jul 5/09	Jul 5/09	Jul 5/09	Jul 5/09		
CANTEST ID:	907070433	907070434	907070435	907070436	REPORTED DETECTION LIMIT	UNITS
Total Coliform (Confirmed)	<	<	<	<	1	Col./100 mL
E. Coli	<	<	<	<	1	Col./100 mL
Heterotrophic Plate Count	<	1	<	<	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reported detection limit

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW1	SW2	SW3	SW4		
DATE SAMPLED:	Jul 4/09	Jul 4/09	Jul 4/09	Jul 4/09	REPORTED DETECTION LIMIT	UNITS
CANTEST ID:	907070437	907070438	907070439	907070440		
Total Coliform (Confirmed)	TNTC	<	1	2	1	Col./100 mL
Fecal Coliform	384	2	6	2	1	Col./100 mL
E. Coli	374	2	6	2	1	Col./100 mL
Heterotrophic Plate Count	TNTC	104	240	286	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reported detection limit
TNTC = To numerous to count

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW5	SW6	REPORTED DETECTION LIMIT	UNITS
DATE SAMPLED:	Jul 4/09	Jul 4/09		
CANTEST ID:	907070441	907070442		
Total Coliform (Confirmed)	< 2		1	Col./100 mL
Fecal Coliform	3	< 1	1	Col./100 mL
E. Coli	3	2	1	Col./100 mL
Heterotrophic Plate Count	246	134	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
Col./1 mL = Colonies per 1 mL
< = Less than reported detection limit

Analysis Report

CANTEST®

CANTEST LTD.
Professional Analytical Services
4606 Canada Way
Burnaby, B.C.
V5G 1K5
FAX: 604 731 2386
TEL: 604 734 7276
1 800 665 8566

REPORT ON: Analysis of Water Samples

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Antonella Brasil

CHAIN OF CUSTODY: 34294 MB
PROJECT NAME: CLNT#23433

NUMBER OF SAMPLES: 10

REPORT DATE: July 10, 2009

DATE SUBMITTED: July 7, 2009

GROUP NUMBER: 100707064

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

Standard Plate Count - analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater" (21st Edition). 100 mL of sample was filtered through a membrane filter; microbiological testing included incubation at 35C for 48 hours. Analysis was performed at CANTEST LTD., Unit "D" 675 Berry Street, Winnipeg, Manitoba R3H 1A7.

TEST RESULTS:

(See following pages)

CANTEST LTD.

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

APPENDIX I - 4

Laboratory Results
August 2009

Your Project #: Rainy River
Your C.O.C. #: 15849801, 158498-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/08/31

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9A2821
Received: 2009/08/12, 09:57

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	7	2009/08/14	2009/08/18	SLA SOP-00100	APHA SM2310B
Alkalinity	2	N/A	2009/08/17	CAM SOP-00448	SM 2320B
Alkalinity	5	N/A	2009/08/18	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/08/18	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/08/18	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/08/18	CAM SOP-00416	APHA 5220D
Conductivity	2	N/A	2009/08/17	CAM SOP-00448	SM 2510
Conductivity	5	N/A	2009/08/18	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/08/13	2009/08/14	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2009/08/14	CAM SOP-00446	SM 5310 B
Fluoride	2	2009/08/17	2009/08/17	CAM SOP-00456	APHA 4500FC
Fluoride	5	2009/08/18	2009/08/18	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/08/14	2009/08/14	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	7	N/A	2009/08/18	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	7	N/A	2009/08/18	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2009/08/18	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	7	N/A	2009/08/14	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/08/14	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/08/14	2009/08/14	CAM SOP-00326	EPA 1664A
pH	2	N/A	2009/08/17	CAM SOP-00448	SM 4500H
pH	5	N/A	2009/08/18	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/08/18	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/08/18	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/08/14	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2009/08/15	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (2)	7	2009/08/14	2009/08/14	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2009/08/13	CAM SOP-00428	SM 2540D
Turbidity	3	N/A	2009/08/13	CAM SOP-00417	APHA 2130
Turbidity	4	N/A	2009/08/14	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6915	DI6915		
Sampling Date		2009/08/10 11:45	2009/08/10 11:45		
COC Number		158498-0	158498-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1904456
Inorganics					
Acidity as CaC03	mg/L	10	N/A	10	1907365
Total Ammonia-N	mg/L	0.18	N/A	0.05	1907637
Total BOD	mg/L	ND	N/A	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	67	N/A	4	1908798
Conductivity	umho/cm	358	N/A	1	1910262
Total Dissolved Solids	mg/L	235	240	10	1905885
Fluoride (F-)	mg/L	ND	N/A	0.1	1910266
Dissolved Organic Carbon	mg/L	28.6	N/A	0.2	1907167
Total Organic Carbon (TOC)	mg/L	29.4	N/A	0.2	1907462
Orthophosphate (P)	mg/L	ND (1)	N/A	0.1	1909719
pH	pH	7.9	N/A	N/A	1910259
Total Suspended Solids	mg/L	3	N/A	1	1905589
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	10	1909718
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1906524
Turbidity	NTU	2.0	N/A	0.1	1907333
Alkalinity (Total as CaCO3)	mg/L	181	N/A	1	1910263
Dissolved Chloride (Cl)	mg/L	11	N/A	10	1909716
Nitrite (N)	mg/L	ND	N/A	0.01	1907239
Nitrate (N)	mg/L	ND	N/A	0.1	1907239
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1907239
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	1906974

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6916		
Sampling Date		2009/08/10 11:15		
COC Number		158498-0		
	Units	**SW2**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1904456
Inorganics				
Acidity as CaC03	mg/L	16	10	1907365
Total Ammonia-N	mg/L	0.16	0.05	1907637
Total BOD	mg/L	ND	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	44	4	1908798
Conductivity	umho/cm	405	1	1907515
Total Dissolved Solids	mg/L	265	10	1905885
Fluoride (F-)	mg/L	0.1	0.1	1907523
Dissolved Organic Carbon	mg/L	19.2	0.2	1907167
Total Organic Carbon (TOC)	mg/L	19.7	0.2	1907462
Orthophosphate (P)	mg/L	0.01	0.01	1909724
pH	pH	7.8	N/A	1907520
Total Suspended Solids	mg/L	4	1	1905589
Dissolved Sulphate (SO4)	mg/L	ND	1	1909725
Total Cyanide (CN)	mg/L	ND	0.005	1906524
Turbidity	NTU	2.5	0.1	1907333
Alkalinity (Total as CaCO3)	mg/L	223	1	1907513
Dissolved Chloride (Cl)	mg/L	2	1	1909722
Nitrite (N)	mg/L	ND	0.01	1907244
Nitrate (N)	mg/L	ND	0.1	1907244
Nitrate + Nitrite	mg/L	ND	0.1	1907244
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1906974

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6917		DI6918		
Sampling Date		2009/08/10 10:30		2009/08/10 13:15		
COC Number		158498-0		158498-0		
	Units	**SW3**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	1904456	ND	0.5	1904456
Inorganics						
Acidity as CaC03	mg/L	10	1907365	12	10	1907365
Total Ammonia-N	mg/L	0.15	1907637	0.17	0.05	1907637
Total BOD	mg/L	ND	1905620	ND	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	67	1908798	57	4	1908798
Conductivity	umho/cm	296	1907515	127	1	1910262
Total Dissolved Solids	mg/L	195	1905885	80	10	1905885
Fluoride (F-)	mg/L	ND	1907523	ND	0.1	1910266
Dissolved Organic Carbon	mg/L	29.6	1907167	20.9	0.2	1907167
Total Organic Carbon (TOC)	mg/L	28.3	1907462	21.3	0.2	1907462
Orthophosphate (P)	mg/L	ND (1)	1909724	ND (1)	0.1	1909719
pH	pH	7.8	1907520	7.0	N/A	1910259
Total Suspended Solids	mg/L	15	1905589	6	1	1905589
Dissolved Sulphate (SO4)	mg/L	ND (1)	1909725	ND (1)	10	1909718
Total Cyanide (CN)	mg/L	ND	1906524	ND	0.005	1906524
Turbidity	NTU	4.7	1906036	1.8	0.1	1907333
Alkalinity (Total as CaCO3)	mg/L	155	1907513	51	1	1910263
Dissolved Chloride (Cl)	mg/L	ND (1)	1909722	14	10	1909716
Nitrite (N)	mg/L	ND	1907239	ND	0.01	1907239
Nitrate (N)	mg/L	ND	1907239	ND	0.1	1907239
Nitrate + Nitrite	mg/L	ND	1907239	ND	0.1	1907239
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	1906973	ND	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	ND	1906974	ND	0.5	1906974

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6918		DI6919		
Sampling Date		2009/08/10 13:15		2009/08/10 08:30		
COC Number		158498-0		158498-0		
	Units	**SW4 Lab-Dup**	**RDL**	**SW5**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	ND	0.5	1904456
Inorganics						
Acidity as CaC03	mg/L	N/A	10	34	10	1907365
Total Ammonia-N	mg/L	N/A	0.05	0.20	0.05	1907637
Total BOD	mg/L	N/A	2	ND	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	56	4	120	4	1908798
Conductivity	umho/cm	N/A	1	78	1	1910262
Total Dissolved Solids	mg/L	N/A	10	52	10	1905885
Fluoride (F-)	mg/L	N/A	0.1	ND	0.1	1910266
Dissolved Organic Carbon	mg/L	N/A	0.2	51.0	0.2	1907167
Total Organic Carbon (TOC)	mg/L	N/A	0.2	49.6	0.2	1907462
Orthophosphate (P)	mg/L	N/A	0.1	ND (1)	0.2	1909719
pH	pH	N/A	N/A	6.7	N/A	1910259
Total Suspended Solids	mg/L	N/A	1	2	1	1905589
Dissolved Sulphate (SO4)	mg/L	N/A	10	ND (1)	20	1909718
Total Cyanide (CN)	mg/L	N/A	0.005	ND	0.005	1906524
Turbidity	NTU	N/A	0.1	1.7	0.1	1907333
Alkalinity (Total as CaCO3)	mg/L	N/A	1	36	1	1910263
Dissolved Chloride (Cl)	mg/L	N/A	10	ND (1)	20	1909716
Nitrite (N)	mg/L	N/A	0.01	0.01	0.01	1907239
Nitrate (N)	mg/L	N/A	0.1	ND	0.1	1907239
Nitrate + Nitrite	mg/L	N/A	0.1	ND	0.1	1907239
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	N/A	0.5	ND	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	ND	0.5	1906974

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6919		
Sampling Date		2009/08/10 08:30		
COC Number		158498-0		
	Units	**SW5 Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	32	10	1907365

RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6920		
Sampling Date		2009/08/10 10:30		
COC Number		158498-0		
	Units	**SW6**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1904456
Inorganics				
Acidity as CaC03	mg/L	10	10	1907365
Total Ammonia-N	mg/L	0.11	0.05	1907637
Total BOD	mg/L	ND	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	33	4	1908798
Conductivity	umho/cm	294	1	1910262
Total Dissolved Solids	mg/L	192	10	1905885
Fluoride (F-)	mg/L	ND	0.1	1910266
Dissolved Organic Carbon	mg/L	29.8	0.2	1907167
Total Organic Carbon (TOC)	mg/L	28.8	0.2	1907462
Orthophosphate (P)	mg/L	ND (1)	0.1	1909719
pH	pH	7.7	N/A	1910259
Total Suspended Solids	mg/L	6	1	1905589
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	1909718
Total Cyanide (CN)	mg/L	ND	0.005	1906524
Turbidity	NTU	3.9	0.1	1906036
Alkalinity (Total as CaCO3)	mg/L	158	1	1910263
Dissolved Chloride (Cl)	mg/L	ND (1)	10	1909716
Nitrite (N)	mg/L	ND	0.01	1907239
Nitrate (N)	mg/L	ND	0.1	1907239
Nitrate + Nitrite	mg/L	ND	0.1	1907239
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1906974

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DI6921	DI6921		
Sampling Date					
COC Number		158498-0	158498-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1904456
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1907365
Total Ammonia-N	mg/L	ND	N/A	0.05	1907637
Total BOD	mg/L	ND	N/A	2	1905620
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	1908798
Conductivity	umho/cm	1	1	1	1910262
Total Dissolved Solids	mg/L	ND	N/A	10	1905591
Fluoride (F-)	mg/L	ND	ND	0.1	1910266
Dissolved Organic Carbon	mg/L	0.4	N/A	0.2	1907167
Total Organic Carbon (TOC)	mg/L	ND	ND	0.2	1907462
Orthophosphate (P)	mg/L	ND	N/A	0.01	1909719
pH	pH	5.7	5.6	N/A	1910259
Total Suspended Solids	mg/L	ND	N/A	1	1905589
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1909718
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1906524
Turbidity	NTU	0.2	N/A	0.1	1906036
Alkalinity (Total as CaCO3)	mg/L	ND	ND	1	1910263
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	1909716
Nitrite (N)	mg/L	ND	N/A	0.01	1907239
Nitrate (N)	mg/L	ND	N/A	0.1	1907239
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1907239
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1906973
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1906974

ND = Not detected
N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6915		DI6916		
Sampling Date		2009/08/10 11:45		2009/08/10 11:15		
COC Number		158498-0		158498-0		
	Units	**SW1**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1907134	ND	0.0001	1907134
Dissolved Aluminum (Al)	ug/L	49	1909730	10	5	1910175
Total Aluminum (Al)	ug/L	58	1910545	36	5	1909519
Dissolved Antimony (Sb)	ug/L	ND	1909730	ND	0.5	1910175
Total Antimony (Sb)	ug/L	ND	1910545	ND	0.5	1909519
Dissolved Arsenic (As)	ug/L	2	1909730	ND	1	1910175
Total Arsenic (As)	ug/L	2	1910545	1	1	1909519
Dissolved Barium (Ba)	ug/L	22	1909730	67	5	1915308
Total Barium (Ba)	ug/L	50	1910545	21	5	1913018
Dissolved Beryllium (Be)	ug/L	ND	1909730	ND	0.5	1910175
Total Beryllium (Be)	ug/L	ND	1910545	ND	0.5	1909519
Dissolved Bismuth (Bi)	ug/L	ND	1909730	ND	1	1910175
Total Bismuth (Bi)	ug/L	ND	1910545	ND	1	1909519
Dissolved Boron (B)	ug/L	11	1909730	14	10	1910175
Total Boron (B)	ug/L	21	1910545	10	10	1909519
Dissolved Cadmium (Cd)	ug/L	ND	1909730	ND	0.1	1910175
Total Cadmium (Cd)	ug/L	ND	1910545	ND	0.1	1909519
Dissolved Calcium (Ca)	ug/L	44000	1909730	54000	200	1910175
Total Calcium (Ca)	ug/L	46000	1910545	56000	200	1909519
Dissolved Chromium (Cr)	ug/L	ND	1909730	ND	5	1910175
Total Chromium (Cr)	ug/L	ND	1910545	ND	5	1909519
Dissolved Cobalt (Co)	ug/L	ND	1909730	ND	0.5	1910175
Total Cobalt (Co)	ug/L	ND	1910545	ND	0.5	1909519
Dissolved Copper (Cu)	ug/L	ND	1909730	1	1	1910175
Total Copper (Cu)	ug/L	1	1910545	2	1	1909519
Dissolved Iron (Fe)	ug/L	220	1909730	130	100	1910175
Total Iron (Fe)	ug/L	200	1910545	290	100	1909519
Dissolved Lead (Pb)	ug/L	ND	1909730	ND	0.5	1910175
Total Lead (Pb)	ug/L	ND	1910545	ND	0.5	1909519
Dissolved Lithium (Li)	ug/L	6	1909730	ND	5	1910175
Total Lithium (Li)	ug/L	5	1910545	ND	5	1909519

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6915		DI6916		
Sampling Date		2009/08/10 11:45		2009/08/10 11:15		
COC Number		158498-0		158498-0		
	Units	**SW1**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	19000	1909730	19000	50	1910175
Total Magnesium (Mg)	ug/L	19000	1910545	21000	50	1909519
Dissolved Manganese (Mn)	ug/L	73	1909730	370	2	1910175
Total Manganese (Mn)	ug/L	61	1910545	410	2	1909519
Dissolved Molybdenum (Mo)	ug/L	ND	1909730	ND	1	1910175
Total Molybdenum (Mo)	ug/L	ND	1910545	ND	1	1909519
Dissolved Nickel (Ni)	ug/L	2	1909730	2	1	1910175
Total Nickel (Ni)	ug/L	2	1910545	2	1	1909519
Dissolved Phosphorus (P)	ug/L	ND	1909730	ND	100	1910175
Dissolved Potassium (K)	ug/L	2100	1909730	710	200	1910175
Total Potassium (K)	ug/L	2300	1910545	510	200	1909519
Dissolved Selenium (Se)	ug/L	ND	1909730	ND	2	1910175
Total Selenium (Se)	ug/L	ND	1910545	ND	2	1909519
Dissolved Silicon (Si)	ug/L	2600	1909730	5000	50	1910175
Total Silicon (Si)	ug/L	2700	1910545	5500	50	1909519
Dissolved Silver (Ag)	ug/L	ND	1909730	ND	0.1	1910175
Total Silver (Ag)	ug/L	ND	1910545	ND	0.1	1909519
Dissolved Sodium (Na)	ug/L	5500	1909730	2200	100	1910175
Total Sodium (Na)	ug/L	5800	1910545	2200	100	1909519
Dissolved Strontium (Sr)	ug/L	120	1909730	94	1	1910175
Total Strontium (Sr)	ug/L	120	1910545	94	1	1909519
Dissolved Tellurium (Te)	ug/L	ND	1909730	ND	1	1910175
Total Tellurium (Te)	ug/L	ND	1910545	ND	1	1909519
Dissolved Thallium (Tl)	ug/L	ND	1909730	ND	0.05	1910175
Total Thallium (Tl)	ug/L	ND	1910545	ND	0.05	1909519
Dissolved Thorium (Th)	ug/L	ND	1909730	ND	1	1910175
Total Thorium (Th)	ug/L	ND	1910545	ND	1	1909519
Dissolved Tin (Sn)	ug/L	ND	1909730	ND	1	1910175
Total Tin (Sn)	ug/L	ND	1910545	ND	1	1909519
Dissolved Titanium (Ti)	ug/L	ND	1909730	ND	5	1910175
Total Titanium (Ti)	ug/L	6	1910545	ND	5	1909519
Dissolved Tungsten (W)	ug/L	ND	1909730	ND	1	1910175

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6915		DI6916		
Sampling Date		2009/08/10 11:45		2009/08/10 11:15		
COC Number		158498-0		158498-0		
	Units	**SW1**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1910545	ND	1	1909519
Dissolved Uranium (U)	ug/L	0.5	1909730	0.5	0.1	1910175
Total Uranium (U)	ug/L	0.6	1910545	0.6	0.1	1909519
Dissolved Vanadium (V)	ug/L	1	1909730	ND	1	1910175
Total Vanadium (V)	ug/L	1	1910545	1	1	1909519
Dissolved Zinc (Zn)	ug/L	9	1909730	40	5	1915308
Total Zinc (Zn)	ug/L	27	1910545	ND	5	1913018
Dissolved Zirconium (Zr)	ug/L	ND	1909730	ND	1	1910175
Total Zirconium (Zr)	ug/L	ND	1910545	ND	1	1909519

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6917	DI6917		
Sampling Date		2009/08/10 10:30	2009/08/10 10:30		
COC Number		158498-0	158498-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Metals					
Mercury (Hg)	mg/L	ND	N/A	0.0001	1907134
Dissolved Aluminum (Al)	ug/L	83	89	5	1910175
Total Aluminum (Al)	ug/L	180	N/A	5	1909519
Dissolved Antimony (Sb)	ug/L	ND	ND	0.5	1910175
Total Antimony (Sb)	ug/L	ND	N/A	0.5	1909519
Dissolved Arsenic (As)	ug/L	1	1	1	1910175
Total Arsenic (As)	ug/L	2	N/A	1	1909519
Dissolved Barium (Ba)	ug/L	41	N/A	5	1915308
Total Barium (Ba)	ug/L	16	N/A	5	1917054
Dissolved Beryllium (Be)	ug/L	ND	ND	0.5	1910175
Total Beryllium (Be)	ug/L	ND	N/A	0.5	1909519
Dissolved Bismuth (Bi)	ug/L	ND	ND	1	1910175
Total Bismuth (Bi)	ug/L	ND	N/A	1	1909519
Dissolved Boron (B)	ug/L	17	14	10	1910175
Total Boron (B)	ug/L	12	N/A	10	1909519
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.1	1910175
Total Cadmium (Cd)	ug/L	ND	N/A	0.1	1909519
Dissolved Calcium (Ca)	ug/L	37000	38000	200	1910175
Total Calcium (Ca)	ug/L	39000	N/A	200	1909519
Dissolved Chromium (Cr)	ug/L	ND	ND	5	1910175
Total Chromium (Cr)	ug/L	ND	N/A	5	1909519
Dissolved Cobalt (Co)	ug/L	ND	ND	0.5	1910175
Total Cobalt (Co)	ug/L	ND	N/A	0.5	1909519
Dissolved Copper (Cu)	ug/L	2	2	1	1910175
Total Copper (Cu)	ug/L	1	N/A	1	1909519
Dissolved Iron (Fe)	ug/L	160	150	100	1910175
Total Iron (Fe)	ug/L	200	N/A	100	1909519
Dissolved Lead (Pb)	ug/L	ND	ND	0.5	1910175
Total Lead (Pb)	ug/L	ND	N/A	0.5	1909519
Dissolved Lithium (Li)	ug/L	5	6	5	1910175

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QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6917	DI6917		
Sampling Date		2009/08/10 10:30	2009/08/10 10:30		
COC Number		158498-0	158498-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	N/A	5	1909519
Dissolved Magnesium (Mg)	ug/L	15000	15000	50	1910175
Total Magnesium (Mg)	ug/L	17000	N/A	50	1909519
Dissolved Manganese (Mn)	ug/L	35	35	2	1910175
Total Manganese (Mn)	ug/L	45	N/A	2	1909519
Dissolved Molybdenum (Mo)	ug/L	ND	ND	1	1910175
Total Molybdenum (Mo)	ug/L	ND	N/A	1	1909519
Dissolved Nickel (Ni)	ug/L	1	1	1	1910175
Total Nickel (Ni)	ug/L	2	N/A	1	1909519
Dissolved Phosphorus (P)	ug/L	ND	ND	100	1910175
Dissolved Potassium (K)	ug/L	770	790	200	1910175
Total Potassium (K)	ug/L	640	N/A	200	1909519
Dissolved Selenium (Se)	ug/L	ND	ND	2	1910175
Total Selenium (Se)	ug/L	ND	N/A	2	1909519
Dissolved Silicon (Si)	ug/L	2500	2500	50	1910175
Total Silicon (Si)	ug/L	3000	N/A	50	1909519
Dissolved Silver (Ag)	ug/L	ND	ND	0.1	1910175
Total Silver (Ag)	ug/L	ND	N/A	0.1	1909519
Dissolved Sodium (Na)	ug/L	2600	2700	100	1910175
Total Sodium (Na)	ug/L	2900	N/A	100	1909519
Dissolved Strontium (Sr)	ug/L	85	84	1	1910175
Total Strontium (Sr)	ug/L	87	N/A	1	1909519
Dissolved Tellurium (Te)	ug/L	ND	ND	1	1910175
Total Tellurium (Te)	ug/L	ND	N/A	1	1909519
Dissolved Thallium (Tl)	ug/L	ND	ND	0.05	1910175
Total Thallium (Tl)	ug/L	ND	N/A	0.05	1909519
Dissolved Thorium (Th)	ug/L	ND	ND	1	1910175
Total Thorium (Th)	ug/L	ND	N/A	1	1909519
Dissolved Tin (Sn)	ug/L	ND	ND	1	1910175
Total Tin (Sn)	ug/L	ND	N/A	1	1909519
Dissolved Titanium (Ti)	ug/L	5	ND	5	1910175

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6917	DI6917		
Sampling Date		2009/08/10 10:30	2009/08/10 10:30		
COC Number		158498-0	158498-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	7	N/A	5	1909519
Dissolved Tungsten (W)	ug/L	ND	ND	1	1910175
Total Tungsten (W)	ug/L	ND	N/A	1	1909519
Dissolved Uranium (U)	ug/L	0.4	0.3	0.1	1910175
Total Uranium (U)	ug/L	0.4	N/A	0.1	1909519
Dissolved Vanadium (V)	ug/L	ND	ND	1	1910175
Total Vanadium (V)	ug/L	2	N/A	1	1909519
Dissolved Zinc (Zn)	ug/L	36	N/A	5	1915308
Total Zinc (Zn)	ug/L	ND	N/A	5	1917054
Dissolved Zirconium (Zr)	ug/L	ND	ND	1	1910175
Total Zirconium (Zr)	ug/L	ND	N/A	1	1909519

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6918		DI6919		
Sampling Date		2009/08/10 13:15		2009/08/10 08:30		
COC Number		158498-0		158498-0		
	Units	**SW4**	**QC Batch**	**SW5**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1907134	ND	0.0001	1907134
Dissolved Aluminum (Al)	ug/L	32	1910175	98	5	1910175
Total Aluminum (Al)	ug/L	53	1910545	110	5	1910545
Dissolved Antimony (Sb)	ug/L	ND	1910175	0.8	0.5	1910175
Total Antimony (Sb)	ug/L	ND	1910545	ND	0.5	1910545
Dissolved Arsenic (As)	ug/L	ND	1910175	ND	1	1910175
Total Arsenic (As)	ug/L	ND	1910545	ND	1	1910545
Dissolved Barium (Ba)	ug/L	8	1910175	9	5	1910175
Total Barium (Ba)	ug/L	42	1910545	76	5	1910545
Dissolved Beryllium (Be)	ug/L	ND	1910175	ND	0.5	1910175
Total Beryllium (Be)	ug/L	ND	1910545	ND	0.5	1910545
Dissolved Bismuth (Bi)	ug/L	ND	1910175	ND	1	1910175
Total Bismuth (Bi)	ug/L	ND	1910545	ND	1	1910545
Dissolved Boron (B)	ug/L	ND	1910175	ND	10	1910175
Total Boron (B)	ug/L	ND	1910545	10	10	1910545
Dissolved Cadmium (Cd)	ug/L	ND	1910175	ND	0.1	1910175
Total Cadmium (Cd)	ug/L	ND	1910545	ND	0.1	1910545
Dissolved Calcium (Ca)	ug/L	12000	1910175	11000	200	1910175
Total Calcium (Ca)	ug/L	16000	1910545	12000	200	1910545
Dissolved Chromium (Cr)	ug/L	ND	1910175	ND	5	1910175
Total Chromium (Cr)	ug/L	ND	1910545	ND	5	1910545
Dissolved Cobalt (Co)	ug/L	ND	1910175	ND	0.5	1910175
Total Cobalt (Co)	ug/L	ND	1910545	0.6	0.5	1910545
Dissolved Copper (Cu)	ug/L	ND	1910175	ND	1	1910175
Total Copper (Cu)	ug/L	ND	1910545	ND	1	1910545
Dissolved Iron (Fe)	ug/L	290	1910175	940	100	1910175
Total Iron (Fe)	ug/L	220	1910545	970	100	1910545
Dissolved Lead (Pb)	ug/L	ND	1910175	ND	0.5	1910175
Total Lead (Pb)	ug/L	ND	1910545	ND	0.5	1910545
Dissolved Lithium (Li)	ug/L	ND	1910175	ND	5	1910175
Total Lithium (Li)	ug/L	ND	1910545	ND	5	1910545

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6918		DI6919		
Sampling Date		2009/08/10 13:15		2009/08/10 08:30		
COC Number		158498-0		158498-0		
	Units	**SW4**	**QC Batch**	**SW5**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	5100	1910175	5000	50	1910175
Total Magnesium (Mg)	ug/L	6200	1910545	6200	50	1910545
Dissolved Manganese (Mn)	ug/L	59	1915308	110	2	1910175
Total Manganese (Mn)	ug/L	39	1918523	130	2	1910545
Dissolved Molybdenum (Mo)	ug/L	ND	1910175	ND	1	1910175
Total Molybdenum (Mo)	ug/L	ND	1910545	ND	1	1910545
Dissolved Nickel (Ni)	ug/L	ND	1910175	ND	1	1910175
Total Nickel (Ni)	ug/L	ND	1910545	ND	1	1910545
Dissolved Phosphorus (P)	ug/L	ND	1910175	ND	100	1910175
Dissolved Potassium (K)	ug/L	580	1910175	ND	200	1910175
Total Potassium (K)	ug/L	780	1910545	ND	200	1910545
Dissolved Selenium (Se)	ug/L	ND	1910175	ND	2	1910175
Total Selenium (Se)	ug/L	ND	1910545	ND	2	1910545
Dissolved Silicon (Si)	ug/L	1400	1910175	3500	50	1910175
Total Silicon (Si)	ug/L	1900	1910545	4900	50	1910545
Dissolved Silver (Ag)	ug/L	ND	1910175	ND	0.1	1910175
Total Silver (Ag)	ug/L	ND	1910545	ND	0.1	1910545
Dissolved Sodium (Na)	ug/L	4600	1910175	780	100	1910175
Total Sodium (Na)	ug/L	5900	1910545	1200	100	1910545
Dissolved Strontium (Sr)	ug/L	26	1910175	25	1	1910175
Total Strontium (Sr)	ug/L	34	1910545	31	1	1910545
Dissolved Tellurium (Te)	ug/L	ND	1910175	ND	1	1910175
Total Tellurium (Te)	ug/L	ND	1910545	ND	1	1910545
Dissolved Thallium (Tl)	ug/L	ND	1910175	0.06	0.05	1910175
Total Thallium (Tl)	ug/L	ND	1910545	ND	0.05	1910545
Dissolved Thorium (Th)	ug/L	ND	1910175	ND	1	1910175
Total Thorium (Th)	ug/L	ND	1910545	ND	1	1910545
Dissolved Tin (Sn)	ug/L	ND	1910175	ND	1	1910175
Total Tin (Sn)	ug/L	ND	1910545	ND	1	1910545
Dissolved Titanium (Ti)	ug/L	ND	1910175	ND	5	1910175
Total Titanium (Ti)	ug/L	ND	1910545	ND	5	1910545
Dissolved Tungsten (W)	ug/L	ND	1910175	ND	1	1910175

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6918		DI6919		
Sampling Date		2009/08/10 13:15		2009/08/10 08:30		
COC Number		158498-0		158498-0		
	Units	**SW4**	**QC Batch**	**SW5**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1910545	ND	1	1910545
Dissolved Uranium (U)	ug/L	ND	1910175	ND	0.1	1910175
Total Uranium (U)	ug/L	ND	1910545	ND	0.1	1910545
Dissolved Vanadium (V)	ug/L	ND	1910175	ND	1	1910175
Total Vanadium (V)	ug/L	ND	1910545	ND	1	1910545
Dissolved Zinc (Zn)	ug/L	10	1910175	56	5	1910175
Total Zinc (Zn)	ug/L	34	1910545	59	5	1910545
Dissolved Zirconium (Zr)	ug/L	ND	1910175	ND	1	1910175
Total Zirconium (Zr)	ug/L	ND	1910545	ND	1	1910545

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QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6920		DI6921		
Sampling Date		2009/08/10 10:30				
COC Number		158498-0		158498-0		
	Units	**SW6**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1907134	ND	0.0001	1907134
Dissolved Aluminum (Al)	ug/L	140	1913829	5	5	1909730
Total Aluminum (Al)	ug/L	88	1913018	ND	5	1909519
Dissolved Antimony (Sb)	ug/L	ND	1910175	ND	0.5	1909730
Total Antimony (Sb)	ug/L	ND	1909519	ND	0.5	1909519
Dissolved Arsenic (As)	ug/L	2	1910175	ND	1	1909730
Total Arsenic (As)	ug/L	2	1909519	ND	1	1909519
Dissolved Barium (Ba)	ug/L	16	1910175	ND	5	1909730
Total Barium (Ba)	ug/L	41	1909519	ND	5	1909519
Dissolved Beryllium (Be)	ug/L	ND	1910175	ND	0.5	1909730
Total Beryllium (Be)	ug/L	ND	1909519	ND	0.5	1909519
Dissolved Bismuth (Bi)	ug/L	ND	1910175	ND	1	1909730
Total Bismuth (Bi)	ug/L	ND	1909519	ND	1	1909519
Dissolved Boron (B)	ug/L	14	1910175	ND	10	1909730
Total Boron (B)	ug/L	13	1909519	ND	10	1909519
Dissolved Cadmium (Cd)	ug/L	ND	1910175	ND	0.1	1909730
Total Cadmium (Cd)	ug/L	ND	1909519	ND	0.1	1909519
Dissolved Calcium (Ca)	ug/L	38000	1910175	ND	200	1909730
Total Calcium (Ca)	ug/L	39000	1909519	ND	200	1909519
Dissolved Chromium (Cr)	ug/L	ND	1910175	ND	5	1909730
Total Chromium (Cr)	ug/L	ND	1909519	ND	5	1909519
Dissolved Cobalt (Co)	ug/L	ND	1910175	ND	0.5	1909730
Total Cobalt (Co)	ug/L	ND	1909519	ND	0.5	1909519
Dissolved Copper (Cu)	ug/L	1	1910175	ND	1	1909730
Total Copper (Cu)	ug/L	4	1909519	ND	1	1909519
Dissolved Iron (Fe)	ug/L	210	1910175	ND	100	1909730
Total Iron (Fe)	ug/L	ND	1909519	ND	100	1909519
Dissolved Lead (Pb)	ug/L	ND	1910175	ND	0.5	1909730
Total Lead (Pb)	ug/L	ND	1909519	ND	0.5	1909519
Dissolved Lithium (Li)	ug/L	5	1910175	ND	5	1909730
Total Lithium (Li)	ug/L	ND	1909519	ND	5	1909519

ND = Not detected
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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6920		DI6921		
Sampling Date		2009/08/10 10:30				
COC Number		158498-0		158498-0		
	Units	**SW6**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	16000	1910175	ND	50	1909730
Total Magnesium (Mg)	ug/L	16000	1909519	ND	50	1909519
Dissolved Manganese (Mn)	ug/L	44	1913829	ND	2	1909730
Total Manganese (Mn)	ug/L	35	1913018	ND	2	1909519
Dissolved Molybdenum (Mo)	ug/L	ND	1910175	ND	1	1909730
Total Molybdenum (Mo)	ug/L	ND	1909519	ND	1	1909519
Dissolved Nickel (Ni)	ug/L	2	1910175	ND	1	1909730
Total Nickel (Ni)	ug/L	2	1909519	ND	1	1909519
Dissolved Phosphorus (P)	ug/L	ND	1910175	ND	100	1909730
Dissolved Potassium (K)	ug/L	740	1910175	ND	200	1909730
Total Potassium (K)	ug/L	650	1909519	ND	200	1909519
Dissolved Selenium (Se)	ug/L	ND	1910175	ND	2	1909730
Total Selenium (Se)	ug/L	ND	1909519	ND	2	1909519
Dissolved Silicon (Si)	ug/L	2500	1910175	ND	50	1909730
Total Silicon (Si)	ug/L	2700	1909519	ND	50	1909519
Dissolved Silver (Ag)	ug/L	ND	1910175	ND	0.1	1909730
Total Silver (Ag)	ug/L	ND	1909519	ND	0.1	1909519
Dissolved Sodium (Na)	ug/L	2700	1910175	ND	100	1909730
Total Sodium (Na)	ug/L	2900	1909519	ND	100	1909519
Dissolved Strontium (Sr)	ug/L	84	1910175	ND	1	1909730
Total Strontium (Sr)	ug/L	85	1909519	ND	1	1909519
Dissolved Tellurium (Te)	ug/L	ND	1910175	ND	1	1909730
Total Tellurium (Te)	ug/L	ND	1909519	ND	1	1909519
Dissolved Thallium (Tl)	ug/L	ND	1910175	ND	0.05	1909730
Total Thallium (Tl)	ug/L	ND	1909519	0.06	0.05	1909519
Dissolved Thorium (Th)	ug/L	ND	1910175	ND	1	1909730
Total Thorium (Th)	ug/L	ND	1909519	ND	1	1909519
Dissolved Tin (Sn)	ug/L	ND	1910175	ND	1	1909730
Total Tin (Sn)	ug/L	ND	1909519	ND	1	1909519
Dissolved Titanium (Ti)	ug/L	ND	1910175	ND	5	1909730
Total Titanium (Ti)	ug/L	ND	1909519	ND	5	1909519
Dissolved Tungsten (W)	ug/L	ND	1910175	ND	1	1909730

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DI6920		DI6921		
Sampling Date		2009/08/10 10:30				
COC Number		158498-0		158498-0		
	Units	**SW6**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1909519	ND	1	1909519
Dissolved Uranium (U)	ug/L	0.4	1910175	ND	0.1	1909730
Total Uranium (U)	ug/L	0.4	1909519	ND	0.1	1909519
Dissolved Vanadium (V)	ug/L	ND	1910175	ND	1	1909730
Total Vanadium (V)	ug/L	1	1909519	1	1	1909519
Dissolved Zinc (Zn)	ug/L	7	1910175	ND	5	1909730
Total Zinc (Zn)	ug/L	23	1909519	ND	5	1909519
Dissolved Zirconium (Zr)	ug/L	ND	1910175	ND	1	1909730
Total Zirconium (Zr)	ug/L	ND	1909519	ND	1	1909519

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9A2821
Report Date: 2009/08/31

Klohn Crippen Berger Ltd
Client Project #: Rainy River

GENERAL COMMENTS

Sample DI6916-01: The dissolved zinc and barium was higher than the total result. This was confirmed by re-analysis.

Sample DI6917-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DI6917-01: The dissolved zinc and barium was higher than the total result. This was confirmed by re-analysis.

Sample DI6918-01: The dissolved manganese was higher than the total result. This was confirmed by re-analysis.

Sample DI6919-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DI6920-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DI6920-01: The dissolved aluminum and manganese was higher than the total result. This was confirmed by re-analysis.

Sample DI6921-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DI6921-01: Sample was very acidic; initial pH of 0.7. 100X sample dilution was used.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MA9A2821

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1905589	HAG	QC Standard	Total Suspended Solids	2009/08/13		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/08/13	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/08/13	NC		%	25
1905591	HAG	QC Standard	Total Dissolved Solids	2009/08/14		101	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/08/14	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/08/14	2.2		%	25
1905620	HAL	QC Standard	Total BOD	2009/08/18		105	%	85 - 115
		Method Blank	Total BOD	2009/08/18	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/08/18	NC		%	25
1905885	HAG	QC Standard	Total Dissolved Solids	2009/08/14		100	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/08/14	ND, RDL=10		mg/L	
		RPD [DI6915-04]	Total Dissolved Solids	2009/08/14	2.1		%	25
1906036	KTH	QC Standard	Turbidity	2009/08/13		99	%	85 - 115
		Method Blank	Turbidity	2009/08/13	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/08/13	2.9		%	25
1906524	CP	Matrix Spike	Total Cyanide (CN)	2009/08/14		101	%	75 - 125
		Spiked Blank	Total Cyanide (CN)	2009/08/14		100	%	75 - 125
		Method Blank	Total Cyanide (CN)	2009/08/14	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/08/14	NC		%	25
1906973	AMJ	Matrix Spike						
		[DI6920-01]	Total Oil & Grease	2009/08/14		92	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/08/14		101	%	85 - 115
		Method Blank	Total Oil & Grease	2009/08/14	ND, RDL=0.5		mg/L	
		RPD [DI6915-01]	Total Oil & Grease	2009/08/14	NC		%	25
1906974	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/08/14		97	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/08/14	ND, RDL=0.5		mg/L	
		RPD [DI6915-01]	Total Oil & Grease Mineral/Synthetic	2009/08/14	NC		%	25
1907134	MC	Matrix Spike	Mercury (Hg)	2009/08/14		102	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/08/14		102	%	84 - 113
		Method Blank	Mercury (Hg)	2009/08/14	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/08/14	NC		%	25
1907167	AHA	Matrix Spike	Dissolved Organic Carbon	2009/08/14		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/08/14		95	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/08/14	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/08/14	2.0		%	20
1907239	CCI	Matrix Spike	Nitrite (N)	2009/08/14		100	%	75 - 125
			Nitrate (N)	2009/08/14		NC	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/08/14		104	%	80 - 120
			Nitrate (N)	2009/08/14		94	%	80 - 120
		Method Blank	Nitrite (N)	2009/08/14	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/08/14	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/08/14	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/08/14	7.2		%	25
			Nitrate (N)	2009/08/14	0.5		%	25
1907244	CCI	Matrix Spike	Nitrite (N)	2009/08/14		98	%	75 - 125
			Nitrate (N)	2009/08/14		NC	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/08/14		104	%	80 - 120
			Nitrate (N)	2009/08/14		94	%	80 - 120
		Method Blank	Nitrite (N)	2009/08/14	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/08/14	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/08/14	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/08/14	NC		%	25
			Nitrate (N)	2009/08/14	1.7		%	25
			Nitrate + Nitrite	2009/08/14	1.9		%	25
1907333	KTH	QC Standard	Turbidity	2009/08/14		100	%	85 - 115

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9A2821

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1907333	KTH	Method Blank	Turbidity	2009/08/14	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/08/14	0.9		%	25
1907365	RSR	Method Blank	Acidity as CaC03	2009/08/18	ND, RDL=10		mg/L	
		RPD [DI6919-05]	Acidity as CaC03	2009/08/18	NC		%	25
1907462	AHA	Matrix Spike [DI6921-06]	Total Organic Carbon (TOC)	2009/08/15		101	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/08/15		91	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/08/15	ND, RDL=0.2		mg/L	
		RPD [DI6921-06]	Total Organic Carbon (TOC)	2009/08/15	NC		%	20
1907513	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/08/17		98	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/08/17	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/08/17	2.4		%	25
1907515	YPA	QC Standard	Conductivity	2009/08/17		100	%	85 - 115
		Method Blank	Conductivity	2009/08/17	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/08/17	0.3		%	25
1907523	YPA	Matrix Spike	Fluoride (F-)	2009/08/17		92	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/08/17		93	%	80 - 120
		Method Blank	Fluoride (F-)	2009/08/17	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/08/17	NC		%	25
1907637	ADB	Matrix Spike	Total Ammonia-N	2009/08/18		94	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/08/18		101	%	80 - 120
		Method Blank	Total Ammonia-N	2009/08/18	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/08/18	2.3		%	25
1908798	SAU	Matrix Spike [DI6918-06]	Total Chemical Oxygen Demand (COD)	2009/08/18		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/08/18		99	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/08/18	ND, RDL=4		mg/L	
		RPD [DI6918-06]	Total Chemical Oxygen Demand (COD)	2009/08/18	1.8		%	25
1909519	JBW	Matrix Spike	Total Aluminum (Al)	2009/08/18		101	%	80 - 120
			Total Antimony (Sb)	2009/08/18		115	%	80 - 120
			Total Arsenic (As)	2009/08/18		101	%	80 - 120
			Total Barium (Ba)	2009/08/18		98	%	80 - 120
			Total Beryllium (Be)	2009/08/18		96	%	75 - 125
			Total Bismuth (Bi)	2009/08/18		94	%	75 - 125
			Total Boron (B)	2009/08/18		102	%	75 - 125
			Total Cadmium (Cd)	2009/08/18		98	%	80 - 120
			Total Calcium (Ca)	2009/08/18		NC	%	75 - 125
			Total Chromium (Cr)	2009/08/18		103	%	80 - 120
			Total Cobalt (Co)	2009/08/18		98	%	80 - 120
			Total Copper (Cu)	2009/08/18		92	%	80 - 120
			Total Iron (Fe)	2009/08/18		104	%	80 - 120
			Total Lead (Pb)	2009/08/18		95	%	80 - 120
			Total Lithium (Li)	2009/08/18		99	%	75 - 125
			Total Magnesium (Mg)	2009/08/18		NC	%	80 - 120
			Total Manganese (Mn)	2009/08/18		NC	%	80 - 120
			Total Molybdenum (Mo)	2009/08/18		114	%	80 - 120
			Total Nickel (Ni)	2009/08/18		94	%	80 - 120
			Total Potassium (K)	2009/08/18		NC	%	75 - 125
			Total Selenium (Se)	2009/08/18		91	%	75 - 125
			Total Silicon (Si)	2009/08/18		NC	%	75 - 125
			Total Silver (Ag)	2009/08/18		92	%	80 - 120
			Total Sodium (Na)	2009/08/18		S	%	75 - 125
			Total Strontium (Sr)	2009/08/18		NC	%	80 - 120
			Total Tellurium (Te)	2009/08/18		92	%	75 - 125
			Total Thallium (Tl)	2009/08/18		93	%	80 - 120

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1909519	JBW	Matrix Spike	Total Thorium (Th)	2009/08/18		103	%	75 - 125
			Total Tin (Sn)	2009/08/18		110	%	75 - 125
			Total Titanium (Ti)	2009/08/18		112	%	75 - 125
			Total Tungsten (W)	2009/08/18		109	%	75 - 125
			Total Uranium (U)	2009/08/18		101	%	80 - 120
			Total Vanadium (V)	2009/08/18		106	%	80 - 120
			Total Zinc (Zn)	2009/08/18		85	%	80 - 120
			Total Zirconium (Zr)	2009/08/18		113	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/08/18		105	%	80 - 120
			Total Antimony (Sb)	2009/08/18		108	%	82 - 120
			Total Arsenic (As)	2009/08/18		103	%	86 - 119
			Total Barium (Ba)	2009/08/18		99	%	83 - 115
			Total Beryllium (Be)	2009/08/18		103	%	85 - 132
			Total Bismuth (Bi)	2009/08/18		102	%	78 - 120
			Total Boron (B)	2009/08/18		106	%	78 - 133
			Total Cadmium (Cd)	2009/08/18		101	%	85 - 116
			Total Calcium (Ca)	2009/08/18		106	%	75 - 125
			Total Chromium (Cr)	2009/08/18		104	%	80 - 120
			Total Cobalt (Co)	2009/08/18		101	%	82 - 117
			Total Copper (Cu)	2009/08/18		100	%	80 - 117
			Total Iron (Fe)	2009/08/18		107	%	80 - 120
			Total Lead (Pb)	2009/08/18		100	%	80 - 120
			Total Lithium (Li)	2009/08/18		101	%	86 - 131
			Total Magnesium (Mg)	2009/08/18		110	%	80 - 120
			Total Manganese (Mn)	2009/08/18		102	%	80 - 120
			Total Molybdenum (Mo)	2009/08/18		103	%	82 - 117
			Total Nickel (Ni)	2009/08/18		100	%	81 - 117
			Total Potassium (K)	2009/08/18		108	%	75 - 125
			Total Selenium (Se)	2009/08/18		101	%	82 - 118
			Total Silicon (Si)	2009/08/18		107	%	67 - 140
			Total Silver (Ag)	2009/08/18		96	%	80 - 120
			Total Sodium (Na)	2009/08/18		113	%	75 - 125
			Total Strontium (Sr)	2009/08/18		101	%	83 - 120
			Total Tellurium (Te)	2009/08/18		102	%	80 - 116
			Total Thallium (Tl)	2009/08/18		98	%	80 - 129
			Total Thorium (Th)	2009/08/18		101	%	80 - 125
			Total Tin (Sn)	2009/08/18		102	%	83 - 119
			Total Titanium (Ti)	2009/08/18		107	%	60 - 125
			Total Tungsten (W)	2009/08/18		104	%	81 - 123
			Total Uranium (U)	2009/08/18		100	%	82 - 120
			Total Vanadium (V)	2009/08/18		105	%	82 - 118
			Total Zinc (Zn)	2009/08/18		100	%	80 - 120
			Total Zirconium (Zr)	2009/08/18		103	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/08/18	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/08/18	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/08/18	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/08/18	ND, RDL=1		ug/L	
			Total Boron (B)	2009/08/18	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/08/18	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/08/18	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/08/18	ND, RDL=1		ug/L	

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1909519	JBW	Method Blank	Total Iron (Fe)	2009/08/18	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/08/18	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/08/18	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/08/18	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/08/18	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/08/18	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/08/18	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/08/18	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/08/18	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/08/18	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/08/18	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/08/18	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/08/18	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/08/18	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/08/18	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/08/18	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/08/18	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/08/18	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/08/18	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/08/18	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2009/08/18	NC		%	25
1909716	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/08/18		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/08/18		98	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/08/18	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/08/18	1.8		%	20
1909718	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/08/18		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/08/18		103	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/08/18	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/08/18	1.6		%	25
1909719	DRM	Matrix Spike	Orthophosphate (P)	2009/08/18		95	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/08/18		104	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/08/18	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/08/18	NC		%	25
1909722	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/08/18		102	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/08/18		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/08/18	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/08/18	NC		%	20
1909724	DRM	Matrix Spike	Orthophosphate (P)	2009/08/18		104	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/08/18		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/08/18	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/08/18	NC		%	25
1909725	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/08/18		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/08/18		105	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/08/18	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/08/18	0.6		%	25
1909730	JBW	Matrix Spike	Dissolved Aluminum (Al)	2009/08/18		103	%	80 - 120
			Dissolved Antimony (Sb)	2009/08/18		106	%	80 - 120
			Dissolved Arsenic (As)	2009/08/18		105	%	80 - 120
			Dissolved Barium (Ba)	2009/08/18		100	%	80 - 120
			Dissolved Beryllium (Be)	2009/08/18		101	%	80 - 120
			Dissolved Bismuth (Bi)	2009/08/18		100	%	80 - 120
			Dissolved Boron (B)	2009/08/18		109	%	80 - 120

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1909730	JBW	Matrix Spike	Dissolved Cadmium (Cd)	2009/08/18		104	%	80 - 120
			Dissolved Calcium (Ca)	2009/08/18		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/08/18		104	%	80 - 120
			Dissolved Cobalt (Co)	2009/08/18		103	%	80 - 120
			Dissolved Copper (Cu)	2009/08/18		100	%	80 - 120
			Dissolved Iron (Fe)	2009/08/18		108	%	80 - 120
			Dissolved Lead (Pb)	2009/08/18		99	%	80 - 120
			Dissolved Lithium (Li)	2009/08/18		99	%	80 - 120
			Dissolved Magnesium (Mg)	2009/08/18		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/08/18		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/08/18		107	%	80 - 120
			Dissolved Nickel (Ni)	2009/08/18		101	%	80 - 120
			Dissolved Phosphorus (P)	2009/08/18		105	%	80 - 120
			Dissolved Potassium (K)	2009/08/18		108	%	80 - 120
			Dissolved Selenium (Se)	2009/08/18		101	%	80 - 120
			Dissolved Silicon (Si)	2009/08/18		110	%	80 - 120
			Dissolved Silver (Ag)	2009/08/18		104	%	80 - 120
			Dissolved Sodium (Na)	2009/08/18		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/08/18		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/08/18		104	%	80 - 120
			Dissolved Thallium (Tl)	2009/08/18		99	%	80 - 120
			Dissolved Thorium (Th)	2009/08/18		100	%	80 - 120
			Dissolved Tin (Sn)	2009/08/18		105	%	80 - 120
			Dissolved Titanium (Ti)	2009/08/18		106	%	80 - 120
			Dissolved Tungsten (W)	2009/08/18		104	%	80 - 120
			Dissolved Uranium (U)	2009/08/18		100	%	80 - 120
			Dissolved Vanadium (V)	2009/08/18		105	%	80 - 120
			Dissolved Zinc (Zn)	2009/08/18		100	%	80 - 120
			Dissolved Zirconium (Zr)	2009/08/18		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/08/18		100	%	90 - 110
			Dissolved Antimony (Sb)	2009/08/18		99	%	90 - 110
			Dissolved Arsenic (As)	2009/08/18		101	%	90 - 110
			Dissolved Barium (Ba)	2009/08/18		96	%	90 - 110
			Dissolved Beryllium (Be)	2009/08/18		99	%	90 - 110
			Dissolved Bismuth (Bi)	2009/08/18		95	%	90 - 110
			Dissolved Boron (B)	2009/08/18		102	%	90 - 110
			Dissolved Cadmium (Cd)	2009/08/18		97	%	90 - 110
			Dissolved Calcium (Ca)	2009/08/18		103	%	90 - 110
			Dissolved Chromium (Cr)	2009/08/18		103	%	90 - 110
			Dissolved Cobalt (Co)	2009/08/18		101	%	90 - 110
			Dissolved Copper (Cu)	2009/08/18		99	%	90 - 110
			Dissolved Iron (Fe)	2009/08/18		104	%	90 - 110
			Dissolved Lead (Pb)	2009/08/18		94	%	90 - 110
			Dissolved Lithium (Li)	2009/08/18		97	%	90 - 110
			Dissolved Magnesium (Mg)	2009/08/18		104	%	90 - 110
			Dissolved Manganese (Mn)	2009/08/18		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/08/18		100	%	90 - 110
			Dissolved Nickel (Ni)	2009/08/18		99	%	90 - 110
			Dissolved Phosphorus (P)	2009/08/18		105	%	90 - 110
			Dissolved Potassium (K)	2009/08/18		102	%	90 - 110
			Dissolved Selenium (Se)	2009/08/18		99	%	90 - 110
			Dissolved Silicon (Si)	2009/08/18		104	%	90 - 110
			Dissolved Silver (Ag)	2009/08/18		98	%	90 - 110
			Dissolved Sodium (Na)	2009/08/18		104	%	90 - 110
			Dissolved Strontium (Sr)	2009/08/18		99	%	90 - 110

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1909730	JBW	Spiked Blank	Dissolved Tellurium (Te)	2009/08/18		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/08/18		93	%	90 - 110
			Dissolved Thorium (Th)	2009/08/18		93	%	90 - 110
			Dissolved Tin (Sn)	2009/08/18		99	%	90 - 110
			Dissolved Titanium (Ti)	2009/08/18		102	%	90 - 110
			Dissolved Tungsten (W)	2009/08/18		97	%	90 - 110
			Dissolved Uranium (U)	2009/08/18		94	%	90 - 110
			Dissolved Vanadium (V)	2009/08/18		102	%	90 - 110
			Dissolved Zinc (Zn)	2009/08/18		98	%	90 - 110
			Dissolved Zirconium (Zr)	2009/08/18		98	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/08/18	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/08/18	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/08/18	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/08/18	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/08/18	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/08/18	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/08/18	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/08/18	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/08/18	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2009/08/18	NC		%	25
			Dissolved Antimony (Sb)	2009/08/18	NC		%	25
			Dissolved Arsenic (As)	2009/08/18	NC		%	25
			Dissolved Barium (Ba)	2009/08/18	0.3		%	25
			Dissolved Beryllium (Be)	2009/08/18	NC		%	25
			Dissolved Bismuth (Bi)	2009/08/18	NC		%	25
			Dissolved Boron (B)	2009/08/18	NC		%	25
			Dissolved Cadmium (Cd)	2009/08/18	NC		%	25
			Dissolved Calcium (Ca)	2009/08/18	2.2		%	25

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1909730	JBW	RPD	Dissolved Chromium (Cr)	2009/08/18	NC		%	25
			Dissolved Cobalt (Co)	2009/08/18	NC		%	25
			Dissolved Copper (Cu)	2009/08/18	NC		%	25
			Dissolved Iron (Fe)	2009/08/18	NC		%	25
			Dissolved Lead (Pb)	2009/08/18	NC		%	25
			Dissolved Lithium (Li)	2009/08/18	NC		%	25
			Dissolved Magnesium (Mg)	2009/08/18	3.4		%	25
			Dissolved Manganese (Mn)	2009/08/18	NC		%	25
			Dissolved Molybdenum (Mo)	2009/08/18	6.5		%	25
			Dissolved Nickel (Ni)	2009/08/18	NC		%	25
			Dissolved Potassium (K)	2009/08/18	4.0		%	25
			Dissolved Selenium (Se)	2009/08/18	NC		%	25
			Dissolved Silicon (Si)	2009/08/18	1		%	25
			Dissolved Silver (Ag)	2009/08/18	NC		%	25
			Dissolved Sodium (Na)	2009/08/18	1.2		%	25
			Dissolved Strontium (Sr)	2009/08/18	2.3		%	25
			Dissolved Tellurium (Te)	2009/08/18	NC		%	25
			Dissolved Thallium (Tl)	2009/08/18	NC		%	25
			Dissolved Thorium (Th)	2009/08/18	NC		%	25
			Dissolved Tin (Sn)	2009/08/18	NC		%	25
			Dissolved Titanium (Ti)	2009/08/18	NC		%	25
			Dissolved Tungsten (W)	2009/08/18	NC		%	25
			Dissolved Uranium (U)	2009/08/18	1.2		%	25
			Dissolved Vanadium (V)	2009/08/18	NC		%	25
			Dissolved Zinc (Zn)	2009/08/18	NC		%	25
			Dissolved Zirconium (Zr)	2009/08/18	NC		%	25
1910175	ADA	Matrix Spike						
		[DI6917-08]	Dissolved Aluminum (Al)	2009/08/18		94	%	80 - 120
			Dissolved Antimony (Sb)	2009/08/18		108	%	80 - 120
			Dissolved Arsenic (As)	2009/08/18		103	%	80 - 120
			Dissolved Barium (Ba)	2009/08/18		101	%	80 - 120
			Dissolved Beryllium (Be)	2009/08/18		101	%	80 - 120
			Dissolved Bismuth (Bi)	2009/08/18		103	%	80 - 120
			Dissolved Boron (B)	2009/08/18		99	%	80 - 120
			Dissolved Cadmium (Cd)	2009/08/18		105	%	80 - 120
			Dissolved Calcium (Ca)	2009/08/18		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/08/18		105	%	80 - 120
			Dissolved Cobalt (Co)	2009/08/18		107	%	80 - 120
			Dissolved Copper (Cu)	2009/08/18		103	%	80 - 120
			Dissolved Iron (Fe)	2009/08/18		104	%	80 - 120
			Dissolved Lead (Pb)	2009/08/18		106	%	80 - 120
			Dissolved Lithium (Li)	2009/08/18		100	%	80 - 120
			Dissolved Magnesium (Mg)	2009/08/18		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/08/18		104	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/08/18		109	%	80 - 120
			Dissolved Nickel (Ni)	2009/08/18		104	%	80 - 120
			Dissolved Phosphorus (P)	2009/08/18		104	%	80 - 120
			Dissolved Potassium (K)	2009/08/18		101	%	80 - 120
			Dissolved Selenium (Se)	2009/08/18		106	%	80 - 120
			Dissolved Silicon (Si)	2009/08/18		99	%	80 - 120
			Dissolved Silver (Ag)	2009/08/18		102	%	80 - 120
			Dissolved Sodium (Na)	2009/08/18		99	%	80 - 120
			Dissolved Strontium (Sr)	2009/08/18		102	%	80 - 120
			Dissolved Tellurium (Te)	2009/08/18		106	%	80 - 120
			Dissolved Thallium (Tl)	2009/08/18		106	%	80 - 120

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Attention: Ryan Todd
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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1910175	ADA	Matrix Spike						
		[DI6917-08]	Dissolved Thorium (Th)	2009/08/18		106	%	80 - 120
			Dissolved Tin (Sn)	2009/08/18		105	%	80 - 120
			Dissolved Titanium (Ti)	2009/08/18		106	%	80 - 120
			Dissolved Tungsten (W)	2009/08/18		109	%	80 - 120
			Dissolved Uranium (U)	2009/08/18		108	%	80 - 120
			Dissolved Vanadium (V)	2009/08/18		108	%	80 - 120
			Dissolved Zinc (Zn)	2009/08/18		107	%	80 - 120
			Dissolved Zirconium (Zr)	2009/08/18		109	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/08/18		92	%	90 - 110
			Dissolved Antimony (Sb)	2009/08/18		101	%	90 - 110
			Dissolved Arsenic (As)	2009/08/18		100	%	90 - 110
			Dissolved Barium (Ba)	2009/08/18		98	%	90 - 110
			Dissolved Beryllium (Be)	2009/08/18		98	%	90 - 110
			Dissolved Bismuth (Bi)	2009/08/18		101	%	90 - 110
			Dissolved Boron (B)	2009/08/18		92	%	90 - 110
			Dissolved Cadmium (Cd)	2009/08/18		99	%	90 - 110
			Dissolved Calcium (Ca)	2009/08/18		99	%	90 - 110
			Dissolved Chromium (Cr)	2009/08/18		100	%	90 - 110
			Dissolved Cobalt (Co)	2009/08/18		102	%	90 - 110
			Dissolved Copper (Cu)	2009/08/18		99	%	90 - 110
			Dissolved Iron (Fe)	2009/08/18		97	%	90 - 110
			Dissolved Lead (Pb)	2009/08/18		102	%	90 - 110
			Dissolved Lithium (Li)	2009/08/18		96	%	90 - 110
			Dissolved Magnesium (Mg)	2009/08/18		91	%	90 - 110
			Dissolved Manganese (Mn)	2009/08/18		100	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/08/18		102	%	90 - 110
			Dissolved Nickel (Ni)	2009/08/18		97	%	90 - 110
			Dissolved Phosphorus (P)	2009/08/18		93	%	90 - 110
			Dissolved Potassium (K)	2009/08/18		97	%	90 - 110
			Dissolved Selenium (Se)	2009/08/18		101	%	90 - 110
			Dissolved Silicon (Si)	2009/08/18		93	%	90 - 110
			Dissolved Silver (Ag)	2009/08/18		98	%	90 - 110
			Dissolved Sodium (Na)	2009/08/18		92	%	90 - 110
			Dissolved Strontium (Sr)	2009/08/18		98	%	90 - 110
			Dissolved Tellurium (Te)	2009/08/18		100	%	90 - 110
			Dissolved Thallium (Tl)	2009/08/18		104	%	90 - 110
			Dissolved Thorium (Th)	2009/08/18		105	%	90 - 110
			Dissolved Tin (Sn)	2009/08/18		97	%	90 - 110
			Dissolved Titanium (Ti)	2009/08/18		100	%	90 - 110
			Dissolved Tungsten (W)	2009/08/18		103	%	90 - 110
			Dissolved Uranium (U)	2009/08/18		104	%	90 - 110
			Dissolved Vanadium (V)	2009/08/18		104	%	90 - 110
			Dissolved Zinc (Zn)	2009/08/18		103	%	90 - 110
			Dissolved Zirconium (Zr)	2009/08/18		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/08/18	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/08/18	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/08/18	ND, RDL=5		ug/L	

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1910175	ADA	Method Blank	Dissolved Cobalt (Co)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/08/18	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/08/18	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/08/18	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/08/18	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/08/18	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/08/18	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/08/18	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/08/18	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/08/18	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/08/18	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/08/18	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/08/18	ND, RDL=1		ug/L	
		RPD [DI6917-08]	Dissolved Aluminum (Al)	2009/08/18	6.4		%	25
			Dissolved Antimony (Sb)	2009/08/18	NC		%	25
			Dissolved Arsenic (As)	2009/08/18	NC		%	25
			Dissolved Beryllium (Be)	2009/08/18	NC		%	25
			Dissolved Bismuth (Bi)	2009/08/18	NC		%	25
			Dissolved Boron (B)	2009/08/18	NC		%	25
			Dissolved Cadmium (Cd)	2009/08/18	NC		%	25
			Dissolved Calcium (Ca)	2009/08/18	3.2		%	25
			Dissolved Chromium (Cr)	2009/08/18	NC		%	25
			Dissolved Cobalt (Co)	2009/08/18	NC		%	25
			Dissolved Copper (Cu)	2009/08/18	NC		%	25
			Dissolved Iron (Fe)	2009/08/18	NC		%	25
			Dissolved Lead (Pb)	2009/08/18	NC		%	25
			Dissolved Lithium (Li)	2009/08/18	NC		%	25
			Dissolved Magnesium (Mg)	2009/08/18	0.3		%	25
			Dissolved Manganese (Mn)	2009/08/18	1.1		%	25
			Dissolved Molybdenum (Mo)	2009/08/18	NC		%	25
			Dissolved Nickel (Ni)	2009/08/18	NC		%	25
			Dissolved Phosphorus (P)	2009/08/18	NC		%	25
			Dissolved Potassium (K)	2009/08/18	NC		%	25
			Dissolved Selenium (Se)	2009/08/18	NC		%	25
			Dissolved Silicon (Si)	2009/08/18	3.8		%	25
			Dissolved Silver (Ag)	2009/08/18	NC		%	25
			Dissolved Sodium (Na)	2009/08/18	1.2		%	25
			Dissolved Strontium (Sr)	2009/08/18	1.2		%	25
			Dissolved Tellurium (Te)	2009/08/18	NC		%	25
			Dissolved Thallium (Tl)	2009/08/18	NC		%	25
			Dissolved Thorium (Th)	2009/08/18	NC		%	25
			Dissolved Tin (Sn)	2009/08/18	NC		%	25

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1910175	ADA	RPD [DI6917-08]	Dissolved Titanium (Ti)	2009/08/18	NC		%	25
			Dissolved Tungsten (W)	2009/08/18	NC		%	25
			Dissolved Uranium (U)	2009/08/18	NC		%	25
			Dissolved Vanadium (V)	2009/08/18	NC		%	25
			Dissolved Zirconium (Zr)	2009/08/18	NC		%	25
1910262	YPA	QC Standard	Conductivity	2009/08/18		100	%	85 - 115
		Method Blank	Conductivity	2009/08/18	ND, RDL=1		umho/cm	
		RPD [DI6921-02]	Conductivity	2009/08/18	NC		%	25
1910263	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/08/18		98	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/08/18	ND, RDL=1		mg/L	
		RPD [DI6921-02]	Alkalinity (Total as CaCO3)	2009/08/18	NC		%	25
1910266	YPA	Matrix Spike						
		[DI6921-02]	Fluoride (F-)	2009/08/18		94	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/08/18		95	%	80 - 120
		Method Blank	Fluoride (F-)	2009/08/18	ND, RDL=0.1		mg/L	
		RPD [DI6921-02]	Fluoride (F-)	2009/08/18	NC		%	25
1910545	JBW	Matrix Spike	Total Aluminum (Al)	2009/08/18		97	%	80 - 120
			Total Antimony (Sb)	2009/08/18		112	%	80 - 120
			Total Arsenic (As)	2009/08/18		95	%	80 - 120
			Total Barium (Ba)	2009/08/18		97	%	80 - 120
			Total Beryllium (Be)	2009/08/18		100	%	75 - 125
			Total Bismuth (Bi)	2009/08/18		99	%	75 - 125
			Total Boron (B)	2009/08/18		107	%	75 - 125
			Total Cadmium (Cd)	2009/08/18		101	%	80 - 120
			Total Calcium (Ca)	2009/08/18		NC	%	75 - 125
			Total Chromium (Cr)	2009/08/18		96	%	80 - 120
			Total Cobalt (Co)	2009/08/18		97	%	80 - 120
			Total Copper (Cu)	2009/08/18		93	%	80 - 120
			Total Iron (Fe)	2009/08/18		99	%	80 - 120
			Total Lead (Pb)	2009/08/18		96	%	80 - 120
			Total Lithium (Li)	2009/08/18		95	%	75 - 125
			Total Magnesium (Mg)	2009/08/18		NC	%	80 - 120
			Total Manganese (Mn)	2009/08/18		97	%	80 - 120
			Total Molybdenum (Mo)	2009/08/18		105	%	80 - 120
			Total Nickel (Ni)	2009/08/18		99	%	80 - 120
			Total Potassium (K)	2009/08/18		101	%	75 - 125
			Total Selenium (Se)	2009/08/18		95	%	75 - 125
			Total Silicon (Si)	2009/08/18		93	%	75 - 125
			Total Silver (Ag)	2009/08/18		100	%	80 - 120
			Total Sodium (Na)	2009/08/18		NC	%	75 - 125
			Total Strontium (Sr)	2009/08/18		NC	%	80 - 120
			Total Tellurium (Te)	2009/08/18		102	%	75 - 125
			Total Thallium (Tl)	2009/08/18		96	%	80 - 120
			Total Thorium (Th)	2009/08/18		92	%	75 - 125
			Total Tin (Sn)	2009/08/18		104	%	75 - 125
			Total Titanium (Ti)	2009/08/18		99	%	75 - 125
			Total Tungsten (W)	2009/08/18		103	%	75 - 125
			Total Uranium (U)	2009/08/18		97	%	80 - 120
			Total Vanadium (V)	2009/08/18		99	%	80 - 120
			Total Zinc (Zn)	2009/08/18		95	%	80 - 120
			Total Zirconium (Zr)	2009/08/18		104	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/08/18		97	%	80 - 120
			Total Antimony (Sb)	2009/08/18		107	%	82 - 120
			Total Arsenic (As)	2009/08/18		95	%	86 - 119
			Total Barium (Ba)	2009/08/18		98	%	83 - 115

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1910545	JBW	Spiked Blank	Total Beryllium (Be)	2009/08/18		100	%	85 - 132
			Total Bismuth (Bi)	2009/08/18		99	%	78 - 120
			Total Boron (B)	2009/08/18		104	%	78 - 133
			Total Cadmium (Cd)	2009/08/18		101	%	85 - 116
			Total Calcium (Ca)	2009/08/18		98	%	75 - 125
			Total Chromium (Cr)	2009/08/18		98	%	80 - 120
			Total Cobalt (Co)	2009/08/18		97	%	82 - 117
			Total Copper (Cu)	2009/08/18		96	%	80 - 117
			Total Iron (Fe)	2009/08/18		99	%	80 - 120
			Total Lead (Pb)	2009/08/18		98	%	80 - 120
			Total Lithium (Li)	2009/08/18		94	%	86 - 131
			Total Magnesium (Mg)	2009/08/18		103	%	80 - 120
			Total Manganese (Mn)	2009/08/18		96	%	80 - 120
			Total Molybdenum (Mo)	2009/08/18		101	%	82 - 117
			Total Nickel (Ni)	2009/08/18		98	%	81 - 117
			Total Potassium (K)	2009/08/18		98	%	75 - 125
			Total Selenium (Se)	2009/08/18		97	%	82 - 118
			Total Silicon (Si)	2009/08/18		95	%	67 - 140
			Total Silver (Ag)	2009/08/18		99	%	80 - 120
			Total Sodium (Na)	2009/08/18		102	%	75 - 125
			Total Strontium (Sr)	2009/08/18		95	%	83 - 120
			Total Tellurium (Te)	2009/08/18		102	%	80 - 116
			Total Thallium (Tl)	2009/08/18		97	%	80 - 129
			Total Thorium (Th)	2009/08/18		92	%	80 - 125
			Total Tin (Sn)	2009/08/18		101	%	83 - 119
			Total Titanium (Ti)	2009/08/18		99	%	60 - 125
			Total Tungsten (W)	2009/08/18		101	%	81 - 123
			Total Uranium (U)	2009/08/18		96	%	82 - 120
			Total Vanadium (V)	2009/08/18		98	%	82 - 118
			Total Zinc (Zn)	2009/08/18		98	%	80 - 120
			Total Zirconium (Zr)	2009/08/18		101	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/08/18	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/08/18	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/08/18	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/08/18	ND, RDL=1		ug/L	
			Total Boron (B)	2009/08/18	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/08/18	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/08/18	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/08/18	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/08/18	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/08/18	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/08/18	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/08/18	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/08/18	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/08/18	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/08/18	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/08/18	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/08/18	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/08/18	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/08/18	ND, RDL=100		ug/L	

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9A2821

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1910545	JBW	Method Blank	Total Strontium (Sr)	2009/08/18	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/08/18	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/08/18	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/08/18	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/08/18	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/08/18	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/08/18	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/08/18	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/08/18	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/08/18	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/08/18	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2009/08/18	0.8		%	25
1913018	JBW	Matrix Spike	Total Aluminum (Al)	2009/08/20		NC	%	80 - 120
			Total Barium (Ba)	2009/08/20		98	%	80 - 120
			Total Manganese (Mn)	2009/08/20		96	%	80 - 120
			Total Zinc (Zn)	2009/08/20		93	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2009/08/20		98	%	80 - 120
			Total Barium (Ba)	2009/08/20		94	%	83 - 115
			Total Manganese (Mn)	2009/08/20		96	%	80 - 120
			Total Zinc (Zn)	2009/08/20		93	%	80 - 120
		Method Blank	Total Aluminum (Al)	2009/08/20	ND, RDL=5		ug/L	
			Total Barium (Ba)	2009/08/20	ND, RDL=5		ug/L	
			Total Manganese (Mn)	2009/08/20	ND, RDL=2		ug/L	
			Total Zinc (Zn)	2009/08/20	ND, RDL=5		ug/L	
		RPD	Total Barium (Ba)	2009/08/20	NC		%	25
1913829	HRE	Matrix Spike	Dissolved Aluminum (Al)	2009/08/21		103	%	80 - 120
			Dissolved Manganese (Mn)	2009/08/21		101	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/08/21		99	%	90 - 110
			Dissolved Manganese (Mn)	2009/08/21		99	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/08/21	ND, RDL=5		ug/L	
			Dissolved Manganese (Mn)	2009/08/21	ND, RDL=2		ug/L	
1915308	JBW	Matrix Spike	Dissolved Barium (Ba)	2009/08/24		102	%	80 - 120
			Dissolved Manganese (Mn)	2009/08/24		102	%	80 - 120
			Dissolved Zinc (Zn)	2009/08/24		103	%	80 - 120
		Spiked Blank	Dissolved Barium (Ba)	2009/08/24		98	%	90 - 110
			Dissolved Manganese (Mn)	2009/08/24		95	%	90 - 110
			Dissolved Zinc (Zn)	2009/08/24		95	%	90 - 110
		Method Blank	Dissolved Barium (Ba)	2009/08/24	ND, RDL=5		ug/L	
			Dissolved Manganese (Mn)	2009/08/24	ND, RDL=2		ug/L	
			Dissolved Zinc (Zn)	2009/08/24	ND, RDL=5		ug/L	
		RPD	Dissolved Barium (Ba)	2009/08/24	1.5		%	25
			Dissolved Manganese (Mn)	2009/08/24	NC		%	25
			Dissolved Zinc (Zn)	2009/08/24	NC		%	25
1917054	ADA	Matrix Spike	Total Barium (Ba)	2009/08/25		97	%	80 - 120
			Total Zinc (Zn)	2009/08/25		101	%	80 - 120
		Spiked Blank	Total Barium (Ba)	2009/08/25		99	%	83 - 115
			Total Zinc (Zn)	2009/08/25		100	%	80 - 120
		Method Blank	Total Barium (Ba)	2009/08/25	ND, RDL=5		ug/L	
			Total Zinc (Zn)	2009/08/25	ND, RDL=5		ug/L	
		RPD	Total Zinc (Zn)	2009/08/25	NC		%	25
1918523	HRE	Matrix Spike	Total Manganese (Mn)	2009/08/26		97	%	80 - 120
		Spiked Blank	Total Manganese (Mn)	2009/08/26		99	%	80 - 120
		Method Blank	Total Manganese (Mn)	2009/08/26	ND, RDL=2		ug/L	
		RPD	Total Manganese (Mn)	2009/08/26	2.9		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9A2821

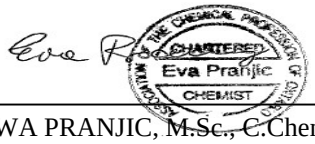
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Validation Signature Page

Maxxam Job #: A9A2821

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist



GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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IMMEDIATE TEST

REC'D IN WINNIPEG

12-Aug-09 09:57
ANTONELLA BRASIL
A9A2821
NNA ENV-678

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF C

Page 1 of 2

Use Only:

BOTTLE ORDER #: 158498

CHAIN OF CUSTODY #: C#158498-01-01

PROJECT MANAGER: ANTONELLA BRASIL

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	Rainy River
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Site Location:	
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Sampled By:	

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Acidity as CaC03 in liquid	Alk,Cond,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/To Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	Aug10/09	11:45am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
2		SW2	Aug10/09	11:15am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
3		SW7	Aug10/09	10:30am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		SW4	Aug10/09	1:15 pm	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
5		SW5	Aug10/09	8:20am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		SW6	Aug10/09	10:20am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
7																			
8																			
9																			
10																			

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

SIF : Sample Inspection
Resolved ☐ By: _____
Date:

3/4/4°C
'09 AUG 12 9:57
6/4/5°C
6/6/4°C
7/6/8°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M.W. Kaspa	Aug10/09		Chileshe SAM. CHILESHE	09/08/11	11:00	
			RDD: ZOFIA ZENTH	09/08/12	9:57	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	8.7, 10.9, 13.7°C	☐ Yes ☐ No

White: Maxxam Yellow: Client

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
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REC'D IN WINNIPEG

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #: 158498
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Project Name:		C#158498-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Site Location:			
				Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Sublet (MICRO) - TC, EC, E.coli by MF + HPC - 05 per 09/08/11 (SW)	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		SW1	Aug 10/09	11:45 AM	WT		✓	✓	✓	/	/	15	
2		SW2	Aug 10/09	11:15 AM	WT		✓	✓	✓	/	/	15	
3		SW3	Aug 10/09	10:30 AM	WT		✓	✓	✓	/	/	15	
4		SW4	Aug 10/09	1:15 pm	WT		✓	✓	/	/	/	15	
5		SW5	Aug 10/09	8:30 AM	WT		✓	✓	/	/	/	15	
6		SW6	Aug 10/09	10:30 AM	WT		✓	✓	/	/	/	15	
7								Sublet completed to Caduceon 09/08/11 (SW)					
8													3/4/4°C
9													09 AUG 12 9:57 6/4/5°C
10													6/6/4°C 7/6/8°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted $	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Mel Rayner	Aug 10/09		SAM CHILESHE	09/08/11	11:00		X	8.7, 10.9, 13.7°C	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Rec: ZOFIA ZELINSKA 09/08/12 9:57

CHAIN OF CUSTODY RECORD

CANTEST

34308 MB

Unit D
675 Berry Street
Winnipeg, Manitoba
R3H 1A7

Tel: 204.772.7276
Fax: 204.772.2386

www.cantest.com

Client Name:* Ms. Antonella Brasil
Maxxam Analytics Inc.
Street Addres 6740 Campobello Road
Mississauga ON L5N 2L8
Telephone:* P- 905-817-5700 x 5817
Antonella.brasil@maxxamanalytics.com
Contact Name:*

Postal Code*
City:
ddress (Required for "AutoEmail" Reports):
Sampler's Name:

Page 1 of

RESULTS REQUESTED BY:*

Day Month Year

(Surcharges May Apply)

Project Name: CLNT# 23133 Quote A92895 COC# 150498-01-02
Project Number:
Quotation Number:
P.O. Number

Special Instructions: ☑ AutoFax PDF ☑ AutoEmail
☑ Return Cooler ☑ Ship Containers (please specify)
☐ Apply Drinking Water Limits

Samples are >24h, please proceed.

LAB USE ONLY

Sample Identification*	Date/Time Sampled	Sample Type (Matrix)	CCME Metals - Water Type (see reverse): T D FF E	CCME Metals - Soil	pH	Conductivity	TSS TDS TS	Alkalinity (total / spec.)	Biological Oxygen Demand	Chemical Oxygen Demand	Ammonia TKN	Nitrate and Nitrite	F Cl SO4 NO3	BETX	VOC	PAH	TOTAL COLIFORMS	FECAL COLIFORMS	E. COLI	HPC				HOLD - DO NOT ANALYZE	Number of Containers
SW1	Date: 09/08/10 Time: 11:45A	SW															✓	✓	✓	✓					1
SW2	Date: 09/08/10 Time: 11:15A	SW															✓	✓	✓	✓					1
SW3	Date: 09/08/10 Time: 10:30A	SW															✓	✓	/	✓					1
SW4	Date: 09/08/10 Time: 1:15p	SW															✓	✓	✓	✓					1
SW5	Date: 09/08/10 Time: 8:30A	SW															✓	✓	✓	✓					1
SW6	Date: 09/08/10 Time: 10:30a	SW															✓	✓	✓	✓					1
	Date: Time:																								
	Date: Time:																								
	Date: Time:																								
	Date: Time:																								

tests confirmed by telcon @ Ryan Todd 09/08/11 2:40pm. Qty

Does this source supply multiple households? ☐ Yes ☐ No
Is this a Public water supply source? ☐ Yes ☐ No
Drinking Water Sample? ☐ Yes

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

* = Required Field

Total Number of Containers: 6

Please send a copy of the: ☐ Report (by Mail) ☑ Results (by E-mail) ☑ Report (by Fax) ☐ Invoice (by Mail)

Method of Shipment:	Waybill No.:	Received for Lab by:	Date	Time
Shipped by:	Shipment Condition:	Cooler opened by:	Date	Time

FOR LABORATORY USE ONLY

Sample State at Receipt: ☐ Ambient ☐ Cold ☐ Frozen ☐ N/A Comments:

Temperature ____°C Custody Seal Intact? ☐ Yes ☐ No ☐ n/a Number of Coolers/Shipping Containers: ____

Vicki Young
Maxxam Analytics
F-1420 Clarence Ave
Winnipeg, MB R3T 1T6
P- 204-254-1825 F- 204-477-8719
vicki.young@maxxamanalytics.com

Custody Seal Intact on Cooler? ☐ Yes ☐ No

White: Maxxam Yellow: Client

Your Project #: MA9A2821
Your C.O.C. #: 08302877

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/08/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A943079
Received: 2009/08/14, 11:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2009/08/15	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: A943079
Report Date: 2009/08/17

Client Project #: MA9A2821

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Q24651	Q24652	Q24653	Q24654		
Sampling Date		2009/08/10	2009/08/10	2009/08/10	2009/08/10		
COC Number		08302877	08302877	08302877	08302877		
	Units	**SW1 (D16915-09R)**	**SW2 (D16916-09R)**	**SW3 (D16917-09R)**	**SW4 (D16918-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0009	<0.0005	0.0008	0.0007	0.0005	3350675

RDL = Reportable Detection Limit

Maxxam ID		Q24655	Q24656	Q24657		
Sampling Date		2009/08/10	2009/08/10			
COC Number		08302877	08302877	08302877		
	Units	**SW5 (D16919-09R)**	**SW6 (D16920-09R)**	**TRIP BLANK (D16921-09R)**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0107	0.0006	<0.0005	0.0005	3350675

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.
Maxxam Job #: A943079
Client Project #: MA9A2821
Report Date: 2009/08/17

Package 1	1.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9A2821
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VA943079

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3350675	MH6	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2009/08/15		111	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/08/15		108	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/08/15	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2009/08/15	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A943079

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

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REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: August 17, 2009

GROUP NUMBER: 100811069

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW1	SW2	SW3	SW4	REPORTING LIMIT	UNITS
DATE SAMPLED:	Aug 10/09	Aug 10/09	Aug 10/09	Aug 10/09		
CANTEST ID:	908110294	908110295	908110296	908110297		
Total Coliform (Confirmed)	10	COMMENT	2	3	1	Col./100 mL
Fecal Coliform	22	7	9	2	1	Col./100 mL
E. Coli	22	6	9	2	1	Col./100 mL
Heterotrophic Plate Count	258	94	36	161	1	Col./1 mL

Col./100 mL = Colonies per 100 mL

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: August 17, 2009

GROUP NUMBER: 100811069

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW5	SW6		
DATE SAMPLED:	Aug 10/09	Aug 10/09	REPORTING LIMIT	UNITS
CANTEST ID:	908110298	908110299		
Total Coliform (Confirmed)	COMMENT	1	1	Col./100 mL
Fecal Coliform	6	8	1	Col./100 mL
E. Coli	6	8	1	Col./100 mL
Heterotrophic Plate Count	31	57	1	Col./1 mL

Col./100 mL = Colonies per 100 mL

Col./1 mL = Colonies per 1 mL

Analysis Report

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Water Samples

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Ms. Antonella Brasil

CHAIN OF CUSTODY: 34308 MB
PROJECT NAME: Clnt# 23433
PROJECT NUMBER: A92895

NUMBER OF SAMPLES: 6

REPORT DATE: August 17, 2009

DATE SUBMITTED: August 11, 2009

GROUP NUMBER: 100811069

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

Standard Plate Count - analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater" (21st Edition). 100 mL of sample was filtered through a membrane filter; microbiological testing included incubation at 35C for 48 hours. Analysis was performed at CANTEST LTD., Unit "D" 675 Berry Street, Winnipeg, Manitoba R3H 1A7.

COMMENTS:

Please note - The growth of Total Coliforms may have been inhibited by an abundance of non-coliform colonies present in these samples. ecf Aug 14-09

TEST RESULTS:

(See following pages)

CANTEST LTD.

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

APPENDIX I - 4

Laboratory Results
September 2009

Your Project #: Rainy River
Your C.O.C. #: 16163501, 161635-0

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/09/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9B9086
Received: 2009/09/11, 09:18

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	7	2009/09/15	2009/09/17	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2009/09/16	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/09/17	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/09/17	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/09/17	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2009/09/16	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/09/15	2009/09/15	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	3	N/A	2009/09/15	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	4	N/A	2009/09/16	CAM SOP-00446	SM 5310 B
Fluoride	7	2009/09/16	2009/09/16	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/09/15	2009/09/16	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	3	N/A	2009/09/15	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	4	N/A	2009/09/16	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	7	N/A	2009/09/16	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2009/09/16	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	4	N/A	2009/09/15	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (2)	3	N/A	2009/09/16	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/09/14	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/09/14	2009/09/14	CAM SOP-00326	EPA 1664A
pH	7	N/A	2009/09/16	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/09/17	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/09/17	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/09/16	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	3	N/A	2009/09/16	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	4	N/A	2009/09/17	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (1)	7	2009/09/14	2009/09/14	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	1	N/A	2009/09/16	CAM SOP-00428	SM 2540D
Low Level Total Suspended Solids	6	N/A	2009/09/17	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2009/09/14	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8945		
Sampling Date		2009/09/09 08:30		
COC Number		161635-0		
	Units	**SW5**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1935828
Inorganics				
Acidity as CaC03	mg/L	41	10	1939099
Total Ammonia-N	mg/L	0.26	0.05	1939450
Total BOD	mg/L	ND	2	1937045
Total Chemical Oxygen Demand (COD)	mg/L	170	10	1940067
Conductivity	umho/cm	85	1	1940830
Total Dissolved Solids	mg/L	56	10	1938335
Fluoride (F-)	mg/L	ND	0.1	1940833
Dissolved Organic Carbon	mg/L	48.9	0.2	1939003
Total Organic Carbon (TOC)	mg/L	51.3	0.2	1940055
Orthophosphate (P)	mg/L	ND (1)	0.2	1940866
pH	pH	7.1	N/A	1940832
Total Suspended Solids	mg/L	4	1	1938238
Dissolved Sulphate (SO4)	mg/L	ND (1)	20	1940867
Total Cyanide (CN)	mg/L	ND	0.005	1938738
Turbidity	NTU	1.9	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	40	1	1940818
Dissolved Chloride (Cl)	mg/L	ND (1)	20	1940861
Nitrite (N)	mg/L	ND	0.1	1938145
Nitrate (N)	mg/L	ND	1	1938145
Nitrate + Nitrite	mg/L	ND	1	1938145
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8946	DQ8946		
Sampling Date		2009/09/09 09:10	2009/09/09 09:10		
COC Number		161635-0	161635-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1935828
Inorganics					
Acidity as CaC03	mg/L	22	N/A	10	1939099
Total Ammonia-N	mg/L	0.20	N/A	0.05	1939450
Total BOD	mg/L	ND	N/A	2	1937045
Total Chemical Oxygen Demand (COD)	mg/L	72	N/A	4	1940067
Conductivity	umho/cm	291	N/A	1	1940830
Total Dissolved Solids	mg/L	192	195	10	1938335
Fluoride (F-)	mg/L	ND	N/A	0.1	1940833
Dissolved Organic Carbon	mg/L	25.7	N/A	0.2	1938760
Total Organic Carbon (TOC)	mg/L	25.8	N/A	0.2	1940055
Orthophosphate (P)	mg/L	ND (1)	N/A	0.05	1940866
pH	pH	7.7	N/A	N/A	1940832
Total Suspended Solids	mg/L	4	N/A	1	1938213
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	1940867
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1938738
Turbidity	NTU	6.3	N/A	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	150	N/A	1	1940818
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	5	1940861
Nitrite (N)	mg/L	ND	N/A	0.01	1938117
Nitrate (N)	mg/L	ND	N/A	0.1	1938117
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1938117
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8947	DQ8947		
Sampling Date		2009/09/09 09:40	2009/09/09 09:40		
COC Number		161635-0	161635-0		
	Units	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1935828
Inorganics					
Acidity as CaC03	mg/L	36	N/A	10	1939099
Total Ammonia-N	mg/L	0.15	N/A	0.05	1939450
Total BOD	mg/L	ND	ND	2	1937048
Total Chemical Oxygen Demand (COD)	mg/L	40	N/A	4	1940067
Conductivity	umho/cm	445	N/A	1	1940830
Total Dissolved Solids	mg/L	296	N/A	10	1938335
Fluoride (F-)	mg/L	ND	N/A	0.1	1940833
Dissolved Organic Carbon	mg/L	15.4	N/A	0.2	1939003
Total Organic Carbon (TOC)	mg/L	15.7	N/A	0.2	1940055
Orthophosphate (P)	mg/L	ND	N/A	0.01	1940866
pH	pH	7.8	N/A	N/A	1940832
Total Suspended Solids	mg/L	1	N/A	1	1938238
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1940867
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1938738
Turbidity	NTU	2.1	2.2	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	243	N/A	1	1940818
Dissolved Chloride (Cl)	mg/L	2	N/A	1	1940861
Nitrite (N)	mg/L	ND	N/A	0.01	1938145
Nitrate (N)	mg/L	ND	N/A	0.1	1938145
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1938145
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8948		DQ8949		
Sampling Date		2009/09/09 10:00		2009/09/09 10:35		
COC Number		161635-0		161635-0		
	Units	**SW1**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	1935828	ND	0.5	1935828
Inorganics						
Acidity as CaC03	mg/L	24	1939099	14	10	1939099
Total Ammonia-N	mg/L	0.22	1939450	0.18	0.05	1939450
Total BOD	mg/L	ND	1937048	ND	2	1937048
Total Chemical Oxygen Demand (COD)	mg/L	68	1940067	59	4	1940067
Conductivity	umho/cm	367	1940830	107	1	1940830
Total Dissolved Solids	mg/L	245	1938335	71	10	1938335
Fluoride (F-)	mg/L	ND	1940833	ND	0.1	1940833
Dissolved Organic Carbon	mg/L	24.6	1939003	18.5	0.2	1939003
Total Organic Carbon (TOC)	mg/L	25.6	1940055	19.2	0.2	1940055
Orthophosphate (P)	mg/L	ND (1)	1940866	ND (1)	0.05	1940866
pH	pH	7.8	1940832	7.1	N/A	1940832
Total Suspended Solids	mg/L	3	1938238	2	1	1938238
Dissolved Sulphate (SO4)	mg/L	ND (1)	1940867	ND (1)	5	1940867
Total Cyanide (CN)	mg/L	ND	1938738	ND	0.005	1938738
Turbidity	NTU	2.5	1937478	1.7	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	184	1940818	47	1	1940818
Dissolved Chloride (Cl)	mg/L	10	1940861	7	5	1940861
Nitrite (N)	mg/L	ND	1938145	ND	0.01	1938117
Nitrate (N)	mg/L	ND	1938145	ND	0.1	1938117
Nitrate + Nitrite	mg/L	ND	1938145	ND	0.1	1938117
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	1938123	ND	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	1938141	ND	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8949		DQ8950		
Sampling Date		2009/09/09 10:35		2009/09/09 10:40		
COC Number		161635-0		161635-0		
	Units	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	N/A	1935828	ND	0.5	1935828
Inorganics						
Acidity as CaC03	mg/L	N/A	1939099	14	10	1939099
Total Ammonia-N	mg/L	N/A	1939450	0.19	0.05	1939450
Total BOD	mg/L	N/A	1937048	ND	2	1937048
Total Chemical Oxygen Demand (COD)	mg/L	58	1940067	53	4	1940067
Conductivity	umho/cm	N/A	1940830	108	1	1940830
Total Dissolved Solids	mg/L	N/A	1938335	71	10	1938335
Fluoride (F-)	mg/L	N/A	1940833	ND	0.1	1940833
Dissolved Organic Carbon	mg/L	N/A	1939003	17.2	0.2	1939292
Total Organic Carbon (TOC)	mg/L	N/A	1940055	19.4	0.2	1940055
Orthophosphate (P)	mg/L	N/A	1940866	ND (1)	0.05	1940866
pH	pH	N/A	1940832	7.2	N/A	1940832
Total Suspended Solids	mg/L	N/A	1938238	4	1	1938238
Dissolved Sulphate (SO4)	mg/L	N/A	1940867	ND (1)	5	1940867
Total Cyanide (CN)	mg/L	N/A	1938738	ND	0.005	1938738
Turbidity	NTU	N/A	1937478	1.3	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	N/A	1940818	47	1	1940818
Dissolved Chloride (Cl)	mg/L	N/A	1940861	6	5	1940861
Nitrite (N)	mg/L	N/A	1938117	ND	0.01	1938117
Nitrate (N)	mg/L	N/A	1938117	ND	0.1	1938117
Nitrate + Nitrite	mg/L	N/A	1938117	ND	0.1	1938117
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	N/A	1938123	ND	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	1938141	ND	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8950		
Sampling Date		2009/09/09 10:40		
COC Number		161635-0		
	Units	**SW6 Lab-Dup**	**RDL**	**QC Batch**
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1938141

ND = Not detected
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DQ8951	DQ8951		
Sampling Date					
COC Number		161635-0	161635-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1935828
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1939099
Total Ammonia-N	mg/L	0.14	N/A	0.05	1939450
Total BOD	mg/L	ND	N/A	2	1937048
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	1940067
Conductivity	umho/cm	ND	N/A	1	1940830
Total Dissolved Solids	mg/L	ND	N/A	10	1938335
Fluoride (F-)	mg/L	ND	N/A	0.1	1940833
Dissolved Organic Carbon	mg/L	ND	N/A	0.2	1938760
Total Organic Carbon (TOC)	mg/L	ND	N/A	0.2	1940055
Orthophosphate (P)	mg/L	ND	N/A	0.01	1940866
pH	pH	5.9	N/A	N/A	1940832
Total Suspended Solids	mg/L	ND	N/A	1	1938238
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1940867
Total Cyanide (CN)	mg/L	ND	ND	0.005	1938738
Turbidity	NTU	ND	N/A	0.1	1937478
Alkalinity (Total as CaCO3)	mg/L	2	N/A	1	1940818
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	1940861
Nitrite (N)	mg/L	ND	N/A	0.01	1938117
Nitrate (N)	mg/L	ND	N/A	0.1	1938117
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1938117
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1938123
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1938141

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8945		DQ8946		
Sampling Date		2009/09/09 08:30		2009/09/09 09:10		
COC Number		161635-0		161635-0		
	Units	**SW5**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1939089	ND	0.0001	1939089
Dissolved Aluminum (Al)	ug/L	110	1939379	66	5	1940466
Total Aluminum (Al)	ug/L	140	1940088	150	5	1940088
Dissolved Antimony (Sb)	ug/L	ND	1939379	0.8	0.5	1940466
Total Antimony (Sb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Arsenic (As)	ug/L	1	1939379	2	1	1940466
Total Arsenic (As)	ug/L	1	1940088	2	1	1940088
Dissolved Barium (Ba)	ug/L	31	1943026	43	5	1946138
Total Barium (Ba)	ug/L	11	1943059	14	5	1943059
Dissolved Beryllium (Be)	ug/L	ND	1939379	ND	0.5	1940466
Total Beryllium (Be)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Bismuth (Bi)	ug/L	ND	1939379	ND	1	1940466
Total Bismuth (Bi)	ug/L	ND	1940088	ND	1	1940088
Dissolved Boron (B)	ug/L	ND	1939379	17	10	1940466
Total Boron (B)	ug/L	ND	1940088	14	10	1940088
Dissolved Cadmium (Cd)	ug/L	ND	1939379	ND	0.1	1940466
Total Cadmium (Cd)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Calcium (Ca)	ug/L	15000	1939379	39000	200	1940466
Total Calcium (Ca)	ug/L	16000	1940088	48000	200	1940088
Dissolved Chromium (Cr)	ug/L	ND	1939379	ND	5	1940466
Total Chromium (Cr)	ug/L	ND	1940088	ND	5	1940088
Dissolved Cobalt (Co)	ug/L	0.9	1939379	ND	0.5	1940466
Total Cobalt (Co)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Copper (Cu)	ug/L	2	1939379	2	1	1940466
Total Copper (Cu)	ug/L	ND	1940088	1	1	1940088
Dissolved Iron (Fe)	ug/L	870	1939379	120	100	1940466
Total Iron (Fe)	ug/L	1100	1940088	130	100	1940088
Dissolved Lead (Pb)	ug/L	0.5	1939379	ND	0.5	1940466
Total Lead (Pb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Lithium (Li)	ug/L	ND	1939379	ND	5	1940466
Total Lithium (Li)	ug/L	ND	1940088	5	5	1940088

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8945		DQ8946		
Sampling Date		2009/09/09 08:30		2009/09/09 09:10		
COC Number		161635-0		161635-0		
	Units	**SW5**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	6200	1939379	17000	50	1940466
Total Magnesium (Mg)	ug/L	7700	1940088	19000	50	1940088
Dissolved Manganese (Mn)	ug/L	220	1943026	25	2	1940466
Total Manganese (Mn)	ug/L	75	1943059	25	2	1940088
Dissolved Molybdenum (Mo)	ug/L	ND	1939379	ND	1	1940466
Total Molybdenum (Mo)	ug/L	ND	1940088	ND	1	1940088
Dissolved Nickel (Ni)	ug/L	ND	1939379	1	1	1940466
Total Nickel (Ni)	ug/L	ND	1940088	2	1	1940088
Dissolved Phosphorus (P)	ug/L	ND	1939379	ND	100	1940466
Dissolved Potassium (K)	ug/L	570	1939379	1500	200	1940466
Total Potassium (K)	ug/L	470	1940088	1600	200	1940088
Dissolved Selenium (Se)	ug/L	ND	1939379	ND	2	1940466
Total Selenium (Se)	ug/L	ND	1940088	ND	2	1940088
Dissolved Silicon (Si)	ug/L	6200	1939379	2100	50	1940466
Total Silicon (Si)	ug/L	7900	1940088	2700	50	1940088
Dissolved Silver (Ag)	ug/L	ND	1939379	ND	0.1	1940466
Total Silver (Ag)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Sodium (Na)	ug/L	910	1939379	3000	100	1940466
Total Sodium (Na)	ug/L	1000	1940088	3400	100	1940088
Dissolved Strontium (Sr)	ug/L	35	1939379	90	1	1940466
Total Strontium (Sr)	ug/L	35	1940088	97	1	1940088
Dissolved Tellurium (Te)	ug/L	ND	1939379	ND	1	1940466
Total Tellurium (Te)	ug/L	ND	1940088	ND	1	1940088
Dissolved Thallium (Tl)	ug/L	ND	1939379	ND	0.05	1940466
Total Thallium (Tl)	ug/L	ND	1940088	ND	0.05	1940088
Dissolved Thorium (Th)	ug/L	ND	1939379	ND	1	1940466
Total Thorium (Th)	ug/L	ND	1940088	ND	1	1940088
Dissolved Tin (Sn)	ug/L	ND	1939379	ND	1	1940466
Total Tin (Sn)	ug/L	ND	1940088	ND	1	1940088
Dissolved Titanium (Ti)	ug/L	ND	1939379	ND	5	1940466
Total Titanium (Ti)	ug/L	ND	1940088	7	5	1940088
Dissolved Tungsten (W)	ug/L	ND	1939379	ND	1	1940466

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8945		DQ8946		
Sampling Date		2009/09/09 08:30		2009/09/09 09:10		
COC Number		161635-0		161635-0		
	Units	**SW5**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1940088	ND	1	1940088
Dissolved Uranium (U)	ug/L	ND	1939379	0.5	0.1	1940466
Total Uranium (U)	ug/L	ND	1940088	0.6	0.1	1940088
Dissolved Vanadium (V)	ug/L	ND	1939379	ND	1	1940466
Total Vanadium (V)	ug/L	ND	1940088	ND	1	1940088
Dissolved Zinc (Zn)	ug/L	61	1943026	31	5	1946138
Total Zinc (Zn)	ug/L	8	1943059	ND	5	1943059
Dissolved Zirconium (Zr)	ug/L	ND	1939379	ND	1	1940466
Total Zirconium (Zr)	ug/L	ND	1940088	2	1	1940088

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Maxxam Job #: A9B9086
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8947		DQ8948		
Sampling Date		2009/09/09 09:40		2009/09/09 10:00		
COC Number		161635-0		161635-0		
	Units	**SW2**	**QC Batch**	**SW1**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1939089	ND	0.0001	1939089
Dissolved Aluminum (Al)	ug/L	ND	1940466	36	5	1938881
Total Aluminum (Al)	ug/L	9	1940088	100	5	1940088
Dissolved Antimony (Sb)	ug/L	0.5	1940466	ND	0.5	1938881
Total Antimony (Sb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Arsenic (As)	ug/L	1	1940466	2	1	1938881
Total Arsenic (As)	ug/L	1	1940088	3	1	1940088
Dissolved Barium (Ba)	ug/L	40	1946138	28	5	1938881
Total Barium (Ba)	ug/L	20	1943059	24	5	1940088
Dissolved Beryllium (Be)	ug/L	ND	1940466	ND	0.5	1938881
Total Beryllium (Be)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Bismuth (Bi)	ug/L	ND	1940466	ND	1	1938881
Total Bismuth (Bi)	ug/L	ND	1940088	ND	1	1940088
Dissolved Boron (B)	ug/L	12	1940466	20	10	1938881
Total Boron (B)	ug/L	ND	1940088	20	10	1940088
Dissolved Cadmium (Cd)	ug/L	ND	1940466	ND	0.1	1938881
Total Cadmium (Cd)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Calcium (Ca)	ug/L	61000	1940466	45000	200	1938881
Total Calcium (Ca)	ug/L	78000	1940088	59000	200	1940088
Dissolved Chromium (Cr)	ug/L	ND	1940466	ND	5	1938881
Total Chromium (Cr)	ug/L	ND	1940088	ND	5	1940088
Dissolved Cobalt (Co)	ug/L	ND	1940466	ND	0.5	1938881
Total Cobalt (Co)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Copper (Cu)	ug/L	ND	1940466	2	1	1938881
Total Copper (Cu)	ug/L	ND	1940088	ND	1	1940088
Dissolved Iron (Fe)	ug/L	ND	1940466	180	100	1938881
Total Iron (Fe)	ug/L	ND	1940088	160	100	1940088
Dissolved Lead (Pb)	ug/L	ND	1940466	ND	0.5	1938881
Total Lead (Pb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Lithium (Li)	ug/L	ND	1940466	6	5	1938881
Total Lithium (Li)	ug/L	6	1940088	8	5	1940088

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QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8947		DQ8948		
Sampling Date		2009/09/09 09:40		2009/09/09 10:00		
COC Number		161635-0		161635-0		
	Units	**SW2**	**QC Batch**	**SW1**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	25000	1940466	19000	50	1938881
Total Magnesium (Mg)	ug/L	30000	1940088	25000	50	1940088
Dissolved Manganese (Mn)	ug/L	190	1946138	29	2	1938881
Total Manganese (Mn)	ug/L	110	1943059	37	2	1940088
Dissolved Molybdenum (Mo)	ug/L	ND	1940466	ND	1	1938881
Total Molybdenum (Mo)	ug/L	ND	1940088	ND	1	1940088
Dissolved Nickel (Ni)	ug/L	1	1940466	2	1	1938881
Total Nickel (Ni)	ug/L	1	1940088	2	1	1940088
Dissolved Phosphorus (P)	ug/L	ND	1940466	ND	100	1938881
Dissolved Potassium (K)	ug/L	1300	1940466	2900	200	1938881
Total Potassium (K)	ug/L	1500	1940088	3800	200	1940088
Dissolved Selenium (Se)	ug/L	ND	1940466	ND	2	1938881
Total Selenium (Se)	ug/L	ND	1940088	ND	2	1940088
Dissolved Silicon (Si)	ug/L	5700	1940466	2300	50	1938881
Total Silicon (Si)	ug/L	6900	1940088	3100	50	1940088
Dissolved Silver (Ag)	ug/L	ND	1940466	ND	0.1	1938881
Total Silver (Ag)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Sodium (Na)	ug/L	2600	1940466	6000	100	1938881
Total Sodium (Na)	ug/L	3200	1940088	7800	100	1940088
Dissolved Strontium (Sr)	ug/L	100	1940466	120	1	1938881
Total Strontium (Sr)	ug/L	120	1940088	150	1	1940088
Dissolved Tellurium (Te)	ug/L	ND	1940466	ND	1	1938881
Total Tellurium (Te)	ug/L	ND	1940088	ND	1	1940088
Dissolved Thallium (Tl)	ug/L	ND	1940466	ND	0.05	1938881
Total Thallium (Tl)	ug/L	ND	1940088	ND	0.05	1940088
Dissolved Thorium (Th)	ug/L	ND	1940466	ND	1	1938881
Total Thorium (Th)	ug/L	ND	1940088	ND	1	1940088
Dissolved Tin (Sn)	ug/L	ND	1940466	ND	1	1938881
Total Tin (Sn)	ug/L	ND	1940088	ND	1	1940088
Dissolved Titanium (Ti)	ug/L	ND	1940466	ND	5	1938881
Total Titanium (Ti)	ug/L	ND	1940088	ND	5	1940088
Dissolved Tungsten (W)	ug/L	ND	1940466	ND	1	1938881

ND = Not detected
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Maxxam Job #: A9B9086
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8947		DQ8948		
Sampling Date		2009/09/09 09:40		2009/09/09 10:00		
COC Number		161635-0		161635-0		
	Units	**SW2**	**QC Batch**	**SW1**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1940088	ND	1	1940088
Dissolved Uranium (U)	ug/L	0.7	1940466	0.5	0.1	1938881
Total Uranium (U)	ug/L	1.0	1940088	0.7	0.1	1940088
Dissolved Vanadium (V)	ug/L	ND	1940466	ND	1	1938881
Total Vanadium (V)	ug/L	ND	1940088	ND	1	1940088
Dissolved Zinc (Zn)	ug/L	18	1940466	29	5	1943026
Total Zinc (Zn)	ug/L	ND	1940088	ND	5	1943059
Dissolved Zirconium (Zr)	ug/L	ND	1940466	ND	1	1938881
Total Zirconium (Zr)	ug/L	ND	1940088	ND	1	1940088

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8949		DQ8950		
Sampling Date		2009/09/09 10:35		2009/09/09 10:40		
COC Number		161635-0		161635-0		
	Units	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1939089	ND	0.0001	1939089
Dissolved Aluminum (Al)	ug/L	12	1940466	10	5	1938735
Total Aluminum (Al)	ug/L	21	1940088	37	5	1940088
Dissolved Antimony (Sb)	ug/L	ND	1940466	ND	0.5	1938735
Total Antimony (Sb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Arsenic (As)	ug/L	ND	1940466	ND	1	1938735
Total Arsenic (As)	ug/L	ND	1940088	ND	1	1940088
Dissolved Barium (Ba)	ug/L	37	1946138	34	5	1943026
Total Barium (Ba)	ug/L	7	1943059	8	5	1943059
Dissolved Beryllium (Be)	ug/L	ND	1940466	ND	0.5	1938735
Total Beryllium (Be)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Bismuth (Bi)	ug/L	ND	1940466	ND	1	1938735
Total Bismuth (Bi)	ug/L	ND	1940088	ND	1	1940088
Dissolved Boron (B)	ug/L	ND	1940466	ND	10	1938735
Total Boron (B)	ug/L	ND	1940088	ND	10	1940088
Dissolved Cadmium (Cd)	ug/L	ND	1940466	ND	0.1	1938735
Total Cadmium (Cd)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Calcium (Ca)	ug/L	13000	1940466	13000	200	1938735
Total Calcium (Ca)	ug/L	16000	1940088	15000	200	1940088
Dissolved Chromium (Cr)	ug/L	ND	1940466	ND	5	1938735
Total Chromium (Cr)	ug/L	ND	1940088	ND	5	1940088
Dissolved Cobalt (Co)	ug/L	ND	1940466	ND	0.5	1938735
Total Cobalt (Co)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Copper (Cu)	ug/L	ND	1940466	2	1	1938735
Total Copper (Cu)	ug/L	ND	1940088	ND	1	1940088
Dissolved Iron (Fe)	ug/L	140	1940466	140	100	1938735
Total Iron (Fe)	ug/L	100	1940088	180	100	1940088
Dissolved Lead (Pb)	ug/L	ND	1940466	ND	0.5	1938735
Total Lead (Pb)	ug/L	ND	1940088	ND	0.5	1940088
Dissolved Lithium (Li)	ug/L	ND	1940466	ND	5	1938735
Total Lithium (Li)	ug/L	ND	1940088	ND	5	1940088

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8949		DQ8950		
Sampling Date		2009/09/09 10:35		2009/09/09 10:40		
COC Number		161635-0		161635-0		
	Units	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	5600	1940466	4900	50	1938735
Total Magnesium (Mg)	ug/L	6700	1940088	6700	50	1940088
Dissolved Manganese (Mn)	ug/L	9	1940466	10	2	1938735
Total Manganese (Mn)	ug/L	10	1940088	31	2	1940088
Dissolved Molybdenum (Mo)	ug/L	ND	1940466	ND	1	1938735
Total Molybdenum (Mo)	ug/L	ND	1940088	ND	1	1940088
Dissolved Nickel (Ni)	ug/L	ND	1940466	ND	1	1938735
Total Nickel (Ni)	ug/L	ND	1940088	ND	1	1940088
Dissolved Phosphorus (P)	ug/L	ND	1940466	ND	100	1938735
Dissolved Potassium (K)	ug/L	760	1940466	760	200	1938735
Total Potassium (K)	ug/L	850	1940088	840	200	1940088
Dissolved Selenium (Se)	ug/L	ND	1940466	ND	2	1938735
Total Selenium (Se)	ug/L	ND	1940088	ND	2	1940088
Dissolved Silicon (Si)	ug/L	1700	1940466	1600	50	1938735
Total Silicon (Si)	ug/L	2100	1940088	2100	50	1940088
Dissolved Silver (Ag)	ug/L	ND	1940466	ND	0.1	1938735
Total Silver (Ag)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Sodium (Na)	ug/L	3300	1940466	3300	100	1938735
Total Sodium (Na)	ug/L	4200	1940088	4100	100	1940088
Dissolved Strontium (Sr)	ug/L	31	1940466	29	1	1938735
Total Strontium (Sr)	ug/L	33	1940088	31	1	1940088
Dissolved Tellurium (Te)	ug/L	ND	1940466	ND	1	1938735
Total Tellurium (Te)	ug/L	ND	1940088	ND	1	1940088
Dissolved Thallium (Tl)	ug/L	ND	1940466	ND	0.05	1938735
Total Thallium (Tl)	ug/L	ND	1940088	ND	0.05	1940088
Dissolved Thorium (Th)	ug/L	ND	1940466	ND	1	1938735
Total Thorium (Th)	ug/L	ND	1940088	ND	1	1940088
Dissolved Tin (Sn)	ug/L	ND	1940466	ND	1	1938735
Total Tin (Sn)	ug/L	ND	1940088	ND	1	1940088
Dissolved Titanium (Ti)	ug/L	ND	1940466	ND	5	1938735
Total Titanium (Ti)	ug/L	ND	1940088	ND	5	1940088
Dissolved Tungsten (W)	ug/L	ND	1940466	ND	1	1938735

ND = Not detected
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8949		DQ8950		
Sampling Date		2009/09/09 10:35		2009/09/09 10:40		
COC Number		161635-0		161635-0		
	Units	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1940088	ND	1	1940088
Dissolved Uranium (U)	ug/L	ND	1940466	ND	0.1	1938735
Total Uranium (U)	ug/L	ND	1940088	ND	0.1	1940088
Dissolved Vanadium (V)	ug/L	ND	1940466	ND	1	1938735
Total Vanadium (V)	ug/L	ND	1940088	ND	1	1940088
Dissolved Zinc (Zn)	ug/L	28	1946138	35	5	1943026
Total Zinc (Zn)	ug/L	ND	1943059	15	5	1943059
Dissolved Zirconium (Zr)	ug/L	ND	1940466	ND	1	1938735
Total Zirconium (Zr)	ug/L	ND	1940088	ND	1	1940088

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8951		
Sampling Date				
COC Number		161635-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	1939089
Dissolved Aluminum (Al)	ug/L	ND	5	1940171
Total Aluminum (Al)	ug/L	ND	5	1940423
Dissolved Antimony (Sb)	ug/L	ND	0.5	1940171
Total Antimony (Sb)	ug/L	0.7	0.5	1940423
Dissolved Arsenic (As)	ug/L	ND	1	1940171
Total Arsenic (As)	ug/L	ND	1	1940423
Dissolved Barium (Ba)	ug/L	ND	5	1940171
Total Barium (Ba)	ug/L	ND	5	1940423
Dissolved Beryllium (Be)	ug/L	ND	0.5	1940171
Total Beryllium (Be)	ug/L	ND	0.5	1940423
Dissolved Bismuth (Bi)	ug/L	ND	1	1940171
Total Bismuth (Bi)	ug/L	ND	1	1940423
Dissolved Boron (B)	ug/L	ND	10	1940171
Total Boron (B)	ug/L	ND	10	1940423
Dissolved Cadmium (Cd)	ug/L	ND	0.1	1940171
Total Cadmium (Cd)	ug/L	ND	0.1	1940423
Dissolved Calcium (Ca)	ug/L	ND	200	1940171
Total Calcium (Ca)	ug/L	ND	200	1940423
Dissolved Chromium (Cr)	ug/L	ND	5	1940171
Total Chromium (Cr)	ug/L	ND	5	1940423
Dissolved Cobalt (Co)	ug/L	ND	0.5	1940171
Total Cobalt (Co)	ug/L	ND	0.5	1940423
Dissolved Copper (Cu)	ug/L	1	1	1940171
Total Copper (Cu)	ug/L	ND	1	1940423
Dissolved Iron (Fe)	ug/L	ND	100	1940171
Total Iron (Fe)	ug/L	ND	100	1940423
Dissolved Lead (Pb)	ug/L	ND	0.5	1940171
Total Lead (Pb)	ug/L	ND	0.5	1940423
Dissolved Lithium (Li)	ug/L	ND	5	1940171
Total Lithium (Li)	ug/L	ND	5	1940423
Dissolved Magnesium (Mg)	ug/L	ND	50	1940171

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8951		
Sampling Date				
COC Number		161635-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Magnesium (Mg)	ug/L	ND	50	1940423
Dissolved Manganese (Mn)	ug/L	ND	2	1940171
Total Manganese (Mn)	ug/L	ND	2	1940423
Dissolved Molybdenum (Mo)	ug/L	ND	1	1940171
Total Molybdenum (Mo)	ug/L	ND	1	1940423
Dissolved Nickel (Ni)	ug/L	ND	1	1940171
Total Nickel (Ni)	ug/L	ND	1	1940423
Dissolved Phosphorus (P)	ug/L	ND	100	1940171
Dissolved Potassium (K)	ug/L	ND	200	1940171
Total Potassium (K)	ug/L	ND	200	1940423
Dissolved Selenium (Se)	ug/L	ND	2	1940171
Total Selenium (Se)	ug/L	ND	2	1940423
Dissolved Silicon (Si)	ug/L	ND	50	1940171
Total Silicon (Si)	ug/L	ND	50	1940423
Dissolved Silver (Ag)	ug/L	ND	0.1	1940171
Total Silver (Ag)	ug/L	ND	0.1	1940423
Dissolved Sodium (Na)	ug/L	ND	100	1940171
Total Sodium (Na)	ug/L	ND	100	1940423
Dissolved Strontium (Sr)	ug/L	ND	1	1940171
Total Strontium (Sr)	ug/L	ND	1	1940423
Dissolved Tellurium (Te)	ug/L	ND	1	1940171
Total Tellurium (Te)	ug/L	ND	1	1940423
Dissolved Thallium (Tl)	ug/L	ND	0.05	1940171
Total Thallium (Tl)	ug/L	ND	0.05	1940423
Dissolved Thorium (Th)	ug/L	ND	1	1940171
Total Thorium (Th)	ug/L	ND	1	1940423
Dissolved Tin (Sn)	ug/L	ND	1	1940171
Total Tin (Sn)	ug/L	ND	1	1940423
Dissolved Titanium (Ti)	ug/L	ND	5	1940171
Total Titanium (Ti)	ug/L	ND	5	1940423
Dissolved Tungsten (W)	ug/L	ND	1	1940171
Total Tungsten (W)	ug/L	ND	1	1940423
Dissolved Uranium (U)	ug/L	ND	0.1	1940171

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Maxxam Job #: A9B9086
Report Date: 2009/09/22

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DQ8951		
Sampling Date				
COC Number		161635-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Uranium (U)	ug/L	ND	0.1	1940423
Dissolved Vanadium (V)	ug/L	ND	1	1940171
Total Vanadium (V)	ug/L	ND	1	1940423
Dissolved Zinc (Zn)	ug/L	ND	5	1940171
Total Zinc (Zn)	ug/L	ND	5	1940423
Dissolved Zirconium (Zr)	ug/L	ND	1	1940171
Total Zirconium (Zr)	ug/L	ND	1	1940423

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2009/09/22

Klohn Crippen Berger Ltd
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GENERAL COMMENTS

Sample DQ8945-01: Nitrite/Nitrate Analysis: Due to colour interferences, sample required dilution. Detection limits were adjusted accordingly.

The results for dissolved manganese, barium and zinc are greater then total manganese, barium and zinc. The results have been confirmed by re-analysis.

Sample DQ8946-01: The results for dissolved barium and zinc are greater then total barium and zinc. The results have been confirmed by re-analysis.

Sample DQ8947-01: The results for dissolved manganese and barium are greater then total manganese and barium. The results have been confirmed by re-analysis.

Sample DQ8948-01: The results for dissolved zinc are greater then total zinc. The results have been confirmed by re-analysis.

Sample DQ8949-01: The results for dissolved barium and zinc are greater then total barium and zinc. The results have been confirmed by re-analysis.

Sample DQ8950-01: The results for dissolved barium and zinc are greater then total barium and zinc. The results have been confirmed by re-analysis.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1937045	HAL	QC Standard	Total BOD	2009/09/17		110	%	85 - 115
		Method Blank	Total BOD	2009/09/17	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/09/17	NC		%	25
1937048	HAL	QC Standard	Total BOD	2009/09/17		99	%	85 - 115
		Method Blank	Total BOD	2009/09/17	ND, RDL=2		mg/L	
		RPD [DQ8947-03]	Total BOD	2009/09/17	NC		%	25
1937478	KTH	QC Standard	Turbidity	2009/09/14		99	%	85 - 115
		Method Blank	Turbidity	2009/09/14	ND, RDL=0.1		NTU	
		RPD [DQ8947-02]	Turbidity	2009/09/14	2.4		%	25
1938117	CCI	Matrix Spike	Nitrite (N)	2009/09/15		108	%	75 - 125
			Nitrate (N)	2009/09/15		98	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/09/15		108	%	80 - 120
			Nitrate (N)	2009/09/15		101	%	80 - 120
		Method Blank	Nitrite (N)	2009/09/15	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/09/15	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/09/15	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/09/15	NC		%	25
			Nitrate (N)	2009/09/15	NC		%	25
			Nitrate + Nitrite	2009/09/15	NC		%	25
1938123	FA	Spiked Blank	Total Oil & Grease	2009/09/14		99	%	85 - 115
		Method Blank	Total Oil & Grease	2009/09/14	ND, RDL=0.5		mg/L	
		RPD [DQ8950-01]	Total Oil & Grease	2009/09/14	NC		%	25
1938141	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/09/14		96	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/09/14	ND, RDL=0.5		mg/L	
		RPD [DQ8950-01]	Total Oil & Grease Mineral/Synthetic	2009/09/14	NC		%	25
1938145	CCI	Matrix Spike	Nitrite (N)	2009/09/16		104	%	75 - 125
			Nitrate (N)	2009/09/16		82	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/09/16		106	%	80 - 120
			Nitrate (N)	2009/09/16		100	%	80 - 120
		Method Blank	Nitrite (N)	2009/09/16	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/09/16	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/09/16	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/09/16	NC		%	25
			Nitrate (N)	2009/09/16	0.3		%	25
			Nitrate + Nitrite	2009/09/16	0.3		%	25
1938213	HAG	QC Standard	Total Suspended Solids	2009/09/16		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/09/16	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/09/16	NC		%	25
1938238	HAG	QC Standard	Total Suspended Solids	2009/09/17		99	%	85 - 115
		Method Blank	Total Suspended Solids	2009/09/17	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/09/17	NC		%	25
1938335	HAG	QC Standard	Total Dissolved Solids	2009/09/16		98	%	90 - 110
		Method Blank	Total Dissolved Solids	2009/09/16	ND, RDL=10		mg/L	
		RPD [DQ8946-04]	Total Dissolved Solids	2009/09/16	1.6		%	25
1938735	HRE	Matrix Spike	Dissolved Aluminum (Al)	2009/09/15		97	%	80 - 120
			Dissolved Antimony (Sb)	2009/09/15		104	%	80 - 120
			Dissolved Arsenic (As)	2009/09/15		104	%	80 - 120
			Dissolved Beryllium (Be)	2009/09/15		99	%	80 - 120
			Dissolved Bismuth (Bi)	2009/09/15		96	%	80 - 120
			Dissolved Boron (B)	2009/09/15		98	%	80 - 120
			Dissolved Cadmium (Cd)	2009/09/15		99	%	80 - 120
			Dissolved Calcium (Ca)	2009/09/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/09/15		100	%	80 - 120
			Dissolved Cobalt (Co)	2009/09/15		99	%	80 - 120
			Dissolved Copper (Cu)	2009/09/15		99	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1938735	HRE	Matrix Spike	Dissolved Iron (Fe)	2009/09/15		102	%	80 - 120
			Dissolved Lead (Pb)	2009/09/15		97	%	80 - 120
			Dissolved Lithium (Li)	2009/09/15		97	%	80 - 120
			Dissolved Magnesium (Mg)	2009/09/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/15		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/09/15		106	%	80 - 120
			Dissolved Nickel (Ni)	2009/09/15		100	%	80 - 120
			Dissolved Phosphorus (P)	2009/09/15		106	%	80 - 120
			Dissolved Potassium (K)	2009/09/15		98	%	80 - 120
			Dissolved Selenium (Se)	2009/09/15		97	%	80 - 120
			Dissolved Silicon (Si)	2009/09/15		102	%	80 - 120
			Dissolved Silver (Ag)	2009/09/15		96	%	80 - 120
			Dissolved Sodium (Na)	2009/09/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/09/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/09/15		95	%	80 - 120
			Dissolved Thallium (Tl)	2009/09/15		95	%	80 - 120
			Dissolved Thorium (Th)	2009/09/15		100	%	80 - 120
			Dissolved Tin (Sn)	2009/09/15		104	%	80 - 120
			Dissolved Titanium (Ti)	2009/09/15		103	%	80 - 120
			Dissolved Tungsten (W)	2009/09/15		103	%	80 - 120
			Dissolved Uranium (U)	2009/09/15		99	%	80 - 120
			Dissolved Vanadium (V)	2009/09/15		102	%	80 - 120
			Dissolved Zirconium (Zr)	2009/09/15		105	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/09/15		97	%	90 - 110
			Dissolved Antimony (Sb)	2009/09/15		102	%	90 - 110
			Dissolved Arsenic (As)	2009/09/15		101	%	90 - 110
			Dissolved Beryllium (Be)	2009/09/15		101	%	90 - 110
			Dissolved Bismuth (Bi)	2009/09/15		96	%	90 - 110
			Dissolved Boron (B)	2009/09/15		104	%	90 - 110
			Dissolved Cadmium (Cd)	2009/09/15		101	%	90 - 110
			Dissolved Calcium (Ca)	2009/09/15		100	%	90 - 110
			Dissolved Chromium (Cr)	2009/09/15		99	%	90 - 110
			Dissolved Cobalt (Co)	2009/09/15		99	%	90 - 110
			Dissolved Copper (Cu)	2009/09/15		99	%	90 - 110
			Dissolved Iron (Fe)	2009/09/15		99	%	90 - 110
			Dissolved Lead (Pb)	2009/09/15		97	%	90 - 110
			Dissolved Lithium (Li)	2009/09/15		100	%	90 - 110
			Dissolved Magnesium (Mg)	2009/09/15		99	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/15		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/09/15		100	%	90 - 110
			Dissolved Nickel (Ni)	2009/09/15		99	%	90 - 110
			Dissolved Phosphorus (P)	2009/09/15		100	%	90 - 110
			Dissolved Potassium (K)	2009/09/15		100	%	90 - 110
			Dissolved Selenium (Se)	2009/09/15		99	%	90 - 110
			Dissolved Silicon (Si)	2009/09/15		100	%	90 - 110
			Dissolved Silver (Ag)	2009/09/15		101	%	90 - 110
			Dissolved Sodium (Na)	2009/09/15		97	%	90 - 110
			Dissolved Strontium (Sr)	2009/09/15		98	%	90 - 110
			Dissolved Tellurium (Te)	2009/09/15		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/09/15		96	%	90 - 110
			Dissolved Thorium (Th)	2009/09/15		100	%	90 - 110
			Dissolved Tin (Sn)	2009/09/15		102	%	90 - 110
			Dissolved Titanium (Ti)	2009/09/15		102	%	90 - 110
			Dissolved Tungsten (W)	2009/09/15		102	%	90 - 110
			Dissolved Uranium (U)	2009/09/15		98	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1938735	HRE	Spiked Blank	Dissolved Vanadium (V)	2009/09/15		101	%	90 - 110
			Dissolved Zirconium (Zr)	2009/09/15		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Beryllium (Be)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/09/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/09/15	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/09/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/09/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Zirconium (Zr)	2009/09/15	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2009/09/15	NC		%	25
1938738	CP	Matrix Spike [DQ8951-07]	Total Cyanide (CN)	2009/09/15		99	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/09/15		98	%	90 - 110
		Method Blank	Total Cyanide (CN)	2009/09/15	ND, RDL=0.005		mg/L	
		RPD [DQ8951-07]	Total Cyanide (CN)	2009/09/15	NC		%	25
1938760	C_H	Matrix Spike	Dissolved Organic Carbon	2009/09/15		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/09/15		96	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/09/15	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/09/15	0.7		%	20
1938881	HRE	Matrix Spike	Dissolved Aluminum (Al)	2009/09/15		95	%	80 - 120
			Dissolved Antimony (Sb)	2009/09/15		103	%	80 - 120
			Dissolved Arsenic (As)	2009/09/15		106	%	80 - 120
			Dissolved Barium (Ba)	2009/09/15		NC	%	80 - 120
			Dissolved Beryllium (Be)	2009/09/15		98	%	80 - 120
			Dissolved Bismuth (Bi)	2009/09/15		99	%	80 - 120
			Dissolved Boron (B)	2009/09/15		NC	%	80 - 120
			Dissolved Cadmium (Cd)	2009/09/15		100	%	80 - 120
			Dissolved Calcium (Ca)	2009/09/15		NC	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1938881	HRE	Matrix Spike	Dissolved Chromium (Cr)	2009/09/15		98	%	80 - 120
			Dissolved Cobalt (Co)	2009/09/15		99	%	80 - 120
			Dissolved Copper (Cu)	2009/09/15		95	%	80 - 120
			Dissolved Iron (Fe)	2009/09/15		101	%	80 - 120
			Dissolved Lead (Pb)	2009/09/15		99	%	80 - 120
			Dissolved Lithium (Li)	2009/09/15		97	%	80 - 120
			Dissolved Magnesium (Mg)	2009/09/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/15		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/09/15		107	%	80 - 120
			Dissolved Nickel (Ni)	2009/09/15		97	%	80 - 120
			Dissolved Phosphorus (P)	2009/09/15		103	%	80 - 120
			Dissolved Potassium (K)	2009/09/15		97	%	80 - 120
			Dissolved Selenium (Se)	2009/09/15		101	%	80 - 120
			Dissolved Silicon (Si)	2009/09/15		100	%	80 - 120
			Dissolved Silver (Ag)	2009/09/15		92	%	80 - 120
			Dissolved Sodium (Na)	2009/09/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/09/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/09/15		93	%	80 - 120
			Dissolved Thallium (Tl)	2009/09/15		98	%	80 - 120
			Dissolved Thorium (Th)	2009/09/15		107	%	80 - 120
			Dissolved Tin (Sn)	2009/09/15		104	%	80 - 120
			Dissolved Titanium (Ti)	2009/09/15		102	%	80 - 120
			Dissolved Tungsten (W)	2009/09/15		106	%	80 - 120
			Dissolved Uranium (U)	2009/09/15		103	%	80 - 120
			Dissolved Vanadium (V)	2009/09/15		102	%	80 - 120
			Dissolved Zirconium (Zr)	2009/09/15		105	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/09/15		99	%	90 - 110
			Dissolved Antimony (Sb)	2009/09/15		101	%	90 - 110
			Dissolved Arsenic (As)	2009/09/15		102	%	90 - 110
			Dissolved Barium (Ba)	2009/09/15		100	%	90 - 110
			Dissolved Beryllium (Be)	2009/09/15		101	%	90 - 110
			Dissolved Bismuth (Bi)	2009/09/15		100	%	90 - 110
			Dissolved Boron (B)	2009/09/15		104	%	90 - 110
			Dissolved Cadmium (Cd)	2009/09/15		100	%	90 - 110
			Dissolved Calcium (Ca)	2009/09/15		98	%	90 - 110
			Dissolved Chromium (Cr)	2009/09/15		100	%	90 - 110
			Dissolved Cobalt (Co)	2009/09/15		99	%	90 - 110
			Dissolved Copper (Cu)	2009/09/15		98	%	90 - 110
			Dissolved Iron (Fe)	2009/09/15		101	%	90 - 110
			Dissolved Lead (Pb)	2009/09/15		100	%	90 - 110
			Dissolved Lithium (Li)	2009/09/15		99	%	90 - 110
			Dissolved Magnesium (Mg)	2009/09/15		101	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/15		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/09/15		101	%	90 - 110
			Dissolved Nickel (Ni)	2009/09/15		100	%	90 - 110
			Dissolved Phosphorus (P)	2009/09/15		101	%	90 - 110
			Dissolved Potassium (K)	2009/09/15		101	%	90 - 110
			Dissolved Selenium (Se)	2009/09/15		102	%	90 - 110
			Dissolved Silicon (Si)	2009/09/15		102	%	90 - 110
			Dissolved Silver (Ag)	2009/09/15		101	%	90 - 110
			Dissolved Sodium (Na)	2009/09/15		99	%	90 - 110
			Dissolved Strontium (Sr)	2009/09/15		101	%	90 - 110
			Dissolved Tellurium (Te)	2009/09/15		98	%	90 - 110
			Dissolved Thallium (Tl)	2009/09/15		98	%	90 - 110
			Dissolved Thorium (Th)	2009/09/15		105	%	90 - 110

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1938881	HRE	Spiked Blank	Dissolved Tin (Sn)	2009/09/15		101	%	90 - 110
			Dissolved Titanium (Ti)	2009/09/15		102	%	90 - 110
			Dissolved Tungsten (W)	2009/09/15		103	%	90 - 110
			Dissolved Uranium (U)	2009/09/15		102	%	90 - 110
			Dissolved Vanadium (V)	2009/09/15		101	%	90 - 110
			Dissolved Zirconium (Zr)	2009/09/15		101	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/09/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/09/15	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/09/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/09/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Zirconium (Zr)	2009/09/15	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2009/09/15	NC		%	25
1939003	C_H	Matrix Spike	Dissolved Organic Carbon	2009/09/16		97	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/09/15		100	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/09/15	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/09/15	NC		%	20
1939089	MC	Matrix Spike	Mercury (Hg)	2009/09/16		112	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/09/16		105	%	84 - 113
		Method Blank	Mercury (Hg)	2009/09/16	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/09/16	NC		%	25
1939099	GSI	Method Blank	Acidity as CaC03	2009/09/17	ND, RDL=10		mg/L	
		RPD	Acidity as CaC03	2009/09/17	NC		%	25
1939292	C_H	Matrix Spike	Dissolved Organic Carbon	2009/09/15		90	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/09/15		101	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/09/15	0.2, RDL=0.2		mg/L	

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Client Project #: Rainy River
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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1939292	C_H	RPD	Dissolved Organic Carbon	2009/09/15	6.2		%	20
1939379	HRE	Matrix Spike	Dissolved Aluminum (Al)	2009/09/15		97	%	80 - 120
			Dissolved Antimony (Sb)	2009/09/15		102	%	80 - 120
			Dissolved Arsenic (As)	2009/09/15		102	%	80 - 120
			Dissolved Beryllium (Be)	2009/09/15		98	%	80 - 120
			Dissolved Bismuth (Bi)	2009/09/15		98	%	80 - 120
			Dissolved Boron (B)	2009/09/15		100	%	80 - 120
			Dissolved Cadmium (Cd)	2009/09/15		100	%	80 - 120
			Dissolved Calcium (Ca)	2009/09/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/09/15		98	%	80 - 120
			Dissolved Cobalt (Co)	2009/09/15		98	%	80 - 120
			Dissolved Copper (Cu)	2009/09/15		95	%	80 - 120
			Dissolved Iron (Fe)	2009/09/15		NC	%	80 - 120
			Dissolved Lead (Pb)	2009/09/15		99	%	80 - 120
			Dissolved Lithium (Li)	2009/09/15		97	%	80 - 120
			Dissolved Magnesium (Mg)	2009/09/15		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/09/15		103	%	80 - 120
			Dissolved Nickel (Ni)	2009/09/15		97	%	80 - 120
			Dissolved Phosphorus (P)	2009/09/15		101	%	80 - 120
			Dissolved Potassium (K)	2009/09/15		98	%	80 - 120
			Dissolved Selenium (Se)	2009/09/15		100	%	80 - 120
			Dissolved Silicon (Si)	2009/09/15		99	%	80 - 120
			Dissolved Silver (Ag)	2009/09/15		90	%	80 - 120
			Dissolved Sodium (Na)	2009/09/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/09/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/09/15		96	%	80 - 120
			Dissolved Thallium (Tl)	2009/09/15		98	%	80 - 120
			Dissolved Thorium (Th)	2009/09/15		102	%	80 - 120
			Dissolved Tin (Sn)	2009/09/15		101	%	80 - 120
			Dissolved Titanium (Ti)	2009/09/15		102	%	80 - 120
			Dissolved Tungsten (W)	2009/09/15		102	%	80 - 120
			Dissolved Uranium (U)	2009/09/15		101	%	80 - 120
			Dissolved Vanadium (V)	2009/09/15		99	%	80 - 120
			Dissolved Zirconium (Zr)	2009/09/15		103	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/09/15		99	%	90 - 110
			Dissolved Antimony (Sb)	2009/09/15		101	%	90 - 110
			Dissolved Arsenic (As)	2009/09/15		102	%	90 - 110
			Dissolved Beryllium (Be)	2009/09/15		101	%	90 - 110
			Dissolved Bismuth (Bi)	2009/09/15		100	%	90 - 110
			Dissolved Boron (B)	2009/09/15		105	%	90 - 110
			Dissolved Cadmium (Cd)	2009/09/15		101	%	90 - 110
			Dissolved Calcium (Ca)	2009/09/15		100	%	90 - 110
			Dissolved Chromium (Cr)	2009/09/15		99	%	90 - 110
			Dissolved Cobalt (Co)	2009/09/15		98	%	90 - 110
			Dissolved Copper (Cu)	2009/09/15		98	%	90 - 110
			Dissolved Iron (Fe)	2009/09/15		99	%	90 - 110
			Dissolved Lead (Pb)	2009/09/15		102	%	90 - 110
			Dissolved Lithium (Li)	2009/09/15		99	%	90 - 110
			Dissolved Magnesium (Mg)	2009/09/15		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/09/15		99	%	90 - 110
			Dissolved Nickel (Ni)	2009/09/15		99	%	90 - 110
			Dissolved Phosphorus (P)	2009/09/15		100	%	90 - 110
			Dissolved Potassium (K)	2009/09/15		99	%	90 - 110
			Dissolved Selenium (Se)	2009/09/15		101	%	90 - 110
			Dissolved Silicon (Si)	2009/09/15		101	%	90 - 110

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Client Project #: Rainy River
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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1939379	HRE	Spiked Blank	Dissolved Silver (Ag)	2009/09/15		99	%	90 - 110
			Dissolved Sodium (Na)	2009/09/15		100	%	90 - 110
			Dissolved Strontium (Sr)	2009/09/15		100	%	90 - 110
			Dissolved Tellurium (Te)	2009/09/15		97	%	90 - 110
			Dissolved Thallium (Tl)	2009/09/15		99	%	90 - 110
			Dissolved Thorium (Th)	2009/09/15		106	%	90 - 110
			Dissolved Tin (Sn)	2009/09/15		101	%	90 - 110
			Dissolved Titanium (Ti)	2009/09/15		101	%	90 - 110
			Dissolved Tungsten (W)	2009/09/15		104	%	90 - 110
			Dissolved Uranium (U)	2009/09/15		102	%	90 - 110
			Dissolved Vanadium (V)	2009/09/15		99	%	90 - 110
			Dissolved Zirconium (Zr)	2009/09/15		101	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Beryllium (Be)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/09/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/09/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Molybdenum (Mo)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/09/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/09/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/09/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/09/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/09/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/09/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/09/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/09/15	ND, RDL=1		ug/L	
			Dissolved Zirconium (Zr)	2009/09/15	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2009/09/15	NC		%	25
			Dissolved Arsenic (As)	2009/09/15	NC		%	25
			Dissolved Beryllium (Be)	2009/09/15	NC		%	25
			Dissolved Boron (B)	2009/09/15	NC		%	25
			Dissolved Cadmium (Cd)	2009/09/15	NC		%	25
			Dissolved Chromium (Cr)	2009/09/15	NC		%	25
			Dissolved Cobalt (Co)	2009/09/15	1.5		%	25
			Dissolved Copper (Cu)	2009/09/15	NC		%	25
			Dissolved Lead (Pb)	2009/09/15	NC		%	25
			Dissolved Molybdenum (Mo)	2009/09/15	NC		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1939379	HRE	RPD	Dissolved Nickel (Ni)	2009/09/15	NC		%	25
			Dissolved Selenium (Se)	2009/09/15	NC		%	25
			Dissolved Silver (Ag)	2009/09/15	NC		%	25
			Dissolved Sodium (Na)	2009/09/15	0.8		%	25
			Dissolved Thallium (Tl)	2009/09/15	NC		%	25
			Dissolved Vanadium (V)	2009/09/15	NC		%	25
1939450	ADB	Matrix Spike	Total Ammonia-N	2009/09/16		101	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/09/16		98	%	80 - 120
		Method Blank	Total Ammonia-N	2009/09/16	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/09/16	NC		%	25
1940055	C_H	Matrix Spike	Total Organic Carbon (TOC)	2009/09/16		NC	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/09/16		102	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/09/16	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/09/16	0.4		%	20
1940067	SAU	Matrix Spike [DQ8949-06]	Total Chemical Oxygen Demand (COD)	2009/09/17		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/09/17		100	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/09/17	ND, RDL=4		mg/L	
		RPD [DQ8949-06]	Total Chemical Oxygen Demand (COD)	2009/09/17	1.7		%	25
1940088	HRE	Matrix Spike	Total Aluminum (Al)	2009/09/16		83	%	80 - 120
			Total Antimony (Sb)	2009/09/16		104	%	80 - 120
			Total Arsenic (As)	2009/09/16		102	%	80 - 120
			Total Barium (Ba)	2009/09/16		94	%	80 - 120
			Total Beryllium (Be)	2009/09/16		90	%	75 - 125
			Total Bismuth (Bi)	2009/09/16		96	%	75 - 125
			Total Boron (B)	2009/09/16		87	%	75 - 125
			Total Cadmium (Cd)	2009/09/16		97	%	80 - 120
			Total Calcium (Ca)	2009/09/16		NC	%	75 - 125
			Total Chromium (Cr)	2009/09/16		93	%	80 - 120
			Total Cobalt (Co)	2009/09/16		93	%	80 - 120
			Total Copper (Cu)	2009/09/16		93	%	80 - 120
			Total Iron (Fe)	2009/09/16		91	%	80 - 120
			Total Lead (Pb)	2009/09/16		97	%	80 - 120
			Total Lithium (Li)	2009/09/16		90	%	75 - 125
			Total Magnesium (Mg)	2009/09/16		NC	%	80 - 120
			Total Manganese (Mn)	2009/09/16		92	%	80 - 120
			Total Molybdenum (Mo)	2009/09/16		101	%	80 - 120
			Total Nickel (Ni)	2009/09/16		92	%	80 - 120
			Total Potassium (K)	2009/09/16		87	%	75 - 125
			Total Selenium (Se)	2009/09/16		98	%	75 - 125
			Total Silicon (Si)	2009/09/16		86	%	75 - 125
			Total Silver (Ag)	2009/09/16		90	%	80 - 120
			Total Sodium (Na)	2009/09/16		87	%	75 - 125
			Total Strontium (Sr)	2009/09/16		NC	%	80 - 120
			Total Tellurium (Te)	2009/09/16		95	%	75 - 125
			Total Thallium (Tl)	2009/09/16		97	%	80 - 120
			Total Thorium (Th)	2009/09/16		105	%	75 - 125
			Total Tin (Sn)	2009/09/16		100	%	75 - 125
			Total Titanium (Ti)	2009/09/16		93	%	75 - 125
			Total Tungsten (W)	2009/09/16		105	%	75 - 125
			Total Uranium (U)	2009/09/16		103	%	80 - 120
			Total Vanadium (V)	2009/09/16		94	%	80 - 120
			Total Zinc (Zn)	2009/09/16		92	%	80 - 120
			Total Zirconium (Zr)	2009/09/16		102	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/09/16		95	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940088	HRE	Spiked Blank	Total Antimony (Sb)	2009/09/16		102	%	82 - 120
			Total Arsenic (As)	2009/09/16		100	%	86 - 119
			Total Barium (Ba)	2009/09/16		96	%	83 - 115
			Total Beryllium (Be)	2009/09/16		98	%	85 - 132
			Total Bismuth (Bi)	2009/09/16		95	%	78 - 120
			Total Boron (B)	2009/09/16		96	%	78 - 133
			Total Cadmium (Cd)	2009/09/16		96	%	85 - 116
			Total Calcium (Ca)	2009/09/16		94	%	75 - 125
			Total Chromium (Cr)	2009/09/16		95	%	80 - 120
			Total Cobalt (Co)	2009/09/16		96	%	82 - 117
			Total Copper (Cu)	2009/09/16		95	%	80 - 117
			Total Iron (Fe)	2009/09/16		96	%	80 - 120
			Total Lead (Pb)	2009/09/16		95	%	80 - 120
			Total Lithium (Li)	2009/09/16		96	%	86 - 131
			Total Magnesium (Mg)	2009/09/16		93	%	80 - 120
			Total Manganese (Mn)	2009/09/16		95	%	80 - 120
			Total Molybdenum (Mo)	2009/09/16		96	%	82 - 117
			Total Nickel (Ni)	2009/09/16		95	%	81 - 117
			Total Potassium (K)	2009/09/16		92	%	75 - 125
			Total Selenium (Se)	2009/09/16		97	%	82 - 118
			Total Silicon (Si)	2009/09/16		93	%	67 - 140
			Total Silver (Ag)	2009/09/16		92	%	80 - 120
			Total Sodium (Na)	2009/09/16		92	%	75 - 125
			Total Strontium (Sr)	2009/09/16		95	%	83 - 120
			Total Tellurium (Te)	2009/09/16		93	%	80 - 116
			Total Thallium (Tl)	2009/09/16		96	%	80 - 129
			Total Thorium (Th)	2009/09/16		97	%	80 - 125
			Total Tin (Sn)	2009/09/16		96	%	83 - 119
			Total Titanium (Ti)	2009/09/16		97	%	60 - 125
			Total Tungsten (W)	2009/09/16		100	%	81 - 123
			Total Uranium (U)	2009/09/16		98	%	82 - 120
			Total Vanadium (V)	2009/09/16		96	%	82 - 118
			Total Zinc (Zn)	2009/09/16		97	%	80 - 120
			Total Zirconium (Zr)	2009/09/16		97	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/09/16	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/09/16	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/09/16	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/09/16	ND, RDL=1		ug/L	
			Total Boron (B)	2009/09/16	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/09/16	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/09/16	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/09/16	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/09/16	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/09/16	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/09/16	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/09/16	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/09/16	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/09/16	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/09/16	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/09/16	ND, RDL=2		ug/L	

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Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940088	HRE	Method Blank	Total Silicon (Si)	2009/09/16	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/09/16	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/09/16	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/09/16	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/09/16	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/09/16	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/09/16	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/09/16	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/09/16	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/09/16	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/09/16	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/09/16	ND, RDL=1		ug/L	
		RPD	Total Copper (Cu)	2009/09/16	7.3		%	25
			Total Zinc (Zn)	2009/09/16	6.4		%	25
1940171	JBW	Matrix Spike	Dissolved Aluminum (Al)	2009/09/16		95	%	80 - 120
			Dissolved Antimony (Sb)	2009/09/16		101	%	80 - 120
			Dissolved Arsenic (As)	2009/09/16		98	%	80 - 120
			Dissolved Barium (Ba)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Beryllium (Be)	2009/09/16		97	%	80 - 120
			Dissolved Bismuth (Bi)	2009/09/16		94	%	80 - 120
			Dissolved Boron (B)	2009/09/16		100	%	80 - 120
			Dissolved Cadmium (Cd)	2009/09/16		96	%	80 - 120
			Dissolved Calcium (Ca)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Chromium (Cr)	2009/09/16		98	%	80 - 120
			Dissolved Cobalt (Co)	2009/09/16		96	%	80 - 120
			Dissolved Copper (Cu)	2009/09/16		89	%	80 - 120
			Dissolved Iron (Fe)	2009/09/16		92	%	80 - 120
			Dissolved Lead (Pb)	2009/09/16		94	%	80 - 120
			Dissolved Lithium (Li)	2009/09/16		96	%	80 - 120
			Dissolved Magnesium (Mg)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/09/16		104	%	80 - 120
			Dissolved Nickel (Ni)	2009/09/16		92	%	80 - 120
			Dissolved Phosphorus (P)	2009/09/16		109	%	80 - 120
			Dissolved Potassium (K)	2009/09/16		105	%	80 - 120
			Dissolved Selenium (Se)	2009/09/16		98	%	80 - 120
			Dissolved Silicon (Si)	2009/09/16		106	%	80 - 120
			Dissolved Silver (Ag)	2009/09/16		87	%	80 - 120
			Dissolved Sodium (Na)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Strontium (Sr)	2009/09/16		NC (1)	%	80 - 120
			Dissolved Tellurium (Te)	2009/09/16		95	%	80 - 120
			Dissolved Thallium (Tl)	2009/09/16		94	%	80 - 120
			Dissolved Thorium (Th)	2009/09/16		95	%	80 - 120
			Dissolved Tin (Sn)	2009/09/16		100	%	80 - 120
			Dissolved Titanium (Ti)	2009/09/16		101	%	80 - 120
			Dissolved Tungsten (W)	2009/09/16		103	%	80 - 120
			Dissolved Uranium (U)	2009/09/16		98	%	80 - 120
			Dissolved Vanadium (V)	2009/09/16		100	%	80 - 120
			Dissolved Zinc (Zn)	2009/09/16		91	%	80 - 120
			Dissolved Zirconium (Zr)	2009/09/16		105	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/09/16		103	%	90 - 110
			Dissolved Antimony (Sb)	2009/09/16		101	%	90 - 110
			Dissolved Arsenic (As)	2009/09/16		98	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940171	JBW	Spiked Blank	Dissolved Barium (Ba)	2009/09/16		100	%	90 - 110
			Dissolved Beryllium (Be)	2009/09/16		99	%	90 - 110
			Dissolved Bismuth (Bi)	2009/09/16		97	%	90 - 110
			Dissolved Boron (B)	2009/09/16		106	%	90 - 110
			Dissolved Cadmium (Cd)	2009/09/16		100	%	90 - 110
			Dissolved Calcium (Ca)	2009/09/16		100	%	90 - 110
			Dissolved Chromium (Cr)	2009/09/16		101	%	90 - 110
			Dissolved Cobalt (Co)	2009/09/16		100	%	90 - 110
			Dissolved Copper (Cu)	2009/09/16		95	%	90 - 110
			Dissolved Iron (Fe)	2009/09/16		97	%	90 - 110
			Dissolved Lead (Pb)	2009/09/16		97	%	90 - 110
			Dissolved Lithium (Li)	2009/09/16		98	%	90 - 110
			Dissolved Magnesium (Mg)	2009/09/16		108	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/16		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/09/16		101	%	90 - 110
			Dissolved Nickel (Ni)	2009/09/16		97	%	90 - 110
			Dissolved Phosphorus (P)	2009/09/16		103	%	90 - 110
			Dissolved Potassium (K)	2009/09/16		106	%	90 - 110
			Dissolved Selenium (Se)	2009/09/16		99	%	90 - 110
			Dissolved Silicon (Si)	2009/09/16		109	%	90 - 110
			Dissolved Silver (Ag)	2009/09/16		98	%	90 - 110
			Dissolved Sodium (Na)	2009/09/16		98	%	90 - 110
			Dissolved Strontium (Sr)	2009/09/16		100	%	90 - 110
			Dissolved Tellurium (Te)	2009/09/16		98	%	90 - 110
			Dissolved Thallium (Tl)	2009/09/16		97	%	90 - 110
			Dissolved Thorium (Th)	2009/09/16		93	%	90 - 110
			Dissolved Tin (Sn)	2009/09/16		100	%	90 - 110
			Dissolved Titanium (Ti)	2009/09/16		99	%	90 - 110
			Dissolved Tungsten (W)	2009/09/16		101	%	90 - 110
			Dissolved Uranium (U)	2009/09/16		98	%	90 - 110
			Dissolved Vanadium (V)	2009/09/16		102	%	90 - 110
			Dissolved Zinc (Zn)	2009/09/16		98	%	90 - 110
			Dissolved Zirconium (Zr)	2009/09/16		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/09/16	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/09/16	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/09/16	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/09/16	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/09/16	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/09/16	ND, RDL=2		ug/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940171	JBW	Method Blank	Dissolved Silicon (Si)	2009/09/16	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/09/16	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/09/16	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2009/09/16	NC		%	25
1940423	HRE	Matrix Spike	Total Aluminum (Al)	2009/09/16		97	%	80 - 120
			Total Antimony (Sb)	2009/09/16		106	%	80 - 120
			Total Arsenic (As)	2009/09/16		102	%	80 - 120
			Total Barium (Ba)	2009/09/16		97	%	80 - 120
			Total Beryllium (Be)	2009/09/16		98	%	75 - 125
			Total Bismuth (Bi)	2009/09/16		95	%	75 - 125
			Total Boron (B)	2009/09/16		100	%	75 - 125
			Total Cadmium (Cd)	2009/09/16		97	%	80 - 120
			Total Calcium (Ca)	2009/09/16		NC	%	75 - 125
			Total Chromium (Cr)	2009/09/16		98	%	80 - 120
			Total Cobalt (Co)	2009/09/16		98	%	80 - 120
			Total Copper (Cu)	2009/09/16		94	%	80 - 120
			Total Iron (Fe)	2009/09/16		99	%	80 - 120
			Total Lead (Pb)	2009/09/16		95	%	80 - 120
			Total Lithium (Li)	2009/09/16		97	%	75 - 125
			Total Magnesium (Mg)	2009/09/16		NC	%	80 - 120
			Total Manganese (Mn)	2009/09/16		96	%	80 - 120
			Total Molybdenum (Mo)	2009/09/16		101	%	80 - 120
			Total Nickel (Ni)	2009/09/16		96	%	80 - 120
			Total Potassium (K)	2009/09/16		98	%	75 - 125
			Total Selenium (Se)	2009/09/16		98	%	75 - 125
			Total Silicon (Si)	2009/09/16		96	%	75 - 125
			Total Silver (Ag)	2009/09/16		93	%	80 - 120
			Total Sodium (Na)	2009/09/16		NC	%	75 - 125
			Total Strontium (Sr)	2009/09/16		NC	%	80 - 120
			Total Tellurium (Te)	2009/09/16		98	%	75 - 125
			Total Thallium (Tl)	2009/09/16		95	%	80 - 120
			Total Thorium (Th)	2009/09/16		99	%	75 - 125
			Total Tin (Sn)	2009/09/16		100	%	75 - 125
			Total Titanium (Ti)	2009/09/16		100	%	75 - 125
			Total Tungsten (W)	2009/09/16		102	%	75 - 125
			Total Uranium (U)	2009/09/16		100	%	80 - 120
			Total Vanadium (V)	2009/09/16		99	%	80 - 120
			Total Zinc (Zn)	2009/09/16		95	%	80 - 120
			Total Zirconium (Zr)	2009/09/16		102	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/09/16		101	%	80 - 120
			Total Antimony (Sb)	2009/09/16		105	%	82 - 120
			Total Arsenic (As)	2009/09/16		102	%	86 - 119
			Total Barium (Ba)	2009/09/16		100	%	83 - 115
			Total Beryllium (Be)	2009/09/16		102	%	85 - 132

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940423	HRE	Spiked Blank	Total Bismuth (Bi)	2009/09/16		94	%	78 - 120
			Total Boron (B)	2009/09/16		102	%	78 - 133
			Total Cadmium (Cd)	2009/09/16		99	%	85 - 116
			Total Calcium (Ca)	2009/09/16		103	%	75 - 125
			Total Chromium (Cr)	2009/09/16		99	%	80 - 120
			Total Cobalt (Co)	2009/09/16		99	%	82 - 117
			Total Copper (Cu)	2009/09/16		98	%	80 - 117
			Total Iron (Fe)	2009/09/16		98	%	80 - 120
			Total Lead (Pb)	2009/09/16		95	%	80 - 120
			Total Lithium (Li)	2009/09/16		101	%	86 - 131
			Total Magnesium (Mg)	2009/09/16		101	%	80 - 120
			Total Manganese (Mn)	2009/09/16		98	%	80 - 120
			Total Molybdenum (Mo)	2009/09/16		98	%	82 - 117
			Total Nickel (Ni)	2009/09/16		98	%	81 - 117
			Total Potassium (K)	2009/09/16		100	%	75 - 125
			Total Selenium (Se)	2009/09/16		100	%	82 - 118
			Total Silicon (Si)	2009/09/16		99	%	67 - 140
			Total Silver (Ag)	2009/09/16		95	%	80 - 120
			Total Sodium (Na)	2009/09/16		100	%	75 - 125
			Total Strontium (Sr)	2009/09/16		99	%	83 - 120
			Total Tellurium (Te)	2009/09/16		98	%	80 - 116
			Total Thallium (Tl)	2009/09/16		94	%	80 - 129
			Total Thorium (Th)	2009/09/16		97	%	80 - 125
			Total Tin (Sn)	2009/09/16		100	%	83 - 119
			Total Titanium (Ti)	2009/09/16		101	%	60 - 125
			Total Tungsten (W)	2009/09/16		99	%	81 - 123
			Total Uranium (U)	2009/09/16		97	%	82 - 120
			Total Vanadium (V)	2009/09/16		100	%	82 - 118
			Total Zinc (Zn)	2009/09/16		100	%	80 - 120
			Total Zirconium (Zr)	2009/09/16		98	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/09/16	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/09/16	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/09/16	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/09/16	ND, RDL=1		ug/L	
			Total Boron (B)	2009/09/16	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/09/16	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/09/16	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/09/16	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/09/16	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/09/16	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/09/16	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/09/16	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/09/16	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/09/16	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/09/16	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/09/16	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/09/16	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/09/16	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/09/16	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/09/16	ND, RDL=1		ug/L	

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940423	HRE	Method Blank	Total Tellurium (Te)	2009/09/16	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/09/16	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/09/16	ND, RDL=1		ug/L	
			Total Tin (Sn)	2009/09/16	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/09/16	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/09/16	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/09/16	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/09/16	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/09/16	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/09/16	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2009/09/16	NC		%	25
1940466	JBW	Matrix Spike	Dissolved Aluminum (Al)	2009/09/16		98	%	80 - 120
			Dissolved Antimony (Sb)	2009/09/16		102	%	80 - 120
			Dissolved Arsenic (As)	2009/09/16		100	%	80 - 120
			Dissolved Beryllium (Be)	2009/09/16		99	%	80 - 120
			Dissolved Bismuth (Bi)	2009/09/16		96	%	80 - 120
			Dissolved Boron (B)	2009/09/16		101	%	80 - 120
			Dissolved Cadmium (Cd)	2009/09/16		103	%	80 - 120
			Dissolved Calcium (Ca)	2009/09/16		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/09/16		99	%	80 - 120
			Dissolved Cobalt (Co)	2009/09/16		98	%	80 - 120
			Dissolved Copper (Cu)	2009/09/16		93	%	80 - 120
			Dissolved Iron (Fe)	2009/09/16		96	%	80 - 120
			Dissolved Lead (Pb)	2009/09/16		95	%	80 - 120
			Dissolved Lithium (Li)	2009/09/16		96	%	80 - 120
			Dissolved Magnesium (Mg)	2009/09/16		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/16		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/09/16		102	%	80 - 120
			Dissolved Nickel (Ni)	2009/09/16		94	%	80 - 120
			Dissolved Phosphorus (P)	2009/09/16		104	%	80 - 120
			Dissolved Potassium (K)	2009/09/16		103	%	80 - 120
			Dissolved Selenium (Se)	2009/09/16		100	%	80 - 120
			Dissolved Silicon (Si)	2009/09/16		102	%	80 - 120
			Dissolved Silver (Ag)	2009/09/16		100	%	80 - 120
			Dissolved Sodium (Na)	2009/09/16		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/09/16		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/09/16		100	%	80 - 120
			Dissolved Thallium (Tl)	2009/09/16		96	%	80 - 120
			Dissolved Thorium (Th)	2009/09/16		94	%	80 - 120
			Dissolved Tin (Sn)	2009/09/16		101	%	80 - 120
			Dissolved Titanium (Ti)	2009/09/16		100	%	80 - 120
			Dissolved Tungsten (W)	2009/09/16		100	%	80 - 120
			Dissolved Uranium (U)	2009/09/16		99	%	80 - 120
			Dissolved Vanadium (V)	2009/09/16		101	%	80 - 120
			Dissolved Zinc (Zn)	2009/09/16		95	%	80 - 120
			Dissolved Zirconium (Zr)	2009/09/16		104	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/09/16		103	%	90 - 110
			Dissolved Antimony (Sb)	2009/09/16		102	%	90 - 110
			Dissolved Arsenic (As)	2009/09/16		99	%	90 - 110
			Dissolved Beryllium (Be)	2009/09/16		96	%	90 - 110
			Dissolved Bismuth (Bi)	2009/09/16		96	%	90 - 110
			Dissolved Boron (B)	2009/09/16		103	%	90 - 110
			Dissolved Cadmium (Cd)	2009/09/16		101	%	90 - 110
			Dissolved Calcium (Ca)	2009/09/16		100	%	90 - 110
			Dissolved Chromium (Cr)	2009/09/16		103	%	90 - 110

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940466	JBW	Spiked Blank	Dissolved Cobalt (Co)	2009/09/16		101	%	90 - 110
			Dissolved Copper (Cu)	2009/09/16		94	%	90 - 110
			Dissolved Iron (Fe)	2009/09/16		98	%	90 - 110
			Dissolved Lead (Pb)	2009/09/16		96	%	90 - 110
			Dissolved Lithium (Li)	2009/09/16		94	%	90 - 110
			Dissolved Magnesium (Mg)	2009/09/16		110	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/16		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/09/16		101	%	90 - 110
			Dissolved Nickel (Ni)	2009/09/16		97	%	90 - 110
			Dissolved Phosphorus (P)	2009/09/16		102	%	90 - 110
			Dissolved Potassium (K)	2009/09/16		104	%	90 - 110
			Dissolved Selenium (Se)	2009/09/16		99	%	90 - 110
			Dissolved Silicon (Si)	2009/09/16		107	%	90 - 110
			Dissolved Silver (Ag)	2009/09/16		100	%	90 - 110
			Dissolved Sodium (Na)	2009/09/16		98	%	90 - 110
			Dissolved Strontium (Sr)	2009/09/16		100	%	90 - 110
			Dissolved Tellurium (Te)	2009/09/16		96	%	90 - 110
			Dissolved Thallium (Tl)	2009/09/16		96	%	90 - 110
			Dissolved Thorium (Th)	2009/09/16		94	%	90 - 110
			Dissolved Tin (Sn)	2009/09/16		101	%	90 - 110
			Dissolved Titanium (Ti)	2009/09/16		102	%	90 - 110
			Dissolved Tungsten (W)	2009/09/16		99	%	90 - 110
			Dissolved Uranium (U)	2009/09/16		98	%	90 - 110
			Dissolved Vanadium (V)	2009/09/16		104	%	90 - 110
			Dissolved Zinc (Zn)	2009/09/16		96	%	90 - 110
			Dissolved Zirconium (Zr)	2009/09/16		104	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Beryllium (Be)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/09/16	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/09/16	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/09/16	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/09/16	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/09/16	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/09/16	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/09/16	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/09/16	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/09/16	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/09/16	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/09/16	ND, RDL=1		ug/L	

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1940466	JBW	Method Blank	Dissolved Titanium (Ti)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/09/16	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/09/16	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/09/16	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/09/16	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2009/09/16	NC		%	25
			Dissolved Arsenic (As)	2009/09/16	NC		%	25
			Dissolved Beryllium (Be)	2009/09/16	NC		%	25
			Dissolved Boron (B)	2009/09/16	0.9		%	25
			Dissolved Cadmium (Cd)	2009/09/16	NC		%	25
			Dissolved Chromium (Cr)	2009/09/16	NC		%	25
			Dissolved Cobalt (Co)	2009/09/16	NC		%	25
			Dissolved Copper (Cu)	2009/09/16	NC		%	25
			Dissolved Lead (Pb)	2009/09/16	NC		%	25
			Dissolved Molybdenum (Mo)	2009/09/16	NC		%	25
			Dissolved Nickel (Ni)	2009/09/16	NC		%	25
			Dissolved Selenium (Se)	2009/09/16	NC		%	25
			Dissolved Silver (Ag)	2009/09/16	NC		%	25
			Dissolved Sodium (Na)	2009/09/16	0.7		%	25
			Dissolved Thallium (Tl)	2009/09/16	NC		%	25
			Dissolved Vanadium (V)	2009/09/16	NC		%	25
			Dissolved Zinc (Zn)	2009/09/16	NC		%	25
1940818	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/09/16		95	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/09/16	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/09/16	0.5		%	25
1940830	YPA	QC Standard	Conductivity	2009/09/16		96	%	85 - 115
		Method Blank	Conductivity	2009/09/16	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/09/16	0.2		%	25
1940833	YPA	Matrix Spike	Fluoride (F-)	2009/09/16		105	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/09/16		104	%	80 - 120
		Method Blank	Fluoride (F-)	2009/09/16	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/09/16	NC		%	25
1940861	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/09/17		106	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/09/17		103	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/09/17	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/09/17	NC		%	20
1940866	DRM	Matrix Spike	Orthophosphate (P)	2009/09/17		103	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/09/17		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/09/17	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/09/17	NC		%	25
1940867	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/09/17		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/09/17		100	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/09/17	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/09/17	3.1		%	25
1943026	HRE	Matrix Spike	Dissolved Barium (Ba)	2009/09/18		101	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/18		NC (1)	%	80 - 120
			Dissolved Zinc (Zn)	2009/09/18		96	%	80 - 120
		Spiked Blank	Dissolved Barium (Ba)	2009/09/18		99	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/18		100	%	90 - 110
			Dissolved Zinc (Zn)	2009/09/18		100	%	90 - 110
		Method Blank	Dissolved Barium (Ba)	2009/09/18	ND, RDL=5		ug/L	
			Dissolved Manganese (Mn)	2009/09/18	ND, RDL=2		ug/L	
			Dissolved Zinc (Zn)	2009/09/18	ND, RDL=5		ug/L	
1943059	ADA	Matrix Spike	Total Barium (Ba)	2009/09/18		97	%	80 - 120

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9B9086

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1943059	ADA	Matrix Spike	Total Manganese (Mn)	2009/09/18		97	%	80 - 120
			Total Zinc (Zn)	2009/09/18		98	%	80 - 120
		Spiked Blank	Total Barium (Ba)	2009/09/18		99	%	83 - 115
			Total Manganese (Mn)	2009/09/18		100	%	80 - 120
			Total Zinc (Zn)	2009/09/18		102	%	80 - 120
		Method Blank	Total Barium (Ba)	2009/09/18	ND, RDL=5		ug/L	
			Total Manganese (Mn)	2009/09/18	ND, RDL=2		ug/L	
			Total Zinc (Zn)	2009/09/18	ND, RDL=5		ug/L	
		RPD	Total Zinc (Zn)	2009/09/18	NC		%	25
1946138	HRE	Matrix Spike	Dissolved Barium (Ba)	2009/09/22		100	%	80 - 120
			Dissolved Manganese (Mn)	2009/09/22		NC	%	80 - 120
			Dissolved Zinc (Zn)	2009/09/22		96	%	80 - 120
		Spiked Blank	Dissolved Barium (Ba)	2009/09/22		103	%	90 - 110
			Dissolved Manganese (Mn)	2009/09/22		99	%	90 - 110
			Dissolved Zinc (Zn)	2009/09/22		100	%	90 - 110
		Method Blank	Dissolved Barium (Ba)	2009/09/22	ND, RDL=5		ug/L	
			Dissolved Manganese (Mn)	2009/09/22	ND, RDL=2		ug/L	
			Dissolved Zinc (Zn)	2009/09/22	ND, RDL=5		ug/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Validation Signature Page

Maxxam Job #: A9B9086

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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11-Sep-09 09:18
ANTONELLA BRASIL
A9B9086
NNA ENV-791

VINNIPEG

Page 1 of 2

INVOICE INFORMATION:

Company Name:	#23433 Rainy River Resources Ltd
Contact Name:	Evelyn Funk
Address:	303 - 1620 W 8th Ave
	Vancouver BC V6J 1V4
Phone:	(604)639-4491 Fax: (604)639-4492
Email:	etf@rainyriverresources.com

REPORT INFORMATION (if differs from invoice):

Company Name:	#10142 Klohn Crippen Berger Ltd
Contact Name:	Ryan Todd
Address:	500 - 2955 Virtual Way
	Vancouver BC V5M 4X6
Phone:	(604)251-8554 Fax: (604)251-8510
Email:	rtodd@klohn.com

PROJECT INFORMATION:

Quotation #:	A92895
P.O. #:	
Project #:	Rainy River
Project Name:	
Site Location:	
Sampled By:	

Laboratory Use Only:

BOTTLE ORDER #: 161635

CHAIN OF CUSTODY #: C#161635-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA: *

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Acidity as CaCO3 in liquid	Alkalinity, Anions, Cond, pH, Turbidity	Biological Oxygen Demand (BOD)	COD, Ammonia, TOC	Cyanide Analysis - WAD and Total	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Mercury in Water by CVAA	Oil & Grease - A/V/M/T	Sublet (MICRO) TF, EC, HPC RUSH	# of Bottles	Comments
1		SW5	Sept 9/09	8:30	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 bottles with location S
2		SW3	Sept 9/09	9:10	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	Includ both coc cforms
3		SW2	Sept 9/09	9:40	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		SW1	Sept 9/09	10:00	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
5		SW4	Sept 9/09	10:35	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		SW6	Sept 9/09	10:40	SW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	SEP 11'09 9:18
7																			
8																			
9																			
10																			

Subset to Contract

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
	Sept 9 09		Charles / SAM CHILESHE	09/09/09	4:20PM	
			Eugene Lyalkov	09/09/11	9:18	

Laboratory Use Only: Time Sensitive [X] | Temperature (°C) on Receipt: 13.4, 14.2, 12.5 | Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

2/2/2 7/7/7
3/3/2 1/1/2

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

REC'D IN WINNIPEG

MICRO

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			161635
Address:	303 - 1620 W 8th Ave	Address:	500 - 2955 Virtual Way	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		C#161635-01-02	ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Site Location:			
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Dissolved & Suspended (LL) Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		SW5	Sept 9/09	8:30	SW		✓	✓	✓	15	Include both cofc forms
2		SW3	Sept 9/09	9:10	SW		✓	✓	✓	15	
3		SW2	Sept 9/09	9:40	SW		✓	✓	✓	15	
4		SW1	Sept 9/09	10:00	SW		✓	✓	✓	15	
5		SW4	Sept 9/09	10:35	SW		✓	✓	✓	15	
6		SW6	Sept 9/09	10:40	SW		✓	✓	✓	15	
7											SEP 11 '09 9:18
8											
9											
10											

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
SKaynor	Sept 9/09		Chris Jeffs / SAM CHILESHE / Eugene Lyalkov	09/09/09 / 09/09/11	4:20PM / 9:18	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	13.4, 14.2, 12.5	☐ Yes ☐ No

White: Maxxam Yellow: Client

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

2/2/2 7/7/7
3/3/2 1/1/7

Your Project #: MA9B9086
Site: RAINY RIVER
Your C.O.C. #: 08304308

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/09/17

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A950575
Received: 2009/09/15, 10:15

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (Total)	7	N/A	2009/09/15	BRN SOP-00226 R2.0	Based on EPA 9012AR1
Cyanide WAD (weak acid dissociable)	7	N/A	2009/09/15	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A950575
Report Date: 2009/09/17

MAXXAM ANALYTICS INC.
Client Project #: MA9B9086
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Q74905	Q74906	Q74907	Q74908		
Sampling Date		2009/09/09	2009/09/09	2009/09/09	2009/09/09		
COC Number		08304308	08304308	08304308	08304308		
	Units	**SW5 (DQ8945-07R)**	**SW3 (DQ8946-07R)**	**SW2 (DQ8947-07R)**	**SW1 (DQ8948-07R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0022	0.0014	0.0012	0.0013	0.0005	3419583
Cyanide + Thiocyanate	mg/L	0.0018	0.0011	0.0007	0.0010	0.0005	3419405

RDL = Reportable Detection Limit

Maxxam ID		Q74909	Q74910	Q74910	Q74911		
Sampling Date		2009/09/09	2009/09/09	2009/09/09	2009/09/09		
COC Number		08304308	08304308	08304308	08304308		
	Units	**SW4 (DQ8949-07R)**	**SW6 (DQ8950-07R)**	**SW6 (DQ8950-07R) Lab-Dup**	**TRIP BLANK (DQ8951-07R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0012	0.0012	0.0011	<0.0005	0.0005	3419583
Cyanide + Thiocyanate	mg/L	0.0007	0.0008	N/A	<0.0005	0.0005	3419405

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam Job #: A950575
Report Date: 2009/09/17

MAXXAM ANALYTICS INC.
Client Project #: MA9B9086
Site Reference: RAINY RIVER

Package 1	2.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9B9086
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VA950575

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3419405	TS1	Matrix Spike	Cyanide + Thiocyanate	2009/09/15		102	%	80 - 120
		Spiked Blank	Cyanide + Thiocyanate	2009/09/15		94	%	80 - 120
		Method Blank	Cyanide + Thiocyanate	2009/09/15	<0.0005		mg/L	
		RPD	Cyanide + Thiocyanate	2009/09/15	NC		%	20
3419583	TS1	Matrix Spike [Q74910-01]	Weak Acid Dissoc. Cyanide (CN)	2009/09/15		118	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/09/15		108	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/09/15	<0.0005		mg/L	
		RPD [Q74910-01]	Weak Acid Dissoc. Cyanide (CN)	2009/09/15	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A950575

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

APPENDIX I - 4

Laboratory Results
October 2009

Your Project #: Rainy River
Your C.O.C. #: 16411401, 164114-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/10/26

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9D6217
Received: 2009/10/08, 16:05

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1)	7	2009/10/19	2009/10/20	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2009/10/16	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/10/20	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/10/19	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/10/16	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2009/10/16	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/10/16	2009/10/16	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2009/10/15	CAM SOP-00446	SM 5310 B
Fluoride	7	2009/10/16	2009/10/16	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/10/15	2009/10/16	CAM SOP-00453	EPA 7470
Metals Analysis by ICPMS (as received) (3)	4	2009/10/17	2009/10/19	CAM SOP-00447	EPA 6020
Metals Analysis by ICPMS (as received) (3)	10	2009/10/18	2009/10/19	CAM SOP-00447	EPA 6020
Ammonia-N	6	N/A	2009/10/16	CAM SOP-00441	US GS I-2522-90
Ammonia-N	1	N/A	2009/10/26	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	7	N/A	2009/10/19	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/10/16	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/10/16	2009/10/16	CAM SOP-00326	EPA 1664A
pH	7	N/A	2009/10/16	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/10/19	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/10/19	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/10/15	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2009/10/16	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (5)	7	2009/10/16	2009/10/16	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2009/10/16	CAM SOP-00428	SM 2540D
Turbidity	5	N/A	2009/10/16	CAM SOP-00417	APHA 2130
Turbidity	2	N/A	2009/10/19	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Metals analysis was performed on the sample 'as received'.
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

../2

Your Project #: Rainy River
Your C.O.C. #: 16411401, 164114-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/10/26

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8679	DZ8679		
Sampling Date		2009/10/08 10:05	2009/10/08 10:05		
COC Number		164114-0	164114-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1971275
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1975820
Total Ammonia-N	mg/L	0.17	N/A	0.05	1972831
Total BOD	mg/L	ND	ND	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	55	N/A	4	1973361
Conductivity	umho/cm	390	N/A	1	1973454
Total Dissolved Solids	mg/L	256	N/A	10	1970076
Fluoride (F-)	mg/L	0.1	N/A	0.1	1973455
Dissolved Organic Carbon	mg/L	22.4	N/A	0.2	1972632
Total Organic Carbon (TOC)	mg/L	21.8	N/A	0.2	1972783
Orthophosphate (P)	mg/L	0.01	N/A	0.01	1974368
pH	pH	7.8	N/A	N/A	1973453
Total Suspended Solids	mg/L	5	N/A	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1974365
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1973458
Turbidity	NTU	6.3	N/A	0.1	1973250
Alkalinity (Total as CaCO3)	mg/L	193	N/A	1	1973448
Dissolved Chloride (Cl)	mg/L	11	N/A	1	1974331
Nitrite (N)	mg/L	ND	N/A	0.01	1974067
Nitrate (N)	mg/L	ND	N/A	0.1	1974067
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1974067
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8680	DZ8680		
Sampling Date		2009/10/08 09:45	2009/10/08 09:45		
COC Number		164114-0	164114-0		
	Units	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1971275
Inorganics					
Acidity as CaC03	mg/L	16	N/A	10	1975820
Total Ammonia-N	mg/L	0.19	N/A	0.05	1972831
Total BOD	mg/L	ND	N/A	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	31	N/A	4	1973361
Conductivity	umho/cm	388	N/A	1	1973454
Total Dissolved Solids	mg/L	260	N/A	10	1970076
Fluoride (F-)	mg/L	ND	N/A	0.1	1973455
Dissolved Organic Carbon	mg/L	13.9	N/A	0.2	1972632
Total Organic Carbon (TOC)	mg/L	13.1	N/A	0.2	1972783
Orthophosphate (P)	mg/L	0.01	N/A	0.01	1974368
pH	pH	7.6	N/A	N/A	1973453
Total Suspended Solids	mg/L	1	N/A	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1974365
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1973458
Turbidity	NTU	2.4	2.5	0.1	1975940
Alkalinity (Total as CaCO3)	mg/L	206	N/A	1	1973448
Dissolved Chloride (Cl)	mg/L	3	N/A	1	1974331
Nitrite (N)	mg/L	ND	N/A	0.01	1974067
Nitrate (N)	mg/L	ND	N/A	0.1	1974067
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1974067
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8681		DZ8682		
Sampling Date		2009/10/08 09:20		2009/10/08 10:35		
COC Number		164114-0		164114-0		
	Units	**SW3**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	1971275	ND	0.5	1971275
Inorganics						
Acidity as CaC03	mg/L	ND	1975820	13	10	1975820
Total Ammonia-N	mg/L	0.19	1972831	0.17	0.05	1972831
Total BOD	mg/L	ND	1971819	ND	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	59	1973361	48	4	1973361
Conductivity	umho/cm	312	1973454	122	1	1973454
Total Dissolved Solids	mg/L	205	1970076	75	10	1970076
Fluoride (F-)	mg/L	ND	1973455	ND	0.1	1973455
Dissolved Organic Carbon	mg/L	22.6	1972632	19.3	0.2	1972632
Total Organic Carbon (TOC)	mg/L	23.0	1972783	17.3	0.2	1972783
Orthophosphate (P)	mg/L	0.02	1974368	ND	0.01	1974368
pH	pH	7.7	1973453	7.1	N/A	1973453
Total Suspended Solids	mg/L	5	1973258	4	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND	1974365	ND	1	1974365
Total Cyanide (CN)	mg/L	ND	1973458	ND	0.005	1973458
Turbidity	NTU	6.7	1973250	2.8	0.1	1973250
Alkalinity (Total as CaCO3)	mg/L	162	1973448	47	1	1973448
Dissolved Chloride (Cl)	mg/L	4	1974331	9	1	1974331
Nitrite (N)	mg/L	ND	1974058	ND	0.01	1974067
Nitrate (N)	mg/L	ND	1974058	ND	0.1	1974067
Nitrate + Nitrite	mg/L	ND	1974058	ND	0.1	1974067
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	1973301	ND	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	1973303	ND	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8682		
Sampling Date		2009/10/08 10:35		
COC Number		164114-0		
	Units	**SW4 Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Nitrite (N)	mg/L	ND	0.01	1974067
Nitrate (N)	mg/L	ND	0.1	1974067
Nitrate + Nitrite	mg/L	ND	0.1	1974067

ND = Not detected
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8683	DZ8683		
Sampling Date		2009/10/08 08:37	2009/10/08 08:37		
COC Number		164114-0	164114-0		
	Units	**SW5**	**SW5 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1971275
Inorganics					
Acidity as CaC03	mg/L	26	24	10	1975820
Total Ammonia-N	mg/L	0.19	N/A	0.05	1972831
Total BOD	mg/L	ND	N/A	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	120	N/A	4	1973361
Conductivity	umho/cm	75	N/A	1	1973454
Total Dissolved Solids	mg/L	48	N/A	10	1970076
Fluoride (F-)	mg/L	ND	N/A	0.1	1973455
Dissolved Organic Carbon	mg/L	47	N/A	2	1972632
Total Organic Carbon (TOC)	mg/L	44	N/A	2	1972783
Orthophosphate (P)	mg/L	ND (1)	N/A	0.1	1974368
pH	pH	6.7	N/A	N/A	1973453
Total Suspended Solids	mg/L	ND	N/A	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	10	1974365
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1973458
Turbidity	NTU	1.6	N/A	0.1	1975940
Alkalinity (Total as CaCO3)	mg/L	34	N/A	1	1973448
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	10	1974331
Nitrite (N)	mg/L	ND	N/A	0.01	1974067
Nitrate (N)	mg/L	ND	N/A	0.1	1974067
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1974067
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8684		
Sampling Date		2009/10/08 08:37		
COC Number		164114-0		
	Units	**SW6**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	1971275
Inorganics				
Acidity as CaC03	mg/L	19	10	1975820
Total Ammonia-N	mg/L	0.25	0.05	1972831
Total BOD	mg/L	ND	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	110	4	1973361
Conductivity	umho/cm	76	1	1973454
Total Dissolved Solids	mg/L	49	10	1970076
Fluoride (F-)	mg/L	ND	0.1	1973455
Dissolved Organic Carbon	mg/L	45	2	1972632
Total Organic Carbon (TOC)	mg/L	42	2	1972783
Orthophosphate (P)	mg/L	ND (1)	0.1	1974368
pH	pH	6.7	N/A	1973453
Total Suspended Solids	mg/L	ND	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	1974365
Total Cyanide (CN)	mg/L	ND	0.005	1973458
Turbidity	NTU	1.2	0.1	1973250
Alkalinity (Total as CaCO3)	mg/L	33	1	1973448
Dissolved Chloride (Cl)	mg/L	ND (1)	10	1974331
Nitrite (N)	mg/L	ND	0.01	1974058
Nitrate (N)	mg/L	ND	0.1	1974058
Nitrate + Nitrite	mg/L	ND	0.1	1974058
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		DZ8685	DZ8685		
Sampling Date		2009/10/08	2009/10/08		
COC Number		164114-0	164114-0		
	Units	**TRIP BLANK WO90923**	**TRIP BLANK WO90923 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	1971275
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	1975820
Total Ammonia-N	mg/L	0.30	N/A	0.05	1983859
Total BOD	mg/L	ND	N/A	2	1971819
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	1973361
Conductivity	umho/cm	ND	ND	1	1973454
Total Dissolved Solids	mg/L	ND	N/A	10	1970076
Fluoride (F-)	mg/L	ND	ND	0.1	1973455
Dissolved Organic Carbon	mg/L	0.3	N/A	0.2	1972632
Total Organic Carbon (TOC)	mg/L	0.2	N/A	0.2	1972783
Orthophosphate (P)	mg/L	ND	N/A	0.01	1974368
pH	pH	5.6	5.5	N/A	1973453
Total Suspended Solids	mg/L	ND	N/A	1	1973258
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	1974365
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1973458
Turbidity	NTU	ND	N/A	0.1	1973250
Alkalinity (Total as CaCO3)	mg/L	ND	ND	1	1973448
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	1974331
Nitrite (N)	mg/L	ND	N/A	0.01	1974067
Nitrate (N)	mg/L	ND	N/A	0.1	1974067
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1974067
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	1973301
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	1973303

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DZ8679	DZ8680		DZ8681		
Sampling Date		2009/10/08 10:05	2009/10/08 09:45		2009/10/08 09:20		
COC Number		164114-0	164114-0		164114-0		
	Units	**SW1**	**SW2**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Metals							
. Aluminum (Al)	ug/L	87	15	1975375	97	5	1975079
. Antimony (Sb)	ug/L	ND	ND	1975375	ND	0.5	1975079
. Arsenic (As)	ug/L	1	1	1975375	1	1	1975079
. Barium (Ba)	ug/L	21	58	1975375	42	5	1975079
. Beryllium (Be)	ug/L	ND	ND	1975375	ND	0.5	1975079
. Bismuth (Bi)	ug/L	ND	ND	1975375	ND	1	1975079
. Boron (B)	ug/L	28	21	1975375	25	10	1975079
. Cadmium (Cd)	ug/L	ND	ND	1975375	ND	0.1	1975079
. Calcium (Ca)	ug/L	47000	52000	1975375	41000	200	1975079
. Chromium (Cr)	ug/L	ND	ND	1975375	ND	5	1975079
. Cobalt (Co)	ug/L	ND	ND	1975375	ND	0.5	1975079
. Copper (Cu)	ug/L	ND	ND	1975375	ND	1	1975079
. Iron (Fe)	ug/L	180	460	1975375	160	100	1975079
. Lead (Pb)	ug/L	ND	ND	1975375	ND	0.5	1975079
. Lithium (Li)	ug/L	7	ND	1975375	ND	5	1975079
. Magnesium (Mg)	ug/L	20000	20000	1975375	16000	50	1975079
. Manganese (Mn)	ug/L	38	360	1975375	22	2	1975079
Mercury (Hg)	mg/L	ND	ND	1972985	ND	0.0001	1972985
. Molybdenum (Mo)	ug/L	ND	ND	1975375	ND	1	1975079
. Nickel (Ni)	ug/L	2	1	1975375	2	1	1975079
. Phosphorus (P)	ug/L	ND	ND	1975375	ND	100	1975079
. Potassium (K)	ug/L	3300	1100	1975375	1600	200	1975079
. Selenium (Se)	ug/L	ND	ND	1975375	ND	2	1975079
. Silicon (Si)	ug/L	1800	5800	1975375	3700	50	1975079
. Silver (Ag)	ug/L	ND	ND	1975375	ND	0.1	1975079
. Sodium (Na)	ug/L	6100	2600	1975375	2800	100	1975079
. Strontium (Sr)	ug/L	120	80	1975375	83	1	1975079
. Tellurium (Te)	ug/L	ND	ND	1975375	ND	1	1975079
. Thallium (Tl)	ug/L	ND	ND	1975375	ND	0.05	1975079
. Thorium (Th)	ug/L	ND	ND	1975375	ND	1	1975079
. Tin (Sn)	ug/L	ND	ND	1975375	ND	1	1975079

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DZ8679	DZ8680		DZ8681		
Sampling Date		2009/10/08 10:05	2009/10/08 09:45		2009/10/08 09:20		
COC Number		164114-0	164114-0		164114-0		
	Units	**SW1**	**SW2**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
. Titanium (Ti)	ug/L	ND	ND	1975375	ND	5	1975079
. Tungsten (W)	ug/L	ND	ND	1975375	ND	1	1975079
. Uranium (U)	ug/L	0.8	0.9	1975375	0.4	0.1	1975079
. Vanadium (V)	ug/L	ND	ND	1975375	ND	1	1975079
. Zinc (Zn)	ug/L	ND	31	1975375	42	5	1975079
. Zirconium (Zr)	ug/L	ND	ND	1975375	ND	1	1975079

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DZ8682	DZ8683	DZ8684	DZ8685		
Sampling Date		2009/10/08 10:35	2009/10/08 08:37	2009/10/08 08:37	2009/10/08		
COC Number		164114-0	164114-0	164114-0	164114-0		
	Units	**SW4**	**SW5**	**SW6**	**TRIP BLANK WO90923**	**RDL**	**QC Batch**
Metals							
. Aluminum (Al)	ug/L	18	100	100	ND	5	1975375
. Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	1975375
. Arsenic (As)	ug/L	ND	ND	ND	ND	1	1975375
. Barium (Ba)	ug/L	31	7	7	ND	5	1975375
. Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	1975375
. Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	1975375
. Boron (B)	ug/L	13	ND	ND	ND	10	1975375
. Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	1975375
. Calcium (Ca)	ug/L	12000	10000	10000	ND	200	1975375
. Chromium (Cr)	ug/L	ND	ND	ND	ND	5	1975375
. Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	1975375
. Copper (Cu)	ug/L	1	ND	ND	ND	1	1975375
. Iron (Fe)	ug/L	130	390	390	ND	100	1975375
. Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	1975375
. Lithium (Li)	ug/L	ND	ND	ND	ND	5	1975375
. Magnesium (Mg)	ug/L	5200	5400	5300	ND	50	1975375
. Manganese (Mn)	ug/L	16	20	19	ND	2	1975375
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	1972985
. Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	1975375
. Nickel (Ni)	ug/L	ND	ND	ND	ND	1	1975375
. Phosphorus (P)	ug/L	ND	ND	ND	ND	100	1975375
. Potassium (K)	ug/L	910	ND	ND	ND	200	1975375
. Selenium (Se)	ug/L	ND	ND	ND	ND	2	1975375
. Silicon (Si)	ug/L	2500	6400	6300	ND	50	1975375
. Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	1975375
. Sodium (Na)	ug/L	4400	900	870	120	100	1975375
. Strontium (Sr)	ug/L	26	21	20	ND	1	1975375
. Tellurium (Te)	ug/L	ND	ND	ND	ND	1	1975375
. Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	1975375
. Thorium (Th)	ug/L	ND	ND	ND	ND	1	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		DZ8682	DZ8683	DZ8684	DZ8685		
Sampling Date		2009/10/08 10:35	2009/10/08 08:37	2009/10/08 08:37	2009/10/08		
COC Number		164114-0	164114-0	164114-0	164114-0		
	Units	**SW4**	**SW5**	**SW6**	**TRIP BLANK WO90923**	**RDL**	**QC Batch**
. Tin (Sn)	ug/L	ND	ND	ND	ND	1	1975375
. Titanium (Ti)	ug/L	ND	ND	ND	ND	5	1975375
. Tungsten (W)	ug/L	ND	ND	ND	ND	1	1975375
. Uranium (U)	ug/L	ND	ND	ND	ND	0.1	1975375
. Vanadium (V)	ug/L	ND	ND	ND	ND	1	1975375
. Zinc (Zn)	ug/L	24	6	5	ND	5	1975375
. Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EA3032		EA3033		EA3034		
Sampling Date								
COC Number		16411401		16411401		16411401		
	Units	**SWI B**	**QC Batch**	**SW2 B**	**QC Batch**	**SW3 B**	**RDL**	**QC Batch**
Metals								
. Aluminum (Al)	ug/L	64	1975375	20	1975079	110	5	1975375
. Antimony (Sb)	ug/L	ND	1975375	ND	1975079	ND	0.5	1975375
. Arsenic (As)	ug/L	1	1975375	1	1975079	1	1	1975375
. Barium (Ba)	ug/L	38	1975375	24	1975079	13	5	1975375
. Beryllium (Be)	ug/L	ND	1975375	ND	1975079	ND	0.5	1975375
. Bismuth (Bi)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Boron (B)	ug/L	27	1975375	24	1975079	15	10	1975375
. Cadmium (Cd)	ug/L	0.1	1975375	ND	1975079	ND	0.1	1975375
. Calcium (Ca)	ug/L	49000	1975375	50000	1975079	40000	200	1975375
. Chromium (Cr)	ug/L	ND	1975375	ND	1975079	ND	5	1975375
. Cobalt (Co)	ug/L	ND	1975375	ND	1975079	ND	0.5	1975375
. Copper (Cu)	ug/L	2	1975375	ND	1975079	ND	1	1975375
. Iron (Fe)	ug/L	100	1975375	570	1975079	230	100	1975375
. Lead (Pb)	ug/L	ND	1975375	ND	1975079	ND	0.5	1975375
. Lithium (Li)	ug/L	7	1975375	ND	1975079	ND	5	1975375
. Magnesium (Mg)	ug/L	20000	1975375	20000	1975079	16000	50	1975375
. Manganese (Mn)	ug/L	28	1975375	370	1975079	26	2	1975375
. Molybdenum (Mo)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Nickel (Ni)	ug/L	2	1975375	1	1975079	2	1	1975375
. Phosphorus (P)	ug/L	ND	1975375	ND	1975079	ND	100	1975375
. Potassium (K)	ug/L	3500	1975375	1000	1975079	1500	200	1975375
. Selenium (Se)	ug/L	ND	1975375	ND	1975079	ND	2	1975375
. Silicon (Si)	ug/L	1800	1975375	5900	1975079	3900	50	1975375
. Silver (Ag)	ug/L	ND	1975375	ND	1975079	ND	0.1	1975375
. Sodium (Na)	ug/L	6300	1975375	2400	1975079	2800	100	1975375
. Strontium (Sr)	ug/L	130	1975375	78	1975079	79	1	1975375
. Tellurium (Te)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Thallium (Tl)	ug/L	ND	1975375	ND	1975079	ND	0.05	1975375
. Thorium (Th)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Tin (Sn)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Titanium (Ti)	ug/L	5	1975375	ND	1975079	6	5	1975375
. Tungsten (W)	ug/L	ND	1975375	ND	1975079	ND	1	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EA3032		EA3033		EA3034		
Sampling Date								
COC Number		16411401		16411401		16411401		
	Units	**SWI B**	**QC Batch**	**SW2 B**	**QC Batch**	**SW3 B**	**RDL**	**QC Batch**
. Uranium (U)	ug/L	0.8	1975375	1.0	1975079	0.4	0.1	1975375
. Vanadium (V)	ug/L	ND	1975375	ND	1975079	ND	1	1975375
. Zinc (Zn)	ug/L	53	1975375	ND	1975079	ND	5	1975375
. Zirconium (Zr)	ug/L	ND	1975375	ND	1975079	ND	1	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EA3035	EA3036		EA3037	EA3038		
Sampling Date								
COC Number		16411401	16411401		16411401	16411401		
	Units	**SW4 B**	**SW5 B**	**QC Batch**	**SW6 B**	**TRIP BLANK B**	**RDL**	**QC Batch**
Metals								
. Aluminum (Al)	ug/L	27	95	1975079	100	ND	5	1975375
. Antimony (Sb)	ug/L	ND	ND	1975079	ND	ND	0.5	1975375
. Arsenic (As)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Barium (Ba)	ug/L	7	21	1975079	24	ND	5	1975375
. Beryllium (Be)	ug/L	ND	ND	1975079	ND	ND	0.5	1975375
. Bismuth (Bi)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Boron (B)	ug/L	14	12	1975079	ND	ND	10	1975375
. Cadmium (Cd)	ug/L	ND	ND	1975079	ND	ND	0.1	1975375
. Calcium (Ca)	ug/L	12000	11000	1975079	11000	ND	200	1975375
. Chromium (Cr)	ug/L	ND	ND	1975079	ND	ND	5	1975375
. Cobalt (Co)	ug/L	ND	ND	1975079	ND	ND	0.5	1975375
. Copper (Cu)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Iron (Fe)	ug/L	170	400	1975079	370	ND	100	1975375
. Lead (Pb)	ug/L	ND	ND	1975079	ND	ND	0.5	1975375
. Lithium (Li)	ug/L	ND	ND	1975079	ND	ND	5	1975375
. Magnesium (Mg)	ug/L	5100	5200	1975079	5400	ND	50	1975375
. Manganese (Mn)	ug/L	22	20	1975079	20	ND	2	1975375
. Molybdenum (Mo)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Nickel (Ni)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Phosphorus (P)	ug/L	ND	ND	1975079	ND	ND	100	1975375
. Potassium (K)	ug/L	900	310	1975079	310	ND	200	1975375
. Selenium (Se)	ug/L	ND	ND	1975079	ND	ND	2	1975375
. Silicon (Si)	ug/L	2600	6100	1975079	6200	ND	50	1975375
. Silver (Ag)	ug/L	ND	ND	1975079	ND	ND	0.1	1975375
. Sodium (Na)	ug/L	4300	920	1975079	920	ND	100	1975375
. Strontium (Sr)	ug/L	24	26	1975079	25	ND	1	1975375
. Tellurium (Te)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Thallium (Tl)	ug/L	ND	ND	1975079	ND	ND	0.05	1975375
. Thorium (Th)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Tin (Sn)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Titanium (Ti)	ug/L	ND	ND	1975079	ND	ND	5	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EA3035	EA3036		EA3037	EA3038		
Sampling Date								
COC Number		16411401	16411401		16411401	16411401		
	Units	**SW4 B**	**SW5 B**	**QC Batch**	**SW6 B**	**TRIP BLANK B**	**RDL**	**QC Batch**
. Tungsten (W)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Uranium (U)	ug/L	ND	ND	1975079	ND	ND	0.1	1975375
. Vanadium (V)	ug/L	ND	ND	1975079	ND	ND	1	1975375
. Zinc (Zn)	ug/L	ND	29	1975079	25	ND	5	1975375
. Zirconium (Zr)	ug/L	ND	ND	1975079	ND	ND	1	1975375

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9D6217
Report Date: 2009/10/26

Klohn Crippen Berger Ltd
Client Project #: Rainy River

GENERAL COMMENTS

Sample DZ8679-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DZ8680-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DZ8682-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DZ8683-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DZ8684-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample DZ8685-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MA9D6217

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1970076	HAG	QC Standard	Total Dissolved Solids	2009/10/15		97	%	90 - 110
		Method Blank	Total Dissolved Solids	2009/10/15	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/10/15	NC		%	25
1971819	JKU	QC Standard	Total BOD	2009/10/20		101	%	85 - 115
		Method Blank	Total BOD	2009/10/20	ND, RDL=2		mg/L	
		RPD [DZ8679-03]	Total BOD	2009/10/20	NC		%	25
1972632	C_H	Matrix Spike	Dissolved Organic Carbon	2009/10/15		94	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/10/15		92	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/10/15	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/10/15	NC		%	20
1972783	C_H	Matrix Spike	Total Organic Carbon (TOC)	2009/10/16		NC	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/10/16		92	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/10/16	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/10/16	1.9		%	20
1972831	ADB	Matrix Spike	Total Ammonia-N	2009/10/16		93	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/10/16		98	%	80 - 120
		Method Blank	Total Ammonia-N	2009/10/16	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/10/16	NC		%	25
1972985	MC	Matrix Spike	Mercury (Hg)	2009/10/16		108	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/10/16		105	%	84 - 113
		Method Blank	Mercury (Hg)	2009/10/16	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/10/16	NC		%	25
1973250	KTH	QC Standard	Turbidity	2009/10/16		99	%	85 - 115
		Method Blank	Turbidity	2009/10/16	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/10/16	NC		%	25
1973258	HAG	QC Standard	Total Suspended Solids	2009/10/16		99	%	85 - 115
		Method Blank	Total Suspended Solids	2009/10/16	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/10/16	NC		%	25
1973301	FA	Matrix Spike [DZ8679-01]	Total Oil & Grease	2009/10/16		95	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/10/16		97	%	85 - 115
		Method Blank	Total Oil & Grease	2009/10/16	ND, RDL=0.5		mg/L	
		RPD [DZ8680-01]	Total Oil & Grease	2009/10/16	NC		%	25
1973303	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/10/16		95	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/10/16	ND, RDL=0.5		mg/L	
		RPD [DZ8680-01]	Total Oil & Grease Mineral/Synthetic	2009/10/16	NC		%	25
1973361	SAU	Matrix Spike	Total Chemical Oxygen Demand (COD)	2009/10/16		102	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/10/16		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/10/16	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/10/16	NC		%	25
1973448	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/10/16		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/10/16	ND, RDL=1		mg/L	
		RPD [DZ8685-02]	Alkalinity (Total as CaCO3)	2009/10/16	NC		%	25
1973454	YPA	QC Standard	Conductivity	2009/10/16		101	%	85 - 115
		Method Blank	Conductivity	2009/10/16	ND, RDL=1		umho/cm	
		RPD [DZ8685-02]	Conductivity	2009/10/16	NC		%	25
1973455	YPA	Matrix Spike [DZ8685-02]	Fluoride (F-)	2009/10/16		101	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/10/16		99	%	80 - 120
		Method Blank	Fluoride (F-)	2009/10/16	ND, RDL=0.1		mg/L	
		RPD [DZ8685-02]	Fluoride (F-)	2009/10/16	NC		%	25
1973458	LHA	Matrix Spike	Total Cyanide (CN)	2009/10/16		100	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/10/16		99	%	90 - 110
		Method Blank	Total Cyanide (CN)	2009/10/16	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/10/16	NC		%	25

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Klohn Crippen Berger Ltd
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Quality Assurance Report (Continued)

Maxxam Job Number: MA9D6217

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1974058	CCI	Matrix Spike	Nitrite (N)	2009/10/19		105	%	75 - 125
			Nitrate (N)	2009/10/19		95	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/10/19		106	%	80 - 120
			Nitrate (N)	2009/10/19		101	%	80 - 120
		Method Blank	Nitrite (N)	2009/10/19	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/10/19	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/10/19	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/10/19	NC		%	25
			Nitrate (N)	2009/10/19	2.4		%	25
			Nitrate + Nitrite	2009/10/19	2.3		%	25
1974067	CCI	Matrix Spike						
		[DZ8682-02]	Nitrite (N)	2009/10/19		105	%	75 - 125
			Nitrate (N)	2009/10/19		102	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/10/19		106	%	80 - 120
			Nitrate (N)	2009/10/19		105	%	80 - 120
		Method Blank	Nitrite (N)	2009/10/19	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/10/19	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/10/19	ND, RDL=0.1		mg/L	
		RPD [DZ8682-02]	Nitrite (N)	2009/10/19	NC		%	25
			Nitrate (N)	2009/10/19	NC		%	25
			Nitrate + Nitrite	2009/10/19	NC		%	25
1974331	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/10/19		117	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/10/19		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/10/19	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/10/19	5.7		%	20
1974365	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/10/19		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/10/19		101	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/10/19	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/10/19	0.3		%	25
1974368	DRM	Matrix Spike	Orthophosphate (P)	2009/10/19		103	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/10/19		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/10/19	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/10/19	NC		%	25
1975079	HRE	Matrix Spike	. Aluminum (Al)	2009/10/19		86	%	80 - 120
			. Antimony (Sb)	2009/10/19		100	%	80 - 120
			. Arsenic (As)	2009/10/19		96	%	80 - 120
			. Barium (Ba)	2009/10/19		94	%	80 - 120
			. Beryllium (Be)	2009/10/19		96	%	80 - 120
			. Bismuth (Bi)	2009/10/19		86	%	80 - 120
			. Boron (B)	2009/10/19		NC	%	80 - 120
			. Cadmium (Cd)	2009/10/19		96	%	80 - 120
			. Calcium (Ca)	2009/10/19		NC	%	80 - 120
			. Chromium (Cr)	2009/10/19		90	%	80 - 120
			. Cobalt (Co)	2009/10/19		90	%	80 - 120
			. Copper (Cu)	2009/10/19		86	%	80 - 120
			. Iron (Fe)	2009/10/19		92	%	80 - 120
			. Lead (Pb)	2009/10/19		90	%	80 - 120
			. Lithium (Li)	2009/10/19		NC	%	80 - 120
			. Magnesium (Mg)	2009/10/19		NC	%	80 - 120
			. Manganese (Mn)	2009/10/19		90	%	80 - 120
			. Molybdenum (Mo)	2009/10/19		101	%	80 - 120
			. Nickel (Ni)	2009/10/19		87	%	80 - 120
			. Phosphorus (P)	2009/10/19		94	%	80 - 120
			. Potassium (K)	2009/10/19		NC	%	80 - 120
			. Selenium (Se)	2009/10/19		98	%	80 - 120

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1975079	HRE	Matrix Spike	. Silicon (Si)	2009/10/19		89	%	80 - 120
			. Silver (Ag)	2009/10/19		90	%	80 - 120
			. Sodium (Na)	2009/10/19		NC	%	80 - 120
			. Strontium (Sr)	2009/10/19		NC	%	80 - 120
			. Tellurium (Te)	2009/10/19		94	%	80 - 120
			. Thallium (Tl)	2009/10/19		89	%	80 - 120
			. Thorium (Th)	2009/10/19		93	%	80 - 120
			. Tin (Sn)	2009/10/19		99	%	80 - 120
			. Titanium (Ti)	2009/10/19		94	%	80 - 120
			. Tungsten (W)	2009/10/19		99	%	80 - 120
			. Uranium (U)	2009/10/19		95	%	80 - 120
			. Vanadium (V)	2009/10/19		92	%	80 - 120
			. Zinc (Zn)	2009/10/19		89	%	80 - 120
			. Zirconium (Zr)	2009/10/19		99	%	80 - 120
		Spiked Blank	. Aluminum (Al)	2009/10/19		95	%	90 - 110
			. Antimony (Sb)	2009/10/19		101	%	90 - 110
			. Arsenic (As)	2009/10/19		100	%	90 - 110
			. Barium (Ba)	2009/10/19		100	%	90 - 110
			. Beryllium (Be)	2009/10/19		99	%	90 - 110
			. Bismuth (Bi)	2009/10/19		100	%	90 - 110
			. Boron (B)	2009/10/19		97	%	90 - 110
			. Cadmium (Cd)	2009/10/19		101	%	90 - 110
			. Calcium (Ca)	2009/10/19		99	%	90 - 110
			. Chromium (Cr)	2009/10/19		99	%	90 - 110
			. Cobalt (Co)	2009/10/19		98	%	90 - 110
			. Copper (Cu)	2009/10/19		98	%	90 - 110
			. Iron (Fe)	2009/10/19		101	%	90 - 110
			. Lead (Pb)	2009/10/19		100	%	90 - 110
			. Lithium (Li)	2009/10/19		97	%	90 - 110
			. Magnesium (Mg)	2009/10/19		101	%	90 - 110
			. Manganese (Mn)	2009/10/19		101	%	90 - 110
			. Molybdenum (Mo)	2009/10/19		103	%	90 - 110
			. Nickel (Ni)	2009/10/19		99	%	90 - 110
			. Phosphorus (P)	2009/10/19		100	%	90 - 110
			. Potassium (K)	2009/10/19		98	%	90 - 110
			. Selenium (Se)	2009/10/19		101	%	90 - 110
			. Silicon (Si)	2009/10/19		100	%	90 - 110
			. Silver (Ag)	2009/10/19		101	%	90 - 110
			. Sodium (Na)	2009/10/19		98	%	90 - 110
			. Strontium (Sr)	2009/10/19		99	%	90 - 110
			. Tellurium (Te)	2009/10/19		99	%	90 - 110
			. Thallium (Tl)	2009/10/19		99	%	90 - 110
			. Thorium (Th)	2009/10/19		100	%	90 - 110
			. Tin (Sn)	2009/10/19		102	%	90 - 110
			. Titanium (Ti)	2009/10/19		102	%	90 - 110
			. Tungsten (W)	2009/10/19		103	%	90 - 110
			. Uranium (U)	2009/10/19		102	%	90 - 110
			. Vanadium (V)	2009/10/19		100	%	90 - 110
			. Zinc (Zn)	2009/10/19		99	%	90 - 110
			. Zirconium (Zr)	2009/10/19		101	%	90 - 110
		Method Blank	. Aluminum (Al)	2009/10/19	ND, RDL=5		ug/L	
			. Antimony (Sb)	2009/10/19	ND, RDL=0.5		ug/L	
			. Arsenic (As)	2009/10/19	ND, RDL=1		ug/L	
			. Barium (Ba)	2009/10/19	ND, RDL=5		ug/L	
			. Beryllium (Be)	2009/10/19	ND, RDL=0.5		ug/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1975079	HRE	Method Blank	. Bismuth (Bi)	2009/10/19	ND, RDL=1		ug/L	
			. Boron (B)	2009/10/19	ND, RDL=10		ug/L	
			. Cadmium (Cd)	2009/10/19	ND, RDL=0.1		ug/L	
			. Calcium (Ca)	2009/10/19	ND, RDL=200		ug/L	
			. Chromium (Cr)	2009/10/19	ND, RDL=5		ug/L	
			. Cobalt (Co)	2009/10/19	ND, RDL=0.5		ug/L	
			. Copper (Cu)	2009/10/19	ND, RDL=1		ug/L	
			. Iron (Fe)	2009/10/19	ND, RDL=100		ug/L	
			. Lead (Pb)	2009/10/19	ND, RDL=0.5		ug/L	
			. Lithium (Li)	2009/10/19	ND, RDL=5		ug/L	
			. Magnesium (Mg)	2009/10/19	ND, RDL=50		ug/L	
			. Manganese (Mn)	2009/10/19	ND, RDL=2		ug/L	
			. Molybdenum (Mo)	2009/10/19	ND, RDL=1		ug/L	
			. Nickel (Ni)	2009/10/19	ND, RDL=1		ug/L	
			. Phosphorus (P)	2009/10/19	ND, RDL=100		ug/L	
			. Potassium (K)	2009/10/19	ND, RDL=200		ug/L	
			. Selenium (Se)	2009/10/19	ND, RDL=2		ug/L	
			. Silicon (Si)	2009/10/19	ND, RDL=50		ug/L	
			. Silver (Ag)	2009/10/19	ND, RDL=0.1		ug/L	
			. Sodium (Na)	2009/10/19	ND, RDL=100		ug/L	
			. Strontium (Sr)	2009/10/19	ND, RDL=1		ug/L	
			. Tellurium (Te)	2009/10/19	ND, RDL=1		ug/L	
			. Thallium (Tl)	2009/10/19	ND, RDL=0.05		ug/L	
			. Thorium (Th)	2009/10/19	ND, RDL=1		ug/L	
			. Tin (Sn)	2009/10/19	ND, RDL=1		ug/L	
			. Titanium (Ti)	2009/10/19	ND, RDL=5		ug/L	
			. Tungsten (W)	2009/10/19	ND, RDL=1		ug/L	
			. Uranium (U)	2009/10/19	ND, RDL=0.1		ug/L	
			. Vanadium (V)	2009/10/19	ND, RDL=1		ug/L	
			. Zinc (Zn)	2009/10/19	ND, RDL=5		ug/L	
			. Zirconium (Zr)	2009/10/19	ND, RDL=1		ug/L	
		RPD	. Aluminum (Al)	2009/10/19	NC		%	25
			. Antimony (Sb)	2009/10/19	NC		%	25
			. Arsenic (As)	2009/10/19	NC		%	25
			. Barium (Ba)	2009/10/19	NC		%	25
			. Beryllium (Be)	2009/10/19	NC		%	25
			. Boron (B)	2009/10/19	5.0		%	25
			. Cadmium (Cd)	2009/10/19	NC		%	25
			. Calcium (Ca)	2009/10/19	1.4		%	25
			. Chromium (Cr)	2009/10/19	NC		%	25
			. Cobalt (Co)	2009/10/19	NC		%	25
			. Copper (Cu)	2009/10/19	1.8		%	25
			. Iron (Fe)	2009/10/19	NC		%	25
			. Lead (Pb)	2009/10/19	1.4		%	25
			. Magnesium (Mg)	2009/10/19	1.2		%	25
			. Manganese (Mn)	2009/10/19	0.06		%	25
			. Molybdenum (Mo)	2009/10/19	NC		%	25
			. Nickel (Ni)	2009/10/19	NC		%	25
			. Phosphorus (P)	2009/10/19	NC		%	25
			. Potassium (K)	2009/10/19	0.9		%	25
			. Selenium (Se)	2009/10/19	NC (1)		%	25
			. Silicon (Si)	2009/10/19	1.2		%	25
			. Silver (Ag)	2009/10/19	NC		%	25
			. Sodium (Na)	2009/10/19	0.4		%	25
			. Strontium (Sr)	2009/10/19	0.7		%	25

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1975079	HRE	RPD	. Thallium (Tl)	2009/10/19	NC		%	25
			. Titanium (Ti)	2009/10/19	NC		%	25
			. Uranium (U)	2009/10/19	NC		%	25
			. Vanadium (V)	2009/10/19	NC		%	25
			. Zinc (Zn)	2009/10/19	0.9		%	25
1975375	HRE	Matrix Spike	. Aluminum (Al)	2009/10/19		96	%	80 - 120
			. Antimony (Sb)	2009/10/19		103	%	80 - 120
			. Arsenic (As)	2009/10/19		99	%	80 - 120
			. Barium (Ba)	2009/10/19		101	%	80 - 120
			. Beryllium (Be)	2009/10/19		102	%	80 - 120
			. Bismuth (Bi)	2009/10/19		98	%	80 - 120
			. Boron (B)	2009/10/19		102	%	80 - 120
			. Cadmium (Cd)	2009/10/19		103	%	80 - 120
			. Calcium (Ca)	2009/10/19		97	%	80 - 120
			. Chromium (Cr)	2009/10/19		98	%	80 - 120
			. Cobalt (Co)	2009/10/19		96	%	80 - 120
			. Copper (Cu)	2009/10/19		96	%	80 - 120
			. Iron (Fe)	2009/10/19		99	%	80 - 120
			. Lead (Pb)	2009/10/19		100	%	80 - 120
			. Lithium (Li)	2009/10/19		99	%	80 - 120
			. Magnesium (Mg)	2009/10/19		101	%	80 - 120
			. Manganese (Mn)	2009/10/19		99	%	80 - 120
			. Molybdenum (Mo)	2009/10/19		103	%	80 - 120
			. Nickel (Ni)	2009/10/19		96	%	80 - 120
			. Phosphorus (P)	2009/10/19		99	%	80 - 120
			. Potassium (K)	2009/10/19		97	%	80 - 120
			. Selenium (Se)	2009/10/19		103	%	80 - 120
			. Silicon (Si)	2009/10/19		97	%	80 - 120
			. Silver (Ag)	2009/10/19		102	%	80 - 120
			. Sodium (Na)	2009/10/19		98	%	80 - 120
			. Strontium (Sr)	2009/10/19		97	%	80 - 120
			. Tellurium (Te)	2009/10/19		102	%	80 - 120
			. Thallium (Tl)	2009/10/19		99	%	80 - 120
			. Thorium (Th)	2009/10/19		99	%	80 - 120
			. Tin (Sn)	2009/10/19		103	%	80 - 120
			. Titanium (Ti)	2009/10/19		98	%	80 - 120
			. Tungsten (W)	2009/10/19		102	%	80 - 120
			. Uranium (U)	2009/10/19		101	%	80 - 120
			. Vanadium (V)	2009/10/19		97	%	80 - 120
			. Zinc (Zn)	2009/10/19		98	%	80 - 120
			. Zirconium (Zr)	2009/10/19		102	%	80 - 120
		Spiked Blank	. Aluminum (Al)	2009/10/19		98	%	90 - 110
			. Antimony (Sb)	2009/10/19		102	%	90 - 110
			. Arsenic (As)	2009/10/19		98	%	90 - 110
			. Barium (Ba)	2009/10/19		102	%	90 - 110
			. Beryllium (Be)	2009/10/19		100	%	90 - 110
			. Bismuth (Bi)	2009/10/19		100	%	90 - 110
			. Boron (B)	2009/10/19		99	%	90 - 110
			. Cadmium (Cd)	2009/10/19		102	%	90 - 110
			. Calcium (Ca)	2009/10/19		99	%	90 - 110
			. Chromium (Cr)	2009/10/19		99	%	90 - 110
			. Cobalt (Co)	2009/10/19		98	%	90 - 110
			. Copper (Cu)	2009/10/19		98	%	90 - 110
			. Iron (Fe)	2009/10/19		100	%	90 - 110
			. Lead (Pb)	2009/10/19		101	%	90 - 110

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9D6217

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1975375	HRE	Spiked Blank	. Lithium (Li)	2009/10/19		98	%	90 - 110
			. Magnesium (Mg)	2009/10/19		101	%	90 - 110
			. Manganese (Mn)	2009/10/19		101	%	90 - 110
			. Molybdenum (Mo)	2009/10/19		103	%	90 - 110
			. Nickel (Ni)	2009/10/19		98	%	90 - 110
			. Phosphorus (P)	2009/10/19		103	%	90 - 110
			. Potassium (K)	2009/10/19		100	%	90 - 110
			. Selenium (Se)	2009/10/19		100	%	90 - 110
			. Silicon (Si)	2009/10/19		100	%	90 - 110
			. Silver (Ag)	2009/10/19		102	%	90 - 110
			. Sodium (Na)	2009/10/19		99	%	90 - 110
			. Strontium (Sr)	2009/10/19		98	%	90 - 110
			. Tellurium (Te)	2009/10/19		98	%	90 - 110
			. Thallium (Tl)	2009/10/19		100	%	90 - 110
			. Thorium (Th)	2009/10/19		101	%	90 - 110
			. Tin (Sn)	2009/10/19		102	%	90 - 110
			. Titanium (Ti)	2009/10/19		101	%	90 - 110
			. Tungsten (W)	2009/10/19		103	%	90 - 110
			. Uranium (U)	2009/10/19		101	%	90 - 110
			. Vanadium (V)	2009/10/19		98	%	90 - 110
			. Zinc (Zn)	2009/10/19		97	%	90 - 110
			. Zirconium (Zr)	2009/10/19		102	%	90 - 110
		Method Blank	. Aluminum (Al)	2009/10/19	ND, RDL=5		ug/L	
			. Antimony (Sb)	2009/10/19	ND, RDL=0.5		ug/L	
			. Arsenic (As)	2009/10/19	ND, RDL=1		ug/L	
			. Barium (Ba)	2009/10/19	ND, RDL=5		ug/L	
			. Beryllium (Be)	2009/10/19	ND, RDL=0.5		ug/L	
			. Bismuth (Bi)	2009/10/19	ND, RDL=1		ug/L	
			. Boron (B)	2009/10/19	ND, RDL=10		ug/L	
			. Cadmium (Cd)	2009/10/19	ND, RDL=0.1		ug/L	
			. Calcium (Ca)	2009/10/19	ND, RDL=200		ug/L	
			. Chromium (Cr)	2009/10/19	ND, RDL=5		ug/L	
			. Cobalt (Co)	2009/10/19	ND, RDL=0.5		ug/L	
			. Copper (Cu)	2009/10/19	ND, RDL=1		ug/L	
			. Iron (Fe)	2009/10/19	ND, RDL=100		ug/L	
			. Lead (Pb)	2009/10/19	ND, RDL=0.5		ug/L	
			. Lithium (Li)	2009/10/19	ND, RDL=5		ug/L	
			. Magnesium (Mg)	2009/10/19	ND, RDL=50		ug/L	
			. Manganese (Mn)	2009/10/19	ND, RDL=2		ug/L	
			. Molybdenum (Mo)	2009/10/19	ND, RDL=1		ug/L	
			. Nickel (Ni)	2009/10/19	ND, RDL=1		ug/L	
			. Phosphorus (P)	2009/10/19	ND, RDL=100		ug/L	
			. Potassium (K)	2009/10/19	ND, RDL=200		ug/L	
			. Selenium (Se)	2009/10/19	ND, RDL=2		ug/L	
			. Silicon (Si)	2009/10/19	ND, RDL=50		ug/L	
			. Silver (Ag)	2009/10/19	ND, RDL=0.1		ug/L	
			. Sodium (Na)	2009/10/19	ND, RDL=100		ug/L	
			. Strontium (Sr)	2009/10/19	ND, RDL=1		ug/L	
			. Tellurium (Te)	2009/10/19	ND, RDL=1		ug/L	
			. Thallium (Tl)	2009/10/19	ND, RDL=0.05		ug/L	
			. Thorium (Th)	2009/10/19	ND, RDL=1		ug/L	
			. Tin (Sn)	2009/10/19	ND, RDL=1		ug/L	
			. Titanium (Ti)	2009/10/19	ND, RDL=5		ug/L	
			. Tungsten (W)	2009/10/19	ND, RDL=1		ug/L	
			. Uranium (U)	2009/10/19	ND, RDL=0.1		ug/L	

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9D6217

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1975375	HRE	Method Blank	. Vanadium (V)	2009/10/19	ND, RDL=1		ug/L	
			. Zinc (Zn)	2009/10/19	ND, RDL=5		ug/L	
			. Zirconium (Zr)	2009/10/19	ND, RDL=1		ug/L	
		RPD	. Aluminum (Al)	2009/10/19	NC		%	25
			. Antimony (Sb)	2009/10/19	NC		%	25
			. Arsenic (As)	2009/10/19	NC		%	25
			. Barium (Ba)	2009/10/19	NC		%	25
			. Beryllium (Be)	2009/10/19	NC		%	25
			. Bismuth (Bi)	2009/10/19	NC		%	25
			. Boron (B)	2009/10/19	NC		%	25
			. Cadmium (Cd)	2009/10/19	NC		%	25
			. Calcium (Ca)	2009/10/19	NC		%	25
			. Chromium (Cr)	2009/10/19	NC		%	25
			. Cobalt (Co)	2009/10/19	NC		%	25
			. Copper (Cu)	2009/10/19	NC		%	25
			. Iron (Fe)	2009/10/19	NC		%	25
			. Lead (Pb)	2009/10/19	NC		%	25
			. Lithium (Li)	2009/10/19	NC		%	25
			. Magnesium (Mg)	2009/10/19	NC		%	25
			. Manganese (Mn)	2009/10/19	NC		%	25
			. Molybdenum (Mo)	2009/10/19	NC		%	25
			. Nickel (Ni)	2009/10/19	NC		%	25
			. Phosphorus (P)	2009/10/19	NC		%	25
			. Potassium (K)	2009/10/19	NC		%	25
			. Selenium (Se)	2009/10/19	NC		%	25
			. Silicon (Si)	2009/10/19	NC		%	25
			. Silver (Ag)	2009/10/19	NC		%	25
			. Sodium (Na)	2009/10/19	7.1		%	25
			. Strontium (Sr)	2009/10/19	NC		%	25
			. Tellurium (Te)	2009/10/19	NC		%	25
			. Thallium (Tl)	2009/10/19	NC		%	25
			. Thorium (Th)	2009/10/19	NC		%	25
			. Tin (Sn)	2009/10/19	NC		%	25
			. Titanium (Ti)	2009/10/19	NC		%	25
			. Tungsten (W)	2009/10/19	NC		%	25
			. Uranium (U)	2009/10/19	NC		%	25
			. Vanadium (V)	2009/10/19	NC		%	25
			. Zinc (Zn)	2009/10/19	NC		%	25
			. Zirconium (Zr)	2009/10/19	NC		%	25
1975820	GSI	Method Blank	Acidity as CaC03	2009/10/20	ND, RDL=10		mg/L	
		RPD [DZ8683-05]	Acidity as CaC03	2009/10/20	NC		%	25
1975940	KTH	QC Standard	Turbidity	2009/10/19		99	%	85 - 115
		Method Blank	Turbidity	2009/10/19	ND, RDL=0.1		NTU	
		RPD [DZ8680-02]	Turbidity	2009/10/19	4.1		%	25
1983859	ADB	Matrix Spike	Total Ammonia-N	2009/10/26		97	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/10/26		100	%	80 - 120
		Method Blank	Total Ammonia-N	2009/10/26	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/10/26	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9D6217

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Detection Limit was raised due to matrix interferences.

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Validation Signature Page

Maxxam Job #: A9D6217

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

BRAD NEWMAN, Scientific Specialist

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

TROY CARRIERE, B.Sc., C.Chem, Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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REC'D IN WINNIPEG

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			164114
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		C#164114-01-01	ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Site Location:			
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com; Lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Acidity as CaCO3 in liquid	Alk.,Cond.,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/Tot Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		Sw1	oct 8 09	10:05	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 Bottles with location
2		Sw2	oct 8 09	9:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	Including both cof cfrms
3		Sw3	oct 8 09	9:20	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		Sw4	oct 8 09	10:35	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
5		Sw5	oct 8 09	8:37	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		Sw6	oct 8.09	8:37	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
7																			
8																			
9																			
10																			

8-Oct-09 16:05
ANTONELLA BRASIL
A9D6217
YKO ENV-718

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

3/4/3°C
3/3/3°C
4/4/3°C
3/3/3°C

'09 OCT 13 16:31

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Birnell	08/10/09		Christine/SAM HILESME	09/10/08	16:05		X	6.1, 5.8, 9.1 @ 4°C	☐ Yes ☒ No
			Nagla Mikhail	09/10/13	10:31				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

REC'D IN WINNIPEG

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #: 164114
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #: C#164114-01-02	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com; Lhollingsworth@klohn.com	Site Location:			
				Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Sublet (MICRO) - TC, EC, E.coli by MF	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		SW1	oct 8/09	10:05	WT		✓	✓	✓	✓	✓	15	Incl. both coc forms
2		SW2	oct 8/09	9:45	WT		✓	✓	✓	✓	✓	15	
3		SW3	oct 8/09	9:20	WT		✓	✓	✓	✓	✓	15	
4		SW4	oct 8/09	10:35	WT		✓	✓	✓	✓	✓	15	
5		SW5	oct 8/09	8:37	WT		✓	✓	✓	✓	✓	15	
6		SW6	oct 8/09	8:37	WT		✓	✓	✓	✓	✓	15	
7								Pulled & W/F & not submitted to Lancaster					09OCT13 10:33
8													3/4/3°
9													3/3/3°
10													4/4/3°
													3/3/3°

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Bidwell	Oct 8/09		Christine/SDM CHICLESHE	09/10/08	16:05		X	6.1, 5.8, 9.1	☐ Yes ☒ No
			Magda Mikhail	09/10/13	10:31				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

White: Maxxam Yellow: Client

Your Project #: MA9D6217
Your C.O.C. #: 08305120

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/10/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A958157
Received: 2009/10/16, 08:55

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (Total)	7	N/A	2009/10/19	BRN SOP-00226 R2.0	Based on EPA 9012AR1
Cyanide WAD (weak acid dissociable)	4	N/A	2009/10/19	BRN SOP-00227 R3.0	Based on SM-4500CN I
Cyanide WAD (weak acid dissociable)	3	N/A	2009/10/20	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: A958157
Client Project #: MA9D6217
Report Date: 2009/10/20

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		R27255	R27256	R27257	R27258		
Sampling Date		2009/10/08	2009/10/08	2009/10/08	2009/10/08		
COC Number		08305120	08305120	08305120	08305120		
	Units	**SW1 (DZ8679-09R)**	**SW2 (DZ8680-09R)**	**SW3 (DZ8681-09R)**	**SW4 (DZ8682-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0011	0.0007	0.0007	<0.0005	0.0005	3502293
Cyanide + Thiocyanate	mg/L	0.0009	0.0007	0.0007	<0.0005	0.0005	3500313

RDL = Reportable Detection Limit

Maxxam ID		R27259	R27260	R27260	R27261		
Sampling Date		2009/10/08	2009/10/08	2009/10/08	2009/10/08		
COC Number		08305120	08305120	08305120	08305120		
	Units	**SW5 (DZ8683-09R)**	**SW6 (DZ8684-09R)**	**SW6 (DZ8684-09R) Lab-Dup**	**TRIP BLANK WO90923 (DZ8685-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0016	0.0013	0.0015	<0.0005	0.0005	3502293
Cyanide + Thiocyanate	mg/L	0.0016	0.0012	N/A	<0.0005	0.0005	3500313

N/A = Not Applicable
RDL = Reportable Detection Limit

Maxxam ID		R27261		
Sampling Date		2009/10/08		
COC Number		08305120		
	Units	**TRIP BLANK WO90923 (DZ8685-09R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics				
Cyanide + Thiocyanate	mg/L	<0.0005	0.0005	3500313

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.
Client Project #: MA9D6217

Maxxam Job #: A958157
Report Date: 2009/10/20

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9D6217
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VA958157

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3500313	BB3	Matrix Spike	Cyanide + Thiocyanate	2009/10/19		112	%	80 - 120
		Spiked Blank	Cyanide + Thiocyanate	2009/10/19		103	%	80 - 120
		Method Blank	Cyanide + Thiocyanate	2009/10/19	<0.0005		mg/L	
		RPD [R27261-01]	Cyanide + Thiocyanate	2009/10/19	NC		%	20
3502293	KC5	Matrix Spike [R27260-01]	Weak Acid Dissoc. Cyanide (CN)	2009/10/20		114	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/10/20		107	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/10/20	<0.0005		mg/L	
		RPD [R27260-01]	Weak Acid Dissoc. Cyanide (CN)	2009/10/20	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A958157

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

APPENDIX I - 4

Laboratory Results
November 2009

Your Project #: Rainy River
Your C.O.C. #: 16865001, 168650-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/11/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9F0527
Received: 2009/11/05, 15:40

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1,2)	7	2009/11/10	2009/11/12	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2009/11/11	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/11/12	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/11/12	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/11/12	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2009/11/11	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/11/11	2009/11/11	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2009/11/11	CAM SOP-00446	SM 5310 B
Fluoride	7	2009/11/11	2009/11/11	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/11/10	2009/11/11	CAM SOP-00453	EPA 7470
Metals Analysis by ICPMS (as received) (3)	14	2009/11/13	2009/11/13	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2009/11/12	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (4)	7	N/A	2009/11/11	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/11/11	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/11/11	2009/11/11	CAM SOP-00326	EPA 1664A
pH	7	N/A	2009/11/11	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/11/12	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/11/12	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/11/10	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2009/11/12	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (5)	7	2009/11/11	2009/11/11	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2009/11/10	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2009/11/10	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Metals analysis was performed on the sample 'as received'.
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

../2

Your Project #: Rainy River
Your C.O.C. #: 16865001, 168650-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/11/16

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9991	EG9991		
Sampling Date		2009/11/05 09:47	2009/11/05 09:47		
COC Number		168650-0	168650-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2003245
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2004972
Total Ammonia-N	mg/L	0.23	N/A	0.05	2006416
Total BOD	mg/L	ND	N/A	2	2003187
Total Chemical Oxygen Demand (COD)	mg/L	64	N/A	4	2006471
Conductivity	umho/cm	328	328	1	2006542
Total Dissolved Solids	mg/L	220	N/A	10	2004148
Fluoride (F-)	mg/L	ND	ND	0.1	2006544
Dissolved Organic Carbon	mg/L	23.5	N/A	0.2	2006283
Total Organic Carbon (TOC)	mg/L	23.8	N/A	0.2	2006359
Orthophosphate (P)	mg/L	ND (1)	ND	0.05	2006460
pH	pH	7.7	7.8	N/A	2006543
Total Suspended Solids	mg/L	12	N/A	1	2004685
Dissolved Sulphate (SO4)	mg/L	ND (1)	ND	10	2006462
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2006057
Turbidity	NTU	6.3	N/A	0.1	2004470
Alkalinity (Total as CaCO3)	mg/L	130	129	1	2006540
Dissolved Chloride (Cl)	mg/L	15	15	5	2006459
Nitrite (N)	mg/L	ND	N/A	0.01	2006069
Nitrate (N)	mg/L	ND	N/A	0.1	2006069
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2006069
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	2003855
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	2006006

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9992	EG9992		
Sampling Date		2009/11/05 09:30	2009/11/05 09:30		
COC Number		168650-0	168650-0		
	Units	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2003245
Inorganics					
Acidity as CaC03	mg/L	12	N/A	10	2004972
Total Ammonia-N	mg/L	0.24	N/A	0.05	2006416
Total BOD	mg/L	ND	N/A	2	2003187
Total Chemical Oxygen Demand (COD)	mg/L	40	N/A	4	2006471
Conductivity	umho/cm	354	351	1	2006029
Total Dissolved Solids	mg/L	230	N/A	10	2004148
Fluoride (F-)	mg/L	ND	ND	0.1	2006033
Dissolved Organic Carbon	mg/L	15.3	N/A	0.2	2006277
Total Organic Carbon (TOC)	mg/L	15.2	15.0	0.2	2006359
Orthophosphate (P)	mg/L	ND	N/A	0.01	2006456
pH	pH	7.9	N/A	N/A	2006031
Total Suspended Solids	mg/L	2	N/A	1	2004685
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2006457
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2006057
Turbidity	NTU	3.1	N/A	0.1	2004470
Alkalinity (Total as CaCO3)	mg/L	179	178	1	2006027
Dissolved Chloride (Cl)	mg/L	5	N/A	1	2006454
Nitrite (N)	mg/L	ND	N/A	0.01	2006069
Nitrate (N)	mg/L	ND	N/A	0.1	2006069
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2006069
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2003855
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2006006

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9993		EG9994		
Sampling Date		2009/11/05 08:40		2009/11/05 10:45		
COC Number		168650-0		168650-0		
	Units	**SW3**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	2003245	ND	0.5	2003245
Inorganics						
Acidity as CaC03	mg/L	12	2004972	14	10	2004972
Total Ammonia-N	mg/L	0.23	2006416	0.24	0.05	2006416
Total BOD	mg/L	ND	2003187	ND	2	2003187
Total Chemical Oxygen Demand (COD)	mg/L	59	2006471	52	4	2006471
Conductivity	umho/cm	314	2006029	105	1	2006542
Total Dissolved Solids	mg/L	205	2004148	70	10	2004148
Fluoride (F-)	mg/L	0.1	2006033	ND	0.1	2006544
Dissolved Organic Carbon	mg/L	22.5	2006283	20.3	0.2	2006283
Total Organic Carbon (TOC)	mg/L	22.8	2006359	20.8	0.2	2006359
Orthophosphate (P)	mg/L	ND (1)	2006456	ND (1)	0.05	2006460
pH	pH	7.8	2006031	7.1	N/A	2006543
Total Suspended Solids	mg/L	6	2004681	1	1	2004685
Dissolved Sulphate (SO4)	mg/L	ND (1)	2006457	ND (1)	5	2006462
Total Cyanide (CN)	mg/L	ND	2006057	ND	0.005	2006057
Turbidity	NTU	4.7	2004470	0.8	0.1	2004470
Alkalinity (Total as CaCO3)	mg/L	147	2006027	42	1	2006540
Dissolved Chloride (Cl)	mg/L	7	2006454	ND (1)	5	2006459
Nitrite (N)	mg/L	ND	2006069	ND	0.01	2006069
Nitrate (N)	mg/L	ND	2006069	ND	0.1	2006069
Nitrate + Nitrite	mg/L	ND	2006069	ND	0.1	2006069
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	2003855	ND	0.5	2003855
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2006006	ND	0.5	2006006

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9995		EG9996		
Sampling Date		2009/11/05 08:00		2009/11/05 09:30		
COC Number		168650-0		168650-0		
	Units	**SW5**	**RDL**	**SW6**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	0.5	2003245
Inorganics						
Acidity as CaC03	mg/L	12	10	16	10	2004972
Total Ammonia-N	mg/L	0.25	0.05	0.24	0.05	2006416
Total BOD	mg/L	ND	2	ND	2	2003187
Total Chemical Oxygen Demand (COD)	mg/L	150	4	39	4	2006471
Conductivity	umho/cm	66	1	350	1	2006542
Total Dissolved Solids	mg/L	43	10	232	10	2004148
Fluoride (F-)	mg/L	ND	0.1	ND	0.1	2006544
Dissolved Organic Carbon	mg/L	57	4	15.2	0.2	2006283
Total Organic Carbon (TOC)	mg/L	59	4	15.2	0.2	2006359
Orthophosphate (P)	mg/L	ND (1)	0.2	ND	0.01	2006456
pH	pH	6.7	N/A	7.8	N/A	2006543
Total Suspended Solids	mg/L	ND	1	2	1	2004685
Dissolved Sulphate (SO4)	mg/L	ND (1)	20	ND	1	2006457
Total Cyanide (CN)	mg/L	ND	0.005	ND	0.005	2006057
Turbidity	NTU	0.6	0.1	3.5	0.1	2004470
Alkalinity (Total as CaCO3)	mg/L	24	1	176	1	2006540
Dissolved Chloride (Cl)	mg/L	ND (1)	20	6	1	2006454
Nitrite (N)	mg/L	0.01	0.01	ND	0.01	2006069
Nitrate (N)	mg/L	ND	0.1	ND	0.1	2006069
Nitrate + Nitrite	mg/L	ND	0.1	ND	0.1	2006069
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	0.5	ND	0.5	2003855
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	0.5	2006006

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9996		EG9997		
Sampling Date		2009/11/05 09:30				
COC Number		168650-0		168650-0		
	Units	**SW6 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	N/A	2003245	ND	0.5	2003245
Inorganics						
Acidity as CaC03	mg/L	N/A	2004972	ND	10	2004972
Total Ammonia-N	mg/L	N/A	2006416	0.14	0.05	2006416
Total BOD	mg/L	N/A	2003187	ND	2	2003187
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2006471	ND	4	2006471
Conductivity	umho/cm	N/A	2006542	1	1	2006542
Total Dissolved Solids	mg/L	N/A	2004148	ND	10	2004148
Fluoride (F-)	mg/L	N/A	2006544	ND	0.1	2006544
Dissolved Organic Carbon	mg/L	15.0	2006283	0.4	0.2	2006283
Total Organic Carbon (TOC)	mg/L	N/A	2006359	ND	0.2	2006359
Orthophosphate (P)	mg/L	N/A	2006456	ND	0.01	2006456
pH	pH	N/A	2006543	6.7	N/A	2006543
Total Suspended Solids	mg/L	N/A	2004685	ND	1	2004681
Dissolved Sulphate (SO4)	mg/L	N/A	2006457	ND	1	2006457
Total Cyanide (CN)	mg/L	N/A	2006057	ND	0.005	2006057
Turbidity	NTU	N/A	2004470	0.1	0.1	2004470
Alkalinity (Total as CaCO3)	mg/L	N/A	2006540	ND	1	2006540
Dissolved Chloride (Cl)	mg/L	N/A	2006454	ND	1	2006454
Nitrite (N)	mg/L	N/A	2006069	ND	0.01	2006069
Nitrate (N)	mg/L	N/A	2006069	ND	0.1	2006069
Nitrate + Nitrite	mg/L	N/A	2006069	ND	0.1	2006069
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	N/A	2003855	ND	0.5	2003855
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	2006006	ND	0.5	2006006

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		EG9997		
Sampling Date				
COC Number		168650-0		
	Units	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	ND	10	2004972

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EG9991	EG9992	EG9993	EG9994		
Sampling Date		2009/11/05 09:47	2009/11/05 09:30	2009/11/05 08:40	2009/11/05 10:45		
COC Number		168650-0	168650-0	168650-0	168650-0		
	Units	**SW1**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Metals							
. Aluminum (Al)	ug/L	100	47	66	13	5	2008396
. Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2008396
. Arsenic (As)	ug/L	ND	ND	ND	ND	1	2008396
. Barium (Ba)	ug/L	36	64	33	35	5	2008396
. Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2008396
. Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2008396
. Boron (B)	ug/L	14	ND	13	ND	10	2008396
. Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2008396
. Calcium (Ca)	ug/L	36000	43000	36000	10000	200	2008396
. Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2008396
. Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2008396
. Copper (Cu)	ug/L	2	1	ND	ND	1	2008396
. Iron (Fe)	ug/L	250	260	160	ND	100	2008396
. Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2008396
. Lithium (Li)	ug/L	6	ND	ND	ND	5	2008396
. Magnesium (Mg)	ug/L	16000	18000	16000	5000	50	2008396
. Manganese (Mn)	ug/L	15	74	12	9	2	2008396
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2004760
. Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2008396
. Nickel (Ni)	ug/L	1	ND	1	ND	1	2008396
. Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2008396
. Potassium (K)	ug/L	3500	1600	3000	1100	200	2008396
. Selenium (Se)	ug/L	ND	ND	ND	ND	2	2008396
. Silicon (Si)	ug/L	5200	5100	4800	2400	50	2008396
. Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2008396
. Sodium (Na)	ug/L	8900	2900	4300	3300	100	2008396
. Strontium (Sr)	ug/L	85	67	75	23	1	2008396
. Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2008396
. Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2008396
. Thorium (Th)	ug/L	ND	ND	ND	ND	1	2008396
. Tin (Sn)	ug/L	ND	ND	ND	ND	1	2008396

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EG9991	EG9992	EG9993	EG9994		
Sampling Date		2009/11/05 09:47	2009/11/05 09:30	2009/11/05 08:40	2009/11/05 10:45		
COC Number		168650-0	168650-0	168650-0	168650-0		
	Units	**SW1**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
. Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2008396
. Tungsten (W)	ug/L	ND	ND	ND	ND	1	2008396
. Uranium (U)	ug/L	0.7	0.6	0.7	ND	0.1	2008396
. Vanadium (V)	ug/L	1	ND	ND	ND	1	2008396
. Zinc (Zn)	ug/L	18	23	11	16	5	2008396
. Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2008396

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QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EG9994	EG9995	EG9996	EG9997		
Sampling Date		2009/11/05 10:45	2009/11/05 08:00	2009/11/05 09:30			
COC Number		168650-0	168650-0	168650-0	168650-0		
	Units	**SW4 Lab-Dup**	**SW5**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals							
. Aluminum (Al)	ug/L	N/A	170	61	ND	5	2008396
. Antimony (Sb)	ug/L	N/A	ND	ND	ND	0.5	2008396
. Arsenic (As)	ug/L	N/A	ND	ND	ND	1	2008396
. Barium (Ba)	ug/L	N/A	24	19	ND	5	2008396
. Beryllium (Be)	ug/L	N/A	ND	ND	ND	0.5	2008396
. Bismuth (Bi)	ug/L	N/A	ND	ND	ND	1	2008396
. Boron (B)	ug/L	N/A	ND	ND	ND	10	2008396
. Cadmium (Cd)	ug/L	N/A	ND	ND	ND	0.1	2008396
. Calcium (Ca)	ug/L	N/A	9400	44000	ND	200	2008396
. Chromium (Cr)	ug/L	N/A	ND	ND	ND	5	2008396
. Cobalt (Co)	ug/L	N/A	ND	ND	ND	0.5	2008396
. Copper (Cu)	ug/L	N/A	ND	ND	ND	1	2008396
. Iron (Fe)	ug/L	N/A	450	360	ND	100	2008396
. Lead (Pb)	ug/L	N/A	ND	ND	ND	0.5	2008396
. Lithium (Li)	ug/L	N/A	ND	ND	ND	5	2008396
. Magnesium (Mg)	ug/L	N/A	5200	18000	ND	50	2008396
. Manganese (Mn)	ug/L	N/A	2	74	ND	2	2008396
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2004760
. Molybdenum (Mo)	ug/L	N/A	ND	ND	ND	1	2008396
. Nickel (Ni)	ug/L	N/A	ND	ND	ND	1	2008396
. Phosphorus (P)	ug/L	N/A	ND	ND	ND	100	2008396
. Potassium (K)	ug/L	N/A	970	1700	ND	200	2008396
. Selenium (Se)	ug/L	N/A	ND	ND	ND	2	2008396
. Silicon (Si)	ug/L	N/A	5400	5400	ND	50	2008396
. Silver (Ag)	ug/L	N/A	ND	ND	ND	0.1	2008396
. Sodium (Na)	ug/L	N/A	1100	2800	ND	100	2008396
. Strontium (Sr)	ug/L	N/A	21	67	ND	1	2008396
. Tellurium (Te)	ug/L	N/A	ND	ND	ND	1	2008396
. Thallium (Tl)	ug/L	N/A	ND	ND	ND	0.05	2008396
. Thorium (Th)	ug/L	N/A	ND	ND	ND	1	2008396

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EG9994	EG9995	EG9996	EG9997		
Sampling Date		2009/11/05 10:45	2009/11/05 08:00	2009/11/05 09:30			
COC Number		168650-0	168650-0	168650-0	168650-0		
	Units	**SW4 Lab-Dup**	**SW5**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
. Tin (Sn)	ug/L	N/A	ND	ND	ND	1	2008396
. Titanium (Ti)	ug/L	N/A	ND	ND	ND	5	2008396
. Tungsten (W)	ug/L	N/A	ND	ND	ND	1	2008396
. Uranium (U)	ug/L	N/A	ND	0.5	ND	0.1	2008396
. Vanadium (V)	ug/L	N/A	ND	ND	ND	1	2008396
. Zinc (Zn)	ug/L	N/A	21	ND	ND	5	2008396
. Zirconium (Zr)	ug/L	N/A	ND	ND	ND	1	2008396

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EH2839	EH2843	EH2844	EH2844	EH2845		
Sampling Date								
COC Number		168650-0	168650-0	168650-0	168650-0	168650-0		
	Units	**SW1B**	**SW2B**	**SW3B**	**SW3B Lab-Dup**	**SW4B**	**RDL**	**QC Batch**
Metals								
. Aluminum (Al)	ug/L	150	59	91	92	12	5	2008396
. Antimony (Sb)	ug/L	ND	ND	ND	ND	ND	0.5	2008396
. Arsenic (As)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Barium (Ba)	ug/L	17	18	16	16	6	5	2008396
. Beryllium (Be)	ug/L	ND	ND	ND	ND	ND	0.5	2008396
. Bismuth (Bi)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Boron (B)	ug/L	14	ND	10	ND	ND	10	2008396
. Cadmium (Cd)	ug/L	ND	ND	ND	ND	ND	0.1	2008396
. Calcium (Ca)	ug/L	35000	43000	37000	36000	11000	200	2008396
. Chromium (Cr)	ug/L	ND	ND	ND	ND	ND	5	2008396
. Cobalt (Co)	ug/L	ND	ND	ND	ND	ND	0.5	2008396
. Copper (Cu)	ug/L	ND	ND	1	ND	ND	1	2008396
. Iron (Fe)	ug/L	340	350	190	190	ND	100	2008396
. Lead (Pb)	ug/L	ND	ND	ND	ND	ND	0.5	2008396
. Lithium (Li)	ug/L	7	ND	5	ND	ND	5	2008396
. Magnesium (Mg)	ug/L	16000	18000	17000	16000	5000	50	2008396
. Manganese (Mn)	ug/L	20	74	12	12	12	2	2008396
. Molybdenum (Mo)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Nickel (Ni)	ug/L	1	ND	ND	1	ND	1	2008396
. Phosphorus (P)	ug/L	ND	ND	ND	ND	ND	100	2008396
. Potassium (K)	ug/L	3400	1700	3000	3000	1100	200	2008396
. Selenium (Se)	ug/L	ND	ND	ND	ND	ND	2	2008396
. Silicon (Si)	ug/L	5300	5300	4900	5000	2500	50	2008396
. Silver (Ag)	ug/L	ND	ND	ND	ND	ND	0.1	2008396
. Sodium (Na)	ug/L	8900	2800	4300	4300	3200	100	2008396
. Strontium (Sr)	ug/L	85	67	75	74	22	1	2008396
. Tellurium (Te)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Thallium (Tl)	ug/L	ND	ND	ND	ND	ND	0.05	2008396
. Thorium (Th)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Tin (Sn)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Titanium (Ti)	ug/L	ND	ND	ND	ND	ND	5	2008396

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EH2839	EH2843	EH2844	EH2844	EH2845		
Sampling Date								
COC Number		168650-0	168650-0	168650-0	168650-0	168650-0		
	Units	**SW1B**	**SW2B**	**SW3B**	**SW3B Lab-Dup**	**SW4B**	**RDL**	**QC Batch**
. Tungsten (W)	ug/L	ND	ND	ND	ND	ND	1	2008396
. Uranium (U)	ug/L	0.7	0.5	0.7	0.7	ND	0.1	2008396
. Vanadium (V)	ug/L	1	ND	1	1	ND	1	2008396
. Zinc (Zn)	ug/L	ND	ND	ND	ND	ND	5	2008396
. Zirconium (Zr)	ug/L	ND	ND	ND	ND	ND	1	2008396

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EH2846	EH2847	EH2849		
Sampling Date						
COC Number		168650-0	168650-0	168650-0		
	Units	**SW5B**	**SW6B**	**TRIP BLANK B**	**RDL**	**QC Batch**
Metals						
. Aluminum (Al)	ug/L	170	49	ND	5	2008396
. Antimony (Sb)	ug/L	ND	ND	ND	0.5	2008396
. Arsenic (As)	ug/L	ND	ND	ND	1	2008396
. Barium (Ba)	ug/L	7	44	ND	5	2008396
. Beryllium (Be)	ug/L	ND	ND	ND	0.5	2008396
. Bismuth (Bi)	ug/L	ND	ND	ND	1	2008396
. Boron (B)	ug/L	ND	13	ND	10	2008396
. Cadmium (Cd)	ug/L	ND	ND	ND	0.1	2008396
. Calcium (Ca)	ug/L	9400	43000	ND	200	2008396
. Chromium (Cr)	ug/L	ND	ND	ND	5	2008396
. Cobalt (Co)	ug/L	ND	ND	ND	0.5	2008396
. Copper (Cu)	ug/L	ND	1	ND	1	2008396
. Iron (Fe)	ug/L	450	260	ND	100	2008396
. Lead (Pb)	ug/L	ND	ND	ND	0.5	2008396
. Lithium (Li)	ug/L	ND	ND	ND	5	2008396
. Magnesium (Mg)	ug/L	5100	18000	ND	50	2008396
. Manganese (Mn)	ug/L	2	70	ND	2	2008396
. Molybdenum (Mo)	ug/L	ND	ND	ND	1	2008396
. Nickel (Ni)	ug/L	ND	ND	ND	1	2008396
. Phosphorus (P)	ug/L	ND	ND	ND	100	2008396
. Potassium (K)	ug/L	900	1700	210	200	2008396
. Selenium (Se)	ug/L	ND	ND	ND	2	2008396
. Silicon (Si)	ug/L	5400	5200	58	50	2008396
. Silver (Ag)	ug/L	ND	ND	ND	0.1	2008396
. Sodium (Na)	ug/L	980	2900	ND	100	2008396
. Strontium (Sr)	ug/L	19	67	ND	1	2008396
. Tellurium (Te)	ug/L	ND	ND	ND	1	2008396
. Thallium (Tl)	ug/L	ND	ND	ND	0.05	2008396
. Thorium (Th)	ug/L	ND	ND	ND	1	2008396
. Tin (Sn)	ug/L	ND	ND	ND	1	2008396
. Titanium (Ti)	ug/L	ND	ND	ND	5	2008396

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EH2846	EH2847	EH2849		
Sampling Date						
COC Number		168650-0	168650-0	168650-0		
	Units	**SW5B**	**SW6B**	**TRIP BLANK B**	**RDL**	**QC Batch**
. Tungsten (W)	ug/L	ND	ND	ND	1	2008396
. Uranium (U)	ug/L	ND	0.5	ND	0.1	2008396
. Vanadium (V)	ug/L	ND	ND	ND	1	2008396
. Zinc (Zn)	ug/L	ND	13	ND	5	2008396
. Zirconium (Zr)	ug/L	ND	ND	ND	1	2008396

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Maxxam Job #: A9F0527
Report Date: 2009/11/16

Klohn Crippen Berger Ltd
Client Project #: Rainy River

GENERAL COMMENTS

Sample EG9992-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample EG9996-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample EG9997-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MA9F0527

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2003187	HAL	QC Standard	Total BOD	2009/11/12		104	%	85 - 115
		Method Blank	Total BOD	2009/11/12	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/11/12	NC		%	25
2003855	AMJ	Matrix Spike						
		[EG9992-01]	Total Oil & Grease	2009/11/11		85	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/11/11		101	%	85 - 115
		Method Blank	Total Oil & Grease	2009/11/11	ND, RDL=0.5		mg/L	
		RPD [EG9991-01]	Total Oil & Grease	2009/11/11	NC		%	25
2004148	HAG	QC Standard	Total Dissolved Solids	2009/11/10		100	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/11/10	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/11/10	NC		%	25
2004470	KTH	QC Standard	Turbidity	2009/11/10		99	%	85 - 115
		Method Blank	Turbidity	2009/11/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/11/10	1.5		%	25
2004681	HAG	QC Standard	Total Suspended Solids	2009/11/10		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/11/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/11/10	NC		%	25
2004685	HAG	QC Standard	Total Suspended Solids	2009/11/10		102	%	85 - 115
		Method Blank	Total Suspended Solids	2009/11/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/11/10	0		%	25
2004760	MC	Matrix Spike						
		[EG9994-10]	Mercury (Hg)	2009/11/11		98	%	80 - 120
		Spiked Blank	Mercury (Hg)	2009/11/11		108	%	80 - 120
		Method Blank	Mercury (Hg)	2009/11/11	ND, RDL=0.0001		mg/L	
		RPD [EG9994-10]	Mercury (Hg)	2009/11/11	NC		%	25
2004972	MAT	Method Blank	Acidity as CaC03	2009/11/12	ND, RDL=10		mg/L	
		RPD [EG9997-05]	Acidity as CaC03	2009/11/12	NC		%	25
2006006	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/11/11		98	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/11/11	ND, RDL=0.5		mg/L	
		RPD [EG9991-01]	Total Oil & Grease Mineral/Synthetic	2009/11/11	NC		%	25
2006027	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/11/11		100	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/11/11	1, RDL=1		mg/L	
		RPD [EG9992-02]	Alkalinity (Total as CaCO3)	2009/11/11	0.6		%	25
2006029	YPA	QC Standard	Conductivity	2009/11/11		104	%	85 - 115
		Method Blank	Conductivity	2009/11/11	ND, RDL=1		umho/cm	
		RPD [EG9992-02]	Conductivity	2009/11/11	0.8		%	25
2006033	YPA	Matrix Spike						
		[EG9992-02]	Fluoride (F-)	2009/11/11		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/11/11		105	%	80 - 120
		Method Blank	Fluoride (F-)	2009/11/11	ND, RDL=0.1		mg/L	
		RPD [EG9992-02]	Fluoride (F-)	2009/11/11	NC		%	25
2006057	CP	Matrix Spike	Total Cyanide (CN)	2009/11/11		91	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/11/11		107	%	80 - 120
		Method Blank	Total Cyanide (CN)	2009/11/11	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/11/11	NC		%	25
2006069	CCI	Matrix Spike	Nitrite (N)	2009/11/11		102	%	75 - 125
			Nitrate (N)	2009/11/11		97	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/11/11		104	%	80 - 120
			Nitrate (N)	2009/11/11		102	%	80 - 120
		Method Blank	Nitrite (N)	2009/11/11	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/11/11	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/11/11	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/11/11	NC		%	25
			Nitrate (N)	2009/11/11	0.2		%	25
			Nitrate + Nitrite	2009/11/11	0.2		%	25

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9F0527

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2006277	C_H	Matrix Spike	Dissolved Organic Carbon	2009/11/11		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/11/11		97	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/11/11	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/11/11	3.9		%	20
2006283	C_H	Matrix Spike [EG9996-09]	Dissolved Organic Carbon	2009/11/11		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/11/11		98	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/11/11	ND, RDL=0.2		mg/L	
		RPD [EG9996-09]	Dissolved Organic Carbon	2009/11/11	1.3		%	20
2006359	C_H	Matrix Spike [EG9992-07]	Total Organic Carbon (TOC)	2009/11/12		NC	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/11/12		98	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/11/12	ND, RDL=0.2		mg/L	
		RPD [EG9992-07]	Total Organic Carbon (TOC)	2009/11/12	1		%	20
2006416	ADB	Matrix Spike	Total Ammonia-N	2009/11/12		93	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/11/12		99	%	80 - 120
		Method Blank	Total Ammonia-N	2009/11/12	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/11/12	NC		%	25
2006454	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/11/12		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/11/12		103	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/11/12	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/11/12	0.03		%	20
2006456	DRM	Matrix Spike	Orthophosphate (P)	2009/11/12		111	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/11/12		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/11/12	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/11/12	NC		%	25
2006457	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/11/12		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/11/12		96	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/11/12	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/11/12	0.01		%	25
2006459	DRM	Matrix Spike [EG9991-02]	Dissolved Chloride (Cl)	2009/11/12		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/11/12		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/11/12	ND, RDL=1		mg/L	
		RPD [EG9991-02]	Dissolved Chloride (Cl)	2009/11/12	NC		%	20
2006460	DRM	Matrix Spike [EG9991-02]	Orthophosphate (P)	2009/11/12		99	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/11/12		101	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/11/12	ND, RDL=0.01		mg/L	
		RPD [EG9991-02]	Orthophosphate (P)	2009/11/12	NC		%	25
2006462	DRM	Matrix Spike [EG9991-02]	Dissolved Sulphate (SO4)	2009/11/12		84	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/11/12		99	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/11/12	ND, RDL=1		mg/L	
		RPD [EG9991-02]	Dissolved Sulphate (SO4)	2009/11/12	NC		%	25
2006471	SAU	Matrix Spike	Total Chemical Oxygen Demand (COD)	2009/11/12		101	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/11/12		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/11/12	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/11/12	4.7		%	25
2006540	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/11/11		99	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/11/11	2, RDL=1		mg/L	
		RPD [EG9991-02]	Alkalinity (Total as CaCO3)	2009/11/11	1.2		%	25
2006542	YPA	QC Standard	Conductivity	2009/11/11		104	%	85 - 115
		Method Blank	Conductivity	2009/11/11	ND, RDL=1		umho/cm	
		RPD [EG9991-02]	Conductivity	2009/11/11	0		%	25

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9F0527

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2006544	YPA	Matrix Spike [EG9991-02]	Fluoride (F-)	2009/11/11		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/11/11		104	%	80 - 120
		Method Blank	Fluoride (F-)	2009/11/11	ND, RDL=0.1		mg/L	
		RPD [EG9991-02]	Fluoride (F-)	2009/11/11	NC		%	25
2008396	ADA	Matrix Spike [EH2844-01]	. Aluminum (Al)	2009/11/13		102	%	80 - 120
			. Antimony (Sb)	2009/11/13		103	%	80 - 120
			. Arsenic (As)	2009/11/13		98	%	80 - 120
			. Barium (Ba)	2009/11/13		95	%	80 - 120
			. Beryllium (Be)	2009/11/13		101	%	80 - 120
			. Bismuth (Bi)	2009/11/13		91	%	80 - 120
			. Boron (B)	2009/11/13		97	%	80 - 120
			. Cadmium (Cd)	2009/11/13		102	%	80 - 120
			. Calcium (Ca)	2009/11/13		NC	%	80 - 120
			. Chromium (Cr)	2009/11/13		102	%	80 - 120
			. Cobalt (Co)	2009/11/13		96	%	80 - 120
			. Copper (Cu)	2009/11/13		95	%	80 - 120
			. Iron (Fe)	2009/11/13		98	%	80 - 120
			. Lead (Pb)	2009/11/13		95	%	80 - 120
			. Lithium (Li)	2009/11/13		96	%	80 - 120
			. Magnesium (Mg)	2009/11/13		NC	%	80 - 120
			. Manganese (Mn)	2009/11/13		100	%	80 - 120
			. Molybdenum (Mo)	2009/11/13		101	%	80 - 120
			. Nickel (Ni)	2009/11/13		97	%	80 - 120
			. Phosphorus (P)	2009/11/13		107	%	80 - 120
			. Potassium (K)	2009/11/13		102	%	80 - 120
			. Selenium (Se)	2009/11/13		97	%	80 - 120
			. Silicon (Si)	2009/11/13		106	%	80 - 120
			. Silver (Ag)	2009/11/13		95	%	80 - 120
			. Sodium (Na)	2009/11/13		106	%	80 - 120
			. Strontium (Sr)	2009/11/13		96	%	80 - 120
			. Tellurium (Te)	2009/11/13		103	%	80 - 120
			. Thallium (Tl)	2009/11/13		96	%	80 - 120
			. Thorium (Th)	2009/11/13		95	%	80 - 120
			. Tin (Sn)	2009/11/13		99	%	80 - 120
			. Titanium (Ti)	2009/11/13		101	%	80 - 120
			. Tungsten (W)	2009/11/13		97	%	80 - 120
			. Uranium (U)	2009/11/13		94	%	80 - 120
			. Vanadium (V)	2009/11/13		101	%	80 - 120
			. Zinc (Zn)	2009/11/13		98	%	80 - 120
			. Zirconium (Zr)	2009/11/13		99	%	80 - 120
		Spiked Blank	. Aluminum (Al)	2009/11/13		106	%	90 - 110
			. Antimony (Sb)	2009/11/13		103	%	90 - 110
			. Arsenic (As)	2009/11/13		99	%	90 - 110
			. Barium (Ba)	2009/11/13		97	%	90 - 110
			. Beryllium (Be)	2009/11/13		104	%	90 - 110
			. Bismuth (Bi)	2009/11/13		93	%	90 - 110
			. Boron (B)	2009/11/13		92	%	90 - 110
			. Cadmium (Cd)	2009/11/13		101	%	90 - 110
			. Calcium (Ca)	2009/11/13		102	%	90 - 110
			. Chromium (Cr)	2009/11/13		103	%	90 - 110
			. Cobalt (Co)	2009/11/13		98	%	90 - 110
			. Copper (Cu)	2009/11/13		97	%	90 - 110
			. Iron (Fe)	2009/11/13		100	%	90 - 110

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9F0527

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2008396	ADA	Spiked Blank	. Lead (Pb)	2009/11/13		98	%	90 - 110
			. Lithium (Li)	2009/11/13		98	%	90 - 110
			. Magnesium (Mg)	2009/11/13		105	%	90 - 110
			. Manganese (Mn)	2009/11/13		102	%	90 - 110
			. Molybdenum (Mo)	2009/11/13		100	%	90 - 110
			. Nickel (Ni)	2009/11/13		100	%	90 - 110
			. Phosphorus (P)	2009/11/13		113 (1)	%	90 - 110
			. Potassium (K)	2009/11/13		103	%	90 - 110
			. Selenium (Se)	2009/11/13		100	%	90 - 110
			. Silicon (Si)	2009/11/13		105	%	90 - 110
			. Silver (Ag)	2009/11/13		97	%	90 - 110
			. Sodium (Na)	2009/11/13		108	%	90 - 110
			. Strontium (Sr)	2009/11/13		98	%	90 - 110
			. Tellurium (Te)	2009/11/13		102	%	90 - 110
			. Thallium (Tl)	2009/11/13		97	%	90 - 110
			. Thorium (Th)	2009/11/13		95	%	90 - 110
			. Tin (Sn)	2009/11/13		100	%	90 - 110
			. Titanium (Ti)	2009/11/13		102	%	90 - 110
			. Tungsten (W)	2009/11/13		100	%	90 - 110
			. Uranium (U)	2009/11/13		97	%	90 - 110
			. Vanadium (V)	2009/11/13		103	%	90 - 110
			. Zinc (Zn)	2009/11/13		99	%	90 - 110
			. Zirconium (Zr)	2009/11/13		100	%	90 - 110
		Method Blank	. Aluminum (Al)	2009/11/13	ND, RDL=5		ug/L	
			. Antimony (Sb)	2009/11/13	ND, RDL=0.5		ug/L	
			. Arsenic (As)	2009/11/13	ND, RDL=1		ug/L	
			. Barium (Ba)	2009/11/13	ND, RDL=5		ug/L	
			. Beryllium (Be)	2009/11/13	ND, RDL=0.5		ug/L	
			. Bismuth (Bi)	2009/11/13	ND, RDL=1		ug/L	
			. Boron (B)	2009/11/13	ND, RDL=10		ug/L	
			. Cadmium (Cd)	2009/11/13	ND, RDL=0.1		ug/L	
			. Calcium (Ca)	2009/11/13	ND, RDL=200		ug/L	
			. Chromium (Cr)	2009/11/13	ND, RDL=5		ug/L	
			. Cobalt (Co)	2009/11/13	ND, RDL=0.5		ug/L	
			. Copper (Cu)	2009/11/13	ND, RDL=1		ug/L	
			. Iron (Fe)	2009/11/13	ND, RDL=100		ug/L	
			. Lead (Pb)	2009/11/13	ND, RDL=0.5		ug/L	
			. Lithium (Li)	2009/11/13	ND, RDL=5		ug/L	
			. Magnesium (Mg)	2009/11/13	ND, RDL=50		ug/L	
			. Manganese (Mn)	2009/11/13	ND, RDL=2		ug/L	
			. Molybdenum (Mo)	2009/11/13	ND, RDL=1		ug/L	
			. Nickel (Ni)	2009/11/13	ND, RDL=1		ug/L	
			. Phosphorus (P)	2009/11/13	ND, RDL=100		ug/L	
			. Potassium (K)	2009/11/13	ND, RDL=200		ug/L	
			. Selenium (Se)	2009/11/13	ND, RDL=2		ug/L	
			. Silicon (Si)	2009/11/13	ND, RDL=50		ug/L	
			. Silver (Ag)	2009/11/13	ND, RDL=0.1		ug/L	
			. Sodium (Na)	2009/11/13	ND, RDL=100		ug/L	
			. Strontium (Sr)	2009/11/13	ND, RDL=1		ug/L	
			. Tellurium (Te)	2009/11/13	ND, RDL=1		ug/L	
			. Thallium (Tl)	2009/11/13	ND, RDL=0.05		ug/L	
			. Thorium (Th)	2009/11/13	ND, RDL=1		ug/L	
			. Tin (Sn)	2009/11/13	ND, RDL=1		ug/L	
			. Titanium (Ti)	2009/11/13	ND, RDL=5		ug/L	
			. Tungsten (W)	2009/11/13	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9F0527

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2008396	ADA	Method Blank	. Uranium (U)	2009/11/13	ND, RDL=0.1		ug/L	
			. Vanadium (V)	2009/11/13	ND, RDL=1		ug/L	
			. Zinc (Zn)	2009/11/13	ND, RDL=5		ug/L	
			. Zirconium (Zr)	2009/11/13	ND, RDL=1		ug/L	
		RPD [EH2844-01]	. Aluminum (Al)	2009/11/13	2.0		%	25
			. Antimony (Sb)	2009/11/13	NC		%	25
			. Arsenic (As)	2009/11/13	NC		%	25
			. Barium (Ba)	2009/11/13	NC		%	25
			. Beryllium (Be)	2009/11/13	NC		%	25
			. Bismuth (Bi)	2009/11/13	NC		%	25
			. Boron (B)	2009/11/13	NC		%	25
			. Cadmium (Cd)	2009/11/13	NC		%	25
			. Calcium (Ca)	2009/11/13	2.2		%	25
			. Chromium (Cr)	2009/11/13	NC		%	25
			. Cobalt (Co)	2009/11/13	NC		%	25
			. Copper (Cu)	2009/11/13	NC		%	25
			. Iron (Fe)	2009/11/13	NC		%	25
			. Lead (Pb)	2009/11/13	NC		%	25
			. Lithium (Li)	2009/11/13	NC		%	25
			. Magnesium (Mg)	2009/11/13	0.6		%	25
			. Manganese (Mn)	2009/11/13	0.2		%	25
			. Molybdenum (Mo)	2009/11/13	NC		%	25
			. Nickel (Ni)	2009/11/13	NC		%	25
			. Phosphorus (P)	2009/11/13	NC		%	25
			. Potassium (K)	2009/11/13	1.9		%	25
			. Selenium (Se)	2009/11/13	NC		%	25
			. Silicon (Si)	2009/11/13	2.1		%	25
			. Silver (Ag)	2009/11/13	NC		%	25
			. Sodium (Na)	2009/11/13	1.6		%	25
			. Strontium (Sr)	2009/11/13	2.0		%	25
			. Tellurium (Te)	2009/11/13	NC		%	25
			. Thallium (Tl)	2009/11/13	NC		%	25
			. Thorium (Th)	2009/11/13	NC		%	25
			. Tin (Sn)	2009/11/13	NC		%	25
			. Titanium (Ti)	2009/11/13	NC		%	25
			. Tungsten (W)	2009/11/13	NC		%	25
			. Uranium (U)	2009/11/13	3.1		%	25
			. Vanadium (V)	2009/11/13	NC		%	25
			. Zinc (Zn)	2009/11/13	NC		%	25
			. Zirconium (Zr)	2009/11/13	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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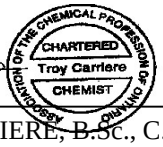
Validation Signature Page

Maxxam Job #: A9F0527

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



GRACE SISON, Technical and Customer Service Coordinator



TROY CARRIERE, B.Sc., C.Chem, Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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REC'D IN WINNIPEG
5-Nov-09 15:40
ANTONELLA BRASIL
A9F0527
FW ENV-788

CHAIN OF CUS

Page 1 of 2

MICRO

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	Rainy River
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:	

Lab Use Only: BOTTLE ORDER #: 168650

C#168650-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Acidity as CaCO3 in liquid	Alk,Cond,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/Tot Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	Nov 5/09	9:47 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	15 bottles with location SW1
2		SW2	Nov 5/09	9:30 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	Included both coc forms
3		SW3	Nov 5/09	8:40 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	
4		SW4	Nov 5/09	10.45 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	
5		SW5	Nov 5/09	8:00 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	
6		SW6	Nov 5/09	9:30 Am	WT			✓	✓	✓	–	–	–	–	–	–	–	15	
7																			
8																			
9																			
10																			

'09 NOV 7 9:35

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Devon Birnell	Nov 5/09		Chelsey / SAM CHELESHE	09/11/05	15:40	
			JS JENNIFER JONES	09/11/07	9:35	

Laboratory Use Only

Time Sensitive	Temperature (ºC) on Receipt	Custody Seal Intact on Cooler?
X	1.6, 3.8, 2.4 °C @ Rec	☐ Yes ☐ No
	2/2/3', 2/2/3'	
	2/2/2', 0/0/1'	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

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Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			168650
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		C#168650-01-02	ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:			
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:			

REGULATORY GRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Sublet (MICRO) - TC, EC, E.coli by MF + HPC	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS						# of Bottles	Comments
1		SW1	NOV 5/09	9:47 AM	WT		✓	✓	✓	✓	✓						15	Included both Cofactors
2		SW2	NOV 5/09	9:30 AM	WT		✓	✓	✓	✓	✓						15	
3		SW3	NOV 5/09	8:40 AM	WT		✓	✓	✓	✓	✓						15	
4		SW4	NOV 5/09	10:45 AM	WT		✓	✓	✓	✓	✓						15	
5		SW5	NOV 5/09	8:00 AM	WT		✓	✓	✓	✓	✓						15	
6		SW6	NOV 5/09	9:30 AM	WT		✓	✓	✓	✓	✓						15	
7																		
8																		'09 NOV 7 9:35
9																		
10								Included @ cofactors Sublet to CANTEST										

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bevan Burnell	NOV 5/09		CHILLIS / SAM CHILLESHE	09/11/05	15:40	
			ZHANG WANG	09/11/07	9:35	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	1.6, 3.8, 2.4°C	X Yes ☐ No
	2/2/3', 2/2/3' 2/2/2', 0/0/1'	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: November 10, 2009

GROUP NUMBER: 101106002

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	Maxxam Analytics - SW1	Maxxam Analytics - SW2	Maxxam Analytics - SW3	Maxxam Analytics - SW4	REPORTING LIMIT	UNITS
DATE SAMPLED:	Nov 5/09	Nov 5/09	Nov 5/09	Nov 5/09		
CANTEST ID:	911060002	911060003	911060004	911060005		
Total Coliform (Confirmed)	53	16	102	40	1	Col./100 mL
Fecal Coliform	34	<	36	<	1	Col./100 mL
E. Coli	27	<	26	<	1	Col./100 mL
Heterotrophic Plate Count	20	10	17	18	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reporting limit

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: November 10, 2009

GROUP NUMBER: 101106002

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	Maxxam Analytics - SW5	Maxxam Analytics - SW6	REPORTING LIMIT	UNITS
DATE SAMPLED:	Nov 5/09	Nov 5/09		
CANTEST ID:	911060006	911060007		
Total Coliform (Confirmed)	94	14	1	Col./100 mL
Fecal Coliform	2	2	1	Col./100 mL
E. Coli	2	2	1	Col./100 mL
Heterotrophic Plate Count	23	21	1	Col./1 mL

Col./100 mL = Colonies per 100 mL

Col./1 mL = Colonies per 1 mL

Analysis Report

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Water Samples

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Ms. Antonella Brasil

CHAIN OF CUSTODY: 38158 MB
PROJECT NAME: CLNT # 23433
PROJECT NUMBER: A92895

NUMBER OF SAMPLES: 6

REPORT DATE: November 10, 2009

DATE SUBMITTED: November 6, 2009

GROUP NUMBER: 101106002

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

Standard Plate Count - analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater" (21st Edition). 100 mL of sample was filtered through a membrane filter; microbiological testing included incubation at 35C for 48 hours. Analysis was performed at CANTEST LTD., Unit "D" 675 Berry Street, Winnipeg, Manitoba R3H 1A7.

TEST RESULTS:

(See following pages)

CANTEST LTD.

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: MA9F0527
Site: RAINY RIVER
Your C.O.C. #: 08305713

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/11/13
This report supersedes all previous reports with the same Maxxam job number

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A964569
Received: 2009/11/12, 09:00

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2009/11/13	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A964569
Report Date: 2009/11/13

MAXXAM ANALYTICS INC.
Client Project #: MA9F0527
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		R72326	R72327	R72328	R72329		
Sampling Date		2009/11/05	2009/11/05	2009/11/05	2009/11/05		
COC Number		08305713	08305713	08305713	08305713		
	Units	**SW1 (EG9991-08R)**	**SW2 (EG9992-08R)**	**SW3 (EG9993-08R)**	**SW4 (EG9994-08R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0008	<0.0005	<0.0005	0.0005	3559500

RDL = Reportable Detection Limit

Maxxam ID		R72330	R72331	R72332	R72332		
Sampling Date		2009/11/05	2009/11/05	2009/11/05	2009/11/05		
COC Number		08305713	08305713	08305713	08305713		
	Units	**SW5 (EG9995-08R)**	**SW6 (EG9996-08R)**	**TRIP BLANK (EG9997-08R)**	**TRIP BLANK (EG9997-08R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0016	0.0007	<0.0005	<0.0005	0.0005	3559500

RDL = Reportable Detection Limit

Maxxam Job #: A964569
Report Date: 2009/11/13

MAXXAM ANALYTICS INC.
Client Project #: MA9F0527
Site Reference: RAINY RIVER

Package 1	7.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9F0527
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VA964569

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3559500	KC5	Matrix Spike [R72332-01]	Weak Acid Dissoc. Cyanide (CN)	2009/11/13		105	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/11/13		106	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/11/13	<0.0005		mg/L	
		RPD [R72332-01]	Weak Acid Dissoc. Cyanide (CN)	2009/11/13	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A964569

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ELAINE COUSINS, BBY CS Manager

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

APPENDIX I - 4

Laboratory Results
December 2009

Your Project #: Rainy River
Your C.O.C. #: 17597601, 175976-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/01/08

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9H3357
Received: 2009/12/21, 16:05

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	7	2009/12/29	2010/01/04	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2009/12/30	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2009/12/29	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2009/12/30	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2009/12/30	CAM SOP-00416	APHA 5220D
Conductivity	6	N/A	2009/12/30	CAM SOP-00448	SM 2510
Conductivity	1	N/A	2010/01/06	CAM SOP-00448	SM 2510
Total Cyanide	7	2009/12/30	2009/12/30	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	4	N/A	2009/12/30	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	3	N/A	2009/12/31	CAM SOP-00446	SM 5310 B
Fluoride	7	2009/12/30	2009/12/30	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2009/12/30	2009/12/30	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	2	N/A	2009/12/30	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	5	N/A	2010/01/05	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	2	N/A	2009/12/29	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	5	N/A	2010/01/05	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2009/12/30	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	6	N/A	2009/12/30	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (2)	1	N/A	2010/01/04	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2009/12/30	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2009/12/29	2009/12/30	CAM SOP-00326	EPA 1664A
pH	7	N/A	2009/12/30	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2009/12/30	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2009/12/30	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2009/12/29	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2009/12/31	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (2)	7	2009/12/29	2009/12/30	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	3	N/A	2009/12/24	CAM SOP-00428	SM 2540D
Low Level Total Suspended Solids	4	N/A	2009/12/29	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2009/12/29	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix

and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		ES7613		ES7614		
Sampling Date		2009/12/21 11:00		2009/12/21 11:00		
COC Number		175976-0		175976-0		
	Units	**SW 1**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	0.7	2044989	1.6	0.5	2044989
Inorganics						
Acidity as CaC03	mg/L	31	2045465	28	10	2045465
Total Ammonia-N	mg/L	0.28	2046223	0.30	0.05	2046223
Total BOD	mg/L	ND	2044822	ND	2	2044822
Total Chemical Oxygen Demand (COD)	mg/L	84	2046262	79	4	2046262
Conductivity	umho/cm	443	2046858	443	1	2046858
Total Dissolved Solids	mg/L	296	2045212	284	10	2045212
Fluoride (F-)	mg/L	ND	2046859	ND	0.1	2046859
Dissolved Organic Carbon	mg/L	31.2	2046479	30.1	0.2	2046742
Total Organic Carbon (TOC)	mg/L	30.7	2046243	30.1	0.2	2046243
Orthophosphate (P)	mg/L	ND (1)	2046181	ND (1)	0.05	2046181
pH	pH	7.6	2046857	7.6	N/A	2046857
Total Suspended Solids	mg/L	10	2045243	10	1	2045243
Dissolved Sulphate (SO4)	mg/L	ND (1)	2046180	ND (1)	5	2046180
Total Cyanide (CN)	mg/L	ND	2046222	ND	0.005	2046222
Turbidity	NTU	12	2045586	13	0.1	2045586
Alkalinity (Total as CaCO3)	mg/L	180	2046854	182	1	2046854
Dissolved Chloride (Cl)	mg/L	24	2046178	24	5	2046178
Nitrite (N)	mg/L	ND	2046187	ND	0.01	2046188
Nitrate (N)	mg/L	ND	2046187	ND	0.1	2046188
Nitrate + Nitrite	mg/L	ND	2046187	ND	0.1	2046188
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	0.7	2046084	1.6	0.5	2046084
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2046095	ND	0.5	2046095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		ES7615		ES7616		
Sampling Date		2009/12/21 09:00		2009/12/21 10:15		
COC Number		175976-0		175976-0		
	Units	**SW 5**	**RDL**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	0.5	2044989
Inorganics						
Acidity as CaC03	mg/L	44	10	15	10	2045465
Total Ammonia-N	mg/L	0.35	0.05	0.26	0.05	2046223
Total BOD	mg/L	ND	2	ND	2	2044822
Total Chemical Oxygen Demand (COD)	mg/L	170	8	91	4	2046262
Conductivity	umho/cm	85	1	236	1	2046858
Total Dissolved Solids	mg/L	58	10	147	10	2045212
Fluoride (F-)	mg/L	ND	0.1	ND	0.1	2046859
Dissolved Organic Carbon	mg/L	67	2	34.3	0.2	2046742
Total Organic Carbon (TOC)	mg/L	65	2	34.4	0.2	2046243
Orthophosphate (P)	mg/L	ND (1)	0.1	ND (1)	0.05	2046181
pH	pH	6.7	N/A	7.5	N/A	2046857
Total Suspended Solids	mg/L	1	1	12	1	2045243
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	ND (1)	5	2046180
Total Cyanide (CN)	mg/L	ND	0.005	ND	0.005	2046222
Turbidity	NTU	1.7	0.1	8.7	0.1	2045586
Alkalinity (Total as CaCO3)	mg/L	37	1	123	1	2046854
Dissolved Chloride (Cl)	mg/L	ND (1)	10	ND (1)	5	2046178
Nitrite (N)	mg/L	ND	0.01	ND	0.01	2046187
Nitrate (N)	mg/L	ND	0.1	ND	0.1	2046187
Nitrate + Nitrite	mg/L	ND	0.1	ND	0.1	2046187
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	0.5	ND	0.5	2046084
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	0.5	2046095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		ES7617	ES7617		
Sampling Date		2009/12/21 09:30	2009/12/21 09:30		
COC Number		175976-0	175976-0		
	Units	**SW 3**	**SW 3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	0.8	N/A	0.5	2044989
Inorganics					
Acidity as CaC03	mg/L	29	N/A	10	2045465
Total Ammonia-N	mg/L	0.28	N/A	0.05	2046223
Total BOD	mg/L	ND	N/A	2	2044822
Total Chemical Oxygen Demand (COD)	mg/L	71	N/A	4	2046262
Conductivity	umho/cm	402	405	1	2046858
Total Dissolved Solids	mg/L	265	N/A	10	2045212
Fluoride (F-)	mg/L	ND	ND	0.1	2046859
Dissolved Organic Carbon	mg/L	25.7	N/A	0.2	2046490
Total Organic Carbon (TOC)	mg/L	25.6	N/A	0.2	2046243
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2046181
pH	pH	7.8	7.6	N/A	2046857
Total Suspended Solids	mg/L	7	N/A	1	2045154
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2046180
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2046222
Turbidity	NTU	7.8	N/A	0.1	2045586
Alkalinity (Total as CaCO3)	mg/L	194	194	1	2046854
Dissolved Chloride (Cl)	mg/L	12	N/A	1	2046178
Nitrite (N)	mg/L	ND	N/A	0.01	2046187
Nitrate (N)	mg/L	ND	N/A	0.1	2046187
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2046187
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	0.8	N/A	0.5	2046084
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2046095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		ES7618		
Sampling Date		2009/12/21 11:30		
COC Number		175976-0		
	Units	**SW 4**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2044989
Inorganics				
Acidity as CaC03	mg/L	33	10	2045465
Total Ammonia-N	mg/L	0.34	0.05	2046223
Total BOD	mg/L	ND	2	2044822
Total Chemical Oxygen Demand (COD)	mg/L	79	4	2046262
Conductivity	umho/cm	123	1	2046858
Total Dissolved Solids	mg/L	80	10	2045212
Fluoride (F-)	mg/L	ND	0.1	2046859
Dissolved Organic Carbon	mg/L	31.0	0.2	2046490
Total Organic Carbon (TOC)	mg/L	29.0	0.2	2046243
Orthophosphate (P)	mg/L	ND (1)	0.05	2046181
pH	pH	7.0	N/A	2046857
Total Suspended Solids	mg/L	1	1	2045154
Dissolved Sulphate (SO4)	mg/L	ND (1)	5	2046180
Total Cyanide (CN)	mg/L	ND	0.005	2046222
Turbidity	NTU	1.0	0.1	2045586
Alkalinity (Total as CaCO3)	mg/L	52	1	2046854
Dissolved Chloride (Cl)	mg/L	6	5	2046178
Nitrite (N)	mg/L	ND	0.01	2046188
Nitrate (N)	mg/L	ND	0.1	2046188
Nitrate + Nitrite	mg/L	ND	0.1	2046188
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	2046084
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2046095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		ES7619	ES7619		
Sampling Date		2009/12/14	2009/12/14		
COC Number		175976-0	175976-0		
	Units	**TRIP BLANK W091214**	**TRIP BLANK W091214 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2044989
Inorganics					
Acidity as CaC03	mg/L	1640	N/A	50	2045465
Total Ammonia-N	mg/L	0.20	N/A	0.05	2046223
Total BOD	mg/L	ND	N/A	2	2044822
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2046262
Conductivity	umho/cm	10700	N/A	1	2049775
Total Dissolved Solids	mg/L	ND	N/A	10	2045212
Fluoride (F-)	mg/L	ND	N/A	0.1	2046859
Dissolved Organic Carbon	mg/L	0.8	N/A	0.2	2046742
Total Organic Carbon (TOC)	mg/L	0.4	N/A	0.2	2046243
Orthophosphate (P)	mg/L	ND	N/A	0.01	2046279
pH	pH	1.8	N/A	N/A	2046857
Total Suspended Solids	mg/L	ND	N/A	1	2045154
Dissolved Sulphate (SO4)	mg/L	1100	N/A	10	2046278
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2046222
Turbidity	NTU	0.1	N/A	0.1	2045586
Alkalinity (Total as CaCO3)	mg/L	ND	N/A	1	2046854
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	2046268
Nitrite (N)	mg/L	ND	N/A	0.01	2047376
Nitrate (N)	mg/L	110	N/A	2	2047376
Nitrate + Nitrite	mg/L	110	N/A	2	2047376
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	2046084
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	2046095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7613		ES7614		
Sampling Date		2009/12/21 11:00		2009/12/21 11:00		
COC Number		175976-0		175976-0		
	Units	**SW 1**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	2046198	ND	0.0001	2046198
Dissolved Aluminum (Al)	ug/L	80	2046314	86	5	2048592
Total Aluminum (Al)	ug/L	850	2045372	930	5	2048664
Dissolved Antimony (Sb)	ug/L	ND	2046314	ND	0.5	2048592
Total Antimony (Sb)	ug/L	ND	2045372	ND	0.5	2048664
Dissolved Arsenic (As)	ug/L	1	2046314	1	1	2048592
Total Arsenic (As)	ug/L	2	2045372	1	1	2048664
Dissolved Barium (Ba)	ug/L	28	2046314	38	5	2048592
Total Barium (Ba)	ug/L	27	2045372	30	5	2048664
Dissolved Beryllium (Be)	ug/L	ND	2046314	ND	0.5	2048592
Total Beryllium (Be)	ug/L	ND	2045372	ND	0.5	2048664
Dissolved Bismuth (Bi)	ug/L	ND	2046314	ND	1	2048592
Total Bismuth (Bi)	ug/L	ND	2045372	ND	1	2048664
Dissolved Boron (B)	ug/L	20	2046314	20	10	2048592
Total Boron (B)	ug/L	ND	2045372	14	10	2048664
Dissolved Cadmium (Cd)	ug/L	ND	2046314	ND	0.1	2048592
Total Cadmium (Cd)	ug/L	ND	2045372	ND	0.1	2048664
Dissolved Calcium (Ca)	ug/L	51000	2046314	52000	200	2048592
Total Calcium (Ca)	ug/L	53000	2045372	56000	200	2048664
Dissolved Chromium (Cr)	ug/L	ND	2046314	ND	5	2048592
Total Chromium (Cr)	ug/L	ND	2045372	ND	5	2048664
Dissolved Cobalt (Co)	ug/L	ND	2046314	ND	0.5	2048592
Total Cobalt (Co)	ug/L	0.6	2045372	0.6	0.5	2048664
Dissolved Copper (Cu)	ug/L	4	2046314	2	1	2048592
Total Copper (Cu)	ug/L	2	2045372	2	1	2048664
Dissolved Iron (Fe)	ug/L	530	2046314	650	100	2048592
Total Iron (Fe)	ug/L	1200	2045372	1300	100	2048664
Dissolved Lead (Pb)	ug/L	ND	2046314	ND	0.5	2048592
Total Lead (Pb)	ug/L	ND	2045372	ND	0.5	2048664
Dissolved Lithium (Li)	ug/L	7	2046314	6	5	2048592
Total Lithium (Li)	ug/L	9	2045372	7	5	2048664

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7613		ES7614		
Sampling Date		2009/12/21 11:00		2009/12/21 11:00		
COC Number		175976-0		175976-0		
	Units	**SW 1**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	22000	2046314	21000	50	2048592
Total Magnesium (Mg)	ug/L	23000	2045372	22000	50	2048664
Dissolved Manganese (Mn)	ug/L	160	2046314	160	2	2048592
Total Manganese (Mn)	ug/L	160	2045372	170	2	2048664
Dissolved Molybdenum (Mo)	ug/L	ND	2046314	ND	1	2048592
Total Molybdenum (Mo)	ug/L	ND	2045372	ND	1	2048664
Dissolved Nickel (Ni)	ug/L	2	2046314	2	1	2048592
Total Nickel (Ni)	ug/L	2	2045372	2	1	2048664
Dissolved Phosphorus (P)	ug/L	ND	2046314	ND	100	2048592
Dissolved Potassium (K)	ug/L	2300	2046314	2100	200	2048592
Total Potassium (K)	ug/L	2300	2045372	2400	200	2048664
Dissolved Selenium (Se)	ug/L	ND	2046314	ND	2	2048592
Total Selenium (Se)	ug/L	ND	2045372	ND	2	2048664
Dissolved Silicon (Si)	ug/L	7600	2046314	7400	50	2048592
Total Silicon (Si)	ug/L	9500	2045372	9300	50	2048664
Dissolved Silver (Ag)	ug/L	ND	2046314	ND	0.1	2048592
Total Silver (Ag)	ug/L	ND	2045372	ND	0.1	2048664
Dissolved Sodium (Na)	ug/L	12000	2046314	12000	100	2048592
Total Sodium (Na)	ug/L	12000	2045372	11000	100	2048664
Dissolved Strontium (Sr)	ug/L	120	2046314	130	1	2048592
Total Strontium (Sr)	ug/L	130	2045372	130	1	2048664
Dissolved Tellurium (Te)	ug/L	ND	2046314	ND	1	2048592
Total Tellurium (Te)	ug/L	ND	2045372	ND	1	2048664
Dissolved Thallium (Tl)	ug/L	ND	2046314	ND	0.05	2048592
Total Thallium (Tl)	ug/L	ND	2045372	ND	0.05	2048664
Dissolved Thorium (Th)	ug/L	ND	2046314	ND	1	2048592
Total Thorium (Th)	ug/L	ND	2045372	ND	1	2048664
Dissolved Tin (Sn)	ug/L	ND	2046314	ND	1	2048592
Total Tin (Sn)	ug/L	ND	2045372	ND	1	2048664
Dissolved Titanium (Ti)	ug/L	ND	2046314	ND	5	2048592
Total Titanium (Ti)	ug/L	42	2045372	53	5	2048664
Dissolved Tungsten (W)	ug/L	ND	2046314	ND	1	2048592

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7613		ES7614		
Sampling Date		2009/12/21 11:00		2009/12/21 11:00		
COC Number		175976-0		175976-0		
	Units	**SW 1**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	2045372	ND	1	2048664
Dissolved Uranium (U)	ug/L	0.9	2046314	0.9	0.1	2048592
Total Uranium (U)	ug/L	1.0	2045372	1.0	0.1	2048664
Dissolved Vanadium (V)	ug/L	ND	2046314	ND	1	2048592
Total Vanadium (V)	ug/L	4	2045372	2	1	2048664
Dissolved Zinc (Zn)	ug/L	20	2046314	30	5	2048592
Total Zinc (Zn)	ug/L	5	2045372	6	5	2048664
Dissolved Zirconium (Zr)	ug/L	ND	2046314	ND	1	2048592
Total Zirconium (Zr)	ug/L	1	2045372	1	1	2048664

ND = Not detected
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7615	ES7616	ES7617		
Sampling Date		2009/12/21 09:00	2009/12/21 10:15	2009/12/21 09:30		
COC Number		175976-0	175976-0	175976-0		
	Units	**SW 5**	**SW2**	**SW 3**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	2046198
Dissolved Aluminum (Al)	ug/L	210	94	97	5	2048592
Total Aluminum (Al)	ug/L	260	700	480	5	2048664
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	0.5	2048592
Total Antimony (Sb)	ug/L	ND	ND	ND	0.5	2048664
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1	2048592
Total Arsenic (As)	ug/L	ND	1	ND	1	2048664
Dissolved Barium (Ba)	ug/L	26	30	36	5	2048592
Total Barium (Ba)	ug/L	10	20	23	5	2048664
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	2048592
Total Beryllium (Be)	ug/L	ND	ND	ND	0.5	2048664
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	2048592
Total Bismuth (Bi)	ug/L	ND	ND	ND	1	2048664
Dissolved Boron (B)	ug/L	ND	ND	13	10	2048592
Total Boron (B)	ug/L	ND	ND	ND	10	2048664
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.1	2048592
Total Cadmium (Cd)	ug/L	ND	ND	ND	0.1	2048664
Dissolved Calcium (Ca)	ug/L	13000	34000	51000	200	2048592
Total Calcium (Ca)	ug/L	13000	33000	53000	200	2048664
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	2048592
Total Chromium (Cr)	ug/L	ND	ND	ND	5	2048664
Dissolved Cobalt (Co)	ug/L	0.7	0.6	ND	0.5	2048592
Total Cobalt (Co)	ug/L	1.0	0.9	0.6	0.5	2048664
Dissolved Copper (Cu)	ug/L	2	2	2	1	2048592
Total Copper (Cu)	ug/L	ND	1	2	1	2048664
Dissolved Iron (Fe)	ug/L	630	1100	460	100	2048592
Total Iron (Fe)	ug/L	730	1600	850	100	2048664
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	2048592
Total Lead (Pb)	ug/L	ND	ND	ND	0.5	2048664
Dissolved Lithium (Li)	ug/L	ND	ND	5	5	2048592
Total Lithium (Li)	ug/L	ND	ND	6	5	2048664

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7615	ES7616	ES7617		
Sampling Date		2009/12/21 09:00	2009/12/21 10:15	2009/12/21 09:30		
COC Number		175976-0	175976-0	175976-0		
	Units	**SW 5**	**SW2**	**SW 3**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	6400	13000	21000	50	2048592
Total Magnesium (Mg)	ug/L	6600	13000	22000	50	2048664
Dissolved Manganese (Mn)	ug/L	200	170	180	2	2048592
Total Manganese (Mn)	ug/L	210	170	200	2	2048664
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	1	2048592
Total Molybdenum (Mo)	ug/L	ND	ND	ND	1	2048664
Dissolved Nickel (Ni)	ug/L	ND	1	1	1	2048592
Total Nickel (Ni)	ug/L	ND	1	2	1	2048664
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	2048592
Dissolved Potassium (K)	ug/L	450	910	2100	200	2048592
Total Potassium (K)	ug/L	390	900	2200	200	2048664
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	2048592
Total Selenium (Se)	ug/L	ND	ND	ND	2	2048664
Dissolved Silicon (Si)	ug/L	7700	6500	7000	50	2048592
Total Silicon (Si)	ug/L	7800	7900	8200	50	2048664
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	2048592
Total Silver (Ag)	ug/L	ND	ND	ND	0.1	2048664
Dissolved Sodium (Na)	ug/L	1400	1800	6100	100	2048592
Total Sodium (Na)	ug/L	1100	1500	6100	100	2048664
Dissolved Strontium (Sr)	ug/L	26	49	100	1	2048592
Total Strontium (Sr)	ug/L	25	47	110	1	2048664
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	2048592
Total Tellurium (Te)	ug/L	ND	ND	ND	1	2048664
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	2048592
Total Thallium (Tl)	ug/L	ND	ND	ND	0.05	2048664
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	2048592
Total Thorium (Th)	ug/L	ND	ND	ND	1	2048664
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	2048592
Total Tin (Sn)	ug/L	ND	ND	ND	1	2048664
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5	2048592
Total Titanium (Ti)	ug/L	6	25	19	5	2048664
Dissolved Tungsten (W)	ug/L	ND	ND	ND	1	2048592

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7615	ES7616	ES7617		
Sampling Date		2009/12/21 09:00	2009/12/21 10:15	2009/12/21 09:30		
COC Number		175976-0	175976-0	175976-0		
	Units	**SW 5**	**SW2**	**SW 3**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	1	2048664
Dissolved Uranium (U)	ug/L	ND	0.3	0.8	0.1	2048592
Total Uranium (U)	ug/L	ND	0.3	0.9	0.1	2048664
Dissolved Vanadium (V)	ug/L	ND	ND	ND	1	2048592
Total Vanadium (V)	ug/L	ND	2	1	1	2048664
Dissolved Zinc (Zn)	ug/L	33	21	29	5	2048592
Total Zinc (Zn)	ug/L	6	ND	7	5	2048664
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	2048592
Total Zirconium (Zr)	ug/L	ND	ND	1	1	2048664

ND = Not detected
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7618		ES7619		
Sampling Date		2009/12/21 11:30		2009/12/14		
COC Number		175976-0		175976-0		
	Units	**SW 4**	**QC Batch**	**TRIP BLANK W091214**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	2046198	ND	0.0001	2046198
Dissolved Aluminum (Al)	ug/L	28	2048592	ND	5	2046314
Total Aluminum (Al)	ug/L	69	2048664	ND	5	2045372
Dissolved Antimony (Sb)	ug/L	ND	2048592	ND	0.5	2046314
Total Antimony (Sb)	ug/L	ND	2048664	ND	0.5	2045372
Dissolved Arsenic (As)	ug/L	ND	2048592	ND	1	2046314
Total Arsenic (As)	ug/L	ND	2048664	ND	1	2045372
Dissolved Barium (Ba)	ug/L	26	2048592	ND	5	2046314
Total Barium (Ba)	ug/L	8	2048664	ND	5	2045372
Dissolved Beryllium (Be)	ug/L	ND	2048592	ND	0.5	2046314
Total Beryllium (Be)	ug/L	ND	2048664	ND	0.5	2045372
Dissolved Bismuth (Bi)	ug/L	ND	2048592	ND	1	2046314
Total Bismuth (Bi)	ug/L	ND	2048664	ND	1	2045372
Dissolved Boron (B)	ug/L	ND	2048592	ND	10	2046314
Total Boron (B)	ug/L	ND	2048664	ND	10	2045372
Dissolved Cadmium (Cd)	ug/L	ND	2048592	ND	0.1	2046314
Total Cadmium (Cd)	ug/L	ND	2048664	ND	0.1	2045372
Dissolved Calcium (Ca)	ug/L	14000	2048592	ND	200	2046314
Total Calcium (Ca)	ug/L	14000	2048664	ND	200	2045372
Dissolved Chromium (Cr)	ug/L	ND	2048592	ND	5	2046314
Total Chromium (Cr)	ug/L	ND	2048664	ND	5	2045372
Dissolved Cobalt (Co)	ug/L	ND	2048592	ND	0.5	2046314
Total Cobalt (Co)	ug/L	ND	2048664	ND	0.5	2045372
Dissolved Copper (Cu)	ug/L	ND	2048592	ND	1	2046314
Total Copper (Cu)	ug/L	ND	2048664	ND	1	2045372
Dissolved Iron (Fe)	ug/L	250	2048592	ND	100	2046314
Total Iron (Fe)	ug/L	300	2048664	ND	100	2045372
Dissolved Lead (Pb)	ug/L	ND	2048592	ND	0.5	2046314
Total Lead (Pb)	ug/L	ND	2048664	ND	0.5	2045372
Dissolved Lithium (Li)	ug/L	ND	2048592	ND	5	2046314

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7618		ES7619		
Sampling Date		2009/12/21 11:30		2009/12/14		
COC Number		175976-0		175976-0		
	Units	**SW 4**	**QC Batch**	**TRIP BLANK W091214**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	2048664	ND	5	2045372
Dissolved Magnesium (Mg)	ug/L	5900	2048592	ND	50	2046314
Total Magnesium (Mg)	ug/L	6300	2048664	ND	50	2045372
Dissolved Manganese (Mn)	ug/L	150	2048592	ND	2	2046314
Total Manganese (Mn)	ug/L	150	2048664	ND	2	2045372
Dissolved Molybdenum (Mo)	ug/L	ND	2048592	ND	1	2046314
Total Molybdenum (Mo)	ug/L	ND	2048664	ND	1	2045372
Dissolved Nickel (Ni)	ug/L	ND	2048592	ND	1	2046314
Total Nickel (Ni)	ug/L	ND	2048664	ND	1	2045372
Dissolved Phosphorus (P)	ug/L	ND	2048592	ND	100	2046314
Dissolved Potassium (K)	ug/L	460	2048592	ND	200	2046314
Total Potassium (K)	ug/L	480	2048664	ND	200	2045372
Dissolved Selenium (Se)	ug/L	ND	2048592	ND	2	2046314
Total Selenium (Se)	ug/L	ND	2048664	ND	2	2045372
Dissolved Silicon (Si)	ug/L	4900	2048592	ND	50	2046314
Total Silicon (Si)	ug/L	4900	2048664	ND	50	2045372
Dissolved Silver (Ag)	ug/L	ND	2048592	ND	0.1	2046314
Total Silver (Ag)	ug/L	ND	2048664	ND	0.1	2045372
Dissolved Sodium (Na)	ug/L	3700	2048592	ND	100	2046314
Total Sodium (Na)	ug/L	3600	2048664	ND	100	2045372
Dissolved Strontium (Sr)	ug/L	28	2048592	ND	1	2046314
Total Strontium (Sr)	ug/L	28	2048664	ND	1	2045372
Dissolved Tellurium (Te)	ug/L	ND	2048592	ND	1	2046314
Total Tellurium (Te)	ug/L	ND	2048664	ND	1	2045372
Dissolved Thallium (Tl)	ug/L	ND	2048592	ND	0.05	2046314
Total Thallium (Tl)	ug/L	ND	2048664	ND	0.05	2045372
Dissolved Thorium (Th)	ug/L	ND	2048592	ND	1	2046314
Total Thorium (Th)	ug/L	ND	2048664	ND	1	2045372
Dissolved Tin (Sn)	ug/L	ND	2048592	ND	1	2046314
Total Tin (Sn)	ug/L	ND	2048664	ND	1	2045372
Dissolved Titanium (Ti)	ug/L	ND	2048592	ND	5	2046314

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A9H3357
Report Date: 2010/01/08

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		ES7618		ES7619		
Sampling Date		2009/12/21 11:30		2009/12/14		
COC Number		175976-0		175976-0		
	Units	**SW 4**	**QC Batch**	**TRIP BLANK W091214**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2048664	ND	5	2045372
Dissolved Tungsten (W)	ug/L	ND	2048592	ND	1	2046314
Total Tungsten (W)	ug/L	ND	2048664	ND	1	2045372
Dissolved Uranium (U)	ug/L	ND	2048592	ND	0.1	2046314
Total Uranium (U)	ug/L	ND	2048664	ND	0.1	2045372
Dissolved Vanadium (V)	ug/L	ND	2048592	ND	1	2046314
Total Vanadium (V)	ug/L	ND	2048664	ND	1	2045372
Dissolved Zinc (Zn)	ug/L	15	2048592	ND	5	2046314
Total Zinc (Zn)	ug/L	ND	2048664	ND	5	2045372
Dissolved Zirconium (Zr)	ug/L	ND	2048592	ND	1	2046314
Total Zirconium (Zr)	ug/L	ND	2048664	ND	1	2045372

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Sample ES7613-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7614-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7614-01: Results for dissolved zinc are greater than total zinc. The results have been confirmed by re-analysis.

Sample ES7615-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7615-01: The results for dissolved zinc and barium are greater than total zinc and barium. The results are confirmed by re-analysis.

Sample ES7616-01: The results for dissolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample ES7617-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7617-01: The results for dissolved zinc and barium are greater than total zinc and barium. The results have been confirmed by re-analysis.

Sample ES7618-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7618-01: The results for dissolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample ES7619-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample ES7619-01: Acidity: Duplicate result was 1655 mg/L
The same sample (Part -03) was sent to acidity recheck and result was 1650 mg/L

Elevated ion balance result was confirmed by re-analysis.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2044822	FZH	QC Standard	Total BOD	2009/12/29		95	%	85 - 115
		Method Blank	Total BOD	2009/12/29	ND, RDL=2		mg/L	
		RPD	Total BOD	2009/12/29	NC		%	25
2045154	JDO	QC Standard	Total Suspended Solids	2009/12/24		101	%	85 - 115
		Method Blank	Total Suspended Solids	2009/12/24	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/12/24	NC		%	25
2045212	JDO	QC Standard	Total Dissolved Solids	2009/12/29		103	%	90 - 110
		Method Blank	Total Dissolved Solids	2009/12/29	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/12/29	3.1		%	25
2045243	JDO	QC Standard	Total Suspended Solids	2009/12/29		96	%	85 - 115
		Method Blank	Total Suspended Solids	2009/12/29	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/12/29	NC		%	25
2045372	HRE	Matrix Spike	Total Aluminum (Al)	2009/12/29		97	%	80 - 120
			Total Antimony (Sb)	2009/12/29		102	%	80 - 120
			Total Arsenic (As)	2009/12/29		102	%	80 - 120
			Total Barium (Ba)	2009/12/29		99	%	80 - 120
			Total Beryllium (Be)	2009/12/29		99	%	75 - 125
			Total Bismuth (Bi)	2009/12/29		100	%	75 - 125
			Total Boron (B)	2009/12/29		97	%	75 - 125
			Total Cadmium (Cd)	2009/12/29		98	%	80 - 120
			Total Calcium (Ca)	2009/12/29		101	%	75 - 125
			Total Chromium (Cr)	2009/12/29		98	%	80 - 120
			Total Cobalt (Co)	2009/12/29		98	%	80 - 120
			Total Copper (Cu)	2009/12/29		97	%	80 - 120
			Total Iron (Fe)	2009/12/29		103	%	80 - 120
			Total Lead (Pb)	2009/12/29		98	%	80 - 120
			Total Lithium (Li)	2009/12/29		102	%	75 - 125
			Total Magnesium (Mg)	2009/12/29		101	%	80 - 120
			Total Manganese (Mn)	2009/12/29		100	%	80 - 120
			Total Molybdenum (Mo)	2009/12/29		99	%	80 - 120
			Total Nickel (Ni)	2009/12/29		98	%	80 - 120
			Total Potassium (K)	2009/12/29		102	%	75 - 125
			Total Selenium (Se)	2009/12/29		101	%	75 - 125
			Total Silicon (Si)	2009/12/29		96	%	75 - 125
			Total Silver (Ag)	2009/12/29		97	%	80 - 120
			Total Sodium (Na)	2009/12/29		98	%	75 - 125
			Total Strontium (Sr)	2009/12/29		97	%	80 - 120
			Total Tellurium (Te)	2009/12/29		101	%	75 - 125
			Total Thallium (Tl)	2009/12/29		98	%	80 - 120
			Total Thorium (Th)	2009/12/29		100	%	75 - 125
			Total Tin (Sn)	2009/12/29		99	%	75 - 125
			Total Titanium (Ti)	2009/12/29		101	%	75 - 125
			Total Tungsten (W)	2009/12/29		98	%	75 - 125
			Total Uranium (U)	2009/12/29		100	%	80 - 120
			Total Vanadium (V)	2009/12/29		98	%	80 - 120
			Total Zinc (Zn)	2009/12/29		98	%	80 - 120
			Total Zirconium (Zr)	2009/12/29		98	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2009/12/29		101	%	80 - 120
			Total Antimony (Sb)	2009/12/29		104	%	82 - 120
			Total Arsenic (As)	2009/12/29		103	%	86 - 119
			Total Barium (Ba)	2009/12/29		100	%	83 - 115
			Total Beryllium (Be)	2009/12/29		100	%	85 - 132
			Total Bismuth (Bi)	2009/12/29		100	%	78 - 120
			Total Boron (B)	2009/12/29		96	%	78 - 133
			Total Cadmium (Cd)	2009/12/29		100	%	85 - 116

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2045372	HRE	Spiked Blank	Total Calcium (Ca)	2009/12/29		105	%	75 - 125
			Total Chromium (Cr)	2009/12/29		101	%	80 - 120
			Total Cobalt (Co)	2009/12/29		99	%	82 - 117
			Total Copper (Cu)	2009/12/29		98	%	80 - 117
			Total Iron (Fe)	2009/12/29		106	%	80 - 120
			Total Lead (Pb)	2009/12/29		100	%	80 - 120
			Total Lithium (Li)	2009/12/29		102	%	86 - 131
			Total Magnesium (Mg)	2009/12/29		102	%	80 - 120
			Total Manganese (Mn)	2009/12/29		103	%	80 - 120
			Total Molybdenum (Mo)	2009/12/29		101	%	82 - 117
			Total Nickel (Ni)	2009/12/29		99	%	81 - 117
			Total Potassium (K)	2009/12/29		100	%	75 - 125
			Total Selenium (Se)	2009/12/29		102	%	82 - 118
			Total Silicon (Si)	2009/12/29		99	%	67 - 140
			Total Silver (Ag)	2009/12/29		98	%	80 - 120
			Total Sodium (Na)	2009/12/29		101	%	75 - 125
			Total Strontium (Sr)	2009/12/29		97	%	83 - 120
			Total Tellurium (Te)	2009/12/29		101	%	80 - 116
			Total Thallium (Tl)	2009/12/29		99	%	80 - 129
			Total Thorium (Th)	2009/12/29		101	%	80 - 125
			Total Tin (Sn)	2009/12/29		100	%	83 - 119
			Total Titanium (Ti)	2009/12/29		102	%	60 - 125
			Total Tungsten (W)	2009/12/29		99	%	81 - 123
			Total Uranium (U)	2009/12/29		102	%	82 - 120
			Total Vanadium (V)	2009/12/29		98	%	82 - 118
			Total Zinc (Zn)	2009/12/29		101	%	80 - 120
			Total Zirconium (Zr)	2009/12/29		101	%	84 - 118
		Method Blank	Total Aluminum (Al)	2009/12/29	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2009/12/29	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2009/12/29	ND, RDL=1		ug/L	
			Total Barium (Ba)	2009/12/29	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2009/12/29	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2009/12/29	ND, RDL=1		ug/L	
			Total Boron (B)	2009/12/29	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2009/12/29	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2009/12/29	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2009/12/29	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2009/12/29	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2009/12/29	ND, RDL=1		ug/L	
			Total Iron (Fe)	2009/12/29	ND, RDL=100		ug/L	
			Total Lead (Pb)	2009/12/29	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2009/12/29	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2009/12/29	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2009/12/29	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2009/12/29	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2009/12/29	ND, RDL=1		ug/L	
			Total Potassium (K)	2009/12/29	ND, RDL=200		ug/L	
			Total Selenium (Se)	2009/12/29	ND, RDL=2		ug/L	
			Total Silicon (Si)	2009/12/29	ND, RDL=50		ug/L	
			Total Silver (Ag)	2009/12/29	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2009/12/29	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2009/12/29	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2009/12/29	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2009/12/29	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2009/12/29	ND, RDL=1		ug/L	

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Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2045372	HRE	Method Blank	Total Tin (Sn)	2009/12/29	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2009/12/29	ND, RDL=5		ug/L	
			Total Tungsten (W)	2009/12/29	ND, RDL=1		ug/L	
			Total Uranium (U)	2009/12/29	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2009/12/29	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2009/12/29	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2009/12/29	ND, RDL=1		ug/L	
		RPD	Total Aluminum (Al)	2009/12/29	NC		%	25
			Total Barium (Ba)	2009/12/29	NC		%	25
			Total Cadmium (Cd)	2009/12/29	NC		%	25
			Total Calcium (Ca)	2009/12/29	NC		%	25
			Total Chromium (Cr)	2009/12/29	NC		%	25
			Total Copper (Cu)	2009/12/29	NC		%	25
			Total Iron (Fe)	2009/12/29	NC		%	25
			Total Lead (Pb)	2009/12/29	NC		%	25
			Total Magnesium (Mg)	2009/12/29	NC		%	25
			Total Manganese (Mn)	2009/12/29	NC		%	25
			Total Nickel (Ni)	2009/12/29	NC		%	25
			Total Potassium (K)	2009/12/29	NC		%	25
			Total Sodium (Na)	2009/12/29	NC		%	25
			Total Strontium (Sr)	2009/12/29	NC		%	25
			Total Zinc (Zn)	2009/12/29	NC		%	25
2045465	VSZ	Method Blank	Acidity as CaC03	2010/01/04	ND, RDL=10		mg/L	
2045586	PAL	QC Standard	Turbidity	2009/12/29		101	%	85 - 115
		Method Blank	Turbidity	2009/12/29	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/12/29	NC		%	25
2046084	AMJ	Matrix Spike						
		[ES7618-01]	Total Oil & Grease	2009/12/30		90	%	75 - 125
		Spiked Blank	Total Oil & Grease	2009/12/30		96	%	85 - 115
		Method Blank	Total Oil & Grease	2009/12/30	ND, RDL=0.5		mg/L	
		RPD [ES7619-01]	Total Oil & Grease	2009/12/30	NC		%	25
2046095	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2009/12/30		94	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2009/12/30	ND, RDL=0.5		mg/L	
		RPD [ES7619-01]	Total Oil & Grease Mineral/Synthetic	2009/12/30	NC		%	25
2046178	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/12/30		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/12/30	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/12/30	5.3		%	20
2046180	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/12/30		105	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/12/30	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/12/30	2.1		%	25
2046181	DRM	Matrix Spike	Orthophosphate (P)	2009/12/30		109	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/12/30		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/12/30	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/12/30	NC		%	25
2046187	AHA	Matrix Spike	Nitrite (N)	2009/12/30		94	%	75 - 125
			Nitrate (N)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/12/30		107	%	80 - 120
			Nitrate (N)	2009/12/30		105	%	80 - 120
		Method Blank	Nitrite (N)	2009/12/30	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/12/30	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/12/30	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/12/30	8.7		%	25
			Nitrate (N)	2009/12/30	2.9		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2046187	AHA	RPD	Nitrate + Nitrite	2009/12/30	3.1		%	25
2046188	AHA	Matrix Spike	Nitrite (N)	2009/12/30		96	%	75 - 125
			Nitrate (N)	2009/12/30		102	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/12/30		106	%	80 - 120
			Nitrate (N)	2009/12/30		106	%	80 - 120
		Method Blank	Nitrite (N)	2009/12/30	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/12/30	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/12/30	ND, RDL=0.1		mg/L	
		RPD	Nitrate (N)	2009/12/30	NC		%	25
2046198	MC	Matrix Spike	Mercury (Hg)	2009/12/30		95	%	80 - 120
		Spiked Blank	Mercury (Hg)	2009/12/30		96	%	80 - 120
		Method Blank	Mercury (Hg)	2009/12/30	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/12/30	NC		%	25
2046222	CP	Matrix Spike	Total Cyanide (CN)	2009/12/30		90	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/12/30		100	%	80 - 120
		Method Blank	Total Cyanide (CN)	2009/12/30	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/12/30	NC		%	25
2046223	ADB	Matrix Spike	Total Ammonia-N	2009/12/30		98	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/12/30		98	%	80 - 120
		Method Blank	Total Ammonia-N	2009/12/30	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/12/30	NC		%	25
2046243	C_H	Matrix Spike	Total Organic Carbon (TOC)	2009/12/31		109	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/12/31		106	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/12/31	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/12/31	NC		%	20
2046262	SAU	Matrix Spike	Total Chemical Oxygen Demand (COD)	2009/12/30		102	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/12/30		103	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/12/30	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/12/30	NC		%	25
2046268	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/12/30		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/12/30	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/12/30	2.1		%	20
2046278	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/12/30		106	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/12/30	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/12/30	0.6		%	25
2046279	DRM	Matrix Spike	Orthophosphate (P)	2009/12/30		NC	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/12/30		104	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/12/30	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/12/30	0.7		%	25
2046314	JBW	Matrix Spike	Dissolved Aluminum (Al)	2009/12/30		103	%	80 - 120
			Dissolved Antimony (Sb)	2009/12/30		107	%	80 - 120
			Dissolved Arsenic (As)	2009/12/30		104	%	80 - 120
			Dissolved Barium (Ba)	2009/12/30		96	%	80 - 120
			Dissolved Beryllium (Be)	2009/12/30		102	%	80 - 120
			Dissolved Bismuth (Bi)	2009/12/30		96	%	80 - 120
			Dissolved Boron (B)	2009/12/30		107	%	80 - 120
			Dissolved Cadmium (Cd)	2009/12/30		104	%	80 - 120
			Dissolved Calcium (Ca)	2009/12/30		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/12/30		104	%	80 - 120
			Dissolved Cobalt (Co)	2009/12/30		103	%	80 - 120
			Dissolved Copper (Cu)	2009/12/30		100	%	80 - 120
			Dissolved Iron (Fe)	2009/12/30		104	%	80 - 120
			Dissolved Lead (Pb)	2009/12/30		97	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2046314	JBW	Matrix Spike	Dissolved Lithium (Li)	2009/12/30		98	%	80 - 120
			Dissolved Magnesium (Mg)	2009/12/30		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/12/30		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/12/30		109	%	80 - 120
			Dissolved Nickel (Ni)	2009/12/30		100	%	80 - 120
			Dissolved Phosphorus (P)	2009/12/30		NC	%	80 - 120
			Dissolved Potassium (K)	2009/12/30		NC	%	80 - 120
			Dissolved Selenium (Se)	2009/12/30		103	%	80 - 120
			Dissolved Silicon (Si)	2009/12/30		114	%	80 - 120
			Dissolved Silver (Ag)	2009/12/30		97	%	80 - 120
			Dissolved Sodium (Na)	2009/12/30		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/12/30		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/12/30		106	%	80 - 120
			Dissolved Thallium (Tl)	2009/12/30		99	%	80 - 120
			Dissolved Thorium (Th)	2009/12/30		98	%	80 - 120
			Dissolved Tin (Sn)	2009/12/30		106	%	80 - 120
			Dissolved Titanium (Ti)	2009/12/30		108	%	80 - 120
			Dissolved Tungsten (W)	2009/12/30		104	%	80 - 120
			Dissolved Uranium (U)	2009/12/30		100	%	80 - 120
			Dissolved Vanadium (V)	2009/12/30		105	%	80 - 120
			Dissolved Zinc (Zn)	2009/12/30		102	%	80 - 120
			Dissolved Zirconium (Zr)	2009/12/30		108	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/12/30		98	%	90 - 110
			Dissolved Antimony (Sb)	2009/12/30		102	%	90 - 110
			Dissolved Arsenic (As)	2009/12/30		99	%	90 - 110
			Dissolved Barium (Ba)	2009/12/30		97	%	90 - 110
			Dissolved Beryllium (Be)	2009/12/30		102	%	90 - 110
			Dissolved Bismuth (Bi)	2009/12/30		98	%	90 - 110
			Dissolved Boron (B)	2009/12/30		103	%	90 - 110
			Dissolved Cadmium (Cd)	2009/12/30		103	%	90 - 110
			Dissolved Calcium (Ca)	2009/12/30		101	%	90 - 110
			Dissolved Chromium (Cr)	2009/12/30		101	%	90 - 110
			Dissolved Cobalt (Co)	2009/12/30		100	%	90 - 110
			Dissolved Copper (Cu)	2009/12/30		96	%	90 - 110
			Dissolved Iron (Fe)	2009/12/30		101	%	90 - 110
			Dissolved Lead (Pb)	2009/12/30		100	%	90 - 110
			Dissolved Lithium (Li)	2009/12/30		97	%	90 - 110
			Dissolved Magnesium (Mg)	2009/12/30		101	%	90 - 110
			Dissolved Manganese (Mn)	2009/12/30		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/12/30		102	%	90 - 110
			Dissolved Nickel (Ni)	2009/12/30		97	%	90 - 110
			Dissolved Phosphorus (P)	2009/12/30		104	%	90 - 110
			Dissolved Potassium (K)	2009/12/30		101	%	90 - 110
			Dissolved Selenium (Se)	2009/12/30		100	%	90 - 110
			Dissolved Silicon (Si)	2009/12/30		103	%	90 - 110
			Dissolved Silver (Ag)	2009/12/30		100	%	90 - 110
			Dissolved Sodium (Na)	2009/12/30		101	%	90 - 110
			Dissolved Strontium (Sr)	2009/12/30		97	%	90 - 110
			Dissolved Tellurium (Te)	2009/12/30		103	%	90 - 110
			Dissolved Thallium (Tl)	2009/12/30		100	%	90 - 110
			Dissolved Thorium (Th)	2009/12/30		100	%	90 - 110
			Dissolved Tin (Sn)	2009/12/30		103	%	90 - 110
			Dissolved Titanium (Ti)	2009/12/30		100	%	90 - 110
			Dissolved Tungsten (W)	2009/12/30		101	%	90 - 110
			Dissolved Uranium (U)	2009/12/30		101	%	90 - 110

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2046314	JBW	Spiked Blank	Dissolved Vanadium (V)	2009/12/30		101	%	90 - 110
			Dissolved Zinc (Zn)	2009/12/30		100	%	90 - 110
			Dissolved Zirconium (Zr)	2009/12/30		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/12/30	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/12/30	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/12/30	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/12/30	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/12/30	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/12/30	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/12/30	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/12/30	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/12/30	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/12/30	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/12/30	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/12/30	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/12/30	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/12/30	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/12/30	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/12/30	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/12/30	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/12/30	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/12/30	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/12/30	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/12/30	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2009/12/30	8.3		%	25
			Dissolved Antimony (Sb)	2009/12/30	NC		%	25
			Dissolved Arsenic (As)	2009/12/30	0.08		%	25
			Dissolved Barium (Ba)	2009/12/30	0.01		%	25
			Dissolved Beryllium (Be)	2009/12/30	NC		%	25
			Dissolved Boron (B)	2009/12/30	0.3		%	25
			Dissolved Cadmium (Cd)	2009/12/30	NC		%	25
			Dissolved Calcium (Ca)	2009/12/30	1.5		%	25
			Dissolved Chromium (Cr)	2009/12/30	NC		%	25
			Dissolved Cobalt (Co)	2009/12/30	NC		%	25
			Dissolved Copper (Cu)	2009/12/30	0.2		%	25
			Dissolved Iron (Fe)	2009/12/30	NC		%	25
			Dissolved Lead (Pb)	2009/12/30	NC		%	25
			Dissolved Magnesium (Mg)	2009/12/30	2.7		%	25
			Dissolved Manganese (Mn)	2009/12/30	1.0		%	25
			Dissolved Molybdenum (Mo)	2009/12/30	5.6		%	25

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2046314	JBW	RPD	Dissolved Nickel (Ni)	2009/12/30	NC		%	25
			Dissolved Phosphorus (P)	2009/12/30	NC		%	25
			Dissolved Potassium (K)	2009/12/30	1.1		%	25
			Dissolved Selenium (Se)	2009/12/30	NC		%	25
			Dissolved Silicon (Si)	2009/12/30	1.6		%	25
			Dissolved Silver (Ag)	2009/12/30	NC		%	25
			Dissolved Sodium (Na)	2009/12/30	1.1		%	25
			Dissolved Strontium (Sr)	2009/12/30	0.5		%	25
			Dissolved Thallium (Tl)	2009/12/30	NC		%	25
			Dissolved Titanium (Ti)	2009/12/30	NC		%	25
			Dissolved Uranium (U)	2009/12/30	7.4		%	25
			Dissolved Vanadium (V)	2009/12/30	NC		%	25
			Dissolved Zinc (Zn)	2009/12/30	NC		%	25
2046479	C_H	Matrix Spike	Dissolved Organic Carbon	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/12/30		110	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/12/30	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/12/30	0.8		%	20
2046490	C_H	Matrix Spike	Dissolved Organic Carbon	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/12/30		105	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/12/30	0.3, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/12/30	0.7		%	20
2046742	C_H	Matrix Spike	Dissolved Organic Carbon	2009/12/30		NC	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/12/30		109	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/12/31	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2009/12/30	0.7		%	20
2046854	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/12/30		94	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/12/30	ND, RDL=1		mg/L	
		RPD [ES7617-02]	Alkalinity (Total as CaCO3)	2009/12/30	0.08		%	25
2046858	YPA	QC Standard	Conductivity	2009/12/30		100	%	85 - 115
		Method Blank	Conductivity	2009/12/30	ND, RDL=1		umho/cm	
		RPD [ES7617-02]	Conductivity	2009/12/30	0.7		%	25
2046859	YPA	Matrix Spike [ES7617-02]	Fluoride (F-)	2009/12/30		84	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/12/30		100	%	80 - 120
		Method Blank	Fluoride (F-)	2009/12/30	ND, RDL=0.1		mg/L	
		RPD [ES7617-02]	Fluoride (F-)	2009/12/30	NC		%	25
2047376	CCI	Matrix Spike	Nitrite (N)	2010/01/04		96	%	75 - 125
			Nitrate (N)	2010/01/04		NC (1)	%	75 - 125
		Spiked Blank	Nitrite (N)	2010/01/04		105	%	80 - 120
			Nitrate (N)	2010/01/04		104	%	80 - 120
		Method Blank	Nitrite (N)	2010/01/04	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/01/04	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/01/04	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/01/04	NC		%	25
			Nitrate (N)	2010/01/04	2.5		%	25
			Nitrate + Nitrite	2010/01/04	2.5		%	25
2048592	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/01/05		90	%	80 - 120
			Dissolved Antimony (Sb)	2010/01/05		98	%	80 - 120
			Dissolved Arsenic (As)	2010/01/05		99	%	80 - 120
			Dissolved Barium (Ba)	2010/01/05		93	%	80 - 120
			Dissolved Beryllium (Be)	2010/01/05		94	%	80 - 120
			Dissolved Bismuth (Bi)	2010/01/05		94	%	80 - 120
			Dissolved Boron (B)	2010/01/05		94	%	80 - 120
			Dissolved Cadmium (Cd)	2010/01/05		97	%	80 - 120
			Dissolved Calcium (Ca)	2010/01/05		NC	%	80 - 120

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Quality Assurance Report (Continued)

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2048592 HRE	Matrix Spike	Dissolved Chromium (Cr)	2010/01/05		92	%	80 - 120
		Dissolved Cobalt (Co)	2010/01/05		94	%	80 - 120
		Dissolved Copper (Cu)	2010/01/05		92	%	80 - 120
		Dissolved Iron (Fe)	2010/01/05		93	%	80 - 120
		Dissolved Lead (Pb)	2010/01/05		94	%	80 - 120
		Dissolved Lithium (Li)	2010/01/05		95	%	80 - 120
		Dissolved Magnesium (Mg)	2010/01/05		NC	%	80 - 120
		Dissolved Manganese (Mn)	2010/01/05		NC	%	80 - 120
		Dissolved Molybdenum (Mo)	2010/01/05		102	%	80 - 120
		Dissolved Nickel (Ni)	2010/01/05		90	%	80 - 120
		Dissolved Phosphorus (P)	2010/01/05		96	%	80 - 120
		Dissolved Potassium (K)	2010/01/05		91	%	80 - 120
		Dissolved Selenium (Se)	2010/01/05		97	%	80 - 120
		Dissolved Silicon (Si)	2010/01/05		93	%	80 - 120
		Dissolved Silver (Ag)	2010/01/05		92	%	80 - 120
		Dissolved Sodium (Na)	2010/01/05		NC	%	80 - 120
		Dissolved Strontium (Sr)	2010/01/05		NC	%	80 - 120
		Dissolved Tellurium (Te)	2010/01/05		98	%	80 - 120
		Dissolved Thallium (Tl)	2010/01/05		93	%	80 - 120
		Dissolved Thorium (Th)	2010/01/05		97	%	80 - 120
		Dissolved Tin (Sn)	2010/01/05		98	%	80 - 120
		Dissolved Titanium (Ti)	2010/01/05		95	%	80 - 120
		Dissolved Tungsten (W)	2010/01/05		96	%	80 - 120
		Dissolved Uranium (U)	2010/01/05		97	%	80 - 120
		Dissolved Vanadium (V)	2010/01/05		96	%	80 - 120
		Dissolved Zinc (Zn)	2010/01/05		92	%	80 - 120
		Dissolved Zirconium (Zr)	2010/01/05		96	%	80 - 120
	Spiked Blank	Dissolved Aluminum (Al)	2010/01/05		98	%	90 - 110
		Dissolved Antimony (Sb)	2010/01/05		102	%	90 - 110
		Dissolved Arsenic (As)	2010/01/05		105	%	90 - 110
		Dissolved Barium (Ba)	2010/01/05		99	%	90 - 110
		Dissolved Beryllium (Be)	2010/01/05		100	%	90 - 110
		Dissolved Bismuth (Bi)	2010/01/05		100	%	90 - 110
		Dissolved Boron (B)	2010/01/05		101	%	90 - 110
		Dissolved Cadmium (Cd)	2010/01/05		101	%	90 - 110
		Dissolved Calcium (Ca)	2010/01/05		107	%	90 - 110
		Dissolved Chromium (Cr)	2010/01/05		99	%	90 - 110
		Dissolved Cobalt (Co)	2010/01/05		101	%	90 - 110
		Dissolved Copper (Cu)	2010/01/05		99	%	90 - 110
		Dissolved Iron (Fe)	2010/01/05		107	%	90 - 110
		Dissolved Lead (Pb)	2010/01/05		101	%	90 - 110
		Dissolved Lithium (Li)	2010/01/05		103	%	90 - 110
		Dissolved Magnesium (Mg)	2010/01/05		102	%	90 - 110
		Dissolved Manganese (Mn)	2010/01/05		101	%	90 - 110
		Dissolved Molybdenum (Mo)	2010/01/05		105	%	90 - 110
		Dissolved Nickel (Ni)	2010/01/05		96	%	90 - 110
		Dissolved Phosphorus (P)	2010/01/05		103	%	90 - 110
		Dissolved Potassium (K)	2010/01/05		101	%	90 - 110
		Dissolved Selenium (Se)	2010/01/05		102	%	90 - 110
		Dissolved Silicon (Si)	2010/01/05		104	%	90 - 110
		Dissolved Silver (Ag)	2010/01/05		102	%	90 - 110
		Dissolved Sodium (Na)	2010/01/05		102	%	90 - 110
		Dissolved Strontium (Sr)	2010/01/05		101	%	90 - 110
		Dissolved Tellurium (Te)	2010/01/05		99	%	90 - 110
		Dissolved Thallium (Tl)	2010/01/05		100	%	90 - 110

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2048592	HRE	Spiked Blank	Dissolved Thorium (Th)	2010/01/05		102	%	90 - 110
			Dissolved Tin (Sn)	2010/01/05		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/01/05		102	%	90 - 110
			Dissolved Tungsten (W)	2010/01/05		101	%	90 - 110
			Dissolved Uranium (U)	2010/01/05		103	%	90 - 110
			Dissolved Vanadium (V)	2010/01/05		99	%	90 - 110
			Dissolved Zinc (Zn)	2010/01/05		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/01/05		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/01/05	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/01/05	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/01/05	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/01/05	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/01/05	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/01/05	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/01/05	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/01/05	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/01/05	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/01/05	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/01/05	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/01/05	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/01/05	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/01/05	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/01/05	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/01/05	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/01/05	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/01/05	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/01/05	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/01/05	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/01/05	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/01/05	NC		%	25
			Dissolved Antimony (Sb)	2010/01/05	NC		%	25
			Dissolved Arsenic (As)	2010/01/05	NC		%	25
			Dissolved Barium (Ba)	2010/01/05	1.0		%	25
			Dissolved Beryllium (Be)	2010/01/05	NC		%	25
			Dissolved Bismuth (Bi)	2010/01/05	NC		%	25
			Dissolved Boron (B)	2010/01/05	7.7		%	25
			Dissolved Cadmium (Cd)	2010/01/05	NC		%	25
			Dissolved Calcium (Ca)	2010/01/05	0.4		%	25
			Dissolved Chromium (Cr)	2010/01/05	NC		%	25
			Dissolved Cobalt (Co)	2010/01/05	2.0		%	25

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2048592	HRE	RPD	Dissolved Copper (Cu)	2010/01/05	NC		%	25
			Dissolved Iron (Fe)	2010/01/05	0.09		%	25
			Dissolved Lead (Pb)	2010/01/05	NC		%	25
			Dissolved Lithium (Li)	2010/01/05	NC		%	25
			Dissolved Magnesium (Mg)	2010/01/05	1.8		%	25
			Dissolved Manganese (Mn)	2010/01/05	2.3		%	25
			Dissolved Molybdenum (Mo)	2010/01/05	1.9		%	25
			Dissolved Nickel (Ni)	2010/01/05	2.6		%	25
			Dissolved Phosphorus (P)	2010/01/05	NC		%	25
			Dissolved Potassium (K)	2010/01/05	1.6		%	25
			Dissolved Selenium (Se)	2010/01/05	NC		%	25
			Dissolved Silicon (Si)	2010/01/05	4.3		%	25
			Dissolved Silver (Ag)	2010/01/05	NC		%	25
			Dissolved Sodium (Na)	2010/01/05	3.8		%	25
			Dissolved Strontium (Sr)	2010/01/05	0.4		%	25
			Dissolved Tellurium (Te)	2010/01/05	NC		%	25
			Dissolved Thallium (Tl)	2010/01/05	NC		%	25
			Dissolved Thorium (Th)	2010/01/05	NC		%	25
			Dissolved Tin (Sn)	2010/01/05	NC		%	25
			Dissolved Titanium (Ti)	2010/01/05	NC		%	25
			Dissolved Tungsten (W)	2010/01/05	NC		%	25
			Dissolved Uranium (U)	2010/01/05	3.6		%	25
			Dissolved Vanadium (V)	2010/01/05	NC		%	25
			Dissolved Zinc (Zn)	2010/01/05	3.0		%	25
			Dissolved Zirconium (Zr)	2010/01/05	NC		%	25
2048664	HRE	Matrix Spike	Total Aluminum (Al)	2010/01/05		99	%	80 - 120
			Total Antimony (Sb)	2010/01/05		102	%	80 - 120
			Total Arsenic (As)	2010/01/05		102	%	80 - 120
			Total Barium (Ba)	2010/01/05		102	%	80 - 120
			Total Beryllium (Be)	2010/01/05		102	%	75 - 125
			Total Bismuth (Bi)	2010/01/05		98	%	75 - 125
			Total Boron (B)	2010/01/05		101	%	75 - 125
			Total Cadmium (Cd)	2010/01/05		100	%	80 - 120
			Total Calcium (Ca)	2010/01/05		101	%	75 - 125
			Total Chromium (Cr)	2010/01/05		100	%	80 - 120
			Total Cobalt (Co)	2010/01/05		101	%	80 - 120
			Total Copper (Cu)	2010/01/05		101	%	80 - 120
			Total Iron (Fe)	2010/01/05		104	%	80 - 120
			Total Lead (Pb)	2010/01/05		100	%	80 - 120
			Total Lithium (Li)	2010/01/05		105	%	75 - 125
			Total Magnesium (Mg)	2010/01/05		99	%	80 - 120
			Total Manganese (Mn)	2010/01/05		102	%	80 - 120
			Total Molybdenum (Mo)	2010/01/05		101	%	80 - 120
			Total Nickel (Ni)	2010/01/05		97	%	80 - 120
			Total Potassium (K)	2010/01/05		99	%	75 - 125
			Total Selenium (Se)	2010/01/05		101	%	75 - 125
			Total Silicon (Si)	2010/01/05		94	%	75 - 125
			Total Silver (Ag)	2010/01/05		96	%	80 - 120
			Total Sodium (Na)	2010/01/05		97	%	75 - 125
			Total Strontium (Sr)	2010/01/05		100	%	80 - 120
			Total Tellurium (Te)	2010/01/05		102	%	75 - 125
			Total Thallium (Tl)	2010/01/05		99	%	80 - 120
			Total Thorium (Th)	2010/01/05		101	%	75 - 125
			Total Tin (Sn)	2010/01/05		101	%	75 - 125
			Total Titanium (Ti)	2010/01/05		100	%	75 - 125

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2048664 HRE	Matrix Spike	Total Tungsten (W)	2010/01/05		100	%	75 - 125
		Total Uranium (U)	2010/01/05		103	%	80 - 120
		Total Vanadium (V)	2010/01/05		97	%	80 - 120
		Total Zinc (Zn)	2010/01/05		100	%	80 - 120
		Total Zirconium (Zr)	2010/01/05		100	%	75 - 125
	Spiked Blank	Total Aluminum (Al)	2010/01/05		92	%	80 - 120
		Total Antimony (Sb)	2010/01/05		99	%	82 - 120
		Total Arsenic (As)	2010/01/05		98	%	86 - 119
		Total Barium (Ba)	2010/01/05		95	%	83 - 115
		Total Beryllium (Be)	2010/01/05		98	%	85 - 132
		Total Bismuth (Bi)	2010/01/05		94	%	78 - 120
		Total Boron (B)	2010/01/05		97	%	78 - 133
		Total Cadmium (Cd)	2010/01/05		96	%	85 - 116
		Total Calcium (Ca)	2010/01/05		97	%	75 - 125
		Total Chromium (Cr)	2010/01/05		94	%	80 - 120
		Total Cobalt (Co)	2010/01/05		97	%	82 - 117
		Total Copper (Cu)	2010/01/05		97	%	80 - 117
		Total Iron (Fe)	2010/01/05		100	%	80 - 120
		Total Lead (Pb)	2010/01/05		95	%	80 - 120
		Total Lithium (Li)	2010/01/05		98	%	86 - 131
		Total Magnesium (Mg)	2010/01/05		95	%	80 - 120
		Total Manganese (Mn)	2010/01/05		96	%	80 - 120
		Total Molybdenum (Mo)	2010/01/05		98	%	82 - 117
		Total Nickel (Ni)	2010/01/05		92	%	81 - 117
		Total Potassium (K)	2010/01/05		95	%	75 - 125
		Total Selenium (Se)	2010/01/05		96	%	82 - 118
		Total Silicon (Si)	2010/01/05		93	%	67 - 140
		Total Silver (Ag)	2010/01/05		93	%	80 - 120
		Total Sodium (Na)	2010/01/05		92	%	75 - 125
		Total Strontium (Sr)	2010/01/05		96	%	83 - 120
		Total Tellurium (Te)	2010/01/05		100	%	80 - 116
		Total Thallium (Tl)	2010/01/05		94	%	80 - 129
		Total Thorium (Th)	2010/01/05		97	%	80 - 125
		Total Tin (Sn)	2010/01/05		98	%	83 - 119
		Total Titanium (Ti)	2010/01/05		96	%	60 - 125
		Total Tungsten (W)	2010/01/05		98	%	81 - 123
		Total Uranium (U)	2010/01/05		98	%	82 - 120
		Total Vanadium (V)	2010/01/05		94	%	82 - 118
		Total Zinc (Zn)	2010/01/05		95	%	80 - 120
		Total Zirconium (Zr)	2010/01/05		96	%	84 - 118
	Method Blank	Total Aluminum (Al)	2010/01/05	ND, RDL=5		ug/L	
		Total Antimony (Sb)	2010/01/05	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2010/01/05	ND, RDL=1		ug/L	
		Total Barium (Ba)	2010/01/05	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2010/01/05	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2010/01/05	ND, RDL=1		ug/L	
		Total Boron (B)	2010/01/05	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2010/01/05	ND, RDL=0.1		ug/L	
		Total Calcium (Ca)	2010/01/05	ND, RDL=200		ug/L	
		Total Chromium (Cr)	2010/01/05	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2010/01/05	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2010/01/05	ND, RDL=1		ug/L	
		Total Iron (Fe)	2010/01/05	ND, RDL=100		ug/L	
		Total Lead (Pb)	2010/01/05	ND, RDL=0.5		ug/L	
		Total Lithium (Li)	2010/01/05	ND, RDL=5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9H3357

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2048664	HRE	Method Blank	Total Magnesium (Mg)	2010/01/05	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/01/05	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/01/05	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/01/05	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/01/05	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/01/05	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/01/05	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/01/05	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/01/05	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/01/05	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/01/05	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/01/05	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/01/05	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/01/05	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/01/05	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/01/05	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/01/05	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/01/05	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/01/05	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/01/05	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2010/01/05	NC		%	25
			Total Zinc (Zn)	2010/01/05	NC		%	25
2049775	YPA	QC Standard	Conductivity	2010/01/06		103	%	85 - 115
		Method Blank	Conductivity	2010/01/06	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/01/06	0.2		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

Validation Signature Page

Maxxam Job #: A9H3357

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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IMMEDIATE TEST

REC'D IN WINNIPEG

21-Dec-09 16:05
ANTONELLA BRASIL
A9H3357
AKP ENV-766

Maxxam Analytics

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CHAIN OF CU

Page 1 of 2

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Lab Use Only:
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	BOTTLE ORDER #: 175976
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:		
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #: C#175976-01-01
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:		
				Sampled By:		

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Acidity as CaCO3 in liquid	Alk.,Cond.,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/Tot Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	Dec 21 09	11:00 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 bottles with location Include both cof cdows
2		SW 6	Dec 21 09	11:00 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
3		SW 5	Dec 21/09	9:00 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		SW 2	Dec 21/09	10:15 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
5		SW 3	Dec 21/09	9:30 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		SW 4	Dec 21/09	11:30 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	DEC 23 '09 9:54
7																			
8																			
9																			
10																			

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bruce Burnell	09/12/21		Chris Chilcott / SMG CHILCOTT	09/12/21	16:05	
			JD HAMSUMI	09/12/23	09:14	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	2.1, 3.2, 4.3 @ arr	☐ Yes ☐ No

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

414 4C 3 13 10C
2 2 1 1C 1 1 1C

REC'D IN WINNIP

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #: 175976
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		C#175976-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Sublet (MICRO) - TC, EC, E.coli by MF + HPC	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		Sw 1	Dec 21 09	11:00 Am	WT		✓	✓	✓	✓	✓	15	Include both coc forms
2		Sw 6	Dec 21/09	11:00 Am	WT		✓	✓	✓	✓	✓	15	
3		Sw 5	Dec 21 09	9:00 Am	WT		✓	✓	✓	✓	✓	15	
4		Sw 2	Dec 21 09	10:15	WT		✓	✓	✓	✓	✓	15	
5		Sw 3	Dec 21 09	9:30	WT		✓	✓	✓	✓	✓	15	
6		Sw 4	Dec 21 09	11:30 Am	WT		✓	✓	✓	✓	✓	15	
7													DEC 23 '09 9:54
8													
9													
10													

Rec'd @ ETF and sublet to Caro Test

Turnaround Time (TAT) Required:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. ☐

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ (call lab for #)

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bevan Buinel Mun	09/12/21		Chris Gray / SARA CHILESHE	09/12/21	16:05	
			KDS KIRA SUHI	09 12 23	09:54	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	2.1, 3.2, 4.3	☐ Yes ☐ No

4/4/4°C 3/3/0°C
3/2/1°C 4/3/1°C

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: January 7, 2010

GROUP NUMBER: 101222001

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW1	SW2	SW3	SW4	REPORTING LIMIT	UNITS
DATE SAMPLED:	Dec 21/09	Dec 21/09	Dec 21/09	Dec 21/09		
CANTEST ID:	912220001	912220002	912220003	912220004		
Total Coliform (Confirmed)	196	208	240	76	2	Col./100 mL
Fecal Coliform	4	2	2	4	2	Col./100 mL
E. Coli	4	6	2	4	2	Col./100 mL
Heterotrophic Plate Count	8	15	5	18	1	Col./1 mL

Col./100 mL = Colonies per 100 mL

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: January 7, 2010

GROUP NUMBER: 101222001

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW5	SW6		
DATE SAMPLED:	Dec 21/09	Dec 21/09	REPORTING LIMIT	UNITS
CANTEST ID:	912220005	912220006		
Total Coliform (Confirmed)	230	336	2	Col./100 mL
Fecal Coliform	<	2	2	Col./100 mL
E. Coli	<	10	2	Col./100 mL
Heterotrophic Plate Count	5	6	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reporting limit

Col./1 mL = Colonies per 1 mL

Analysis Report

CANTEST®

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: Results of Testing

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Ms.Antonella Brasil

CHAIN OF CUSTODY: 38161 MB
PROJECT NAME: CLNT#23433
PROJECT NUMBER: 92895

NUMBER OF SAMPLES: 6

REPORT DATE: January 7, 2010

DATE SUBMITTED: December 22, 2009

GROUP NUMBER: 101222001

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

Standard Plate Count - analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater" (21st Edition). 100 mL of sample was filtered through a membrane filter; microbiological testing included incubation at 35C for 48 hours. Analysis was performed at CANTEST LTD., Unit "D" 675 Berry Street, Winnipeg, Manitoba R3H 1A7.

COMMENTS:

E.coli results are greater than the Fecal coliform results d ue to the analysis being run separately for each of the para meters.

TEST RESULTS:

(See following pages)

CANTEST LTD.

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: MA9H3357
Your C.O.C. #: 08307748

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/01/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A973478
Received: 2009/12/30, 09:00

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2009/12/31	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: A973478
Client Project #: MA9H3357
Report Date: 2010/01/04

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		S31144	S31145	S31146	S31147		
Sampling Date		2009/12/21	2009/12/21	2009/12/21	2009/12/21		
COC Number		08307748	08307748	08307748	08307748		
	Units	**SW 1 (ES7613-09R)**	**SW 6 (ES7614-09R)**	**SW 5 (ES7615-09R)**	**SW 2 (ES7616-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0015	0.0015	0.0023	0.0016	0.0005	3655951
RDL = Reportable Detection Limit							

Maxxam ID		S31148	S31149	S31150	S31150		
Sampling Date		2009/12/21	2009/12/21	2009/12/14	2009/12/14		
COC Number		08307748	08307748	08307748	08307748		
	Units	**SW 3 (ES7617-09R)**	**SW 4 (ES7618-09R)**	**TRIP BLANK W091214 (ES7619-09R)**	**TRIP BLANK W091214 (ES7619-09R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0012	0.0013	0.0012	0.0011	0.0005	3655951
RDL = Reportable Detection Limit							

MAXXAM ANALYTICS INC.
Maxxam Job #: A973478
Client Project #: MA9H3357
Report Date: 2010/01/04

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9H3357
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VA973478

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3655951	TS1	Matrix Spike [S31150-01]	Weak Acid Dissoc. Cyanide (CN)	2009/12/31		112	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/12/31		106	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/12/31	<0.0005		mg/L	
		RPD [S31150-01]	Weak Acid Dissoc. Cyanide (CN)	2009/12/31	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A973478

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

APPENDIX I - 4

Laboratory Results
January 2010

Your Project #: Rainy River
Your C.O.C. #: 17885801, 178858-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/02/19

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B016001
Received: 2010/02/08, 16:40

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1)(2)	7	2010/02/11	2010/02/17	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2010/02/17	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2010/02/16	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2010/02/16	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2010/02/16	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2010/02/16	CAM SOP-00448	SM 2510
Total Cyanide	7	2010/02/12	2010/02/16	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2010/02/12	CAM SOP-00446	SM 5310 B
Fluoride	7	2010/02/12	2010/02/16	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2010/02/12	2010/02/12	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	2	N/A	2010/02/12	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	5	N/A	2010/02/19	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	2	N/A	2010/02/16	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	5	N/A	2010/02/19	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2010/02/16	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	7	N/A	2010/02/16	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2010/02/11	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2010/02/11	2010/02/11	CAM SOP-00326	EPA 1664A
pH	7	N/A	2010/02/16	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2010/02/16	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2010/02/16	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2010/02/12	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2010/02/12	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (4)	7	2010/02/11	2010/02/11	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2010/02/12	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2010/02/11	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

../2

Your Project #: Rainy River
Your C.O.C. #: 17885801, 178858-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/02/19

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1582	FB1582		
Sampling Date		2010/02/08 11:15	2010/02/08 11:15		
COC Number		178858-0	178858-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2075781
Inorganics					
Acidity as CaC03	mg/L	26	N/A	10	2076851
Total Ammonia-N	mg/L	0.08	N/A	0.05	2077957
Total BOD	mg/L	ND	N/A	2	2076570
Total Chemical Oxygen Demand (COD)	mg/L	67	N/A	4	2077966
Conductivity	umho/cm	440	N/A	1	2078410
Total Dissolved Solids	mg/L	270	N/A	10	2077116
Fluoride (F-)	mg/L	ND	N/A	0.1	2078411
Dissolved Organic Carbon	mg/L	26.3	N/A	0.2	2077934
Total Organic Carbon (TOC)	mg/L	26.3	N/A	0.2	2077936
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2078307
pH	pH	7.8	N/A	N/A	2078409
Total Suspended Solids	mg/L	15	N/A	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2078308
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2077838
Turbidity	NTU	15	N/A	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	206	N/A	1	2080758
Dissolved Chloride (Cl)	mg/L	12	N/A	1	2078301
Nitrite (N)	mg/L	ND	N/A	0.01	2077899
Nitrate (N)	mg/L	ND	N/A	0.1	2077899
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2077899
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	ND	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1583	FB1583		
Sampling Date		2010/02/08 09:30	2010/02/08 09:30		
COC Number		178858-0	178858-0		
	Units	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2075781
Inorganics					
Acidity as CaC03	mg/L	12	N/A	10	2076851
Total Ammonia-N	mg/L	0.08	N/A	0.05	2077957
Total BOD	mg/L	ND	N/A	2	2076572
Total Chemical Oxygen Demand (COD)	mg/L	81	N/A	4	2077966
Conductivity	umho/cm	307	N/A	1	2078410
Total Dissolved Solids	mg/L	180	174	10	2077116
Fluoride (F-)	mg/L	ND	N/A	0.1	2078411
Dissolved Organic Carbon	mg/L	31.9	N/A	0.2	2077934
Total Organic Carbon (TOC)	mg/L	30.9	N/A	0.2	2077936
Orthophosphate (P)	mg/L	ND (1)	N/A	0.05	2078307
pH	pH	7.8	N/A	N/A	2078409
Total Suspended Solids	mg/L	13	N/A	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	2078308
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2077838
Turbidity	NTU	6.5	N/A	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	163	N/A	1	2080758
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	5	2078301
Nitrite (N)	mg/L	0.01	N/A	0.01	2077899
Nitrate (N)	mg/L	ND	N/A	0.1	2077899
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2077899
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1584		FB1585		
Sampling Date		2010/02/08 10:00		2010/02/08 10:45		
COC Number		178858-0		178858-0		
	Units	**SW3**	**RDL**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	0.5	2075781
Inorganics						
Acidity as CaC03	mg/L	36	10	52	10	2076851
Total Ammonia-N	mg/L	ND	0.05	0.19	0.05	2077957
Total BOD	mg/L	ND	2	ND	2	2076571
Total Chemical Oxygen Demand (COD)	mg/L	68	4	95	4	2077966
Conductivity	umho/cm	475	1	147	1	2078410
Total Dissolved Solids	mg/L	298	10	86	10	2077116
Fluoride (F-)	mg/L	ND	0.1	ND	0.1	2078411
Dissolved Organic Carbon	mg/L	25.8	0.2	30.2	0.2	2077934
Total Organic Carbon (TOC)	mg/L	26.2	0.2	33.3	0.2	2077936
Orthophosphate (P)	mg/L	0.02	0.01	ND (1)	0.05	2078307
pH	pH	7.8	N/A	7.6	N/A	2078409
Total Suspended Solids	mg/L	7	1	5	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND	1	ND (1)	5	2078308
Total Cyanide (CN)	mg/L	ND	0.005	ND	0.005	2077838
Turbidity	NTU	8.5	0.1	2.8	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	232	1	61	1	2080758
Dissolved Chloride (Cl)	mg/L	12	1	9	5	2078301
Nitrite (N)	mg/L	ND	0.01	ND	0.01	2077899
Nitrate (N)	mg/L	ND	0.1	ND	0.1	2077899
Nitrate + Nitrite	mg/L	ND	0.1	ND	0.1	2077899
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	0.5	ND	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1586	FB1586		
Sampling Date		2010/02/08 08:45	2010/02/08 08:45		
COC Number		178858-0	178858-0		
	Units	**SW5**	**SW5 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2075781
Inorganics					
Acidity as CaC03	mg/L	54	56	10	2076851
Total Ammonia-N	mg/L	0.58	N/A	0.05	2077957
Total BOD	mg/L	3	N/A	2	2076571
Total Chemical Oxygen Demand (COD)	mg/L	150	N/A	8	2077966
Conductivity	umho/cm	127	N/A	1	2078410
Total Dissolved Solids	mg/L	80	N/A	10	2077116
Fluoride (F-)	mg/L	ND	N/A	0.1	2078411
Dissolved Organic Carbon	mg/L	57.8	N/A	0.2	2077934
Total Organic Carbon (TOC)	mg/L	58.1	N/A	0.2	2077936
Orthophosphate (P)	mg/L	ND (1)	N/A	0.2	2078307
pH	pH	7.0	N/A	N/A	2078409
Total Suspended Solids	mg/L	1	N/A	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	20	2078308
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2077838
Turbidity	NTU	1.6	N/A	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	59	N/A	1	2080758
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	20	2078301
Nitrite (N)	mg/L	0.02	N/A	0.01	2077899
Nitrate (N)	mg/L	ND	N/A	0.1	2077899
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2077899
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1587	FB1587		
Sampling Date		2010/02/08 08:45	2010/02/08 08:45		
COC Number		178858-0	178858-0		
	Units	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2075781
Inorganics					
Acidity as CaC03	mg/L	52	N/A	10	2076851
Total Ammonia-N	mg/L	0.57	N/A	0.05	2077957
Total BOD	mg/L	3	N/A	2	2076571
Total Chemical Oxygen Demand (COD)	mg/L	150	N/A	8	2077966
Conductivity	umho/cm	126	125	1	2078410
Total Dissolved Solids	mg/L	80	N/A	10	2077116
Fluoride (F-)	mg/L	ND	ND	0.1	2078411
Dissolved Organic Carbon	mg/L	59.2	N/A	0.2	2077934
Total Organic Carbon (TOC)	mg/L	59.2	N/A	0.2	2077936
Orthophosphate (P)	mg/L	ND (1)	N/A	0.2	2078307
pH	pH	7.1	7.1	N/A	2078409
Total Suspended Solids	mg/L	1	N/A	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	20	2078308
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2077838
Turbidity	NTU	1.5	N/A	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	61	N/A	1	2080758
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	20	2078301
Nitrite (N)	mg/L	0.01	N/A	0.01	2077899
Nitrate (N)	mg/L	ND	N/A	0.1	2077899
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2077899
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FB1588	FB1588		
Sampling Date					
COC Number		178858-0	178858-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2075781
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2076851
Total Ammonia-N	mg/L	0.06	N/A	0.05	2077957
Total BOD	mg/L	ND	N/A	2	2076572
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2077966
Conductivity	umho/cm	1	N/A	1	2078410
Total Dissolved Solids	mg/L	ND	N/A	10	2077116
Fluoride (F-)	mg/L	ND	N/A	0.1	2078411
Dissolved Organic Carbon	mg/L	0.5	N/A	0.2	2077934
Total Organic Carbon (TOC)	mg/L	0.4	N/A	0.2	2077936
Orthophosphate (P)	mg/L	ND	ND	0.01	2078307
pH	pH	5.8	N/A	N/A	2078409
Total Suspended Solids	mg/L	ND	N/A	1	2077123
Dissolved Sulphate (SO4)	mg/L	ND	ND	1	2078308
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2077838
Turbidity	NTU	ND	ND	0.1	2077134
Alkalinity (Total as CaCO3)	mg/L	2	N/A	1	2080758
Dissolved Chloride (Cl)	mg/L	ND	ND	1	2078301
Nitrite (N)	mg/L	ND	N/A	0.01	2077899
Nitrate (N)	mg/L	ND	N/A	0.1	2077899
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2077899
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2077261
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2077266

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1582	FB1583	FB1584		
Sampling Date		2010/02/08 11:15	2010/02/08 09:30	2010/02/08 10:00		
COC Number		178858-0	178858-0	178858-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	2077676
Dissolved Aluminum (Al)	ug/L	100	150	76	5	2082241
Total Aluminum (Al)	ug/L	890	100	360	5	2082405
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	0.5	2082241
Total Antimony (Sb)	ug/L	ND	ND	ND	0.5	2082405
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1	2082241
Total Arsenic (As)	ug/L	1	ND	1	1	2082405
Dissolved Barium (Ba)	ug/L	23	17	24	5	2082241
Total Barium (Ba)	ug/L	21	29	19	5	2082405
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	2082241
Total Beryllium (Be)	ug/L	ND	ND	ND	0.5	2082405
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	2082241
Total Bismuth (Bi)	ug/L	ND	ND	ND	1	2082405
Dissolved Boron (B)	ug/L	20	ND	15	10	2082241
Total Boron (B)	ug/L	20	11	12	10	2082405
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.1	2082241
Total Cadmium (Cd)	ug/L	ND	ND	ND	0.1	2082405
Dissolved Calcium (Ca)	ug/L	52000	42000	59000	200	2082241
Total Calcium (Ca)	ug/L	58000	50000	63000	200	2082405
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	2082241
Total Chromium (Cr)	ug/L	ND	ND	ND	5	2082405
Dissolved Cobalt (Co)	ug/L	ND	0.6	0.5	0.5	2082241
Total Cobalt (Co)	ug/L	0.7	0.6	0.7	0.5	2082405
Dissolved Copper (Cu)	ug/L	1	1	2	1	2082241
Total Copper (Cu)	ug/L	1	1	1	1	2082405
Dissolved Iron (Fe)	ug/L	870	1500	810	100	2082241
Total Iron (Fe)	ug/L	1800	1400	1300	100	2082405
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	2082241
Total Lead (Pb)	ug/L	ND	ND	ND	0.5	2082405
Dissolved Lithium (Li)	ug/L	8	ND	7	5	2082241
Total Lithium (Li)	ug/L	9	ND	6	5	2082405

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1582	FB1583	FB1584		
Sampling Date		2010/02/08 11:15	2010/02/08 09:30	2010/02/08 10:00		
COC Number		178858-0	178858-0	178858-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	22000	16000	24000	50	2082241
Total Magnesium (Mg)	ug/L	24000	19000	26000	50	2082405
Dissolved Manganese (Mn)	ug/L	160	260	390	2	2082241
Total Manganese (Mn)	ug/L	180	330	430	2	2082405
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	1	2082241
Total Molybdenum (Mo)	ug/L	ND	ND	ND	1	2082405
Dissolved Nickel (Ni)	ug/L	1	2	2	1	2082241
Total Nickel (Ni)	ug/L	2	2	2	1	2082405
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	2082241
Dissolved Potassium (K)	ug/L	2200	1100	2300	200	2082241
Total Potassium (K)	ug/L	2500	1300	2400	200	2082405
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	2082241
Total Selenium (Se)	ug/L	ND	ND	ND	2	2082405
Dissolved Silicon (Si)	ug/L	8300	7800	8400	50	2082241
Total Silicon (Si)	ug/L	11000	8800	9900	50	2082405
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	2082241
Total Silver (Ag)	ug/L	ND	ND	ND	0.1	2082405
Dissolved Sodium (Na)	ug/L	8700	2100	7000	100	2082241
Total Sodium (Na)	ug/L	9300	2500	7100	100	2082405
Dissolved Strontium (Sr)	ug/L	140	63	120	1	2082241
Total Strontium (Sr)	ug/L	150	74	130	1	2082405
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	2082241
Total Tellurium (Te)	ug/L	ND	ND	ND	1	2082405
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	2082241
Total Thallium (Tl)	ug/L	ND	ND	ND	0.05	2082405
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	2082241
Total Thorium (Th)	ug/L	ND	ND	ND	1	2082405
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	2082241
Total Tin (Sn)	ug/L	ND	ND	ND	1	2082405
Dissolved Titanium (Ti)	ug/L	8	ND	ND	5	2082241
Total Titanium (Ti)	ug/L	31	5	13	5	2082405
Dissolved Tungsten (W)	ug/L	ND	ND	ND	1	2082241

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1582	FB1583	FB1584		
Sampling Date		2010/02/08 11:15	2010/02/08 09:30	2010/02/08 10:00		
COC Number		178858-0	178858-0	178858-0		
	Units	**SW1**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	1	2082405
Dissolved Uranium (U)	ug/L	0.9	0.5	0.8	0.1	2082241
Total Uranium (U)	ug/L	1.0	0.6	0.8	0.1	2082405
Dissolved Vanadium (V)	ug/L	ND	1	ND	1	2082241
Total Vanadium (V)	ug/L	3	ND	1	1	2082405
Dissolved Zinc (Zn)	ug/L	15	5	20	5	2082241
Total Zinc (Zn)	ug/L	7	22	ND	5	2082405
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	2082241
Total Zirconium (Zr)	ug/L	1	ND	ND	1	2082405

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1585	FB1586		
Sampling Date		2010/02/08 10:45	2010/02/08 08:45		
COC Number		178858-0	178858-0		
	Units	**SW4**	**SW5**	**RDL**	**QC Batch**
Metals					
Mercury (Hg)	mg/L	ND	ND	0.0001	2077676
Dissolved Aluminum (Al)	ug/L	37	180	5	2082241
Total Aluminum (Al)	ug/L	60	200	5	2082405
Dissolved Antimony (Sb)	ug/L	ND	ND	0.5	2082241
Total Antimony (Sb)	ug/L	ND	ND	0.5	2082405
Dissolved Arsenic (As)	ug/L	ND	ND	1	2082241
Total Arsenic (As)	ug/L	ND	1	1	2082405
Dissolved Barium (Ba)	ug/L	36	31	5	2082241
Total Barium (Ba)	ug/L	12	14	5	2082405
Dissolved Beryllium (Be)	ug/L	ND	ND	0.5	2082241
Total Beryllium (Be)	ug/L	ND	ND	0.5	2082405
Dissolved Bismuth (Bi)	ug/L	ND	ND	1	2082241
Total Bismuth (Bi)	ug/L	ND	ND	1	2082405
Dissolved Boron (B)	ug/L	ND	ND	10	2082241
Total Boron (B)	ug/L	ND	ND	10	2082405
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.1	2082241
Total Cadmium (Cd)	ug/L	ND	ND	0.1	2082405
Dissolved Calcium (Ca)	ug/L	16000	17000	200	2082241
Total Calcium (Ca)	ug/L	18000	18000	200	2082405
Dissolved Chromium (Cr)	ug/L	ND	ND	5	2082241
Total Chromium (Cr)	ug/L	ND	ND	5	2082405
Dissolved Cobalt (Co)	ug/L	ND	1.1	0.5	2082241
Total Cobalt (Co)	ug/L	0.5	1.1	0.5	2082405
Dissolved Copper (Cu)	ug/L	1	3	1	2082241
Total Copper (Cu)	ug/L	ND	ND	1	2082405
Dissolved Iron (Fe)	ug/L	720	1200	100	2082241
Total Iron (Fe)	ug/L	890	1200	100	2082405
Dissolved Lead (Pb)	ug/L	ND	ND	0.5	2082241
Total Lead (Pb)	ug/L	ND	ND	0.5	2082405
Dissolved Lithium (Li)	ug/L	ND	ND	5	2082241
Total Lithium (Li)	ug/L	ND	ND	5	2082405

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1585	FB1586		
Sampling Date		2010/02/08 10:45	2010/02/08 08:45		
COC Number		178858-0	178858-0		
	Units	**SW4**	**SW5**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	7500	8800	50	2082241
Total Magnesium (Mg)	ug/L	8200	9400	50	2082405
Dissolved Manganese (Mn)	ug/L	350	330	2	2082241
Total Manganese (Mn)	ug/L	390	360	2	2082405
Dissolved Molybdenum (Mo)	ug/L	ND	ND	1	2082241
Total Molybdenum (Mo)	ug/L	ND	ND	1	2082405
Dissolved Nickel (Ni)	ug/L	ND	1	1	2082241
Total Nickel (Ni)	ug/L	ND	1	1	2082405
Dissolved Phosphorus (P)	ug/L	ND	ND	100	2082241
Dissolved Potassium (K)	ug/L	760	960	200	2082241
Total Potassium (K)	ug/L	640	700	200	2082405
Dissolved Selenium (Se)	ug/L	ND	ND	2	2082241
Total Selenium (Se)	ug/L	ND	ND	2	2082405
Dissolved Silicon (Si)	ug/L	5900	11000	50	2082241
Total Silicon (Si)	ug/L	6500	12000	50	2082405
Dissolved Silver (Ag)	ug/L	ND	ND	0.1	2082241
Total Silver (Ag)	ug/L	ND	ND	0.1	2082405
Dissolved Sodium (Na)	ug/L	5900	2200	100	2082241
Total Sodium (Na)	ug/L	6900	1800	100	2082405
Dissolved Strontium (Sr)	ug/L	37	37	1	2082241
Total Strontium (Sr)	ug/L	39	37	1	2082405
Dissolved Tellurium (Te)	ug/L	ND	ND	1	2082241
Total Tellurium (Te)	ug/L	ND	ND	1	2082405
Dissolved Thallium (Tl)	ug/L	ND	ND	0.05	2082241
Total Thallium (Tl)	ug/L	ND	ND	0.05	2082405
Dissolved Thorium (Th)	ug/L	ND	ND	1	2082241
Total Thorium (Th)	ug/L	ND	ND	1	2082405
Dissolved Tin (Sn)	ug/L	ND	ND	1	2082241
Total Tin (Sn)	ug/L	ND	ND	1	2082405
Dissolved Titanium (Ti)	ug/L	ND	ND	5	2082241
Total Titanium (Ti)	ug/L	ND	ND	5	2082405
Dissolved Tungsten (W)	ug/L	ND	ND	1	2082241

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1585	FB1586		
Sampling Date		2010/02/08 10:45	2010/02/08 08:45		
COC Number		178858-0	178858-0		
	Units	**SW4**	**SW5**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	1	2082405
Dissolved Uranium (U)	ug/L	ND	ND	0.1	2082241
Total Uranium (U)	ug/L	ND	ND	0.1	2082405
Dissolved Vanadium (V)	ug/L	ND	ND	1	2082241
Total Vanadium (V)	ug/L	ND	ND	1	2082405
Dissolved Zinc (Zn)	ug/L	24	35	5	2082241
Total Zinc (Zn)	ug/L	5	5	5	2082405
Dissolved Zirconium (Zr)	ug/L	ND	ND	1	2082241
Total Zirconium (Zr)	ug/L	ND	ND	1	2082405

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1587	FB1588		
Sampling Date		2010/02/08 08:45			
COC Number		178858-0	178858-0		
	Units	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals					
Mercury (Hg)	mg/L	ND	ND	0.0001	2077676
Dissolved Aluminum (Al)	ug/L	180	ND	5	2077846
Total Aluminum (Al)	ug/L	190	ND	5	2079530
Dissolved Antimony (Sb)	ug/L	ND	ND	0.5	2077846
Total Antimony (Sb)	ug/L	ND	ND	0.5	2079530
Dissolved Arsenic (As)	ug/L	1	ND	1	2077846
Total Arsenic (As)	ug/L	1	ND	1	2079530
Dissolved Barium (Ba)	ug/L	21	ND	5	2077846
Total Barium (Ba)	ug/L	12	ND	5	2079530
Dissolved Beryllium (Be)	ug/L	ND	ND	0.5	2077846
Total Beryllium (Be)	ug/L	ND	ND	0.5	2079530
Dissolved Bismuth (Bi)	ug/L	ND	ND	1	2077846
Total Bismuth (Bi)	ug/L	ND	ND	1	2079530
Dissolved Boron (B)	ug/L	ND	ND	10	2077846
Total Boron (B)	ug/L	ND	ND	10	2079530
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.1	2077846
Total Cadmium (Cd)	ug/L	ND	ND	0.1	2079530
Dissolved Calcium (Ca)	ug/L	17000	ND	200	2077846
Total Calcium (Ca)	ug/L	18000	ND	200	2079530
Dissolved Chromium (Cr)	ug/L	ND	ND	5	2077846
Total Chromium (Cr)	ug/L	ND	ND	5	2079530
Dissolved Cobalt (Co)	ug/L	1.1	ND	0.5	2077846
Total Cobalt (Co)	ug/L	1.2	ND	0.5	2079530
Dissolved Copper (Cu)	ug/L	2	ND	1	2077846
Total Copper (Cu)	ug/L	ND	ND	1	2079530
Dissolved Iron (Fe)	ug/L	1200	ND	100	2077846
Total Iron (Fe)	ug/L	1300	ND	100	2079530
Dissolved Lead (Pb)	ug/L	0.5	ND	0.5	2077846
Total Lead (Pb)	ug/L	ND	ND	0.5	2079530
Dissolved Lithium (Li)	ug/L	ND	ND	5	2077846
Total Lithium (Li)	ug/L	ND	ND	5	2079530

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1587	FB1588		
Sampling Date		2010/02/08 08:45			
COC Number		178858-0	178858-0		
	Units	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	8900	ND	50	2077846
Total Magnesium (Mg)	ug/L	9700	ND	50	2079530
Dissolved Manganese (Mn)	ug/L	330	ND	2	2077846
Total Manganese (Mn)	ug/L	360	ND	2	2079530
Dissolved Molybdenum (Mo)	ug/L	ND	ND	1	2077846
Total Molybdenum (Mo)	ug/L	ND	ND	1	2079530
Dissolved Nickel (Ni)	ug/L	ND	ND	1	2077846
Total Nickel (Ni)	ug/L	1	ND	1	2079530
Dissolved Phosphorus (P)	ug/L	ND	ND	100	2077846
Dissolved Potassium (K)	ug/L	740	ND	200	2077846
Total Potassium (K)	ug/L	710	ND	200	2079530
Dissolved Selenium (Se)	ug/L	ND	ND	2	2077846
Total Selenium (Se)	ug/L	ND	ND	2	2079530
Dissolved Silicon (Si)	ug/L	11000	ND	50	2077846
Total Silicon (Si)	ug/L	11000	ND	50	2079530
Dissolved Silver (Ag)	ug/L	ND	ND	0.1	2077846
Total Silver (Ag)	ug/L	ND	ND	0.1	2079530
Dissolved Sodium (Na)	ug/L	1800	ND	100	2077846
Total Sodium (Na)	ug/L	1800	ND	100	2079530
Dissolved Strontium (Sr)	ug/L	38	ND	1	2077846
Total Strontium (Sr)	ug/L	39	ND	1	2079530
Dissolved Tellurium (Te)	ug/L	ND	ND	1	2077846
Total Tellurium (Te)	ug/L	ND	ND	1	2079530
Dissolved Thallium (Tl)	ug/L	ND	ND	0.05	2077846
Total Thallium (Tl)	ug/L	ND	ND	0.05	2079530
Dissolved Thorium (Th)	ug/L	ND	ND	1	2077846
Total Thorium (Th)	ug/L	ND	ND	1	2079530
Dissolved Tin (Sn)	ug/L	ND	ND	1	2077846
Total Tin (Sn)	ug/L	ND	ND	1	2079530
Dissolved Titanium (Ti)	ug/L	ND	ND	5	2077846
Total Titanium (Ti)	ug/L	ND	ND	5	2079530
Dissolved Tungsten (W)	ug/L	ND	ND	1	2077846

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FB1587	FB1588		
Sampling Date		2010/02/08 08:45			
COC Number		178858-0	178858-0		
	Units	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	1	2079530
Dissolved Uranium (U)	ug/L	ND	ND	0.1	2077846
Total Uranium (U)	ug/L	ND	ND	0.1	2079530
Dissolved Vanadium (V)	ug/L	1	ND	1	2077846
Total Vanadium (V)	ug/L	ND	ND	1	2079530
Dissolved Zinc (Zn)	ug/L	20	ND	5	2077846
Total Zinc (Zn)	ug/L	9	ND	5	2079530
Dissolved Zirconium (Zr)	ug/L	ND	ND	1	2077846
Total Zirconium (Zr)	ug/L	ND	ND	1	2079530

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B016001
Report Date: 2010/02/19

Klohn Crippen Berger Ltd
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GENERAL COMMENTS

SUB-MISC FOR WAD CYANIDE

Sample FB1583-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FB1583-01: The results for dissolved aluminum are greater than total aluminum. The results have been confirmed by re-analysis.

Sample FB1585-01: The results for disolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample FB1588-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
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Quality Assurance Report

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2076570	JKU	QC Standard	Total BOD	2010/02/16		92	%	85 - 115
		Method Blank	Total BOD	2010/02/16	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/02/16	NC		%	25
2076571	JKU	QC Standard	Total BOD	2010/02/16		106	%	85 - 115
		Method Blank	Total BOD	2010/02/16	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/02/16	NC		%	25
2076572	JKU	QC Standard	Total BOD	2010/02/16		93	%	85 - 115
		Method Blank	Total BOD	2010/02/16	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/02/16	NC		%	25
2076851	GSI	Method Blank	Acidity as CaC03	2010/02/17	ND, RDL=10		mg/L	
		RPD [FB1586-05]	Acidity as CaC03	2010/02/17	3.6		%	25
2077116	HAG	QC Standard	Total Dissolved Solids	2010/02/12		98	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/02/12	ND, RDL=10		mg/L	
		RPD [FB1583-04]	Total Dissolved Solids	2010/02/12	3.4		%	25
2077123	HAG	QC Standard	Total Suspended Solids	2010/02/12		95	%	85 - 115
		Method Blank	Total Suspended Solids	2010/02/12	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/02/12	NC		%	25
2077134	KTH	QC Standard	Turbidity	2010/02/11		100	%	85 - 115
		Method Blank	Turbidity	2010/02/11	ND, RDL=0.1		NTU	
		RPD [FB1588-02]	Turbidity	2010/02/11	NC		%	25
2077261	AMJ	Matrix Spike [FB1583-01]	Total Oil & Grease	2010/02/11		91	%	75 - 125
		Spiked Blank	Total Oil & Grease	2010/02/11		96	%	85 - 115
		Method Blank	Total Oil & Grease	2010/02/11	ND, RDL=0.5		mg/L	
		RPD [FB1582-01]	Total Oil & Grease	2010/02/11	NC		%	25
2077266	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/02/11		94	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/02/11	ND, RDL=0.5		mg/L	
		RPD [FB1582-01]	Total Oil & Grease Mineral/Synthetic	2010/02/11	NC		%	25
2077676	MC	Matrix Spike	Mercury (Hg)	2010/02/12		105	%	80 - 120
		Spiked Blank	Mercury (Hg)	2010/02/12		100	%	80 - 120
		Method Blank	Mercury (Hg)	2010/02/12	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/02/12	NC		%	25
2077838	LHA	Matrix Spike	Total Cyanide (CN)	2010/02/16		113	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/02/16		102	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/02/16	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/02/16	NC		%	25
2077846	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/02/12		104	%	80 - 120
			Dissolved Antimony (Sb)	2010/02/12		106	%	80 - 120
			Dissolved Arsenic (As)	2010/02/12		103	%	80 - 120
			Dissolved Barium (Ba)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Beryllium (Be)	2010/02/12		101	%	80 - 120
			Dissolved Bismuth (Bi)	2010/02/12		99	%	80 - 120
			Dissolved Boron (B)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Cadmium (Cd)	2010/02/12		99	%	80 - 120
			Dissolved Calcium (Ca)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Chromium (Cr)	2010/02/12		108	%	80 - 120
			Dissolved Cobalt (Co)	2010/02/12		104	%	80 - 120
			Dissolved Copper (Cu)	2010/02/12		94	%	80 - 120
			Dissolved Iron (Fe)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Lead (Pb)	2010/02/12		101	%	80 - 120
			Dissolved Lithium (Li)	2010/02/12		104	%	80 - 120
			Dissolved Magnesium (Mg)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Manganese (Mn)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/02/12		116	%	80 - 120
			Dissolved Nickel (Ni)	2010/02/12		100	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
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Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2077846	JBW	Matrix Spike	Dissolved Phosphorus (P)	2010/02/12		110	%	80 - 120
			Dissolved Potassium (K)	2010/02/12		108	%	80 - 120
			Dissolved Selenium (Se)	2010/02/12		98	%	80 - 120
			Dissolved Silicon (Si)	2010/02/12		109	%	80 - 120
			Dissolved Silver (Ag)	2010/02/12		82	%	80 - 120
			Dissolved Sodium (Na)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Strontium (Sr)	2010/02/12		NC (1)	%	80 - 120
			Dissolved Tellurium (Te)	2010/02/12		89	%	80 - 120
			Dissolved Thallium (Tl)	2010/02/12		101	%	80 - 120
			Dissolved Thorium (Th)	2010/02/12		105	%	80 - 120
			Dissolved Tin (Sn)	2010/02/12		107	%	80 - 120
			Dissolved Titanium (Ti)	2010/02/12		109	%	80 - 120
			Dissolved Tungsten (W)	2010/02/12		109	%	80 - 120
			Dissolved Uranium (U)	2010/02/12		111	%	80 - 120
			Dissolved Vanadium (V)	2010/02/12		112	%	80 - 120
			Dissolved Zinc (Zn)	2010/02/12		90	%	80 - 120
			Dissolved Zirconium (Zr)	2010/02/12		115	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/02/12		99	%	90 - 110
			Dissolved Antimony (Sb)	2010/02/12		104	%	90 - 110
			Dissolved Arsenic (As)	2010/02/12		99	%	90 - 110
			Dissolved Barium (Ba)	2010/02/12		97	%	90 - 110
			Dissolved Beryllium (Be)	2010/02/12		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/02/12		102	%	90 - 110
			Dissolved Boron (B)	2010/02/12		101	%	90 - 110
			Dissolved Cadmium (Cd)	2010/02/12		103	%	90 - 110
			Dissolved Calcium (Ca)	2010/02/12		99	%	90 - 110
			Dissolved Chromium (Cr)	2010/02/12		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/02/12		101	%	90 - 110
			Dissolved Copper (Cu)	2010/02/12		99	%	90 - 110
			Dissolved Iron (Fe)	2010/02/12		102	%	90 - 110
			Dissolved Lead (Pb)	2010/02/12		99	%	90 - 110
			Dissolved Lithium (Li)	2010/02/12		96	%	90 - 110
			Dissolved Magnesium (Mg)	2010/02/12		101	%	90 - 110
			Dissolved Manganese (Mn)	2010/02/12		102	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/02/12		104	%	90 - 110
			Dissolved Nickel (Ni)	2010/02/12		99	%	90 - 110
			Dissolved Phosphorus (P)	2010/02/12		103	%	90 - 110
			Dissolved Potassium (K)	2010/02/12		99	%	90 - 110
			Dissolved Selenium (Se)	2010/02/12		100	%	90 - 110
			Dissolved Silicon (Si)	2010/02/12		100	%	90 - 110
			Dissolved Silver (Ag)	2010/02/12		97	%	90 - 110
			Dissolved Sodium (Na)	2010/02/12		101	%	90 - 110
			Dissolved Strontium (Sr)	2010/02/12		99	%	90 - 110
			Dissolved Tellurium (Te)	2010/02/12		101	%	90 - 110
			Dissolved Thallium (Tl)	2010/02/12		99	%	90 - 110
			Dissolved Thorium (Th)	2010/02/12		97	%	90 - 110
			Dissolved Tin (Sn)	2010/02/12		103	%	90 - 110
			Dissolved Titanium (Ti)	2010/02/12		97	%	90 - 110
			Dissolved Tungsten (W)	2010/02/12		102	%	90 - 110
			Dissolved Uranium (U)	2010/02/12		103	%	90 - 110
			Dissolved Vanadium (V)	2010/02/12		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/02/12		97	%	90 - 110
			Dissolved Zirconium (Zr)	2010/02/12		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/02/12	ND, RDL=0.5		ug/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2077846	JBW	Method Blank	Dissolved Arsenic (As)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/02/12	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/02/12	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/02/12	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/02/12	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/02/12	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/02/12	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/02/12	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/02/12	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/02/12	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/02/12	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/02/12	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/02/12	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/02/12	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/02/12	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/02/12	160, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/02/12	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/02/12	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/02/12	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/02/12	2, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/02/12	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/02/12	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/02/12	NC		%	25
2077899	AHA	Matrix Spike	Nitrite (N)	2010/02/16		NC	%	75 - 125
			Nitrate (N)	2010/02/16		NC	%	75 - 125
		Spiked Blank	Nitrite (N)	2010/02/16		101	%	80 - 120
			Nitrate (N)	2010/02/16		103	%	80 - 120
		Method Blank	Nitrite (N)	2010/02/16	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/02/16	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/02/16	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/02/16	3.6		%	25
			Nitrate (N)	2010/02/16	0.09		%	25
2077934	AHA	Matrix Spike	Dissolved Organic Carbon	2010/02/12		95	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2010/02/12		102	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2010/02/12	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/02/12	NC		%	20
2077936	AHA	Matrix Spike	Total Organic Carbon (TOC)	2010/02/12		100	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2010/02/12		103	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2010/02/12	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2010/02/12	NC		%	20
2077957	ADB	Matrix Spike	Total Ammonia-N	2010/02/16		99	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/02/16		98	%	80 - 120
		Method Blank	Total Ammonia-N	2010/02/16	0.06, RDL=0.05		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2077957	ADB	RPD	Total Ammonia-N	2010/02/16	NC		%	25
2077966	C_H	Matrix Spike	Total Chemical Oxygen Demand (COD)	2010/02/16		98	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/02/16		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/02/16	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2010/02/16	NC		%	25
2078301	DRM	Matrix Spike						
		[FB1588-02]	Dissolved Chloride (Cl)	2010/02/16		101	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/02/16		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/02/16	ND, RDL=1		mg/L	
		RPD [FB1588-02]	Dissolved Chloride (Cl)	2010/02/16	NC		%	20
2078307	DRM	Matrix Spike						
		[FB1588-02]	Orthophosphate (P)	2010/02/16		105	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/02/16		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/02/16	ND, RDL=0.01		mg/L	
		RPD [FB1588-02]	Orthophosphate (P)	2010/02/16	NC		%	25
2078308	DRM	Matrix Spike						
		[FB1588-02]	Dissolved Sulphate (SO4)	2010/02/16		105	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/02/16		104	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/02/16	ND, RDL=1		mg/L	
		RPD [FB1588-02]	Dissolved Sulphate (SO4)	2010/02/16	NC		%	25
2078410	YPA	QC Standard	Conductivity	2010/02/16		102	%	85 - 115
		Method Blank	Conductivity	2010/02/16	ND, RDL=1		umho/cm	
		RPD [FB1587-02]	Conductivity	2010/02/16	1		%	25
2078411	YPA	Matrix Spike						
		[FB1587-02]	Fluoride (F-)	2010/02/16		91	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/02/16		99	%	80 - 120
		Method Blank	Fluoride (F-)	2010/02/16	ND, RDL=0.1		mg/L	
		RPD [FB1587-02]	Fluoride (F-)	2010/02/16	NC		%	25
2079530	VIV	Matrix Spike	Total Aluminum (Al)	2010/02/16		105	%	80 - 120
			Total Antimony (Sb)	2010/02/16		112	%	80 - 120
			Total Arsenic (As)	2010/02/16		101	%	80 - 120
			Total Barium (Ba)	2010/02/16		104	%	80 - 120
			Total Beryllium (Be)	2010/02/16		105	%	75 - 125
			Total Bismuth (Bi)	2010/02/16		113	%	75 - 125
			Total Boron (B)	2010/02/16		104	%	75 - 125
			Total Cadmium (Cd)	2010/02/16		106	%	80 - 120
			Total Calcium (Ca)	2010/02/16		NC	%	75 - 125
			Total Chromium (Cr)	2010/02/16		103	%	80 - 120
			Total Cobalt (Co)	2010/02/16		103	%	80 - 120
			Total Copper (Cu)	2010/02/16		101	%	80 - 120
			Total Iron (Fe)	2010/02/16		103	%	80 - 120
			Total Lead (Pb)	2010/02/16		104	%	80 - 120
			Total Lithium (Li)	2010/02/16		97	%	75 - 125
			Total Magnesium (Mg)	2010/02/16		106	%	80 - 120
			Total Manganese (Mn)	2010/02/16		107	%	80 - 120
			Total Molybdenum (Mo)	2010/02/16		108	%	80 - 120
			Total Nickel (Ni)	2010/02/16		101	%	80 - 120
			Total Potassium (K)	2010/02/16		105	%	75 - 125
			Total Selenium (Se)	2010/02/16		101	%	75 - 125
			Total Silicon (Si)	2010/02/16		100	%	75 - 125
			Total Silver (Ag)	2010/02/16		101	%	80 - 120
			Total Sodium (Na)	2010/02/16		108	%	75 - 125
			Total Strontium (Sr)	2010/02/16		110	%	80 - 120
			Total Tellurium (Te)	2010/02/16		102	%	75 - 125
			Total Thallium (Tl)	2010/02/16		106	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2079530 VIV	Matrix Spike	Total Thorium (Th)	2010/02/16		99	%	75 - 125
		Total Tin (Sn)	2010/02/16		106	%	75 - 125
		Total Titanium (Ti)	2010/02/16		104	%	75 - 125
		Total Tungsten (W)	2010/02/16		108	%	75 - 125
		Total Uranium (U)	2010/02/16		114	%	80 - 120
		Total Vanadium (V)	2010/02/16		104	%	80 - 120
		Total Zinc (Zn)	2010/02/16		101	%	80 - 120
		Total Zirconium (Zr)	2010/02/16		109	%	75 - 125
	Spiked Blank	Total Aluminum (Al)	2010/02/16		102	%	80 - 120
		Total Antimony (Sb)	2010/02/16		111	%	82 - 120
		Total Arsenic (As)	2010/02/16		98	%	86 - 119
		Total Barium (Ba)	2010/02/16		101	%	83 - 115
		Total Beryllium (Be)	2010/02/16		104	%	85 - 132
		Total Bismuth (Bi)	2010/02/16		110	%	78 - 120
		Total Boron (B)	2010/02/16		103	%	78 - 133
		Total Cadmium (Cd)	2010/02/16		106	%	85 - 116
		Total Calcium (Ca)	2010/02/16		105	%	75 - 125
		Total Chromium (Cr)	2010/02/16		104	%	80 - 120
		Total Cobalt (Co)	2010/02/16		104	%	82 - 117
		Total Copper (Cu)	2010/02/16		101	%	80 - 117
		Total Iron (Fe)	2010/02/16		102	%	80 - 120
		Total Lead (Pb)	2010/02/16		102	%	80 - 120
		Total Lithium (Li)	2010/02/16		99	%	86 - 131
		Total Magnesium (Mg)	2010/02/16		103	%	80 - 120
		Total Manganese (Mn)	2010/02/16		109	%	80 - 120
		Total Molybdenum (Mo)	2010/02/16		106	%	82 - 117
		Total Nickel (Ni)	2010/02/16		103	%	81 - 117
		Total Potassium (K)	2010/02/16		104	%	75 - 125
		Total Selenium (Se)	2010/02/16		102	%	82 - 118
		Total Silicon (Si)	2010/02/16		97	%	67 - 140
		Total Silver (Ag)	2010/02/16		100	%	80 - 120
		Total Sodium (Na)	2010/02/16		105	%	75 - 125
		Total Strontium (Sr)	2010/02/16		106	%	83 - 120
		Total Tellurium (Te)	2010/02/16		103	%	80 - 116
		Total Thallium (Tl)	2010/02/16		104	%	80 - 129
		Total Thorium (Th)	2010/02/16		97	%	80 - 125
		Total Tin (Sn)	2010/02/16		106	%	83 - 119
		Total Titanium (Ti)	2010/02/16		105	%	60 - 125
		Total Tungsten (W)	2010/02/16		105	%	81 - 123
		Total Uranium (U)	2010/02/16		114	%	82 - 120
		Total Vanadium (V)	2010/02/16		106	%	82 - 118
		Total Zinc (Zn)	2010/02/16		103	%	80 - 120
		Total Zirconium (Zr)	2010/02/16		108	%	84 - 118
	Method Blank	Total Aluminum (Al)	2010/02/16	ND, RDL=5		ug/L	
		Total Antimony (Sb)	2010/02/16	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2010/02/16	ND, RDL=1		ug/L	
		Total Barium (Ba)	2010/02/16	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2010/02/16	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2010/02/16	ND, RDL=1		ug/L	
		Total Boron (B)	2010/02/16	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2010/02/16	ND, RDL=0.1		ug/L	
		Total Calcium (Ca)	2010/02/16	ND, RDL=200		ug/L	
		Total Chromium (Cr)	2010/02/16	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2010/02/16	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2010/02/16	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2079530	VIV	Method Blank	Total Iron (Fe)	2010/02/16	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/02/16	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/02/16	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/02/16	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/02/16	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/02/16	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/02/16	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/02/16	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/02/16	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/02/16	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/02/16	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/02/16	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/02/16	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/02/16	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/02/16	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/02/16	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/02/16	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/02/16	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/02/16	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/02/16	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/02/16	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/02/16	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/02/16	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2010/02/16	NC		%	25
			Total Zinc (Zn)	2010/02/16	NC		%	25
2080758	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/02/17		94	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/02/17	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/02/17	0.02		%	25
2082241	ADA	Matrix Spike	Dissolved Aluminum (Al)	2010/02/19		101	%	80 - 120
			Dissolved Antimony (Sb)	2010/02/19		105	%	80 - 120
			Dissolved Arsenic (As)	2010/02/19		98	%	80 - 120
			Dissolved Barium (Ba)	2010/02/19		NC	%	80 - 120
			Dissolved Beryllium (Be)	2010/02/19		95	%	80 - 120
			Dissolved Bismuth (Bi)	2010/02/19		92	%	80 - 120
			Dissolved Boron (B)	2010/02/19		97	%	80 - 120
			Dissolved Cadmium (Cd)	2010/02/19		98	%	80 - 120
			Dissolved Calcium (Ca)	2010/02/19		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/02/19		99	%	80 - 120
			Dissolved Cobalt (Co)	2010/02/19		96	%	80 - 120
			Dissolved Copper (Cu)	2010/02/19		92	%	80 - 120
			Dissolved Iron (Fe)	2010/02/19		101	%	80 - 120
			Dissolved Lead (Pb)	2010/02/19		91	%	80 - 120
			Dissolved Lithium (Li)	2010/02/19		94	%	80 - 120
			Dissolved Magnesium (Mg)	2010/02/19		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/02/19		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/02/19		105	%	80 - 120
			Dissolved Nickel (Ni)	2010/02/19		91	%	80 - 120
			Dissolved Phosphorus (P)	2010/02/19		106	%	80 - 120
			Dissolved Potassium (K)	2010/02/19		105	%	80 - 120
			Dissolved Selenium (Se)	2010/02/19		95	%	80 - 120
			Dissolved Silicon (Si)	2010/02/19		107	%	80 - 120
			Dissolved Silver (Ag)	2010/02/19		77 (2)	%	80 - 120
			Dissolved Sodium (Na)	2010/02/19		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/02/19		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/02/19		94	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
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Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2082241	ADA	Matrix Spike	Dissolved Thallium (Tl)	2010/02/19		92	%	80 - 120
			Dissolved Thorium (Th)	2010/02/19		97	%	80 - 120
			Dissolved Tin (Sn)	2010/02/19		103	%	80 - 120
			Dissolved Titanium (Ti)	2010/02/19		101	%	80 - 120
			Dissolved Tungsten (W)	2010/02/19		99	%	80 - 120
			Dissolved Uranium (U)	2010/02/19		96	%	80 - 120
			Dissolved Vanadium (V)	2010/02/19		101	%	80 - 120
			Dissolved Zinc (Zn)	2010/02/19		91	%	80 - 120
			Dissolved Zirconium (Zr)	2010/02/19		105	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/02/19		100	%	90 - 110
			Dissolved Antimony (Sb)	2010/02/19		100	%	90 - 110
			Dissolved Arsenic (As)	2010/02/19		98	%	90 - 110
			Dissolved Barium (Ba)	2010/02/19		94	%	90 - 110
			Dissolved Beryllium (Be)	2010/02/19		95	%	90 - 110
			Dissolved Bismuth (Bi)	2010/02/19		94	%	90 - 110
			Dissolved Boron (B)	2010/02/19		97	%	90 - 110
			Dissolved Cadmium (Cd)	2010/02/19		100	%	90 - 110
			Dissolved Calcium (Ca)	2010/02/19		102	%	90 - 110
			Dissolved Chromium (Cr)	2010/02/19		103	%	90 - 110
			Dissolved Cobalt (Co)	2010/02/19		100	%	90 - 110
			Dissolved Copper (Cu)	2010/02/19		97	%	90 - 110
			Dissolved Iron (Fe)	2010/02/19		104	%	90 - 110
			Dissolved Lead (Pb)	2010/02/19		93	%	90 - 110
			Dissolved Lithium (Li)	2010/02/19		91	%	90 - 110
			Dissolved Magnesium (Mg)	2010/02/19		99	%	90 - 110
			Dissolved Manganese (Mn)	2010/02/19		105	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/02/19		99	%	90 - 110
			Dissolved Nickel (Ni)	2010/02/19		98	%	90 - 110
			Dissolved Phosphorus (P)	2010/02/19		97	%	90 - 110
			Dissolved Potassium (K)	2010/02/19		103	%	90 - 110
			Dissolved Selenium (Se)	2010/02/19		97	%	90 - 110
			Dissolved Silicon (Si)	2010/02/19		101	%	90 - 110
			Dissolved Silver (Ag)	2010/02/19		94	%	90 - 110
			Dissolved Sodium (Na)	2010/02/19		99	%	90 - 110
			Dissolved Strontium (Sr)	2010/02/19		98	%	90 - 110
			Dissolved Tellurium (Te)	2010/02/19		96	%	90 - 110
			Dissolved Thallium (Tl)	2010/02/19		93	%	90 - 110
			Dissolved Thorium (Th)	2010/02/19		95	%	90 - 110
			Dissolved Tin (Sn)	2010/02/19		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/02/19		99	%	90 - 110
			Dissolved Tungsten (W)	2010/02/19		95	%	90 - 110
			Dissolved Uranium (U)	2010/02/19		97	%	90 - 110
			Dissolved Vanadium (V)	2010/02/19		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/02/19		97	%	90 - 110
			Dissolved Zirconium (Zr)	2010/02/19		97	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/02/19	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/02/19	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/02/19	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/02/19	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/02/19	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/02/19	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/02/19	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/02/19	ND, RDL=5		ug/L	

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
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Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2082241	ADA	Method Blank	Dissolved Cobalt (Co)	2010/02/19	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/02/19	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/02/19	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/02/19	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/02/19	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/02/19	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/02/19	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/02/19	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/02/19	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/02/19	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/02/19	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/02/19	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/02/19	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/02/19	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/02/19	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/02/19	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/02/19	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/02/19	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/02/19	NC		%	25
2082405	VIV	Matrix Spike	Total Aluminum (Al)	2010/02/19		100	%	80 - 120
			Total Antimony (Sb)	2010/02/19		115	%	80 - 120
			Total Arsenic (As)	2010/02/19		103	%	80 - 120
			Total Barium (Ba)	2010/02/19		96	%	80 - 120
			Total Beryllium (Be)	2010/02/19		102	%	75 - 125
			Total Bismuth (Bi)	2010/02/19		96	%	75 - 125
			Total Boron (B)	2010/02/19		105	%	75 - 125
			Total Cadmium (Cd)	2010/02/19		108	%	80 - 120
			Total Calcium (Ca)	2010/02/19		NC	%	75 - 125
			Total Chromium (Cr)	2010/02/19		105	%	80 - 120
			Total Cobalt (Co)	2010/02/19		103	%	80 - 120
			Total Copper (Cu)	2010/02/19		99	%	80 - 120
			Total Iron (Fe)	2010/02/19		108	%	80 - 120
			Total Lead (Pb)	2010/02/19		95	%	80 - 120
			Total Lithium (Li)	2010/02/19		97	%	75 - 125
			Total Magnesium (Mg)	2010/02/19		100	%	80 - 120
			Total Manganese (Mn)	2010/02/19		107	%	80 - 120
			Total Molybdenum (Mo)	2010/02/19		107	%	80 - 120
			Total Nickel (Ni)	2010/02/19		101	%	80 - 120
			Total Potassium (K)	2010/02/19		108	%	75 - 125
			Total Selenium (Se)	2010/02/19		104	%	75 - 125
			Total Silicon (Si)	2010/02/19		105	%	75 - 125
			Total Silver (Ag)	2010/02/19		98	%	80 - 120
			Total Sodium (Na)	2010/02/19		NC	%	75 - 125
			Total Strontium (Sr)	2010/02/19		NC	%	80 - 120
			Total Tellurium (Te)	2010/02/19		105	%	75 - 125
			Total Thallium (Tl)	2010/02/19		96	%	80 - 120
			Total Thorium (Th)	2010/02/19		100	%	75 - 125

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2082405	VIV	Matrix Spike	Total Tin (Sn)	2010/02/19		112	%	75 - 125
			Total Titanium (Ti)	2010/02/19		110	%	75 - 125
			Total Tungsten (W)	2010/02/19		103	%	75 - 125
			Total Uranium (U)	2010/02/19		100	%	80 - 120
			Total Vanadium (V)	2010/02/19		106	%	80 - 120
			Total Zinc (Zn)	2010/02/19		100	%	80 - 120
			Total Zirconium (Zr)	2010/02/19		107	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/02/19		106	%	80 - 120
			Total Antimony (Sb)	2010/02/19		108	%	82 - 120
			Total Arsenic (As)	2010/02/19		101	%	86 - 119
			Total Barium (Ba)	2010/02/19		98	%	83 - 115
			Total Beryllium (Be)	2010/02/19		100	%	85 - 132
			Total Bismuth (Bi)	2010/02/19		96	%	78 - 120
			Total Boron (B)	2010/02/19		103	%	78 - 133
			Total Cadmium (Cd)	2010/02/19		102	%	85 - 116
			Total Calcium (Ca)	2010/02/19		104	%	75 - 125
			Total Chromium (Cr)	2010/02/19		101	%	80 - 120
			Total Cobalt (Co)	2010/02/19		102	%	82 - 117
			Total Copper (Cu)	2010/02/19		100	%	80 - 117
			Total Iron (Fe)	2010/02/19		105	%	80 - 120
			Total Lead (Pb)	2010/02/19		96	%	80 - 120
			Total Lithium (Li)	2010/02/19		95	%	86 - 131
			Total Magnesium (Mg)	2010/02/19		104	%	80 - 120
			Total Manganese (Mn)	2010/02/19		106	%	80 - 120
			Total Molybdenum (Mo)	2010/02/19		102	%	82 - 117
			Total Nickel (Ni)	2010/02/19		99	%	81 - 117
			Total Potassium (K)	2010/02/19		107	%	75 - 125
			Total Selenium (Se)	2010/02/19		100	%	82 - 118
			Total Silicon (Si)	2010/02/19		105	%	67 - 140
			Total Silver (Ag)	2010/02/19		95	%	80 - 120
			Total Sodium (Na)	2010/02/19		107	%	75 - 125
			Total Strontium (Sr)	2010/02/19		100	%	83 - 120
			Total Tellurium (Te)	2010/02/19		100	%	80 - 116
			Total Thallium (Tl)	2010/02/19		97	%	80 - 129
			Total Thorium (Th)	2010/02/19		98	%	80 - 125
			Total Tin (Sn)	2010/02/19		102	%	83 - 119
			Total Titanium (Ti)	2010/02/19		104	%	60 - 125
			Total Tungsten (W)	2010/02/19		101	%	81 - 123
			Total Uranium (U)	2010/02/19		99	%	82 - 120
			Total Vanadium (V)	2010/02/19		101	%	82 - 118
			Total Zinc (Zn)	2010/02/19		100	%	80 - 120
			Total Zirconium (Zr)	2010/02/19		102	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/02/19	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/02/19	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/02/19	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/02/19	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/02/19	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/02/19	ND, RDL=1		ug/L	
			Total Boron (B)	2010/02/19	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/02/19	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/02/19	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/02/19	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/02/19	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/02/19	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/02/19	ND, RDL=100		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2082405	VIV	Method Blank	Total Lead (Pb)	2010/02/19	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/02/19	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/02/19	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/02/19	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/02/19	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/02/19	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/02/19	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/02/19	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/02/19	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/02/19	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/02/19	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/02/19	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/02/19	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/02/19	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/02/19	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/02/19	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/02/19	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/02/19	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/02/19	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/02/19	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/02/19	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/02/19	ND, RDL=1		ug/L	
		RPD	Total Aluminum (Al)	2010/02/19	3.2		%	25
			Total Antimony (Sb)	2010/02/19	NC		%	25
			Total Arsenic (As)	2010/02/19	NC		%	25
			Total Barium (Ba)	2010/02/19	4.3		%	25
			Total Beryllium (Be)	2010/02/19	NC		%	25
			Total Bismuth (Bi)	2010/02/19	NC		%	25
			Total Boron (B)	2010/02/19	4.3		%	25
			Total Cadmium (Cd)	2010/02/19	NC		%	25
			Total Calcium (Ca)	2010/02/19	0.8		%	25
			Total Chromium (Cr)	2010/02/19	NC		%	25
			Total Cobalt (Co)	2010/02/19	NC		%	25
			Total Copper (Cu)	2010/02/19	3.1		%	25
			Total Lead (Pb)	2010/02/19	3.3		%	25
			Total Magnesium (Mg)	2010/02/19	6.3		%	25
			Total Manganese (Mn)	2010/02/19	4.5		%	25
			Total Molybdenum (Mo)	2010/02/19	2.4		%	25
			Total Nickel (Ni)	2010/02/19	4.0		%	25
			Total Potassium (K)	2010/02/19	2.2		%	25
			Total Selenium (Se)	2010/02/19	NC		%	25
			Total Silicon (Si)	2010/02/19	2.9		%	25
			Total Silver (Ag)	2010/02/19	NC		%	25
			Total Sodium (Na)	2010/02/19	4.4		%	25
			Total Strontium (Sr)	2010/02/19	2.1		%	25
			Total Tellurium (Te)	2010/02/19	NC		%	25
			Total Thallium (Tl)	2010/02/19	NC		%	25
			Total Tin (Sn)	2010/02/19	NC		%	25
			Total Titanium (Ti)	2010/02/19	NC		%	25
			Total Tungsten (W)	2010/02/19	NC		%	25
			Total Vanadium (V)	2010/02/19	NC		%	25
			Total Zinc (Zn)	2010/02/19	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB016001

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Validation Signature Page

Maxxam Job #: B016001

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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8-Feb-10 16:40
ANTONELLA BRASIL
B016001
AKP ENV-898

MICRO Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CU

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	BOTTLE ORDER #:	178858
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #:	C#178858-01-01
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		PROJECT MANAGER:	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality _____
Other (specify) _____ Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Acidity as CaCO3 in liquid	Alk,Cond,Cl,F1,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/To Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		Sw1	Feb 8/10	11:15	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 bottles with Location
2		Sw2	Feb 8/10	9:30	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	Included Both CofC forms
3		Sw3	Feb 8/10	10:00	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		Sw4	Feb 8/10	10:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
5		Sw5	Feb 8/10	8:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		Sw6	Feb 8/10	8:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
7																			FEB 10 '10 8:45
8																			
9																			
10																			REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Becca Burnell	2010/02/08	4:40pm	Amanda Hung	Feb 8/10	4:40pm		X	7.4, 6.8, 6.6	☐ Yes ☐ No
			EDA STIGSSON	2010-02-10	8:45				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #: B016001	BOTTLE ORDER #: 178858
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #: C#178858-01-02	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:

- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
- ☐ PWQO — ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 — ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
- ☐ Reg. 558 — Municipality: _____
- Other (specify): _____ Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS:

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Sublet (MICRO) - TC, ~~EC~~, FC; E.coli by MF	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		Sw 1	Feb 8/10	11:15	WT		✓	✓	✓	✓	✓	15	Incl. Bottle C of C forms
2		Sw 2	Feb 8/10	9:30	WT		✓	✓	✓	✓	✓	15	
3		Sw 3	Feb 8/10	10:00	WT		✓	✓	✓	✓	✓	15	
4		Sw 4	Feb 8/10	10:45	WT		✓	✓	✓	✓	✓	15	
5		Sw 5	Feb 8/10	8:45	WT		✓	✓	✓	✓	✓	15	
6		Sw 6	Feb 8/10	8:45	WT		✓	✓	✓	✓	✓	15	FEB 10 '10 9:45
7													
8								pulled @ WPG Feb 8/2010					
9													REC'D IN WINNIPEG
10													

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Burnell	2010/02/08	4:40pm	Amanda	Feb 8/10	4:40pm		X	7.4, 6.8, 6.6	☐ Yes ☐ No
				2010-02-10	8:45			1/0/1° 3/4/4° 5/3/7°	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

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REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: February 18, 2010

GROUP NUMBER: 110208079

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CANTEST ID	Total Coliform (Confirmed)	Fecal Coliform	E. Coli
SW1	Feb 8/10	1002080256	9	<	<
SW2	Feb 8/10	1002080257	64	1	1
SW3	Feb 8/10	1002080258	23	12	12
SW4	Feb 8/10	1002080259	32	2	<
SW5	Feb 8/10	1002080260	42	<	<
SW6	Feb 8/10	1002080261	28	2	1
REPORTING LIMIT			1	1	1
UNITS			Col./100 mL	Col./100 mL	Col./100 mL

Col./100 mL = Colonies per 100 mL
< = Less than reporting limit

Analysis Report

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: **Analysis of Water Samples**

REPORTED TO: **Maxxam Analytics Inc.**
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Marijane Cruz

CHAIN OF CUSTODY: **52626 MB**
PROJECT NAME: **C#289969-01-02**
PROJECT NUMBER: **#23433**

NUMBER OF SAMPLES: 6

REPORT DATE: February 18, 2010

DATE SUBMITTED: February 8, 2010

GROUP NUMBER: 110208079

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

TEST RESULTS:

(See following page)

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: MB016001
Site: RAINY RIVER
Your C.O.C. #: 08309919

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/02/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B007847
Received: 2010/02/12, 08:50

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2010/02/16	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: B007847
Report Date: 2010/02/16

MAXXAM ANALYTICS INC.
Client Project #: MB016001
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		S78848	S78849	S78850	S78851		
Sampling Date		2010/02/08	2010/02/08	2010/02/08	2010/02/08		
COC Number		08309919	08309919	08309919	08309919		
	Units	**SW1 (FB1582-09R)**	**SW2 (FB1583-09R)**	**SW3 (FB1584-09R)**	**SW4 (FB1585-09R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0011	0.0013	0.0013	0.0013	0.0005	3746631
RDL = Reportable Detection Limit							

Maxxam ID		S78852	S78853	S78854		
Sampling Date		2010/02/08	2010/02/08	2010/02/08		
COC Number		08309919	08309919	08309919		
	Units	**SW5 (FB1586-09R)**	**SW6 (FB1587-09R)**	**TRIP BLANK (FB1588-09R)**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0020	0.0020	<0.0005	0.0005	3746631
RDL = Reportable Detection Limit						

Maxxam Job #: B007847
Report Date: 2010/02/16

MAXXAM ANALYTICS INC.
Client Project #: MB016001
Site Reference: RAINY RIVER

Package 1	10.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB016001
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VB007847

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3746631	SC2	Matrix Spike [S78854-01]	Weak Acid Dissoc. Cyanide (CN)	2010/02/16		97	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/02/16		112	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/02/16	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/02/16	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B007847

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

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APPENDIX I - 4

Laboratory Results
February 2010

Your Project #: Rainy River
Your C.O.C. #: 18283601, 182836-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/03/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B021405
Received: 2010/02/22, 16:00

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	7	2010/02/25	2010/03/01	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2010/02/25	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2010/03/01	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2010/03/01	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2010/02/26	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2010/02/25	CAM SOP-00448	SM 2510
Total Cyanide	7	2010/02/25	2010/02/26	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	7	N/A	2010/02/26	CAM SOP-00446	SM 5310 B
Fluoride	7	2010/02/25	2010/02/25	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	7	2010/02/26	2010/02/26	CAM SOP-00453	EPA 7470
Lab Filtered Metals by ICPMS	1	2010/02/26	2010/03/01	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	6	N/A	2010/03/01	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	7	N/A	2010/03/02	CAM SOP-00447	EPA 6020
Ammonia-N	6	N/A	2010/02/26	CAM SOP-00441	US GS I-2522-90
Ammonia-N	1	N/A	2010/03/01	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	6	N/A	2010/02/25	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (3)	1	N/A	2010/02/26	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2010/02/25	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2010/02/25	2010/02/25	CAM SOP-00326	EPA 1664A
pH	7	N/A	2010/02/25	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2010/03/01	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2010/03/01	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2010/02/25	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	4	N/A	2010/02/26	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	3	N/A	2010/02/27	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (4)	7	2010/02/25	2010/02/25	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2010/02/24	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2010/02/24	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FD7889	FD7889	FD7890	FD7891		
Sampling Date		2010/02/22 10:00	2010/02/22 10:00	2010/02/22 09:30	2010/02/22 09:00		
COC Number		182836-0	182836-0	182836-0	182836-0		
	Units	**SW1**	**SW1 Lab-Dup**	**SW2**	**SW3**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	ND	ND	0.5	2084630
Inorganics							
Acidity as CaC03	mg/L	56	N/A	34	48	10	2086877
Total Ammonia-N	mg/L	0.16	N/A	0.10	0.09	0.05	2086845
Total BOD	mg/L	ND	N/A	ND	ND	2	2085703
Total Chemical Oxygen Demand (COD)	mg/L	66	N/A	76	71	4	2087831
Conductivity	umho/cm	452	N/A	345	513	1	2087064
Total Dissolved Solids	mg/L	296	N/A	214	336	10	2086679
Fluoride (F-)	mg/L	ND	N/A	ND	ND	0.1	2087067
Dissolved Organic Carbon	mg/L	24.2	N/A	27.6	26.8	0.2	2086895
Total Organic Carbon (TOC)	mg/L	25.2	N/A	29.5	27.4	0.2	2087944
Orthophosphate (P)	mg/L	0.05	N/A	0.02	0.02	0.01	2087026
pH	pH	7.6	N/A	7.7	7.6	N/A	2087049
Total Suspended Solids	mg/L	19	N/A	48	11	1	2086394
Dissolved Sulphate (SO4)	mg/L	ND	N/A	ND	ND	1	2087015
Total Cyanide (CN)	mg/L	ND	N/A	ND	ND	0.005	2086783
Turbidity	NTU	26	26	40	15	0.1	2086099
Alkalinity (Total as CaCO3)	mg/L	215	N/A	180	248	1	2087065
Dissolved Chloride (Cl)	mg/L	11	N/A	3	14	1	2087024
Nitrite (N)	mg/L	ND	N/A	ND	ND	0.01	2086848
Nitrate (N)	mg/L	ND	N/A	ND	ND	0.1	2086848
Nitrate + Nitrite	mg/L	ND	N/A	ND	ND	0.1	2086848
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	N/A	ND	ND	0.5	2086685
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	ND	ND	0.5	2086687

ND = Not detected
N/A = Not Applicable
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QC Batch = Quality Control Batch

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FD7891		FD7892		
Sampling Date		2010/02/22 09:00		2010/02/22 08:15		
COC Number		182836-0		182836-0		
	Units	**SW3 Lab-Dup**	**RDL**	**SW5**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	ND	0.5	2084630
Inorganics						
Acidity as CaC03	mg/L	N/A	10	64	10	2086877
Total Ammonia-N	mg/L	N/A	0.05	0.70	0.05	2086845
Total BOD	mg/L	N/A	2	ND	2	2085703
Total Chemical Oxygen Demand (COD)	mg/L	70	4	140	4	2087831
Conductivity	umho/cm	N/A	1	141	1	2087064
Total Dissolved Solids	mg/L	N/A	10	90	10	2086679
Fluoride (F-)	mg/L	N/A	0.1	ND	0.1	2087067
Dissolved Organic Carbon	mg/L	N/A	0.2	57	2	2086895
Total Organic Carbon (TOC)	mg/L	N/A	0.2	61	2	2087944
Orthophosphate (P)	mg/L	N/A	0.01	ND (1)	0.05	2087026
pH	pH	N/A	N/A	6.8	N/A	2087049
Total Suspended Solids	mg/L	N/A	1	2	1	2086394
Dissolved Sulphate (SO4)	mg/L	N/A	1	ND (1)	5	2087015
Total Cyanide (CN)	mg/L	N/A	0.005	ND	0.005	2086783
Turbidity	NTU	N/A	0.1	2.4	0.1	2086099
Alkalinity (Total as CaCO3)	mg/L	N/A	1	67	1	2087065
Dissolved Chloride (Cl)	mg/L	N/A	1	6	5	2087024
Nitrite (N)	mg/L	N/A	0.01	ND	0.05	2086848
Nitrate (N)	mg/L	N/A	0.1	ND	0.5	2086848
Nitrate + Nitrite	mg/L	N/A	0.1	ND	0.5	2086848
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	N/A	0.5	ND	0.5	2086685
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	ND	0.5	2086687

ND = Not detected
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(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FD7892			FD7893		
Sampling Date		2010/02/22 08:15			2010/02/22 10:45		
COC Number		182836-0			182836-0		
	Units	**SW5 Lab-Dup**	**RDL**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2084630	ND	0.5	2084630
Inorganics							
Acidity as CaC03	mg/L	64	10	2086877	62	10	2086877
Total Ammonia-N	mg/L	N/A	0.05	2086845	0.26	0.05	2086845
Total BOD	mg/L	N/A	2	2085703	4	2	2085703
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2087831	95	4	2087831
Conductivity	umho/cm	N/A	1	2087064	159	1	2087064
Total Dissolved Solids	mg/L	N/A	10	2086679	100	10	2086679
Fluoride (F-)	mg/L	N/A	0.1	2087067	ND	0.1	2087067
Dissolved Organic Carbon	mg/L	N/A	2	2086895	33.8	0.2	2086895
Total Organic Carbon (TOC)	mg/L	N/A	2	2087944	35.5	0.2	2087944
Orthophosphate (P)	mg/L	N/A	0.05	2087026	ND	0.01	2087026
pH	pH	N/A	N/A	2087049	6.7	N/A	2087049
Total Suspended Solids	mg/L	N/A	1	2086394	1	1	2086394
Dissolved Sulphate (SO4)	mg/L	N/A	5	2087015	ND	1	2087015
Total Cyanide (CN)	mg/L	N/A	0.005	2086783	ND	0.005	2086783
Turbidity	NTU	N/A	0.1	2086099	4.2	0.1	2086099
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2087065	65	1	2087065
Dissolved Chloride (Cl)	mg/L	N/A	5	2087024	9	1	2087024
Nitrite (N)	mg/L	N/A	0.05	2086848	ND	0.01	2087185
Nitrate (N)	mg/L	N/A	0.5	2086848	ND	0.1	2087185
Nitrate + Nitrite	mg/L	N/A	0.5	2086848	ND	0.1	2087185
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2086685	ND	0.5	2086685
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2086687	ND	0.5	2086687

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FD7893		FD7894	FD7894		
Sampling Date		2010/02/22 10:45		2010/02/22 10:45	2010/02/22 10:45		
COC Number		182836-0		182836-0	182836-0		
	Units	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	2084630	ND	N/A	0.5	2084630
Inorganics							
Acidity as CaC03	mg/L	N/A	2086877	68	N/A	10	2086877
Total Ammonia-N	mg/L	N/A	2086845	0.24	N/A	0.05	2086845
Total BOD	mg/L	N/A	2085703	4	N/A	2	2085703
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2087831	91	N/A	4	2087831
Conductivity	umho/cm	N/A	2087064	157	N/A	1	2087064
Total Dissolved Solids	mg/L	N/A	2086679	102	N/A	10	2086679
Fluoride (F-)	mg/L	N/A	2087067	ND	N/A	0.1	2087067
Dissolved Organic Carbon	mg/L	N/A	2086895	33.5	N/A	0.2	2086895
Total Organic Carbon (TOC)	mg/L	N/A	2087944	34.9	N/A	0.2	2087944
Orthophosphate (P)	mg/L	N/A	2087026	ND	N/A	0.01	2087026
pH	pH	N/A	2087049	6.7	N/A	N/A	2087049
Total Suspended Solids	mg/L	N/A	2086394	2	N/A	1	2086394
Dissolved Sulphate (SO4)	mg/L	N/A	2087015	ND	N/A	1	2087015
Total Cyanide (CN)	mg/L	N/A	2086783	ND	N/A	0.005	2086783
Turbidity	NTU	N/A	2086099	3.4	N/A	0.1	2086099
Alkalinity (Total as CaCO3)	mg/L	N/A	2087065	65	N/A	1	2087065
Dissolved Chloride (Cl)	mg/L	N/A	2087024	8	N/A	1	2087024
Nitrite (N)	mg/L	ND	2087185	ND	N/A	0.01	2086848
Nitrate (N)	mg/L	ND	2087185	ND	N/A	0.1	2086848
Nitrate + Nitrite	mg/L	ND	2087185	ND	N/A	0.1	2086848
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	2086685	ND	ND	0.5	2086685
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	2086687	ND	ND	0.5	2086687

ND = Not detected
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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FD7895	FD7895		
Sampling Date					
COC Number		182836-0	182836-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2084630
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2086877
Total Ammonia-N	mg/L	ND	N/A	0.05	2087984
Total BOD	mg/L	ND	N/A	2	2085703
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2087831
Conductivity	umho/cm	1	1	1	2087064
Total Dissolved Solids	mg/L	ND	ND	10	2086679
Fluoride (F-)	mg/L	ND	ND	0.1	2087067
Dissolved Organic Carbon	mg/L	0.4	N/A	0.2	2086895
Total Organic Carbon (TOC)	mg/L	0.4	N/A	0.2	2087944
Orthophosphate (P)	mg/L	ND	ND	0.01	2087026
pH	pH	5.3	5.2	N/A	2087049
Total Suspended Solids	mg/L	ND	N/A	1	2086394
Dissolved Sulphate (SO4)	mg/L	ND	ND	1	2087015
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2086783
Turbidity	NTU	ND	N/A	0.1	2086099
Alkalinity (Total as CaCO3)	mg/L	1	ND	1	2087065
Dissolved Chloride (Cl)	mg/L	ND	ND	1	2087024
Nitrite (N)	mg/L	ND	N/A	0.01	2086848
Nitrate (N)	mg/L	ND	N/A	0.1	2086848
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2086848
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2086685
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2086687

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7889	FD7890	FD7891	FD7892		
Sampling Date		2010/02/22 10:00	2010/02/22 09:30	2010/02/22 09:00	2010/02/22 08:15		
COC Number		182836-0	182836-0	182836-0	182836-0		
	Units	**SW1**	**SW2**	**SW3**	**SW5**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2087787
Dissolved Aluminum (Al)	ug/L	90	71	61	160	5	2088308
Total Aluminum (Al)	ug/L	1100	3200	520	190	5	2089342
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2088308
Total Antimony (Sb)	ug/L	ND	ND	ND	0.6	0.5	2089342
Dissolved Arsenic (As)	ug/L	1	1	1	1	1	2088308
Total Arsenic (As)	ug/L	2	3	1	ND	1	2089342
Dissolved Barium (Ba)	ug/L	28	47	37	42	5	2088308
Total Barium (Ba)	ug/L	26	52	22	13	5	2089342
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2088308
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2089342
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2088308
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2089342
Dissolved Boron (B)	ug/L	25	19	22	11	10	2088308
Total Boron (B)	ug/L	20	12	15	ND	10	2089342
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2088308
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2089342
Dissolved Calcium (Ca)	ug/L	52000	51000	59000	18000	200	2088308
Total Calcium (Ca)	ug/L	58000	54000	66000	19000	200	2089342
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2088308
Total Chromium (Cr)	ug/L	ND	5	ND	ND	5	2089342
Dissolved Cobalt (Co)	ug/L	0.9	1.3	1.1	1.0	0.5	2088308
Total Cobalt (Co)	ug/L	1.2	3.4	1.4	1.2	0.5	2089342
Dissolved Copper (Cu)	ug/L	3	3	1	ND	1	2088308
Total Copper (Cu)	ug/L	2	4	1	ND	1	2089342
Dissolved Iron (Fe)	ug/L	1100	1400	950	1500	100	2088308
Total Iron (Fe)	ug/L	2500	8000	1800	1700	100	2089342
Dissolved Lead (Pb)	ug/L	0.8	ND	ND	ND	0.5	2088308
Total Lead (Pb)	ug/L	0.6	2.4	ND	ND	0.5	2089342
Dissolved Lithium (Li)	ug/L	9	ND	8	ND	5	2088308
Total Lithium (Li)	ug/L	10	7	8	ND	5	2089342

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Maxxam Job #: B021405
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7889	FD7890	FD7891	FD7892		
Sampling Date		2010/02/22 10:00	2010/02/22 09:30	2010/02/22 09:00	2010/02/22 08:15		
COC Number		182836-0	182836-0	182836-0	182836-0		
	Units	**SW1**	**SW2**	**SW3**	**SW5**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	22000	21000	25000	8600	50	2088308
Total Magnesium (Mg)	ug/L	25000	22000	28000	11000	50	2089342
Dissolved Manganese (Mn)	ug/L	410	850	1500	310	2	2088308
Total Manganese (Mn)	ug/L	460	910	1600	350	2	2089342
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2088308
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2089342
Dissolved Nickel (Ni)	ug/L	2	2	2	1	1	2088308
Total Nickel (Ni)	ug/L	3	6	2	1	1	2089342
Dissolved Phosphorus (P)	ug/L	100	ND	ND	ND	100	2088308
Dissolved Potassium (K)	ug/L	2500	1600	2300	810	200	2088308
Total Potassium (K)	ug/L	2800	1900	2400	810	200	2089342
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2088308
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2089342
Dissolved Silicon (Si)	ug/L	8100	8200	8700	11000	50	2088308
Total Silicon (Si)	ug/L	11000	16000	11000	12000	50	2089342
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2088308
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2089342
Dissolved Sodium (Na)	ug/L	8200	3000	7300	1900	100	2088308
Total Sodium (Na)	ug/L	9000	2700	8000	1900	100	2089342
Dissolved Strontium (Sr)	ug/L	140	78	120	36	1	2088308
Total Strontium (Sr)	ug/L	170	88	140	41	1	2089342
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2088308
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2089342
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2088308
Total Thallium (Tl)	ug/L	ND	0.06	ND	ND	0.05	2089342
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2088308
Total Thorium (Th)	ug/L	ND	1	ND	ND	1	2089342
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2088308
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2089342
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2088308
Total Titanium (Ti)	ug/L	68	150	28	6	5	2089342
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2088308

ND = Not detected
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QC Batch = Quality Control Batch

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7889	FD7890	FD7891	FD7892		
Sampling Date		2010/02/22 10:00	2010/02/22 09:30	2010/02/22 09:00	2010/02/22 08:15		
COC Number		182836-0	182836-0	182836-0	182836-0		
	Units	**SW1**	**SW2**	**SW3**	**SW5**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2089342
Dissolved Uranium (U)	ug/L	0.9	0.8	0.8	ND	0.1	2088308
Total Uranium (U)	ug/L	1.0	1.1	0.9	ND	0.1	2089342
Dissolved Vanadium (V)	ug/L	1	1	ND	ND	1	2088308
Total Vanadium (V)	ug/L	4	11	2	ND	1	2089342
Dissolved Zinc (Zn)	ug/L	31	30	27	36	5	2088308
Total Zinc (Zn)	ug/L	7	21	5	6	5	2089342
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2088308
Total Zirconium (Zr)	ug/L	2	4	1	ND	1	2089342

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Maxxam Job #: B021405
Report Date: 2010/03/02

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7893		FD7894	FD7895		
Sampling Date		2010/02/22 10:45		2010/02/22 10:45			
COC Number		182836-0		182836-0	182836-0		
	Units	**SW4**	**QC Batch**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	2087787	ND	ND	0.0001	2087787
Dissolved Aluminum (Al)	ug/L	22	2088252	36	ND	5	2088308
Total Aluminum (Al)	ug/L	52	2089342	59	ND	5	2089342
Dissolved Antimony (Sb)	ug/L	ND	2088252	ND	ND	0.5	2088308
Total Antimony (Sb)	ug/L	ND	2089342	ND	ND	0.5	2089342
Dissolved Arsenic (As)	ug/L	ND	2088252	ND	ND	1	2088308
Total Arsenic (As)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Barium (Ba)	ug/L	12	2088252	21	ND	5	2088308
Total Barium (Ba)	ug/L	14	2089342	13	ND	5	2089342
Dissolved Beryllium (Be)	ug/L	ND	2088252	ND	ND	0.5	2088308
Total Beryllium (Be)	ug/L	ND	2089342	ND	ND	0.5	2089342
Dissolved Bismuth (Bi)	ug/L	ND	2088252	ND	ND	1	2088308
Total Bismuth (Bi)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Boron (B)	ug/L	ND	2088252	ND	ND	10	2088308
Total Boron (B)	ug/L	ND	2089342	ND	ND	10	2089342
Dissolved Cadmium (Cd)	ug/L	ND	2088252	ND	ND	0.1	2088308
Total Cadmium (Cd)	ug/L	ND	2089342	ND	ND	0.1	2089342
Dissolved Calcium (Ca)	ug/L	19000	2088252	18000	ND	200	2088308
Total Calcium (Ca)	ug/L	21000	2089342	19000	ND	200	2089342
Dissolved Chromium (Cr)	ug/L	ND	2088252	ND	ND	5	2088308
Total Chromium (Cr)	ug/L	ND	2089342	ND	ND	5	2089342
Dissolved Cobalt (Co)	ug/L	ND	2088252	ND	ND	0.5	2088308
Total Cobalt (Co)	ug/L	0.6	2089342	ND	ND	0.5	2089342
Dissolved Copper (Cu)	ug/L	ND	2088252	3	ND	1	2088308
Total Copper (Cu)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Iron (Fe)	ug/L	670	2088252	920	ND	100	2088308
Total Iron (Fe)	ug/L	1200	2089342	1100	ND	100	2089342
Dissolved Lead (Pb)	ug/L	ND	2088252	0.7	ND	0.5	2088308
Total Lead (Pb)	ug/L	ND	2089342	ND	ND	0.5	2089342
Dissolved Lithium (Li)	ug/L	ND	2088252	ND	ND	5	2088308
Total Lithium (Li)	ug/L	ND	2089342	ND	ND	5	2089342

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Maxxam Job #: B021405
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7893		FD7894	FD7895		
Sampling Date		2010/02/22 10:45		2010/02/22 10:45			
COC Number		182836-0		182836-0	182836-0		
	Units	**SW4**	**QC Batch**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	8500	2088252	7500	ND	50	2088308
Total Magnesium (Mg)	ug/L	9900	2089342	9200	ND	50	2089342
Dissolved Manganese (Mn)	ug/L	340	2088252	340	ND	2	2088308
Total Manganese (Mn)	ug/L	410	2089342	380	ND	2	2089342
Dissolved Molybdenum (Mo)	ug/L	ND	2088252	ND	ND	1	2088308
Total Molybdenum (Mo)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Nickel (Ni)	ug/L	ND	2088252	ND	ND	1	2088308
Total Nickel (Ni)	ug/L	1	2089342	ND	ND	1	2089342
Dissolved Phosphorus (P)	ug/L	ND	2088252	ND	ND	100	2088308
Dissolved Potassium (K)	ug/L	710	2088252	810	ND	200	2088308
Total Potassium (K)	ug/L	790	2089342	720	ND	200	2089342
Dissolved Selenium (Se)	ug/L	ND	2088252	ND	ND	2	2088308
Total Selenium (Se)	ug/L	ND	2089342	ND	ND	2	2089342
Dissolved Silicon (Si)	ug/L	6600	2088252	6300	ND	50	2088308
Total Silicon (Si)	ug/L	7500	2089342	6900	ND	50	2089342
Dissolved Silver (Ag)	ug/L	ND	2088252	ND	ND	0.1	2088308
Total Silver (Ag)	ug/L	ND	2089342	ND	ND	0.1	2089342
Dissolved Sodium (Na)	ug/L	5400	2088252	4900	ND	100	2088308
Total Sodium (Na)	ug/L	5500	2089342	5000	ND	100	2089342
Dissolved Strontium (Sr)	ug/L	40	2088252	39	ND	1	2088308
Total Strontium (Sr)	ug/L	46	2089342	44	ND	1	2089342
Dissolved Tellurium (Te)	ug/L	ND	2088252	ND	ND	1	2088308
Total Tellurium (Te)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Thallium (Tl)	ug/L	ND	2088252	ND	ND	0.05	2088308
Total Thallium (Tl)	ug/L	ND	2089342	ND	ND	0.05	2089342
Dissolved Thorium (Th)	ug/L	ND	2088252	ND	ND	1	2088308
Total Thorium (Th)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Tin (Sn)	ug/L	ND	2088252	ND	ND	1	2088308
Total Tin (Sn)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Titanium (Ti)	ug/L	ND	2088252	ND	ND	5	2088308
Total Titanium (Ti)	ug/L	ND	2089342	ND	ND	5	2089342
Dissolved Tungsten (W)	ug/L	ND	2088252	ND	ND	1	2088308

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Maxxam Job #: B021405
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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FD7893		FD7894	FD7895		
Sampling Date		2010/02/22 10:45		2010/02/22 10:45			
COC Number		182836-0		182836-0	182836-0		
	Units	**SW4**	**QC Batch**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Uranium (U)	ug/L	ND	2088252	ND	ND	0.1	2088308
Total Uranium (U)	ug/L	ND	2089342	ND	ND	0.1	2089342
Dissolved Vanadium (V)	ug/L	ND	2088252	ND	ND	1	2088308
Total Vanadium (V)	ug/L	ND	2089342	ND	ND	1	2089342
Dissolved Zinc (Zn)	ug/L	ND	2088252	23	ND	5	2088308
Total Zinc (Zn)	ug/L	7	2089342	6	ND	5	2089342
Dissolved Zirconium (Zr)	ug/L	ND	2088252	ND	ND	1	2088308
Total Zirconium (Zr)	ug/L	ND	2089342	ND	ND	1	2089342

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Maxxam Job #: B021405
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GENERAL COMMENTS

Sample FD7892-01: Nitrite/Nitrate Analysis: Due to colour interferences, sample required dilution. Detection limits were adjusted accordingly.

Sample FD7895-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2085703	JKU	QC Standard	Total BOD	2010/03/01		103	%	85 - 115
		Method Blank	Total BOD	2010/03/01	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/03/01	NC		%	25
2086099	KTH	QC Standard	Turbidity	2010/02/24		101	%	85 - 115
		Method Blank	Turbidity	2010/02/24	ND, RDL=0.1		NTU	
		RPD [FD7889-02]	Turbidity	2010/02/24	0.8		%	25
2086394	JDO	QC Standard	Total Suspended Solids	2010/02/24		95	%	85 - 115
		Method Blank	Total Suspended Solids	2010/02/24	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/02/24	NC		%	25
2086679	HAG	QC Standard	Total Dissolved Solids	2010/02/25		94	%	85 - 115
		Method Blank	Total Dissolved Solids	2010/02/25	ND, RDL=10		mg/L	
		RPD [FD7895-05]	Total Dissolved Solids	2010/02/25	NC		%	25
2086685	FA	Matrix Spike						
		[FD7892-01]	Total Oil & Grease	2010/02/25		93	%	75 - 125
		Spiked Blank	Total Oil & Grease	2010/02/25		99	%	85 - 115
		Method Blank	Total Oil & Grease	2010/02/25	ND, RDL=0.5		mg/L	
		RPD [FD7894-01]	Total Oil & Grease	2010/02/25	NC		%	25
2086687	FA	Matrix Spike						
		[FD7892-01]	Total Oil & Grease Mineral/Synthetic	2010/02/25		91	%	75 - 125
		Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/02/25		93	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/02/25	ND, RDL=0.5		mg/L	
		RPD [FD7894-01]	Total Oil & Grease Mineral/Synthetic	2010/02/25	NC		%	25
2086783	LHA	Matrix Spike	Total Cyanide (CN)	2010/02/26		104	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/02/26		104	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/02/26	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/02/26	NC		%	25
2086845	ADB	Matrix Spike	Total Ammonia-N	2010/02/26		97	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/02/26		98	%	85 - 115
		Method Blank	Total Ammonia-N	2010/02/26	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2010/02/26	NC		%	25
2086848	C_N	Matrix Spike	Nitrite (N)	2010/02/25		NC	%	75 - 125
			Nitrate (N)	2010/02/25		NC	%	75 - 125
		Spiked Blank	Nitrite (N)	2010/02/25		106	%	80 - 120
			Nitrate (N)	2010/02/25		106	%	80 - 120
		Method Blank	Nitrite (N)	2010/02/25	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/02/25	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/02/25	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/02/25	0.02		%	25
			Nitrate (N)	2010/02/25	1.9		%	25
			Nitrate + Nitrite	2010/02/25	1.8		%	25
2086877	MAT	Method Blank	Acidity as CaC03	2010/03/01	ND, RDL=10		mg/L	
		RPD [FD7892-05]	Acidity as CaC03	2010/03/01	0		%	25
2086895	C_H	Matrix Spike	Dissolved Organic Carbon	2010/02/26		95	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/02/26		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/02/26	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/02/26	NC		%	20
2087015	DRM	Matrix Spike						
		[FD7895-02]	Dissolved Sulphate (SO4)	2010/03/01		110	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/03/01		102	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/03/01	ND, RDL=1		mg/L	
		RPD [FD7895-02]	Dissolved Sulphate (SO4)	2010/03/01	NC		%	25
2087024	DRM	Matrix Spike						
		[FD7895-02]	Dissolved Chloride (Cl)	2010/03/01		107	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/03/01		110	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/03/01	ND, RDL=1		mg/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2087024	DRM	RPD [FD7895-02]	Dissolved Chloride (Cl)	2010/03/01	NC		%	20
2087026	DRM	Matrix Spike						
		[FD7895-02]	Orthophosphate (P)	2010/03/01		102	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/03/01		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/03/01	ND, RDL=0.01		mg/L	
		RPD [FD7895-02]	Orthophosphate (P)	2010/03/01	NC		%	25
2087064	YPA	QC Standard	Conductivity	2010/02/25		101	%	85 - 115
		Method Blank	Conductivity	2010/02/25	ND, RDL=1		umho/cm	
		RPD [FD7895-02]	Conductivity	2010/02/25	NC		%	25
2087065	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/02/25		93	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/02/25	ND, RDL=1		mg/L	
		RPD [FD7895-02]	Alkalinity (Total as CaCO3)	2010/02/25	NC		%	25
2087067	YPA	Matrix Spike						
		[FD7895-02]	Fluoride (F-)	2010/02/25		96	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/02/25		101	%	80 - 120
		Method Blank	Fluoride (F-)	2010/02/25	ND, RDL=0.1		mg/L	
		RPD [FD7895-02]	Fluoride (F-)	2010/02/25	NC		%	25
2087185	C_N	Matrix Spike						
		[FD7893-02]	Nitrite (N)	2010/02/26		107	%	75 - 125
			Nitrate (N)	2010/02/26		103	%	75 - 125
		Spiked Blank	Nitrite (N)	2010/02/26		107	%	80 - 120
			Nitrate (N)	2010/02/26		108	%	80 - 120
		Method Blank	Nitrite (N)	2010/02/26	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/02/26	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/02/26	ND, RDL=0.1		mg/L	
		RPD [FD7893-02]	Nitrite (N)	2010/02/26	NC		%	25
			Nitrate (N)	2010/02/26	NC		%	25
			Nitrate + Nitrite	2010/02/26	NC		%	25
2087787	MC	Matrix Spike	Mercury (Hg)	2010/02/26		95	%	80 - 120
		Spiked Blank	Mercury (Hg)	2010/02/26		96	%	80 - 120
		Method Blank	Mercury (Hg)	2010/02/26	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/02/26	NC		%	25
2087831	CP	Matrix Spike						
		[FD7891-08]	Total Chemical Oxygen Demand (COD)	2010/02/26		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/02/26		98	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/02/26	ND, RDL=4		mg/L	
		RPD [FD7891-08]	Total Chemical Oxygen Demand (COD)	2010/02/26	1.4		%	25
2087944	C_H	Matrix Spike	Total Organic Carbon (TOC)	2010/02/26		95	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/02/26		97	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/02/26	0.3, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2010/02/26	NC		%	20
2087984	ADB	Matrix Spike	Total Ammonia-N	2010/03/01		92	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/03/01		99	%	85 - 115
		Method Blank	Total Ammonia-N	2010/03/01	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2010/03/01	NC		%	25
2088252	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/03/01		109	%	80 - 120
			Dissolved Antimony (Sb)	2010/03/01		113	%	80 - 120
			Dissolved Arsenic (As)	2010/03/01		112	%	80 - 120
			Dissolved Barium (Ba)	2010/03/01		109	%	80 - 120
			Dissolved Beryllium (Be)	2010/03/01		111	%	80 - 120
			Dissolved Bismuth (Bi)	2010/03/01		110	%	80 - 120
			Dissolved Boron (B)	2010/03/01		NC	%	80 - 120
			Dissolved Cadmium (Cd)	2010/03/01		109	%	80 - 120
			Dissolved Calcium (Ca)	2010/03/01		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/03/01		111	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
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Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2088252	JBW	Matrix Spike	Dissolved Cobalt (Co)	2010/03/01		108	%	80 - 120
			Dissolved Copper (Cu)	2010/03/01		105	%	80 - 120
			Dissolved Iron (Fe)	2010/03/01		110	%	80 - 120
			Dissolved Lead (Pb)	2010/03/01		109	%	80 - 120
			Dissolved Lithium (Li)	2010/03/01		110	%	80 - 120
			Dissolved Magnesium (Mg)	2010/03/01		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/03/01		110	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/03/01		115	%	80 - 120
			Dissolved Nickel (Ni)	2010/03/01		107	%	80 - 120
			Dissolved Phosphorus (P)	2010/03/01		113	%	80 - 120
			Dissolved Potassium (K)	2010/03/01		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/03/01		109	%	80 - 120
			Dissolved Silicon (Si)	2010/03/01		115	%	80 - 120
			Dissolved Silver (Ag)	2010/03/01		106	%	80 - 120
			Dissolved Sodium (Na)	2010/03/01		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/03/01		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/03/01		108	%	80 - 120
			Dissolved Thallium (Tl)	2010/03/01		109	%	80 - 120
			Dissolved Thorium (Th)	2010/03/01		111	%	80 - 120
			Dissolved Tin (Sn)	2010/03/01		113	%	80 - 120
			Dissolved Titanium (Ti)	2010/03/01		110	%	80 - 120
			Dissolved Tungsten (W)	2010/03/01		111	%	80 - 120
			Dissolved Uranium (U)	2010/03/01		113	%	80 - 120
			Dissolved Vanadium (V)	2010/03/01		113	%	80 - 120
			Dissolved Zinc (Zn)	2010/03/01		107	%	80 - 120
			Dissolved Zirconium (Zr)	2010/03/01		115	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/03/01		100	%	90 - 110
			Dissolved Antimony (Sb)	2010/03/01		102	%	90 - 110
			Dissolved Arsenic (As)	2010/03/01		103	%	90 - 110
			Dissolved Barium (Ba)	2010/03/01		101	%	90 - 110
			Dissolved Beryllium (Be)	2010/03/01		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/03/01		101	%	90 - 110
			Dissolved Boron (B)	2010/03/01		104	%	90 - 110
			Dissolved Cadmium (Cd)	2010/03/01		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/03/01		103	%	90 - 110
			Dissolved Chromium (Cr)	2010/03/01		101	%	90 - 110
			Dissolved Cobalt (Co)	2010/03/01		100	%	90 - 110
			Dissolved Copper (Cu)	2010/03/01		100	%	90 - 110
			Dissolved Iron (Fe)	2010/03/01		102	%	90 - 110
			Dissolved Lead (Pb)	2010/03/01		100	%	90 - 110
			Dissolved Lithium (Li)	2010/03/01		98	%	90 - 110
			Dissolved Magnesium (Mg)	2010/03/01		102	%	90 - 110
			Dissolved Manganese (Mn)	2010/03/01		103	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/03/01		103	%	90 - 110
			Dissolved Nickel (Ni)	2010/03/01		99	%	90 - 110
			Dissolved Phosphorus (P)	2010/03/01		102	%	90 - 110
			Dissolved Potassium (K)	2010/03/01		103	%	90 - 110
			Dissolved Selenium (Se)	2010/03/01		100	%	90 - 110
			Dissolved Silicon (Si)	2010/03/01		101	%	90 - 110
			Dissolved Silver (Ag)	2010/03/01		97	%	90 - 110
			Dissolved Sodium (Na)	2010/03/01		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/03/01		102	%	90 - 110
			Dissolved Tellurium (Te)	2010/03/01		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/03/01		99	%	90 - 110
			Dissolved Thorium (Th)	2010/03/01		100	%	90 - 110

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
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Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2088252	JBW	Spiked Blank	Dissolved Tin (Sn)	2010/03/01		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/03/01		101	%	90 - 110
			Dissolved Tungsten (W)	2010/03/01		103	%	90 - 110
			Dissolved Uranium (U)	2010/03/01		103	%	90 - 110
			Dissolved Vanadium (V)	2010/03/01		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/03/01		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/03/01		104	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/03/01	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/03/01	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/03/01	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/03/01	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/03/01	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/03/01	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/03/01	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/03/01	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/03/01	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2010/03/01	NC		%	25
			Dissolved Arsenic (As)	2010/03/01	NC		%	25
			Dissolved Barium (Ba)	2010/03/01	2.6		%	25
			Dissolved Beryllium (Be)	2010/03/01	NC		%	25
			Dissolved Boron (B)	2010/03/01	0.3		%	25
			Dissolved Cadmium (Cd)	2010/03/01	NC		%	25
			Dissolved Chromium (Cr)	2010/03/01	NC		%	25
			Dissolved Cobalt (Co)	2010/03/01	NC		%	25
			Dissolved Copper (Cu)	2010/03/01	NC		%	25
			Dissolved Lead (Pb)	2010/03/01	NC		%	25
			Dissolved Molybdenum (Mo)	2010/03/01	4.4		%	25
			Dissolved Nickel (Ni)	2010/03/01	NC		%	25

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2088252	JBW	RPD	Dissolved Selenium (Se)	2010/03/01	NC		%	25
			Dissolved Silver (Ag)	2010/03/01	NC		%	25
			Dissolved Sodium (Na)	2010/03/01	4.7		%	25
			Dissolved Thallium (Tl)	2010/03/01	NC		%	25
			Dissolved Vanadium (V)	2010/03/01	NC		%	25
			Dissolved Zinc (Zn)	2010/03/01	NC		%	25
2088308	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/03/01		91	%	80 - 120
			Dissolved Antimony (Sb)	2010/03/01		106	%	80 - 120
			Dissolved Arsenic (As)	2010/03/01		102	%	80 - 120
			Dissolved Barium (Ba)	2010/03/01		90	%	80 - 120
			Dissolved Beryllium (Be)	2010/03/01		104	%	80 - 120
			Dissolved Bismuth (Bi)	2010/03/01		93	%	80 - 120
			Dissolved Boron (B)	2010/03/01		96	%	80 - 120
			Dissolved Cadmium (Cd)	2010/03/01		102	%	80 - 120
			Dissolved Calcium (Ca)	2010/03/01		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/03/01		94	%	80 - 120
			Dissolved Cobalt (Co)	2010/03/01		94	%	80 - 120
			Dissolved Copper (Cu)	2010/03/01		93	%	80 - 120
			Dissolved Iron (Fe)	2010/03/01		98	%	80 - 120
			Dissolved Lead (Pb)	2010/03/01		94	%	80 - 120
			Dissolved Lithium (Li)	2010/03/01		99	%	80 - 120
			Dissolved Magnesium (Mg)	2010/03/01		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/03/01		96	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/03/01		109	%	80 - 120
			Dissolved Nickel (Ni)	2010/03/01		95	%	80 - 120
			Dissolved Phosphorus (P)	2010/03/01		102	%	80 - 120
			Dissolved Potassium (K)	2010/03/01		98	%	80 - 120
			Dissolved Selenium (Se)	2010/03/01		97	%	80 - 120
			Dissolved Silicon (Si)	2010/03/01		95	%	80 - 120
			Dissolved Silver (Ag)	2010/03/01		90	%	80 - 120
			Dissolved Sodium (Na)	2010/03/01		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/03/01		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/03/01		99	%	80 - 120
			Dissolved Thallium (Tl)	2010/03/01		96	%	80 - 120
			Dissolved Thorium (Th)	2010/03/01		97	%	80 - 120
			Dissolved Tin (Sn)	2010/03/01		106	%	80 - 120
			Dissolved Titanium (Ti)	2010/03/01		101	%	80 - 120
			Dissolved Tungsten (W)	2010/03/01		102	%	80 - 120
			Dissolved Uranium (U)	2010/03/01		101	%	80 - 120
			Dissolved Vanadium (V)	2010/03/01		95	%	80 - 120
			Dissolved Zinc (Zn)	2010/03/01		93	%	80 - 120
			Dissolved Zirconium (Zr)	2010/03/01		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/03/01		92	%	90 - 110
			Dissolved Antimony (Sb)	2010/03/01		102	%	90 - 110
			Dissolved Arsenic (As)	2010/03/01		99	%	90 - 110
			Dissolved Barium (Ba)	2010/03/01		91	%	90 - 110
			Dissolved Beryllium (Be)	2010/03/01		102	%	90 - 110
			Dissolved Bismuth (Bi)	2010/03/01		99	%	90 - 110
			Dissolved Boron (B)	2010/03/01		102	%	90 - 110
			Dissolved Cadmium (Cd)	2010/03/01		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/03/01		95	%	90 - 110
			Dissolved Chromium (Cr)	2010/03/01		95	%	90 - 110
			Dissolved Cobalt (Co)	2010/03/01		94	%	90 - 110
			Dissolved Copper (Cu)	2010/03/01		96	%	90 - 110
			Dissolved Iron (Fe)	2010/03/01		98	%	90 - 110

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2088308	HRE	Spiked Blank	Dissolved Lead (Pb)	2010/03/01		98	%	90 - 110
			Dissolved Lithium (Li)	2010/03/01		98	%	90 - 110
			Dissolved Magnesium (Mg)	2010/03/01		94	%	90 - 110
			Dissolved Manganese (Mn)	2010/03/01		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/03/01		102	%	90 - 110
			Dissolved Nickel (Ni)	2010/03/01		97	%	90 - 110
			Dissolved Phosphorus (P)	2010/03/01		96	%	90 - 110
			Dissolved Potassium (K)	2010/03/01		98	%	90 - 110
			Dissolved Selenium (Se)	2010/03/01		98	%	90 - 110
			Dissolved Silicon (Si)	2010/03/01		95	%	90 - 110
			Dissolved Silver (Ag)	2010/03/01		95	%	90 - 110
			Dissolved Sodium (Na)	2010/03/01		93	%	90 - 110
			Dissolved Strontium (Sr)	2010/03/01		98	%	90 - 110
			Dissolved Tellurium (Te)	2010/03/01		99	%	90 - 110
			Dissolved Thallium (Tl)	2010/03/01		99	%	90 - 110
			Dissolved Thorium (Th)	2010/03/01		98	%	90 - 110
			Dissolved Tin (Sn)	2010/03/01		101	%	90 - 110
			Dissolved Titanium (Ti)	2010/03/01		98	%	90 - 110
			Dissolved Tungsten (W)	2010/03/01		101	%	90 - 110
			Dissolved Uranium (U)	2010/03/01		102	%	90 - 110
			Dissolved Vanadium (V)	2010/03/01		94	%	90 - 110
			Dissolved Zinc (Zn)	2010/03/01		96	%	90 - 110
			Dissolved Zirconium (Zr)	2010/03/01		101	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/03/01	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/03/01	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/03/01	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/03/01	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/03/01	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/03/01	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/03/01	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/03/01	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/03/01	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/03/01	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/03/01	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
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Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2088308	HRE	Method Blank	Dissolved Uranium (U)	2010/03/01	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/03/01	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/03/01	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/03/01	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/03/01	NC		%	25
2089342	JBW	Matrix Spike	Total Aluminum (Al)	2010/03/02		97	%	80 - 120
			Total Antimony (Sb)	2010/03/02		110	%	80 - 120
			Total Arsenic (As)	2010/03/02		98	%	80 - 120
			Total Barium (Ba)	2010/03/02		94	%	80 - 120
			Total Beryllium (Be)	2010/03/02		97	%	75 - 125
			Total Bismuth (Bi)	2010/03/02		98	%	75 - 125
			Total Boron (B)	2010/03/02		94	%	75 - 125
			Total Cadmium (Cd)	2010/03/02		104	%	80 - 120
			Total Calcium (Ca)	2010/03/02		NC	%	75 - 125
			Total Chromium (Cr)	2010/03/02		97	%	80 - 120
			Total Cobalt (Co)	2010/03/02		96	%	80 - 120
			Total Copper (Cu)	2010/03/02		92	%	80 - 120
			Total Iron (Fe)	2010/03/02		101	%	80 - 120
			Total Lead (Pb)	2010/03/02		93	%	80 - 120
			Total Lithium (Li)	2010/03/02		97	%	75 - 125
			Total Magnesium (Mg)	2010/03/02		NC	%	80 - 120
			Total Manganese (Mn)	2010/03/02		100	%	80 - 120
			Total Molybdenum (Mo)	2010/03/02		NC	%	80 - 120
			Total Nickel (Ni)	2010/03/02		94	%	80 - 120
			Total Potassium (K)	2010/03/02		98	%	75 - 125
			Total Selenium (Se)	2010/03/02		99	%	75 - 125
			Total Silicon (Si)	2010/03/02		93	%	75 - 125
			Total Silver (Ag)	2010/03/02		96	%	80 - 120
			Total Sodium (Na)	2010/03/02		NC	%	75 - 125
			Total Strontium (Sr)	2010/03/02		NC	%	80 - 120
			Total Tellurium (Te)	2010/03/02		101	%	75 - 125
			Total Thallium (Tl)	2010/03/02		93	%	80 - 120
			Total Thorium (Th)	2010/03/02		96	%	75 - 125
			Total Tin (Sn)	2010/03/02		106	%	75 - 125
			Total Titanium (Ti)	2010/03/02		97	%	75 - 125
			Total Tungsten (W)	2010/03/02		97	%	75 - 125
			Total Uranium (U)	2010/03/02		101	%	80 - 120
			Total Vanadium (V)	2010/03/02		98	%	80 - 120
			Total Zinc (Zn)	2010/03/02		94	%	80 - 120
			Total Zirconium (Zr)	2010/03/02		102	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/03/02		104	%	80 - 120
			Total Antimony (Sb)	2010/03/02		114	%	82 - 120
			Total Arsenic (As)	2010/03/02		102	%	86 - 119
			Total Barium (Ba)	2010/03/02		99	%	83 - 115
			Total Beryllium (Be)	2010/03/02		103	%	85 - 132
			Total Bismuth (Bi)	2010/03/02		103	%	78 - 120
			Total Boron (B)	2010/03/02		100	%	78 - 133
			Total Cadmium (Cd)	2010/03/02		107	%	85 - 116
			Total Calcium (Ca)	2010/03/02		105	%	75 - 125
			Total Chromium (Cr)	2010/03/02		100	%	80 - 120
			Total Cobalt (Co)	2010/03/02		100	%	82 - 117
			Total Copper (Cu)	2010/03/02		99	%	80 - 117
			Total Iron (Fe)	2010/03/02		104	%	80 - 120
			Total Lead (Pb)	2010/03/02		99	%	80 - 120
			Total Lithium (Li)	2010/03/02		102	%	86 - 131

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
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Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2089342	JBW	Spiked Blank	Total Magnesium (Mg)	2010/03/02		104	%	80 - 120
			Total Manganese (Mn)	2010/03/02		103	%	80 - 120
			Total Molybdenum (Mo)	2010/03/02		105	%	82 - 117
			Total Nickel (Ni)	2010/03/02		99	%	81 - 117
			Total Potassium (K)	2010/03/02		101	%	75 - 125
			Total Selenium (Se)	2010/03/02		103	%	82 - 118
			Total Silicon (Si)	2010/03/02		99	%	67 - 140
			Total Silver (Ag)	2010/03/02		100	%	80 - 120
			Total Sodium (Na)	2010/03/02		105	%	75 - 125
			Total Strontium (Sr)	2010/03/02		104	%	83 - 120
			Total Tellurium (Te)	2010/03/02		105	%	80 - 116
			Total Thallium (Tl)	2010/03/02		99	%	80 - 129
			Total Thorium (Th)	2010/03/02		96	%	80 - 125
			Total Tin (Sn)	2010/03/02		107	%	83 - 119
			Total Titanium (Ti)	2010/03/02		101	%	60 - 125
			Total Tungsten (W)	2010/03/02		102	%	81 - 123
			Total Uranium (U)	2010/03/02		105	%	82 - 120
			Total Vanadium (V)	2010/03/02		100	%	82 - 118
			Total Zinc (Zn)	2010/03/02		102	%	80 - 120
			Total Zirconium (Zr)	2010/03/02		104	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/03/02	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/03/02	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/03/02	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/03/02	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/03/02	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/03/02	ND, RDL=1		ug/L	
			Total Boron (B)	2010/03/02	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/03/02	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/03/02	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/03/02	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/03/02	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/03/02	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/03/02	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/03/02	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/03/02	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/03/02	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/03/02	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/03/02	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/03/02	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/03/02	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/03/02	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/03/02	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/03/02	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/03/02	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/03/02	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/03/02	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/03/02	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/03/02	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/03/02	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/03/02	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/03/02	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/03/02	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/03/02	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/03/02	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/03/02	ND, RDL=1		ug/L	

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB021405

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2089342	JBW	RPD	Total Aluminum (Al)	2010/03/02	6.1		%	25
			Total Copper (Cu)	2010/03/02	9.7		%	25
			Total Zinc (Zn)	2010/03/02	2.9		%	25

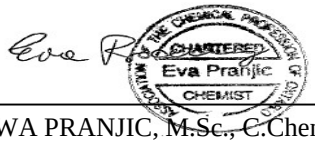
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B021405

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist



GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

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IMMEDIATE TEST

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUST

22-Feb-10 16:00
ANTONELLA BRASIL
B021405
ABH ENV-727

Only:

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	Rainy River
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:	

BOTTLE ORDER #: 182836

CHAIN OF CUSTODY #: C#182836-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
- MISA — Reg. 153/04 — Sewer Use: Sanitary / Storm / Combined
- PWQO — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse
- Reg. 558 — Municipality
- Other (specify) — Report Criteria on C of A?

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Acidity as CaCO3 in liquid	Alk,Cond,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/Tot Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	Feb 22/10	10:00	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	15 Bottles with Location
2		SW2	Feb 22/10	9:30	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	Include both Cat C Criteria
3		SW3	Feb 22/10	9:00	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
4		SW5	Feb 22/10	8:15	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	RUSH!
5		SW4	Feb 22/10	10:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
6		SW6	Feb 22/10	10:45	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
7																			FEB 23'10 08:43
8																			REC'D IN WINNIPEG
9																			
10																			

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. HENTELEFF M. Henteleff	10/02/22		Maria Reimer Maria Reimer	10/02/22 10/02/25	4:00 08:43	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	3.0, 3.4, 3.6 4.1°C 4.1°C 4.1°C 4.1°C	Yes / No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:		B021405	182836
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		C#182836-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Residential/Parkland
☐ Table 2 ☐ Industrial/Commercial
☐ Reg. 558 ☐ Table 3 ☐ Medium/Fine Municipality
☐ Table 6 ☐ Coarse
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified): ✓
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Sublet (MICRO) - TC, EC, E.coli by MF (RC subto Caltest)	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS						# of Bottles	Comments
1		Sw 1	Feb 22/10	10:00	WT		✓	✓	–	✓	–						15	Included Both CofC forms
2		Sw 2	Feb 22/10	9:30	WT		✓	✓	–	✓	–						15	
3		Sw 3	Feb 22/10	9:00	WT		✓	✓	✓	✓	–						15	
4		Sw 5	Feb 22/10	8:15	WT		✓	✓	✓	–	–						15	RUSH!
5		Sw 4	Feb 22/10	10:45	WT		✓	✓	✓	✓	–						15	
6		Sw 6	Feb 22/10	10:45	WT		✓	✓	–	–	–						15	
7																		FEB 23'10
8																		
9																		REC'D IN WINNIPEG
10																		

pooled @ WPG Sub to Calgary WRG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. HENTELEFF M. Henteleff	10/02/22		[illegible] #28 [illegible]	10/02/22 10/02/23	4:00 08:43	

Laboratory Use Only		
Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	4.1°C 4.1°C 4.1°C 4.1°C	☐ Yes ☐ No

White: Maxxam Yellow: Client

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: February 26, 2010

GROUP NUMBER: 110222053

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CANTEST ID	Total Coliform (Confirmed)	Fecal Coliform	E. Coli
SW1	Feb 22/10	1002220284	70	2	2
SW2	Feb 22/10	1002220285	CG	< 2	<
SW3	Feb 22/10	1002220286	CG	4	5
SW4	Feb 22/10	1002220287	9	<	8
SW5	Feb 22/10	1002220288	17	<	<
SW6	Feb 22/10	1002220290	10	<	7
REPORTING LIMIT			1	1	1
UNITS			Col./100 mL	Col./100 mL	Col./100 mL

Col./100 mL = Colonies per 100 mL
< = Less than reporting limit
CG = Confluent Growth - Bacteria growth present across the entire filter on all dilutions preventing a numerical count.

Analysis Report

CANTEST®

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: Analysis of Water Samples

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Marijane Cruz

CHAIN OF CUSTODY: 52553 MB
PROJECT NAME: 23433 Rainy River
PROJECT NUMBER: C#182836-01-02

NUMBER OF SAMPLES: 6

REPORT DATE: February 26, 2010

DATE SUBMITTED: February 22, 2010

GROUP NUMBER: 110222053

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

COMMENTS:

CG = confluent growth Sample # 1002220286, 1002220287 and 1002220290 appear to hav e E.coli results greater than fecal coliform, this is due to a different aliquot of the sample being analyzed for the di fferent parameters.

TEST RESULTS:

(See following page)

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: B021405
Site: RAINY RIVER
Your C.O.C. #: 08310046

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/03/01

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B010615
Received: 2010/02/25, 09:00

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2010/02/26	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Job #: B010615
Report Date: 2010/03/01

MAXXAM ANALYTICS INC.
Client Project #: B021405
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		S95197	S95198	S95199	S95200	S95201	S95202		
Sampling Date		2010/02/22	2010/02/22	2010/02/22	2010/02/22	2010/02/22	2010/02/22		
COC Number		08310046	08310046	08310046	08310046	08310046	08310046		
	Units	**SW1 (FD7889-09R)**	**SW2 (FD7890-09R)**	**SW3 (FD7891-09R)**	**SW5 (FD7892-09R)**	**SW4 (FD7893-08R)**	**SW6 (FD7894-09R)**	**RDL**	**QC Batch**
Misc. Inorganics									
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0010	0.0011	0.0014	0.0009	0.0010	0.0005	3776039

RDL = Reportable Detection Limit

Maxxam ID		S95203		
Sampling Date				
COC Number		08310046		
	Units	**TRIP BLANK (FD7895-09R)**	**RDL**	**QC Batch**
Misc. Inorganics				
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	3776039

RDL = Reportable Detection Limit

Maxxam Job #: B010615
Report Date: 2010/03/01

MAXXAM ANALYTICS INC.
Client Project #: B021405
Site Reference: RAINY RIVER

Package 1	3.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: B021405
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VB010615

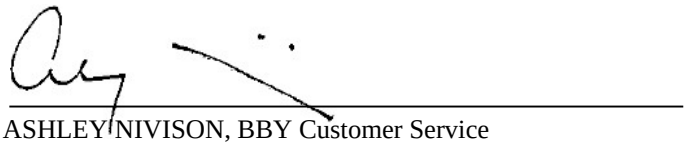
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3776039	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/02/26		97	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/02/26		103	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/02/26	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/02/26	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B010615

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ASHLEY NIVISON, BBY Customer Service

==========

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APPENDIX I - 4

Laboratory Results
March 2010

Your Project #: Rainy River
Your C.O.C. #: 18539801, 185398-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/04/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B036238
Received: 2010/03/25, 15:05

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1,2)	7	2010/03/29	2010/04/01	SLA SOP-00100	APHA SM2310B
Alkalinity	7	N/A	2010/03/29	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	7	N/A	2010/04/01	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	7	N/A	2010/03/31	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	7	N/A	2010/03/30	CAM SOP-00416	APHA 5220D
Conductivity	7	N/A	2010/03/29	CAM SOP-00448	SM 2510
Total Cyanide	7	2010/03/30	2010/03/30	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	6	N/A	2010/03/30	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	1	N/A	2010/03/31	CAM SOP-00446	SM 5310 B
Fluoride	7	2010/03/29	2010/03/29	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	4	2010/03/29	2010/03/30	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	3	2010/03/30	2010/03/30	CAM SOP-00453	EPA 7470
Dissolved Metals by ICPMS	1	N/A	2010/03/31	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	6	N/A	2010/04/05	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	1	N/A	2010/04/01	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	6	N/A	2010/04/05	CAM SOP-00447	EPA 6020
Ammonia-N	7	N/A	2010/04/01	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	7	N/A	2010/03/30	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	7	N/A	2010/03/30	CAM SOP-00326	SM 5520 B
Total Oil and Grease	7	2010/03/29	2010/03/29	CAM SOP-00326	EPA 1664A
pH	7	N/A	2010/03/29	CAM SOP-00448	SM 4500H
Orthophosphate	7	N/A	2010/03/31	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	7	N/A	2010/03/31	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	7	N/A	2010/03/30	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	7	N/A	2010/03/30	CAM SOP-00446	EPA 415.1 modified
TPH (Heavy Oil) (4)	7	2010/03/29	2010/03/29	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2010/03/30	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2010/03/29	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

(4) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FK8624	FK8625	FK8626	FK8626		
Sampling Date		2010/03/25 09:30	2010/03/25 09:10	2010/03/25 08:25	2010/03/25 08:25		
COC Number		185398-0	185398-0	185398-0	185398-0		
	Units	**SW1**	**SW2**	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	ND	ND	N/A	0.5	2109716
Inorganics							
Acidity as CaC03	mg/L	14	12	12	N/A	10	2111209
Total Ammonia-N	mg/L	ND	ND	ND	ND	0.05	2112407
Total BOD	mg/L	ND	ND	ND	N/A	2	2110683
Total Chemical Oxygen Demand (COD)	mg/L	53	40	50	49	4	2112065
Conductivity	umho/cm	177	194	182	N/A	1	2111647
Total Dissolved Solids	mg/L	114	126	116	N/A	10	2110922
Fluoride (F-)	mg/L	ND	ND	ND	N/A	0.1	2111665
Dissolved Organic Carbon	mg/L	18.7	15.2	17.7	N/A	0.2	2112393
Total Organic Carbon (TOC)	mg/L	18.4	15.2	17.0	N/A	0.2	2112439
Orthophosphate (P)	mg/L	0.01	ND	0.01	N/A	0.01	2111824
pH	pH	7.7	7.8	7.7	N/A	N/A	2111654
Total Suspended Solids	mg/L	8	7	7	N/A	1	2111260
Dissolved Sulphate (SO4)	mg/L	ND	ND	ND	N/A	1	2111825
Total Cyanide (CN)	mg/L	ND	ND	ND	N/A	0.005	2112095
Turbidity	NTU	7.8	4.4	6.0	N/A	0.1	2111233
Alkalinity (Total as CaCO3)	mg/L	77	100	86	N/A	1	2111646
Dissolved Chloride (Cl)	mg/L	6	1	3	N/A	1	2111823
Nitrite (N)	mg/L	ND	ND	ND	N/A	0.01	2111785
Nitrate (N)	mg/L	0.1	ND	ND	N/A	0.1	2111785
Nitrate + Nitrite	mg/L	0.1	ND	ND	N/A	0.1	2111785
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	ND	ND	ND	0.5	2111221
Total Oil & Grease Mineral/Synthetic	mg/L	ND	ND	ND	ND	0.5	2111225

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FK8627		FK8628	FK8628		
Sampling Date		2010/03/25 10:00		2010/03/25 07:45	2010/03/25 07:45		
COC Number		185398-0		185398-0	185398-0		
	Units	**SW4**	**RDL**	**SW5**	**SW5 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	ND	N/A	0.5	2109716
Inorganics							
Acidity as CaC03	mg/L	48	10	26	24	10	2111209
Total Ammonia-N	mg/L	ND	0.05	ND	N/A	0.05	2112407
Total BOD	mg/L	ND	2	ND	N/A	2	2110683
Total Chemical Oxygen Demand (COD)	mg/L	54	4	100	N/A	4	2112065
Conductivity	umho/cm	111	1	61	N/A	1	2111647
Total Dissolved Solids	mg/L	70	10	40	N/A	10	2110922
Fluoride (F-)	mg/L	ND	0.1	ND	N/A	0.1	2111665
Dissolved Organic Carbon	mg/L	19.9	0.2	38.8	N/A	0.2	2112393
Total Organic Carbon (TOC)	mg/L	19.4	0.2	38.4	38.9	0.2	2112439
Orthophosphate (P)	mg/L	ND	0.01	ND (1)	N/A	0.05	2111824
pH	pH	7.0	N/A	6.8	N/A	N/A	2111654
Total Suspended Solids	mg/L	2	1	ND	N/A	1	2111260
Dissolved Sulphate (SO4)	mg/L	ND	1	ND (1)	N/A	5	2111825
Total Cyanide (CN)	mg/L	ND	0.005	ND	N/A	0.005	2112095
Turbidity	NTU	2.2	0.1	3.2	N/A	0.1	2111233
Alkalinity (Total as CaCO3)	mg/L	47	1	24	N/A	1	2111646
Dissolved Chloride (Cl)	mg/L	5	1	ND (1)	N/A	5	2111823
Nitrite (N)	mg/L	ND	0.01	ND	N/A	0.05	2111785
Nitrate (N)	mg/L	ND	0.1	ND	N/A	0.5	2111785
Nitrate + Nitrite	mg/L	ND	0.1	ND	N/A	0.5	2111785
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	ND	N/A	0.5	2111221
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	ND	N/A	0.5	2111225

ND = Not detected
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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

RESULTS OF ANALYSES OF WATER

Maxxam ID		FK8629		FK8630	FK8630		
Sampling Date		2010/03/25 08:45					
COC Number		185398-0		185398-0	185398-0		
	Units	**SW6**	**QC Batch**	**TRIPBLANK**	**TRIPBLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	2109716	ND	N/A	0.5	2109716
Inorganics							
Acidity as CaC03	mg/L	12	2111209	ND	N/A	10	2111209
Total Ammonia-N	mg/L	ND	2112407	ND	N/A	0.05	2112407
Total BOD	mg/L	ND	2110683	ND	ND	2	2110683
Total Chemical Oxygen Demand (COD)	mg/L	39	2112065	ND	N/A	4	2112065
Conductivity	umho/cm	184	2111647	1	N/A	1	2111647
Total Dissolved Solids	mg/L	118	2110922	ND	ND	10	2110922
Fluoride (F-)	mg/L	ND	2111665	ND	N/A	0.1	2111665
Dissolved Organic Carbon	mg/L	14.8	2112402	0.4	N/A	0.2	2112393
Total Organic Carbon (TOC)	mg/L	13.8	2112439	ND	N/A	0.2	2112439
Orthophosphate (P)	mg/L	ND	2111824	ND	N/A	0.01	2111824
pH	pH	7.6	2111654	5.9	N/A	N/A	2111654
Total Suspended Solids	mg/L	3	2111260	ND	N/A	1	2111260
Dissolved Sulphate (SO4)	mg/L	ND	2111825	ND	N/A	1	2111825
Total Cyanide (CN)	mg/L	ND	2112095	ND	N/A	0.005	2112095
Turbidity	NTU	2.6	2111233	ND	N/A	0.1	2111233
Alkalinity (Total as CaCO3)	mg/L	93	2111646	ND	N/A	1	2111646
Dissolved Chloride (Cl)	mg/L	1	2111823	ND	N/A	1	2111823
Nitrite (N)	mg/L	ND	2111785	ND	N/A	0.01	2111785
Nitrate (N)	mg/L	ND	2111785	ND	N/A	0.1	2111785
Nitrate + Nitrite	mg/L	ND	2111785	ND	N/A	0.1	2111785
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	2111221	ND	N/A	0.5	2111221
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2111225	ND	N/A	0.5	2111225

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8624		FK8625	FK8626		
Sampling Date		2010/03/25 09:30		2010/03/25 09:10	2010/03/25 08:25		
COC Number		185398-0		185398-0	185398-0		
	Units	**SW1**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	2111334	ND	ND	0.0001	2112096
Dissolved Aluminum (Al)	ug/L	72	2115691	69	300	5	2115691
Total Aluminum (Al)	ug/L	350	2116127	280	290	5	2116127
Dissolved Antimony (Sb)	ug/L	ND	2115691	ND	ND	0.5	2115691
Total Antimony (Sb)	ug/L	ND	2116127	ND	ND	0.5	2116127
Dissolved Arsenic (As)	ug/L	ND	2115691	ND	ND	1	2115691
Total Arsenic (As)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Barium (Ba)	ug/L	52	2115691	67	69	5	2115691
Total Barium (Ba)	ug/L	16	2116127	19	16	5	2116127
Dissolved Beryllium (Be)	ug/L	ND	2115691	ND	ND	0.5	2115691
Total Beryllium (Be)	ug/L	ND	2116127	ND	ND	0.5	2116127
Dissolved Bismuth (Bi)	ug/L	ND	2115691	ND	ND	1	2115691
Total Bismuth (Bi)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Boron (B)	ug/L	11	2115691	ND	14	10	2115691
Total Boron (B)	ug/L	15	2116127	12	14	10	2116127
Dissolved Cadmium (Cd)	ug/L	ND	2115691	ND	0.2	0.1	2115691
Total Cadmium (Cd)	ug/L	ND	2116127	ND	ND	0.1	2116127
Dissolved Calcium (Ca)	ug/L	20000	2115691	25000	23000	200	2115691
Total Calcium (Ca)	ug/L	22000	2116127	26000	24000	200	2116127
Dissolved Chromium (Cr)	ug/L	ND	2115691	ND	ND	5	2115691
Total Chromium (Cr)	ug/L	ND	2116127	ND	ND	5	2116127
Dissolved Cobalt (Co)	ug/L	ND	2115691	ND	ND	0.5	2115691
Total Cobalt (Co)	ug/L	ND	2116127	ND	ND	0.5	2116127
Dissolved Copper (Cu)	ug/L	2	2115691	2	12	1	2115691
Total Copper (Cu)	ug/L	2	2116127	1	2	1	2116127
Dissolved Iron (Fe)	ug/L	210	2115691	230	410	100	2115691
Total Iron (Fe)	ug/L	420	2116127	480	360	100	2116127
Dissolved Lead (Pb)	ug/L	ND	2115691	0.5	2.6	0.5	2115691
Total Lead (Pb)	ug/L	ND	2116127	ND	ND	0.5	2116127
Dissolved Lithium (Li)	ug/L	ND	2115691	ND	ND	5	2115691
Total Lithium (Li)	ug/L	ND	2116127	ND	ND	5	2116127

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QC Batch = Quality Control Batch

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Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8624		FK8625	FK8626		
Sampling Date		2010/03/25 09:30		2010/03/25 09:10	2010/03/25 08:25		
COC Number		185398-0		185398-0	185398-0		
	Units	**SW1**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	9000	2115691	9700	9600	50	2115691
Total Magnesium (Mg)	ug/L	9400	2116127	10000	9800	50	2116127
Dissolved Manganese (Mn)	ug/L	23	2115691	51	38	2	2115691
Total Manganese (Mn)	ug/L	27	2116127	63	33	2	2116127
Dissolved Molybdenum (Mo)	ug/L	ND	2115691	ND	ND	1	2115691
Total Molybdenum (Mo)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Nickel (Ni)	ug/L	1	2115691	ND	2	1	2115691
Total Nickel (Ni)	ug/L	1	2116127	1	2	1	2116127
Dissolved Phosphorus (P)	ug/L	ND	2115691	ND	ND	100	2115691
Dissolved Potassium (K)	ug/L	2000	2115691	1300	2400	200	2115691
Total Potassium (K)	ug/L	2200	2116127	1500	2100	200	2116127
Dissolved Selenium (Se)	ug/L	ND	2115691	ND	ND	2	2115691
Total Selenium (Se)	ug/L	ND	2116127	ND	ND	2	2116127
Dissolved Silicon (Si)	ug/L	3100	2115691	3300	3500	50	2115691
Total Silicon (Si)	ug/L	3900	2116127	4000	3800	50	2116127
Dissolved Silver (Ag)	ug/L	ND	2115691	ND	ND	0.1	2115691
Total Silver (Ag)	ug/L	ND	2116127	ND	ND	0.1	2116127
Dissolved Sodium (Na)	ug/L	3800	2115691	1800	3600	100	2115691
Total Sodium (Na)	ug/L	3600	2116127	1300	2400	100	2116127
Dissolved Strontium (Sr)	ug/L	48	2115691	38	49	1	2115691
Total Strontium (Sr)	ug/L	52	2116127	42	50	1	2116127
Dissolved Tellurium (Te)	ug/L	ND	2115691	ND	ND	1	2115691
Total Tellurium (Te)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Thallium (Tl)	ug/L	ND	2115691	ND	ND	0.05	2115691
Total Thallium (Tl)	ug/L	ND	2116127	ND	ND	0.05	2116127
Dissolved Thorium (Th)	ug/L	ND	2115691	ND	ND	1	2115691
Total Thorium (Th)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Tin (Sn)	ug/L	ND	2115691	ND	ND	1	2115691
Total Tin (Sn)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Titanium (Ti)	ug/L	ND	2115691	ND	16	5	2115691
Total Titanium (Ti)	ug/L	12	2116127	11	10	5	2116127
Dissolved Tungsten (W)	ug/L	ND	2115691	ND	ND	1	2115691

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8624		FK8625	FK8626		
Sampling Date		2010/03/25 09:30		2010/03/25 09:10	2010/03/25 08:25		
COC Number		185398-0		185398-0	185398-0		
	Units	**SW1**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	2116127	ND	ND	1	2116127
Dissolved Uranium (U)	ug/L	0.4	2115691	0.3	0.4	0.1	2115691
Total Uranium (U)	ug/L	0.5	2116127	0.4	0.5	0.1	2116127
Dissolved Vanadium (V)	ug/L	2	2115691	1	2	1	2115691
Total Vanadium (V)	ug/L	2	2116127	2	2	1	2116127
Dissolved Zinc (Zn)	ug/L	16	2115691	27	44	5	2115691
Total Zinc (Zn)	ug/L	5	2116127	6	22	5	2116127
Dissolved Zirconium (Zr)	ug/L	ND	2115691	ND	ND	1	2115691
Total Zirconium (Zr)	ug/L	ND	2116127	ND	ND	1	2116127

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8627	FK8628	FK8629		FK8630		
Sampling Date		2010/03/25 10:00	2010/03/25 07:45	2010/03/25 08:45				
COC Number		185398-0	185398-0	185398-0		185398-0		
	Units	**SW4**	**SW5**	**SW6**	**QC Batch**	**TRIPBLANK**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	ND	2111334	ND	0.0001	2112096
Dissolved Aluminum (Al)	ug/L	32	110	29	2115691	ND	5	2112346
Total Aluminum (Al)	ug/L	68	130	100	2116127	ND	5	2114457
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	2115691	ND	0.5	2112346
Total Antimony (Sb)	ug/L	ND	ND	ND	2116127	ND	0.5	2114457
Dissolved Arsenic (As)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Arsenic (As)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Barium (Ba)	ug/L	45	48	44	2115691	ND	5	2112346
Total Barium (Ba)	ug/L	8	6	13	2116127	ND	5	2114457
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	2115691	ND	0.5	2112346
Total Beryllium (Be)	ug/L	ND	ND	ND	2116127	ND	0.5	2114457
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Bismuth (Bi)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Boron (B)	ug/L	ND	ND	ND	2115691	ND	10	2112346
Total Boron (B)	ug/L	ND	ND	12	2116127	ND	10	2114457
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	2115691	ND	0.1	2112346
Total Cadmium (Cd)	ug/L	ND	ND	ND	2116127	ND	0.1	2114457
Dissolved Calcium (Ca)	ug/L	11000	8200	23000	2115691	ND	200	2112346
Total Calcium (Ca)	ug/L	12000	8800	24000	2116127	ND	200	2114457
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	2115691	ND	5	2112346
Total Chromium (Cr)	ug/L	ND	ND	ND	2116127	ND	5	2114457
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	2115691	ND	0.5	2112346
Total Cobalt (Co)	ug/L	ND	ND	ND	2116127	ND	0.5	2114457
Dissolved Copper (Cu)	ug/L	ND	1	1	2115691	ND	1	2112346
Total Copper (Cu)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Iron (Fe)	ug/L	260	240	130	2115691	ND	100	2112346
Total Iron (Fe)	ug/L	300	220	190	2116127	ND	100	2114457
Dissolved Lead (Pb)	ug/L	ND	ND	ND	2115691	ND	0.5	2112346
Total Lead (Pb)	ug/L	0.6	ND	ND	2116127	ND	0.5	2114457
Dissolved Lithium (Li)	ug/L	ND	ND	ND	2115691	ND	5	2112346
Total Lithium (Li)	ug/L	ND	ND	ND	2116127	ND	5	2114457

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8627	FK8628	FK8629		FK8630		
Sampling Date		2010/03/25 10:00	2010/03/25 07:45	2010/03/25 08:45				
COC Number		185398-0	185398-0	185398-0		185398-0		
	Units	**SW4**	**SW5**	**SW6**	**QC Batch**	**TRIPBLANK**	**RDL**	**QC Batch**
Dissolved Magnesium (Mg)	ug/L	5500	4400	9800	2115691	ND	50	2112346
Total Magnesium (Mg)	ug/L	5700	4500	10000	2116127	ND	50	2114457
Dissolved Manganese (Mn)	ug/L	110	13	36	2115691	ND	2	2112346
Total Manganese (Mn)	ug/L	120	13	41	2116127	ND	2	2114457
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Molybdenum (Mo)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Nickel (Ni)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Nickel (Ni)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	2115691	ND	100	2112346
Dissolved Potassium (K)	ug/L	1100	1100	1600	2115691	ND	200	2112346
Total Potassium (K)	ug/L	1200	1100	1700	2116127	ND	200	2114457
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2115691	ND	2	2112346
Total Selenium (Se)	ug/L	ND	ND	ND	2116127	ND	2	2114457
Dissolved Silicon (Si)	ug/L	3800	3500	2900	2115691	ND	50	2112346
Total Silicon (Si)	ug/L	4000	3700	3200	2116127	ND	50	2114457
Dissolved Silver (Ag)	ug/L	ND	ND	ND	2115691	ND	0.1	2112346
Total Silver (Ag)	ug/L	ND	ND	ND	2116127	ND	0.1	2114457
Dissolved Sodium (Na)	ug/L	3200	1400	1500	2115691	ND	100	2112346
Total Sodium (Na)	ug/L	3000	900	1300	2116127	ND	100	2114457
Dissolved Strontium (Sr)	ug/L	24	17	42	2115691	ND	1	2112346
Total Strontium (Sr)	ug/L	26	18	47	2116127	ND	1	2114457
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Tellurium (Te)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	2115691	ND	0.05	2112346
Total Thallium (Tl)	ug/L	ND	ND	ND	2116127	ND	0.05	2114457
Dissolved Thorium (Th)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Thorium (Th)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Tin (Sn)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Tin (Sn)	ug/L	1	ND	ND	2116127	ND	1	2114457
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	2115691	ND	5	2112346
Total Titanium (Ti)	ug/L	ND	ND	5	2116127	ND	5	2114457
Dissolved Tungsten (W)	ug/L	ND	ND	ND	2115691	ND	1	2112346

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B036238
Report Date: 2010/04/06

Klohn Crippen Berger Ltd
Client Project #: Rainy River

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FK8627	FK8628	FK8629		FK8630		
Sampling Date		2010/03/25 10:00	2010/03/25 07:45	2010/03/25 08:45				
COC Number		185398-0	185398-0	185398-0		185398-0		
	Units	**SW4**	**SW5**	**SW6**	**QC Batch**	**TRIPBLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	2116127	ND	1	2114457
Dissolved Uranium (U)	ug/L	ND	ND	0.3	2115691	ND	0.1	2112346
Total Uranium (U)	ug/L	ND	ND	0.3	2116127	ND	0.1	2114457
Dissolved Vanadium (V)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Vanadium (V)	ug/L	ND	ND	1	2116127	ND	1	2114457
Dissolved Zinc (Zn)	ug/L	17	24	15	2115691	ND	5	2112346
Total Zinc (Zn)	ug/L	6	ND	ND	2116127	ND	5	2114457
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	2115691	ND	1	2112346
Total Zirconium (Zr)	ug/L	ND	ND	ND	2116127	ND	1	2114457

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Maxxam Job #: B036238
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GENERAL COMMENTS

Sample FK8624-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FK8624-01: The results for dissolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample FK8625-01: The results for dissolved barium, sodium and zinc are greater than total barium, sodium and zinc. The results have been confirmed by re-analysis.

Sample FK8626-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FK8626-01: The results for dissolved barium, copper and sodium are greater than total barium, copper and sodium. The results have been confirmed by re-analysis.

Sample FK8627-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FK8627-01: The results for dissolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample FK8628-01: Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limits were adjusted accordingly. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

The results for dissolved barium and sodium are greater than total barium and sodium. The results have been confirmed by re-analysis.

Sample FK8629-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FK8629-01: The results for dissolved barium are greater than total barium. The results have been confirmed by re-analysis.

Sample FK8630-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2110683	FZH	QC Standard	Total BOD	2010/04/01		106	%	85 - 115
		Method Blank	Total BOD	2010/04/01	ND, RDL=2		mg/L	
		RPD [FK8630-04]	Total BOD	2010/04/01	NC		%	25
2110922	HAG	QC Standard	Total Dissolved Solids	2010/03/30		96	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/03/30	ND, RDL=10		mg/L	
		RPD [FK8630-08]	Total Dissolved Solids	2010/03/30	NC		%	25
2111209	MAT	Method Blank	Acidity as CaC03	2010/04/01	ND, RDL=10		mg/L	
		RPD [FK8628-01]	Acidity as CaC03	2010/04/01	NC		%	25
2111221	FA	Matrix Spike						
		[FK8624-03]	Total Oil & Grease	2010/03/29		92	%	75 - 125
		Spiked Blank	Total Oil & Grease	2010/03/29		97	%	85 - 115
		Method Blank	Total Oil & Grease	2010/03/29	ND, RDL=0.5		mg/L	
		RPD [FK8626-03]	Total Oil & Grease	2010/03/29	NC		%	25
2111225	FA	Matrix Spike						
		[FK8624-03]	Total Oil & Grease Mineral/Synthetic	2010/03/29		92	%	75 - 125
		Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/03/29		93	%	85 - 115
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/03/29	ND, RDL=0.5		mg/L	
		RPD [FK8626-03]	Total Oil & Grease Mineral/Synthetic	2010/03/29	NC		%	25
2111233	SAU	QC Standard	Turbidity	2010/03/29		101	%	90 - 110
		Method Blank	Turbidity	2010/03/29	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/03/29	NC		%	25
2111260	HAG	QC Standard	Total Suspended Solids	2010/03/30		99	%	85 - 115
		Method Blank	Total Suspended Solids	2010/03/30	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/03/30	NC		%	25
2111334	MC	Matrix Spike	Mercury (Hg)	2010/03/30		103	%	80 - 120
		Spiked Blank	Mercury (Hg)	2010/03/30		99	%	80 - 120
		Method Blank	Mercury (Hg)	2010/03/30	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/03/30	NC		%	25
2111646	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/03/29		98	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/03/29	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/03/29	2.1		%	25
2111647	YPA	QC Standard	Conductivity	2010/03/29		100	%	85 - 115
		Method Blank	Conductivity	2010/03/29	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/03/29	0		%	25
2111665	YPA	Matrix Spike	Fluoride (F-)	2010/03/29		97	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/03/29		100	%	85 - 115
		Method Blank	Fluoride (F-)	2010/03/29	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/03/29	NC		%	25
2111785	C_N	Matrix Spike	Nitrite (N)	2010/03/30		98	%	80 - 120
			Nitrate (N)	2010/03/30		100	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/03/30		98	%	85 - 115
			Nitrate (N)	2010/03/30		97	%	85 - 115
		Method Blank	Nitrite (N)	2010/03/30	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/03/30	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/03/30	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/03/30	NC		%	25
			Nitrate (N)	2010/03/30	NC		%	25
			Nitrate + Nitrite	2010/03/30	NC		%	25
2111823	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/03/31		104	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/03/31		106	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/03/31	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/03/31	NC		%	20
2111824	DRM	Matrix Spike	Orthophosphate (P)	2010/03/31		101	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/03/31		94	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/03/31	ND, RDL=0.01		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2111824	DRM	RPD	Orthophosphate (P)	2010/03/31	NC		%	25
2111825	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/03/31		109	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/03/31		105	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/03/31	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/03/31	NC		%	25
2112065	CP	Matrix Spike [FK8626-05]	Total Chemical Oxygen Demand (COD)	2010/03/30		90	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/03/30		98	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/03/30	ND, RDL=4		mg/L	
		RPD [FK8626-05]	Total Chemical Oxygen Demand (COD)	2010/03/30	2.0		%	25
2112095	LHA	Matrix Spike	Total Cyanide (CN)	2010/03/30		NC (1)	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/03/30		99	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/03/30	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/03/30	1.2		%	25
2112096	MC	Matrix Spike	Mercury (Hg)	2010/03/30		98	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/03/30		99	%	80 - 120
		Method Blank	Mercury (Hg)	2010/03/30	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/03/30	NC		%	25
2112346	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/03/31		92	%	80 - 120
			Dissolved Antimony (Sb)	2010/03/31		101	%	80 - 120
			Dissolved Arsenic (As)	2010/03/31		98	%	80 - 120
			Dissolved Barium (Ba)	2010/03/31		100	%	80 - 120
			Dissolved Beryllium (Be)	2010/03/31		96	%	80 - 120
			Dissolved Bismuth (Bi)	2010/03/31		99	%	80 - 120
			Dissolved Boron (B)	2010/03/31		92	%	80 - 120
			Dissolved Cadmium (Cd)	2010/03/31		95	%	80 - 120
			Dissolved Calcium (Ca)	2010/03/31		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/03/31		95	%	80 - 120
			Dissolved Cobalt (Co)	2010/03/31		94	%	80 - 120
			Dissolved Copper (Cu)	2010/03/31		90	%	80 - 120
			Dissolved Iron (Fe)	2010/03/31		96	%	80 - 120
			Dissolved Lead (Pb)	2010/03/31		99	%	80 - 120
			Dissolved Lithium (Li)	2010/03/31		94	%	80 - 120
			Dissolved Magnesium (Mg)	2010/03/31		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/03/31		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/03/31		101	%	80 - 120
			Dissolved Nickel (Ni)	2010/03/31		93	%	80 - 120
			Dissolved Phosphorus (P)	2010/03/31		100	%	80 - 120
			Dissolved Potassium (K)	2010/03/31		95	%	80 - 120
			Dissolved Selenium (Se)	2010/03/31		96	%	80 - 120
			Dissolved Silicon (Si)	2010/03/31		97	%	80 - 120
			Dissolved Silver (Ag)	2010/03/31		93	%	80 - 120
			Dissolved Sodium (Na)	2010/03/31		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/03/31		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/03/31		95	%	80 - 120
			Dissolved Thallium (Tl)	2010/03/31		98	%	80 - 120
			Dissolved Thorium (Th)	2010/03/31		101	%	80 - 120
			Dissolved Tin (Sn)	2010/03/31		98	%	80 - 120
			Dissolved Titanium (Ti)	2010/03/31		97	%	80 - 120
			Dissolved Tungsten (W)	2010/03/31		109	%	80 - 120
			Dissolved Uranium (U)	2010/03/31		106	%	80 - 120
			Dissolved Vanadium (V)	2010/03/31		98	%	80 - 120
			Dissolved Zinc (Zn)	2010/03/31		91	%	80 - 120
			Dissolved Zirconium (Zr)	2010/03/31		99	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/03/31		104	%	90 - 110

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
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Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2112346	HRE	Spiked Blank	Dissolved Antimony (Sb)	2010/03/31		104	%	90 - 110
			Dissolved Arsenic (As)	2010/03/31		102	%	90 - 110
			Dissolved Barium (Ba)	2010/03/31		100	%	90 - 110
			Dissolved Beryllium (Be)	2010/03/31		99	%	90 - 110
			Dissolved Bismuth (Bi)	2010/03/31		101	%	90 - 110
			Dissolved Boron (B)	2010/03/31		100	%	90 - 110
			Dissolved Cadmium (Cd)	2010/03/31		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/03/31		104	%	90 - 110
			Dissolved Chromium (Cr)	2010/03/31		102	%	90 - 110
			Dissolved Cobalt (Co)	2010/03/31		100	%	90 - 110
			Dissolved Copper (Cu)	2010/03/31		100	%	90 - 110
			Dissolved Iron (Fe)	2010/03/31		103	%	90 - 110
			Dissolved Lead (Pb)	2010/03/31		100	%	90 - 110
			Dissolved Lithium (Li)	2010/03/31		99	%	90 - 110
			Dissolved Magnesium (Mg)	2010/03/31		104	%	90 - 110
			Dissolved Manganese (Mn)	2010/03/31		103	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/03/31		106	%	90 - 110
			Dissolved Nickel (Ni)	2010/03/31		101	%	90 - 110
			Dissolved Phosphorus (P)	2010/03/31		103	%	90 - 110
			Dissolved Potassium (K)	2010/03/31		102	%	90 - 110
			Dissolved Selenium (Se)	2010/03/31		101	%	90 - 110
			Dissolved Silicon (Si)	2010/03/31		105	%	90 - 110
			Dissolved Silver (Ag)	2010/03/31		101	%	90 - 110
			Dissolved Sodium (Na)	2010/03/31		104	%	90 - 110
			Dissolved Strontium (Sr)	2010/03/31		100	%	90 - 110
			Dissolved Tellurium (Te)	2010/03/31		104	%	90 - 110
			Dissolved Thallium (Tl)	2010/03/31		100	%	90 - 110
			Dissolved Thorium (Th)	2010/03/31		98	%	90 - 110
			Dissolved Tin (Sn)	2010/03/31		103	%	90 - 110
			Dissolved Titanium (Ti)	2010/03/31		102	%	90 - 110
			Dissolved Tungsten (W)	2010/03/31		106	%	90 - 110
			Dissolved Uranium (U)	2010/03/31		101	%	90 - 110
			Dissolved Vanadium (V)	2010/03/31		103	%	90 - 110
			Dissolved Zinc (Zn)	2010/03/31		99	%	90 - 110
			Dissolved Zirconium (Zr)	2010/03/31		104	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/03/31	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/03/31	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/03/31	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/03/31	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/03/31	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/03/31	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/03/31	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/03/31	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/03/31	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/03/31	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/03/31	ND, RDL=100		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
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Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2112346	HRE	Method Blank	Dissolved Potassium (K)	2010/03/31	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/03/31	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/03/31	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/03/31	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/03/31	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/03/31	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/03/31	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/03/31	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/03/31	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/03/31	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/03/31	1.2		%	25
			Dissolved Antimony (Sb)	2010/03/31	1.2		%	25
			Dissolved Arsenic (As)	2010/03/31	1.9		%	25
			Dissolved Barium (Ba)	2010/03/31	0.7		%	25
			Dissolved Beryllium (Be)	2010/03/31	1.5		%	25
			Dissolved Bismuth (Bi)	2010/03/31	0.5		%	25
			Dissolved Boron (B)	2010/03/31	1.5		%	25
			Dissolved Cadmium (Cd)	2010/03/31	1.3		%	25
			Dissolved Calcium (Ca)	2010/03/31	0.7		%	25
			Dissolved Chromium (Cr)	2010/03/31	0.2		%	25
			Dissolved Cobalt (Co)	2010/03/31	1.7		%	25
			Dissolved Copper (Cu)	2010/03/31	2.0		%	25
			Dissolved Iron (Fe)	2010/03/31	0.2		%	25
			Dissolved Lead (Pb)	2010/03/31	2.0		%	25
			Dissolved Lithium (Li)	2010/03/31	2.5		%	25
			Dissolved Magnesium (Mg)	2010/03/31	0.3		%	25
			Dissolved Manganese (Mn)	2010/03/31	1.2		%	25
			Dissolved Molybdenum (Mo)	2010/03/31	0.6		%	25
			Dissolved Nickel (Ni)	2010/03/31	3.0		%	25
			Dissolved Phosphorus (P)	2010/03/31	0.3		%	25
			Dissolved Potassium (K)	2010/03/31	1.7		%	25
			Dissolved Selenium (Se)	2010/03/31	1.8		%	25
			Dissolved Silicon (Si)	2010/03/31	0.6		%	25
			Dissolved Silver (Ag)	2010/03/31	1.6		%	25
			Dissolved Sodium (Na)	2010/03/31	0.5		%	25
			Dissolved Strontium (Sr)	2010/03/31	0.4		%	25
			Dissolved Tellurium (Te)	2010/03/31	0.2		%	25
			Dissolved Thallium (Tl)	2010/03/31	1.5		%	25
			Dissolved Thorium (Th)	2010/03/31	1.6		%	25
			Dissolved Tin (Sn)	2010/03/31	0.7		%	25
			Dissolved Titanium (Ti)	2010/03/31	0.5		%	25
			Dissolved Tungsten (W)	2010/03/31	2.7		%	25
			Dissolved Uranium (U)	2010/03/31	1.5		%	25
			Dissolved Vanadium (V)	2010/03/31	1.4		%	25
			Dissolved Zinc (Zn)	2010/03/31	0.6		%	25
			Dissolved Zirconium (Zr)	2010/03/31	1		%	25
2112393	C_H	Matrix Spike	Dissolved Organic Carbon	2010/03/30		95	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/03/30		96	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/03/30	ND, RDL=0.2		mg/L	

Klohn Crippen Berger Ltd
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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2112393	C_H	RPD	Dissolved Organic Carbon	2010/03/30	NC		%	20
2112402	C_H	Matrix Spike	Dissolved Organic Carbon	2010/03/31		94	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/03/31		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/03/31	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/03/31	NC		%	20
2112407	ADB	Matrix Spike [FK8626-05]	Total Ammonia-N	2010/04/01		97	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/04/01		99	%	85 - 115
		Method Blank	Total Ammonia-N	2010/04/01	ND, RDL=0.05		mg/L	
		RPD [FK8626-05]	Total Ammonia-N	2010/04/01	NC		%	25
2112439	C_H	Matrix Spike [FK8628-05]	Total Organic Carbon (TOC)	2010/03/30		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/03/30		96	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/03/30	ND, RDL=0.2		mg/L	
		RPD [FK8628-05]	Total Organic Carbon (TOC)	2010/03/30	1.3		%	20
2114457	HRE	Matrix Spike	Total Aluminum (Al)	2010/04/01		99	%	80 - 120
			Total Antimony (Sb)	2010/04/01		104	%	80 - 120
			Total Arsenic (As)	2010/04/01		102	%	80 - 120
			Total Barium (Ba)	2010/04/01		109	%	80 - 120
			Total Beryllium (Be)	2010/04/01		105	%	75 - 125
			Total Bismuth (Bi)	2010/04/01		106	%	75 - 125
			Total Boron (B)	2010/04/01		104	%	75 - 125
			Total Cadmium (Cd)	2010/04/01		104	%	80 - 120
			Total Calcium (Ca)	2010/04/01		NC	%	75 - 125
			Total Chromium (Cr)	2010/04/01		101	%	80 - 120
			Total Cobalt (Co)	2010/04/01		100	%	80 - 120
			Total Copper (Cu)	2010/04/01		97	%	80 - 120
			Total Iron (Fe)	2010/04/01		100	%	80 - 120
			Total Lead (Pb)	2010/04/01		104	%	80 - 120
			Total Lithium (Li)	2010/04/01		100	%	75 - 125
			Total Magnesium (Mg)	2010/04/01		90	%	80 - 120
			Total Manganese (Mn)	2010/04/01		102	%	80 - 120
			Total Molybdenum (Mo)	2010/04/01		101	%	80 - 120
			Total Nickel (Ni)	2010/04/01		99	%	80 - 120
			Total Potassium (K)	2010/04/01		97	%	75 - 125
			Total Selenium (Se)	2010/04/01		105	%	75 - 125
			Total Silicon (Si)	2010/04/01		93	%	75 - 125
			Total Silver (Ag)	2010/04/01		97	%	80 - 120
			Total Sodium (Na)	2010/04/01		NC	%	75 - 125
			Total Strontium (Sr)	2010/04/01		100	%	80 - 120
			Total Tellurium (Te)	2010/04/01		100	%	75 - 125
			Total Thallium (Tl)	2010/04/01		102	%	80 - 120
			Total Thorium (Th)	2010/04/01		111	%	75 - 125
			Total Tin (Sn)	2010/04/01		101	%	75 - 125
			Total Titanium (Ti)	2010/04/01		100	%	75 - 125
			Total Tungsten (W)	2010/04/01		107	%	75 - 125
			Total Uranium (U)	2010/04/01		109	%	80 - 120
			Total Vanadium (V)	2010/04/01		101	%	80 - 120
			Total Zinc (Zn)	2010/04/01		102	%	80 - 120
			Total Zirconium (Zr)	2010/04/01		101	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/04/01		99	%	80 - 120
			Total Antimony (Sb)	2010/04/01		105	%	82 - 120
			Total Arsenic (As)	2010/04/01		97	%	86 - 119
			Total Barium (Ba)	2010/04/01		105	%	83 - 115
			Total Beryllium (Be)	2010/04/01		99	%	85 - 132

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2114457	HRE	Spiked Blank	Total Bismuth (Bi)	2010/04/01		105	%	78 - 120
			Total Boron (B)	2010/04/01		101	%	78 - 133
			Total Cadmium (Cd)	2010/04/01		102	%	85 - 116
			Total Calcium (Ca)	2010/04/01		97	%	75 - 125
			Total Chromium (Cr)	2010/04/01		99	%	80 - 120
			Total Cobalt (Co)	2010/04/01		98	%	82 - 117
			Total Copper (Cu)	2010/04/01		96	%	80 - 117
			Total Iron (Fe)	2010/04/01		98	%	80 - 120
			Total Lead (Pb)	2010/04/01		104	%	80 - 120
			Total Lithium (Li)	2010/04/01		94	%	86 - 131
			Total Magnesium (Mg)	2010/04/01		96	%	80 - 120
			Total Manganese (Mn)	2010/04/01		102	%	80 - 120
			Total Molybdenum (Mo)	2010/04/01		103	%	82 - 117
			Total Nickel (Ni)	2010/04/01		99	%	81 - 117
			Total Potassium (K)	2010/04/01		95	%	75 - 125
			Total Selenium (Se)	2010/04/01		101	%	82 - 118
			Total Silicon (Si)	2010/04/01		92	%	67 - 140
			Total Silver (Ag)	2010/04/01		97	%	80 - 120
			Total Sodium (Na)	2010/04/01		95	%	75 - 125
			Total Strontium (Sr)	2010/04/01		99	%	83 - 120
			Total Tellurium (Te)	2010/04/01		102	%	80 - 116
			Total Thallium (Tl)	2010/04/01		103	%	80 - 129
			Total Thorium (Th)	2010/04/01		107	%	80 - 125
			Total Tin (Sn)	2010/04/01		102	%	83 - 119
			Total Titanium (Ti)	2010/04/01		99	%	60 - 125
			Total Tungsten (W)	2010/04/01		107	%	81 - 123
			Total Uranium (U)	2010/04/01		107	%	82 - 120
			Total Vanadium (V)	2010/04/01		98	%	82 - 118
			Total Zinc (Zn)	2010/04/01		99	%	80 - 120
			Total Zirconium (Zr)	2010/04/01		102	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/04/01	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/04/01	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/04/01	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/04/01	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/04/01	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/04/01	ND, RDL=1		ug/L	
			Total Boron (B)	2010/04/01	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/04/01	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/04/01	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/04/01	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/04/01	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/04/01	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/04/01	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/04/01	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/04/01	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/04/01	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/04/01	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/04/01	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/04/01	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/04/01	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/04/01	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/04/01	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/04/01	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/04/01	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/04/01	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
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Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2114457	HRE	Method Blank	Total Tellurium (Te)	2010/04/01	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/04/01	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/04/01	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/04/01	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/04/01	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/04/01	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/04/01	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/04/01	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/04/01	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/04/01	ND, RDL=1		ug/L	
		RPD	Total Lead (Pb)	2010/04/01	NC		%	25
2115691	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/04/05		106	%	80 - 120
			Dissolved Antimony (Sb)	2010/04/05		106	%	80 - 120
			Dissolved Arsenic (As)	2010/04/05		105	%	80 - 120
			Dissolved Barium (Ba)	2010/04/05		NC	%	80 - 120
			Dissolved Beryllium (Be)	2010/04/05		98	%	80 - 120
			Dissolved Bismuth (Bi)	2010/04/05		96	%	80 - 120
			Dissolved Boron (B)	2010/04/05		104	%	80 - 120
			Dissolved Cadmium (Cd)	2010/04/05		101	%	80 - 120
			Dissolved Calcium (Ca)	2010/04/05		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/04/05		104	%	80 - 120
			Dissolved Cobalt (Co)	2010/04/05		99	%	80 - 120
			Dissolved Copper (Cu)	2010/04/05		93	%	80 - 120
			Dissolved Iron (Fe)	2010/04/05		101	%	80 - 120
			Dissolved Lead (Pb)	2010/04/05		95	%	80 - 120
			Dissolved Lithium (Li)	2010/04/05		99	%	80 - 120
			Dissolved Magnesium (Mg)	2010/04/05		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/04/05		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/04/05		112	%	80 - 120
			Dissolved Nickel (Ni)	2010/04/05		97	%	80 - 120
			Dissolved Phosphorus (P)	2010/04/05		110	%	80 - 120
			Dissolved Potassium (K)	2010/04/05		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/04/05		107	%	80 - 120
			Dissolved Silicon (Si)	2010/04/05		111	%	80 - 120
			Dissolved Silver (Ag)	2010/04/05		98	%	80 - 120
			Dissolved Sodium (Na)	2010/04/05		NC (2)	%	80 - 120
			Dissolved Strontium (Sr)	2010/04/05		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/04/05		97	%	80 - 120
			Dissolved Thallium (Tl)	2010/04/05		94	%	80 - 120
			Dissolved Thorium (Th)	2010/04/05		98	%	80 - 120
			Dissolved Tin (Sn)	2010/04/05		107	%	80 - 120
			Dissolved Titanium (Ti)	2010/04/05		106	%	80 - 120
			Dissolved Tungsten (W)	2010/04/05		105	%	80 - 120
			Dissolved Uranium (U)	2010/04/05		101	%	80 - 120
			Dissolved Vanadium (V)	2010/04/05		105	%	80 - 120
			Dissolved Zinc (Zn)	2010/04/05		92	%	80 - 120
			Dissolved Zirconium (Zr)	2010/04/05		110	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/04/05		98	%	90 - 110
			Dissolved Antimony (Sb)	2010/04/05		100	%	90 - 110
			Dissolved Arsenic (As)	2010/04/05		99	%	90 - 110
			Dissolved Barium (Ba)	2010/04/05		102	%	90 - 110
			Dissolved Beryllium (Be)	2010/04/05		100	%	90 - 110
			Dissolved Bismuth (Bi)	2010/04/05		104	%	90 - 110
			Dissolved Boron (B)	2010/04/05		102	%	90 - 110
			Dissolved Cadmium (Cd)	2010/04/05		99	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2115691	HRE	Spiked Blank	Dissolved Calcium (Ca)	2010/04/05		99	%	90 - 110
			Dissolved Chromium (Cr)	2010/04/05		102	%	90 - 110
			Dissolved Cobalt (Co)	2010/04/05		99	%	90 - 110
			Dissolved Copper (Cu)	2010/04/05		99	%	90 - 110
			Dissolved Iron (Fe)	2010/04/05		100	%	90 - 110
			Dissolved Lead (Pb)	2010/04/05		103	%	90 - 110
			Dissolved Lithium (Li)	2010/04/05		100	%	90 - 110
			Dissolved Magnesium (Mg)	2010/04/05		99	%	90 - 110
			Dissolved Manganese (Mn)	2010/04/05		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/04/05		103	%	90 - 110
			Dissolved Nickel (Ni)	2010/04/05		99	%	90 - 110
			Dissolved Phosphorus (P)	2010/04/05		98	%	90 - 110
			Dissolved Potassium (K)	2010/04/05		99	%	90 - 110
			Dissolved Selenium (Se)	2010/04/05		103	%	90 - 110
			Dissolved Silicon (Si)	2010/04/05		99	%	90 - 110
			Dissolved Silver (Ag)	2010/04/05		98	%	90 - 110
			Dissolved Sodium (Na)	2010/04/05		98	%	90 - 110
			Dissolved Strontium (Sr)	2010/04/05		102	%	90 - 110
			Dissolved Tellurium (Te)	2010/04/05		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/04/05		101	%	90 - 110
			Dissolved Thorium (Th)	2010/04/05		103	%	90 - 110
			Dissolved Tin (Sn)	2010/04/05		100	%	90 - 110
			Dissolved Titanium (Ti)	2010/04/05		100	%	90 - 110
			Dissolved Tungsten (W)	2010/04/05		106	%	90 - 110
			Dissolved Uranium (U)	2010/04/05		107	%	90 - 110
			Dissolved Vanadium (V)	2010/04/05		99	%	90 - 110
			Dissolved Zinc (Zn)	2010/04/05		98	%	90 - 110
			Dissolved Zirconium (Zr)	2010/04/05		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/04/05	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/04/05	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/04/05	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/04/05	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/04/05	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/04/05	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/04/05	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/04/05	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/04/05	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/04/05	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/04/05	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/04/05	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/04/05	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/04/05	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/04/05	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/04/05	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/04/05	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2115691	HRE	Method Blank	Dissolved Thallium (Tl)	2010/04/05	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/04/05	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/04/05	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/04/05	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/04/05	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2010/04/05	NC		%	25
			Dissolved Arsenic (As)	2010/04/05	NC		%	25
			Dissolved Barium (Ba)	2010/04/05	0.4		%	25
			Dissolved Beryllium (Be)	2010/04/05	NC		%	25
			Dissolved Boron (B)	2010/04/05	0.4		%	25
			Dissolved Cadmium (Cd)	2010/04/05	NC		%	25
			Dissolved Chromium (Cr)	2010/04/05	NC		%	25
			Dissolved Cobalt (Co)	2010/04/05	NC		%	25
			Dissolved Copper (Cu)	2010/04/05	NC		%	25
			Dissolved Lead (Pb)	2010/04/05	NC		%	25
			Dissolved Molybdenum (Mo)	2010/04/05	NC		%	25
			Dissolved Nickel (Ni)	2010/04/05	NC		%	25
			Dissolved Selenium (Se)	2010/04/05	NC		%	25
			Dissolved Silver (Ag)	2010/04/05	NC		%	25
			Dissolved Sodium (Na)	2010/04/05	5.6		%	25
			Dissolved Thallium (Tl)	2010/04/05	NC		%	25
			Dissolved Vanadium (V)	2010/04/05	NC		%	25
			Dissolved Zinc (Zn)	2010/04/05	NC		%	25
2116127	ADA	Matrix Spike	Total Aluminum (Al)	2010/04/05		NC	%	80 - 120
			Total Antimony (Sb)	2010/04/05		110	%	80 - 120
			Total Arsenic (As)	2010/04/05		102	%	80 - 120
			Total Barium (Ba)	2010/04/05		103	%	80 - 120
			Total Beryllium (Be)	2010/04/05		100	%	75 - 125
			Total Bismuth (Bi)	2010/04/05		100	%	75 - 125
			Total Boron (B)	2010/04/05		106	%	75 - 125
			Total Cadmium (Cd)	2010/04/05		101	%	80 - 120
			Total Calcium (Ca)	2010/04/05		NC	%	75 - 125
			Total Chromium (Cr)	2010/04/05		107	%	80 - 120
			Total Cobalt (Co)	2010/04/05		106	%	80 - 120
			Total Copper (Cu)	2010/04/05		102	%	80 - 120
			Total Iron (Fe)	2010/04/05		98	%	80 - 120
			Total Lead (Pb)	2010/04/05		101	%	80 - 120
			Total Lithium (Li)	2010/04/05		98	%	75 - 125
			Total Magnesium (Mg)	2010/04/05		NC	%	80 - 120
			Total Manganese (Mn)	2010/04/05		101	%	80 - 120
			Total Molybdenum (Mo)	2010/04/05		109	%	80 - 120
			Total Nickel (Ni)	2010/04/05		102	%	80 - 120
			Total Potassium (K)	2010/04/05		106	%	75 - 125
			Total Selenium (Se)	2010/04/05		99	%	75 - 125
			Total Silicon (Si)	2010/04/05		101	%	75 - 125
			Total Silver (Ag)	2010/04/05		100	%	80 - 120
			Total Sodium (Na)	2010/04/05		NC	%	75 - 125
			Total Strontium (Sr)	2010/04/05		NC	%	80 - 120
			Total Tellurium (Te)	2010/04/05		95	%	75 - 125
			Total Thallium (Tl)	2010/04/05		103	%	80 - 120
			Total Thorium (Th)	2010/04/05		104	%	75 - 125

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2116127	ADA	Matrix Spike	Total Tin (Sn)	2010/04/05		106	%	75 - 125
			Total Titanium (Ti)	2010/04/05		106	%	75 - 125
			Total Tungsten (W)	2010/04/05		108	%	75 - 125
			Total Uranium (U)	2010/04/05		100	%	80 - 120
			Total Vanadium (V)	2010/04/05		108	%	80 - 120
			Total Zinc (Zn)	2010/04/05		98	%	80 - 120
			Total Zirconium (Zr)	2010/04/05		109	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/04/05		110	%	80 - 120
			Total Antimony (Sb)	2010/04/05		110	%	82 - 120
			Total Arsenic (As)	2010/04/05		101	%	86 - 119
			Total Barium (Ba)	2010/04/05		101	%	83 - 115
			Total Beryllium (Be)	2010/04/05		100	%	85 - 132
			Total Bismuth (Bi)	2010/04/05		100	%	78 - 120
			Total Boron (B)	2010/04/05		105	%	78 - 133
			Total Cadmium (Cd)	2010/04/05		100	%	85 - 116
			Total Calcium (Ca)	2010/04/05		108	%	75 - 125
			Total Chromium (Cr)	2010/04/05		107	%	80 - 120
			Total Cobalt (Co)	2010/04/05		106	%	82 - 117
			Total Copper (Cu)	2010/04/05		104	%	80 - 117
			Total Iron (Fe)	2010/04/05		99	%	80 - 120
			Total Lead (Pb)	2010/04/05		101	%	80 - 120
			Total Lithium (Li)	2010/04/05		99	%	86 - 131
			Total Magnesium (Mg)	2010/04/05		103	%	80 - 120
			Total Manganese (Mn)	2010/04/05		106	%	80 - 120
			Total Molybdenum (Mo)	2010/04/05		107	%	82 - 117
			Total Nickel (Ni)	2010/04/05		103	%	81 - 117
			Total Potassium (K)	2010/04/05		107	%	75 - 125
			Total Selenium (Se)	2010/04/05		98	%	82 - 118
			Total Silicon (Si)	2010/04/05		104	%	67 - 140
			Total Silver (Ag)	2010/04/05		100	%	80 - 120
			Total Sodium (Na)	2010/04/05		107	%	75 - 125
			Total Strontium (Sr)	2010/04/05		105	%	83 - 120
			Total Tellurium (Te)	2010/04/05		96	%	80 - 116
			Total Thallium (Tl)	2010/04/05		101	%	80 - 129
			Total Thorium (Th)	2010/04/05		100	%	80 - 125
			Total Tin (Sn)	2010/04/05		106	%	83 - 119
			Total Titanium (Ti)	2010/04/05		103	%	60 - 125
			Total Tungsten (W)	2010/04/05		105	%	81 - 123
			Total Uranium (U)	2010/04/05		98	%	82 - 120
			Total Vanadium (V)	2010/04/05		106	%	82 - 118
			Total Zinc (Zn)	2010/04/05		97	%	80 - 120
			Total Zirconium (Zr)	2010/04/05		108	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/04/05	7, RDL=5		ug/L	
			Total Antimony (Sb)	2010/04/05	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/04/05	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/04/05	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/04/05	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/04/05	ND, RDL=1		ug/L	
			Total Boron (B)	2010/04/05	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/04/05	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/04/05	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/04/05	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/04/05	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/04/05	2, RDL=1		ug/L	
			Total Iron (Fe)	2010/04/05	ND, RDL=100		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: Rainy River
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB036238

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2116127	ADA	Method Blank	Total Lead (Pb)	2010/04/05	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/04/05	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/04/05	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/04/05	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/04/05	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/04/05	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/04/05	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/04/05	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/04/05	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/04/05	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/04/05	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/04/05	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/04/05	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/04/05	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/04/05	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/04/05	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/04/05	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/04/05	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/04/05	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/04/05	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/04/05	8, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/04/05	ND, RDL=1		ug/L	
		RPD	Total Calcium (Ca)	2010/04/05	2.9		%	25
			Total Iron (Fe)	2010/04/05	6.7		%	25
			Total Magnesium (Mg)	2010/04/05	4.9		%	25
			Total Silver (Ag)	2010/04/05	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.
(2) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

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Validation Signature Page

Maxxam Job #: B036238

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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AP

IMMEDIATE TEST

25-Mar-10 15:05
ANTONELLA BRASIL
B036238
AKP ENV-758

MICRO

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:

Company Name:	#23433 Rainy River Resources Ltd
Contact Name:	Evelyn Funk
Address:	303 - 1620 W 8th Ave
	Vancouver BC V6J 1V4
Phone:	(604)639-4491 Fax: (604)639-4492
Email:	etf@rainyriverresources.com

REPORT INFORMATION (if differs from invoice):

Company Name:	#10142 Klohn Crippen Berger Ltd
Contact Name:	Leanne Hollingsworth
Address:	500 - -2955 Virtual Way
	Vancouver BC V5M 4X6
Phone:	(604)251-8594 Fax: (604)251-8510
Email:	lhollingsworth@klohn.com

PROJECT INFORMATION:

Quotation #:	A92895
P.O. #:	
Project #:	Rainy River
Project Name:	
Site #:	
Sampled By:	

Laboratory Use Only:

BOTTLE ORDER #: 185398

CHAIN OF CUSTODY #: C#185398-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined

☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse

☐ Reg. 558 Municipality _____

Other (specify) _____ Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Acidity as CaCO3 in liquid	Alk.,Cond.,Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	Animal/Vegetable/Mineral/Total Oil&Grease	Biological Oxygen Demand (BOD)	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	# of Bottles	Comments
1		SW1	March 25/10	9:30 Am	WT		✓	✓	–	✓	✓	✓	✓	✓	–	–	–	15	Incl. both C of C forms
2		SW2	March 25/10	9:10 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	15	
3		SW3	March 25/10	8:25 Am	WT		✓	✓	–	✓	–	✓	–	✓	–	–	–	15	
4		SW4	March 25/10	10:00 Am	WT		✓	✓	✓	✓	–	✓	✓	✓	–	–	–	15	
5		SW5	March 25/10	7:45 Am	WT		✓	✓	✓	✓	✓	–	✓	✓	✓	–	–	15	
6		SW6	March 25/10	8:45 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	15	
7																			MAR 26'10 0902
8																			
9																			
10																			REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff	mar 25/10	3:05pm	Amanda 2nd signature	Mar 25/10	3:05pm	
				2010-03-26	9:22	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	4.5, 4.9, 6.5	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

White: Maxxam Yellow: Client

3/10/10 #1 #2 #3

Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895	MAXXAM JOB #:	BOTTLE ORDER #: 185398
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		C#185398-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Residential/Parkland ☐ Industrial/Commercial
☐ Reg. 558 ☐ Table 3 ☐ Table 6 ☐ Medium/Fine ☐ Coarse
Municipality _____
Other (specify) _____ Report Criteria on C of A? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Sublet (MICRO) - TC, EC, E.coli by MF submitted to correct	Total Cyanide	Total Dissolved Solids	Total Metals Analysis by ICPMS	# of Bottles	Comments
1		SW1	March 25/10	9:30 Am	WT		✓	✓	✓	✓	✓	15	Incl. Both C of C forms
2		SW2	March 25/10	9:10 Am	WT		✓	✓	✓	✓	✓	15	
3		SW3	March 25/10	8:25 Am	WT		✓	✓	✓	✓	✓	15	
4		SW4	March 25/10	10:00 Am	WT		✓	✓	✓	✓	✓	15	
5		SW5	March 25/10	7:45 Am	WT		✓	✓	✓	✓	✓	15	
6		SW6	March 25/10	8:45 Am	WT		✓	✓	✓	✓	✓	15	
7													
8													MAR 26'10 8:22
9													REC'D IN WINNIPEG
10													

Please add Dup PG for Micro

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff	mar 25/10	3:05pm	Amanda	mar 25/10	3:05pm	
				2010-03-26	9:22	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	4.5, 4.9, 6.5	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: March 29, 2010

GROUP NUMBER: 110325078

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SAMPLE DATE	CANTEST ID	Total Coliform (Confirmed)	Fecal Coliform	E. Coli
SW1	Mar 25/10	1003250179	13	<	<
SW2	Mar 25/10	1003250180	31	1	1
SW3	Mar 25/10	1003250181	12	10	8
SW4	Mar 25/10	1003250182	37	<	<
SW5	Mar 25/10	1003250183	42	<	<
SW6	Mar 25/10	1003250184	29	<	<
REPORTING LIMIT			1	1	1
UNITS			Col./100 mL	Col./100 mL	Col./100 mL

Col./100 mL = Colonies per 100 mL
< = Less than reporting limit

Analysis Report

CANTEST LTD.

Professional
Analytical
Services

4606 Canada Way
Burnaby, B.C.
V5G 1K5

FAX: 604 731 2386

TEL: 604 734 7276

1 800 665 8566

REPORT ON: **Analysis of Water Samples**

REPORTED TO: **Maxxam Analytics Inc.**
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Antonella Brasil

CHAIN OF CUSTODY: **53485 MB**
PROJECT NAME: **Clnt#23433 Rainy River**
PROJECT NUMBER: **185398-01-02**

NUMBER OF SAMPLES: 6

REPORT DATE: March 29, 2010

DATE SUBMITTED: March 25, 2010

GROUP NUMBER: 110325078

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

TEST RESULTS:

(See following page)

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: MB036238
Site: RAINY RIVER
Your C.O.C. #: 08311846

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/04/01

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B018368
Received: 2010/03/30, 09:30

Sample Matrix: Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	7	N/A	2010/04/01	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B018368
Report Date: 2010/04/01

MAXXAM ANALYTICS INC.
Client Project #: MB036238
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		T40393	T40394	T40395	T40396	T40397		
Sampling Date		2010/03/25	2010/03/25	2010/03/25	2010/03/25	2010/03/25		
COC Number		08311846	08311846	08311846	08311846	08311846		
	Units	**SW1(FK8624-10R)**	**SW2(FK8625-10R)**	**SW3(FK8626-10R)**	**SW4(FK8627-10R)**	**SW5(FK8628-10R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0006	<0.0005	0.0010	0.0005	3857589

RDL = Reportable Detection Limit

Maxxam ID		T40398	T40399		
Sampling Date		2010/03/25	2010/03/25		
COC Number		08311846	08311846		
	Units	**SW6(FK8629-10R)**	**TRIP BLAN(FK8630-10R)**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0005	<0.0005	0.0005	3857589

RDL = Reportable Detection Limit

Maxxam Job #: B018368
Report Date: 2010/04/01

MAXXAM ANALYTICS INC.
Client Project #: MB036238
Site Reference: RAINY RIVER

Package 1	2.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB036238
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VB018368

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3857589	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/04/01		107	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/04/01		106	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/04/01	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/04/01	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B018368

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

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APPENDIX I - 4

Laboratory Results
April 2010

Your C.O.C. #: 00599930

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/05/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B054962
Received: 2010/05/05, 09:37

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	12	2010/05/07	2010/05/11	SLA SOP-00100	APHA SM2310B
Alkalinity	9	N/A	2010/05/11	CAM SOP-00448	SM 2320B
Alkalinity	3	N/A	2010/05/12	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	12	N/A	2010/05/12		
Biological Oxygen Demand (BOD)	12	N/A	2010/05/12	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	12	N/A	2010/05/11	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	12	N/A	2010/05/07	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	12	N/A	2010/05/11	CAM SOP-00416	APHA 5220D
Colour	12	N/A	2010/05/10	CAM SOP-00412	APHA 2120
Conductivity	9	N/A	2010/05/11	CAM SOP-00448	SM 2510
Conductivity	3	N/A	2010/05/12	CAM SOP-00448	SM 2510
Total Cyanide	12	2010/05/07	2010/05/07	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	12	N/A	2010/05/10	CAM SOP-00446	SM 5310 B
Fluoride	9	2010/05/10	2010/05/11	CAM SOP-00456	APHA 4500FC
Fluoride	3	2010/05/10	2010/05/12	CAM SOP-00456	APHA 4500FC
Dissolved Gases in Water in mg/L units	12	N/A	2010/05/07		
Hardness (calculated as CaCO3)	12	N/A	2010/05/11	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	12	2010/05/07	2010/05/07	CAM SOP-00453	EPA 7470
Dissolved Metals Analysis by ICP	12	2010/05/11	2010/05/11	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	10	N/A	2010/05/11	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	2	N/A	2010/05/14	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	10	N/A	2010/05/11	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	2	N/A	2010/05/13	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	12	2010/05/10	2010/05/11	CAM SOP-00408	EPA 6010
Ammonia-N	12	N/A	2010/05/11	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (9)	2	N/A	2010/05/10	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (9)	10	N/A	2010/05/11	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	9	N/A	2010/05/11	CAM SOP-00448	SM 4500H
pH	3	N/A	2010/05/12	CAM SOP-00448	SM 4500H
Orthophosphate	12	N/A	2010/05/11	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	12	N/A	2010/05/11	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	12	N/A	2010/05/11	CAM SOP-00464	EPA 375.4
Redox Potential (1)	12	2010/05/10	2010/05/11	SM 2580 B & ASTM DI 498-76	
Sulphide	12	N/A	2010/05/11	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	12	N/A	2010/05/07	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	12	2010/05/10	2010/05/11	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	12	N/A	2010/05/11	CAM SOP-00446	EPA 415.1 modified

../2

Your C.O.C. #: 00599930

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/05/14

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Dissolved Phosphorus	12	2010/05/10	2010/05/11	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	12	2010/05/10	2010/05/11	CAM SOP-00407	APHA 4500 P,B,F
Low Level Total Suspended Solids	12	N/A	2010/05/07	CAM SOP-00428	SM 2540D
Turbidity	7	N/A	2010/05/07	CAM SOP-00417	APHA 2130
Turbidity	5	N/A	2010/05/10	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8899	FT8899			FT8900	FT8901		
Sampling Date		2010/05/03	2010/05/03			2010/05/03	2010/05/03		
COC Number		00599930	00599930			00599930	00599930		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Calculated Parameters									
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	105	N/A	1	2143435	128	120	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435	1	ND	1	2143435
Hardness (CaCO3)	mg/L	130	N/A	1	2144067	140	140	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435	ND	ND	1	2143435
Inorganics									
Acidity as CaC03	mg/L	10	N/A	10	2144744	12	12	10	2144744
Total Ammonia-N	mg/L	0.22	N/A	0.05	2146222	0.17	0.20	0.05	2146222
Total BOD	mg/L	ND	N/A	2	2144741	ND	ND	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	65	65	4	2146288	38	58	4	2146288
Colour	TCU	130	N/A	4	2146862	71	97	2	2146862
Conductivity	umho/cm	271	N/A	1	2146818	262	267	1	2146818
Total Dissolved Solids	mg/L	174	N/A	10	2144428	160	170	10	2144428
Fluoride (F-)	mg/L	ND	N/A	0.1	2146819	ND	ND	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	1.3	0.2	2146365	0.8	1.1	0.2	2146365
Dissolved Organic Carbon	mg/L	25.3	N/A	0.2	2146854	16.3	21.9	0.2	2146674
Total Organic Carbon (TOC)	mg/L	24.0	N/A	0.2	2146285	15.8	21.9	0.2	2146285
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2147060	ND	0.02	0.01	2147060
pH	pH	7.9	N/A	N/A	2146817	7.9	7.8	N/A	2146817
Dissolved Phosphorus	mg/L	0.038	N/A	0.002	2146507	0.020	0.031	0.002	2146507
Total Phosphorus	mg/L	0.040	N/A	0.002	2146461	0.038	0.036	0.002	2146461
Reactive Silica (SiO2)	mg/L	6.9	N/A	0.5	2147727	6.7	6.6	0.5	2147727
Total Suspended Solids	mg/L	4	N/A	1	2144431	25	4	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2147061	ND	ND	1	2147061
Sulphide	mg/L	ND	N/A	0.02	2144835	ND	ND	0.02	2144835
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2145049	ND	ND	0.005	2145049
Turbidity	NTU	3.5	N/A	0.1	2144094	12	3.4	0.1	2144094
Alkalinity (Total as CaCO3)	mg/L	106	N/A	1	2146816	129	121	1	2146816
Dissolved Chloride (Cl)	mg/L	16	N/A	1	2147058	3	8	1	2147058
Nitrite (N)	mg/L	ND	N/A	0.01	2146798	ND	ND	0.01	2146798
Nitrate (N)	mg/L	ND	N/A	0.1	2146798	ND	ND	0.1	2146798

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8899	FT8899			FT8900	FT8901		
Sampling Date		2010/05/03	2010/05/03			2010/05/03	2010/05/03		
COC Number		00599930	00599930			00599930	00599930		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2146798	ND	ND	0.1	2146798
Subcontracted Analysis									
Redox Potential	mV	+191	N/A	N/A	2146319	+192	+195	N/A	2146319

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8902	FT8902		FT8903	FT8903		
Sampling Date		2010/05/03	2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930	00599930		00599930	00599930		
	Units	**SW6**	**SW6 Lab-Dup**	**RDL**	**SW7**	**SW7 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	95	N/A	1	118	N/A	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	ND	N/A	1	2143435
Hardness (CaCO3)	mg/L	120	N/A	1	130	N/A	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	ND	N/A	1	2143435
Inorganics								
Acidity as CaC03	mg/L	10	N/A	10	10	N/A	10	2144744
Total Ammonia-N	mg/L	0.20	N/A	0.05	0.17	N/A	0.05	2146222
Total BOD	mg/L	ND	N/A	2	ND	N/A	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	67	N/A	4	44	N/A	4	2146288
Colour	TCU	140	N/A	4	82	N/A	2	2146862
Conductivity	umho/cm	252	N/A	1	246	N/A	1	2146818
Total Dissolved Solids	mg/L	160	N/A	10	156	150	10	2144428
Fluoride (F-)	mg/L	ND	N/A	0.1	ND	N/A	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	N/A	0.2	1.1	N/A	0.2	2146365
Dissolved Organic Carbon	mg/L	27.1	N/A	0.2	18.1	N/A	0.2	2146674
Total Organic Carbon (TOC)	mg/L	25.6	N/A	0.2	18.7	N/A	0.2	2146285
Orthophosphate (P)	mg/L	0.01	N/A	0.01	0.01	N/A	0.01	2147060
pH	pH	7.8	N/A	N/A	7.9	N/A	N/A	2146817
Dissolved Phosphorus	mg/L	0.024	N/A	0.002	0.024	N/A	0.002	2146507
Total Phosphorus	mg/L	0.027	N/A	0.002	0.046	N/A	0.002	2146461
Reactive Silica (SiO2)	mg/L	6.8	N/A	0.5	6.6	N/A	0.5	2147727
Total Suspended Solids	mg/L	2	N/A	1	24	N/A	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	ND	N/A	1	2147061
Sulphide	mg/L	ND	N/A	0.02	ND	N/A	0.02	2144835
Total Cyanide (CN)	mg/L	ND	N/A	0.005	ND	N/A	0.005	2145049
Turbidity	NTU	3.0	3.1	0.1	13	N/A	0.1	2145151
Alkalinity (Total as CaCO3)	mg/L	96	N/A	1	119	N/A	1	2146816
Dissolved Chloride (Cl)	mg/L	15	N/A	1	5	N/A	1	2147058
Nitrite (N)	mg/L	ND	N/A	0.01	ND	N/A	0.01	2146798
Nitrate (N)	mg/L	ND	N/A	0.1	ND	N/A	0.1	2146798

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8902	FT8902		FT8903	FT8903		
Sampling Date		2010/05/03	2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930	00599930		00599930	00599930		
	Units	**SW6**	**SW6 Lab-Dup**	**RDL**	**SW7**	**SW7 Lab-Dup**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	N/A	0.1	ND	N/A	0.1	2146798
Subcontracted Analysis								
Redox Potential	mV	+193	N/A	N/A	+197	+199	N/A	2146319

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8904	FT8904			FT8905	FT8905		
Sampling Date		2010/05/03	2010/05/03			2010/05/03	2010/05/03		
COC Number		00599930	00599930			00599930	00599930		
	Units	**SW8**	**SW8 Lab-Dup**	**RDL**	**QC Batch**	**SW9**	**SW9 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters									
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	82	N/A	1	2143435	102	N/A	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435	ND	N/A	1	2143435
Hardness (CaCO3)	mg/L	100	N/A	1	2144067	110	N/A	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435	ND	N/A	1	2143435
Inorganics									
Acidity as CaC03	mg/L	10	N/A	10	2144744	12	N/A	10	2144744
Total Ammonia-N	mg/L	0.18	N/A	0.05	2146222	0.19	N/A	0.05	2146222
Total BOD	mg/L	ND	N/A	2	2144741	ND	N/A	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	56	N/A	4	2146288	68	N/A	4	2146288
Colour	TCU	99	N/A	2	2146862	130	N/A	4	2146862
Conductivity	umho/cm	241	241	1	2146818	221	N/A	1	2146818
Total Dissolved Solids	mg/L	154	N/A	10	2144428	140	N/A	10	2144428
Fluoride (F-)	mg/L	ND	ND	0.1	2146819	ND	N/A	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.1	2146365	1.4	N/A	0.2	2146365
Dissolved Organic Carbon	mg/L	20.5	N/A	0.2	2146674	25.7	N/A	0.2	2146705
Total Organic Carbon (TOC)	mg/L	20.8	N/A	0.2	2146285	24.9	N/A	0.2	2146285
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2147060	0.01	N/A	0.01	2146928
pH	pH	7.7	7.7	N/A	2146817	7.8	N/A	N/A	2146817
Dissolved Phosphorus	mg/L	0.016	N/A	0.002	2146507	0.029	N/A	0.002	2146507
Total Phosphorus	mg/L	0.018	N/A	0.002	2146461	0.024	N/A	0.002	2146461
Reactive Silica (SiO2)	mg/L	6.5	N/A	0.5	2147727	8.7	N/A	0.5	2147727
Total Suspended Solids	mg/L	ND	N/A	1	2144431	1	N/A	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2147061	ND	N/A	1	2146929
Sulphide	mg/L	ND	N/A	0.02	2144835	ND	N/A	0.02	2144835
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2145049	ND	N/A	0.005	2145049
Turbidity	NTU	1.7	N/A	0.1	2145151	1.4	1.5	0.1	2144906
Alkalinity (Total as CaCO3)	mg/L	82	83	1	2146816	102	N/A	1	2146816
Dissolved Chloride (Cl)	mg/L	21	N/A	1	2147058	2	N/A	1	2146923
Nitrite (N)	mg/L	ND	N/A	0.01	2146798	ND	N/A	0.01	2146798
Nitrate (N)	mg/L	ND	N/A	0.1	2146798	ND	N/A	0.1	2146798

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8904	FT8904			FT8905	FT8905		
Sampling Date		2010/05/03	2010/05/03			2010/05/03	2010/05/03		
COC Number		00599930	00599930			00599930	00599930		
	Units	**SW8**	**SW8 Lab-Dup**	**RDL**	**QC Batch**	**SW9**	**SW9 Lab-Dup**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2146798	ND	N/A	0.1	2146798
Subcontracted Analysis									
Redox Potential	mV	+196	N/A	N/A	2146319	+198	N/A	N/A	2146321

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8906		FT8907	FT8907		
Sampling Date		2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930		00599930	00599930		
	Units	**SW10**	**QC Batch**	**SW11**	**SW11 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	96	2143435	67	N/A	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2143435	ND	N/A	1	2143435
Hardness (CaCO3)	mg/L	130	2144067	74	N/A	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2143435	ND	N/A	1	2143435
Inorganics							
Acidity as CaC03	mg/L	10	2144744	18	N/A	10	2144744
Total Ammonia-N	mg/L	0.18	2146222	ND	N/A	0.05	2146222
Total BOD	mg/L	ND	2144741	ND	N/A	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	69	2146288	71	N/A	4	2146288
Colour	TCU	140	2146862	130	N/A	4	2146287
Conductivity	umho/cm	252	2146818	135	N/A	1	2146818
Total Dissolved Solids	mg/L	160	2144428	86	84	10	2144467
Fluoride (F-)	mg/L	ND	2146819	ND	N/A	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	1.4	2146365	1.0	N/A	0.2	2146365
Dissolved Organic Carbon	mg/L	26.9	2146678	27.4	N/A	0.2	2146705
Total Organic Carbon (TOC)	mg/L	25.7	2146285	26.1	N/A	0.2	2146285
Orthophosphate (P)	mg/L	0.01	2147060	ND	N/A	0.01	2146940
pH	pH	7.8	2146817	7.5	N/A	N/A	2146817
Dissolved Phosphorus	mg/L	0.023	2146507	0.012	N/A	0.002	2146507
Total Phosphorus	mg/L	0.029	2146461	0.025	N/A	0.002	2146461
Reactive Silica (SiO2)	mg/L	6.8	2147727	4.0	N/A	0.5	2147727
Total Suspended Solids	mg/L	2	2144431	4	N/A	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	2147061	ND	N/A	1	2146941
Sulphide	mg/L	ND	2144835	ND	N/A	0.02	2144835
Total Cyanide (CN)	mg/L	ND	2145049	ND	N/A	0.005	2145049
Turbidity	NTU	2.9	2144906	2.3	N/A	0.1	2144906
Alkalinity (Total as CaCO3)	mg/L	97	2146816	67	N/A	1	2146816
Dissolved Chloride (Cl)	mg/L	15	2147058	2	N/A	1	2146931
Nitrite (N)	mg/L	ND	2146798	ND	ND	0.01	2146347
Nitrate (N)	mg/L	ND	2146798	ND	ND	0.1	2146347

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8906		FT8907	FT8907		
Sampling Date		2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930		00599930	00599930		
	Units	**SW10**	**QC Batch**	**SW11**	**SW11 Lab-Dup**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	2146798	ND	ND	0.1	2146347
Subcontracted Analysis							
Redox Potential	mV	+194	2146321	+197	N/A	N/A	2146321

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8908	FT8908		FT8909	FT8909		
Sampling Date		2010/05/03	2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930	00599930		00599930	00599930		
	Units	**SW12**	**SW12 Lab-Dup**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	86	N/A	2143435	113	N/A	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2143435	ND	N/A	1	2143435
Hardness (CaCO3)	mg/L	88	N/A	2144067	120	N/A	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2143435	ND	N/A	1	2143435
Inorganics								
Acidity as CaC03	mg/L	ND	ND	2144744	12	N/A	10	2144744
Total Ammonia-N	mg/L	0.16	N/A	2146222	0.20	N/A	0.05	2146222
Total BOD	mg/L	ND	N/A	2144741	ND	N/A	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	38	N/A	2146288	44	N/A	4	2146288
Colour	TCU	55	N/A	2146287	62	62	2	2146287
Conductivity	umho/cm	174	N/A	2146818	225	N/A	1	2146818
Total Dissolved Solids	mg/L	106	N/A	2144428	140	N/A	10	2144428
Fluoride (F-)	mg/L	ND	N/A	2146819	ND	N/A	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	N/A	2146365	1.0	N/A	0.1	2146365
Dissolved Organic Carbon	mg/L	15.4	N/A	2146875	17.6	N/A	0.2	2146705
Total Organic Carbon (TOC)	mg/L	15.4	N/A	2146285	16.9	N/A	0.2	2146285
Orthophosphate (P)	mg/L	0.01	N/A	2146940	0.01	N/A	0.01	2146928
pH	pH	7.8	N/A	2146817	7.9	N/A	N/A	2146817
Dissolved Phosphorus	mg/L	0.019	N/A	2146507	0.017	0.016	0.002	2146507
Total Phosphorus	mg/L	0.016	N/A	2146461	0.026	0.029	0.002	2146461
Reactive Silica (SiO2)	mg/L	5.3	N/A	2147727	5.9	N/A	0.5	2147727
Total Suspended Solids	mg/L	1	N/A	2144431	13	N/A	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	N/A	2146941	ND	N/A	1	2146929
Sulphide	mg/L	ND	N/A	2144835	ND	N/A	0.02	2144835
Total Cyanide (CN)	mg/L	ND	N/A	2145049	ND	N/A	0.005	2145049
Turbidity	NTU	1.5	N/A	2145151	4.2	N/A	0.1	2144906
Alkalinity (Total as CaCO3)	mg/L	86	N/A	2146816	114	N/A	1	2146816
Dissolved Chloride (Cl)	mg/L	1	N/A	2146931	2	N/A	1	2146923
Nitrite (N)	mg/L	ND	N/A	2146568	ND	N/A	0.01	2146347
Nitrate (N)	mg/L	ND	N/A	2146568	ND	N/A	0.1	2146347

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8908	FT8908		FT8909	FT8909		
Sampling Date		2010/05/03	2010/05/03		2010/05/03	2010/05/03		
COC Number		00599930	00599930		00599930	00599930		
	Units	**SW12**	**SW12 Lab-Dup**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	N/A	2146568	ND	N/A	0.1	2146347
Subcontracted Analysis								
Redox Potential	mV	+195	N/A	2146321	+195	+193	N/A	2146321

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8910	FT8910		
Sampling Date		2010/05/03	2010/05/03		
COC Number		00599930	00599930		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435
Hardness (CaCO3)	mg/L	ND	N/A	1	2144067
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2143435
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2144744
Total Ammonia-N	mg/L	0.20	N/A	0.05	2146222
Total BOD	mg/L	ND	N/A	2	2144741
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2146288
Colour	TCU	ND	N/A	2	2146862
Conductivity	umho/cm	ND	N/A	1	2146818
Total Dissolved Solids	mg/L	ND	N/A	10	2144428
Fluoride (F-)	mg/L	ND	N/A	0.1	2146819
Total Kjeldahl Nitrogen (TKN)	mg/L	0.3	N/A	0.1	2146365
Dissolved Organic Carbon	mg/L	0.3	N/A	0.2	2146674
Total Organic Carbon (TOC)	mg/L	0.3	N/A	0.2	2146285
Orthophosphate (P)	mg/L	ND	N/A	0.01	2147060
pH	pH	6.3	N/A	N/A	2146817
Dissolved Phosphorus	mg/L	0.003	N/A	0.002	2146507
Total Phosphorus	mg/L	ND	N/A	0.002	2146461
Reactive Silica (SiO2)	mg/L	ND	N/A	0.5	2147727
Total Suspended Solids	mg/L	ND	ND	1	2144431
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2147061
Sulphide	mg/L	ND	N/A	0.02	2144835
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2145049
Turbidity	NTU	ND	N/A	0.1	2145151
Alkalinity (Total as CaCO3)	mg/L	ND	N/A	1	2146816
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	2147058
Nitrite (N)	mg/L	ND	N/A	0.01	2146798
Nitrate (N)	mg/L	ND	N/A	0.1	2146798

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		FT8910	FT8910		
Sampling Date		2010/05/03	2010/05/03		
COC Number		00599930	00599930		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2146798
Subcontracted Analysis					
Redox Potential	mV	+218	N/A	N/A	2146321

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Maxxam Job #: B054962
Report Date: 2010/05/14

PERMANENT GASES (WATER)

Maxxam ID		FT8899	FT8900	FT8901	FT8902	FT8903	FT8904		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		00599930	00599930	00599930	00599930	00599930	00599930		
	Units	**SW1**	**SW2**	**SW3**	**SW6**	**SW7**	**SW8**	**RDL**	**QC Batch**
Fixed Gases									
Carbon Dioxide	L/m3	1.9	2.5	3.4	2.2	2.1	2.7	0.6	2144524
Calculated Carbon Dioxide	mg/L	3	4	6	4	4	5	1	2143444

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FT8905	FT8906	FT8907	FT8908	FT8909	FT8909		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		00599930	00599930	00599930	00599930	00599930	00599930		
	Units	**SW9**	**SW10**	**SW11**	**SW12**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases									
Carbon Dioxide	L/m3	3.6	2.1	5.2	1.8	3.0	3.1	0.6	2144524
Calculated Carbon Dioxide	mg/L	7	4	9	3	5	N/A	1	2143444

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FT8910		
Sampling Date		2010/05/03		
COC Number		00599930		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases				
Carbon Dioxide	L/m3	ND	0.6	2144524
Calculated Carbon Dioxide	mg/L	ND	1	2143444

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8899	FT8900		FT8901		FT8902		
Sampling Date		2010/05/03	2010/05/03		2010/05/03		2010/05/03		
COC Number		00599930	00599930		00599930		00599930		
	Units	**SW1**	**SW2**	**QC Batch**	**SW3**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals									
Mercury (Hg)	mg/L	ND	ND	2144511	ND	2144511	ND	0.0001	2144511
Dissolved Sulphur (S)	mg/L	3.3	1.2	2147245	2.1	2147245	3.3	0.5	2147245
Total Sulphur (S)	mg/L	3.2	1.1	2146515	2.1	2146515	3.2	0.5	2146515
Dissolved Aluminum (Al)	ug/L	79	66	2146662	63	2150488	67	5	2146662
Total Aluminum (Al)	ug/L	220	380	2146433	130	2150122	130	5	2146433
Dissolved Antimony (Sb)	ug/L	ND	ND	2146662	ND	2150488	ND	0.5	2146662
Total Antimony (Sb)	ug/L	ND	ND	2146433	ND	2150122	ND	0.5	2146433
Dissolved Arsenic (As)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Arsenic (As)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Barium (Ba)	ug/L	23	27	2146662	29	2150488	22	5	2146662
Total Barium (Ba)	ug/L	18	22	2146433	19	2150122	16	5	2146433
Dissolved Beryllium (Be)	ug/L	ND	ND	2146662	ND	2150488	ND	0.5	2146662
Total Beryllium (Be)	ug/L	ND	ND	2146433	ND	2150122	ND	0.5	2146433
Dissolved Bismuth (Bi)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Bismuth (Bi)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Boron (B)	ug/L	20	16	2146662	16	2150488	16	10	2146662
Total Boron (B)	ug/L	16	13	2146433	26	2150122	16	10	2146433
Dissolved Cadmium (Cd)	ug/L	ND	ND	2146662	ND	2150488	ND	0.1	2146662
Total Cadmium (Cd)	ug/L	ND	ND	2146433	ND	2150122	ND	0.1	2146433
Dissolved Calcium (Ca)	ug/L	30000	34000	2146662	31000	2150488	29000	200	2146662
Total Calcium (Ca)	ug/L	32000	34000	2146433	36000	2150122	28000	200	2146433
Dissolved Chromium (Cr)	ug/L	ND	ND	2146662	ND	2150488	ND	5	2146662
Total Chromium (Cr)	ug/L	ND	ND	2146433	ND	2150122	ND	5	2146433
Dissolved Cobalt (Co)	ug/L	ND	ND	2146662	ND	2150488	ND	0.5	2146662
Total Cobalt (Co)	ug/L	ND	ND	2146433	ND	2150122	ND	0.5	2146433
Dissolved Copper (Cu)	ug/L	1	2	2146662	1	2150488	1	1	2146662
Total Copper (Cu)	ug/L	2	2	2146433	2	2150122	1	1	2146433
Dissolved Iron (Fe)	ug/L	200	120	2146662	150	2150488	190	100	2146662
Total Iron (Fe)	ug/L	270	550	2146433	270	2150122	250	100	2146433
Dissolved Lead (Pb)	ug/L	ND	ND	2146662	ND	2150488	ND	0.5	2146662
Total Lead (Pb)	ug/L	ND	ND	2146433	ND	2150122	ND	0.5	2146433
Dissolved Lithium (Li)	ug/L	ND	ND	2146662	ND	2150488	ND	5	2146662

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8899	FT8900		FT8901		FT8902		
Sampling Date		2010/05/03	2010/05/03		2010/05/03		2010/05/03		
COC Number		00599930	00599930		00599930		00599930		
	Units	**SW1**	**SW2**	**QC Batch**	**SW3**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	ND	2146433	ND	2150122	ND	5	2146433
Dissolved Magnesium (Mg)	ug/L	13000	13000	2146662	14000	2150488	12000	50	2146662
Total Magnesium (Mg)	ug/L	14000	15000	2146433	15000	2150122	13000	50	2146433
Dissolved Manganese (Mn)	ug/L	12	22	2146662	15	2150488	10	2	2146662
Total Manganese (Mn)	ug/L	13	34	2146433	20	2150122	15	2	2146433
Dissolved Molybdenum (Mo)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Molybdenum (Mo)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Nickel (Ni)	ug/L	2	1	2146662	1	2150488	2	1	2146662
Total Nickel (Ni)	ug/L	2	2	2146433	1	2150122	2	1	2146433
Dissolved Phosphorus (P)	ug/L	ND	ND	2146662	ND	2150488	ND	100	2146662
Dissolved Potassium (K)	ug/L	2200	1300	2146662	1600	2150488	1800	200	2146662
Total Potassium (K)	ug/L	2300	1200	2146433	1900	2150122	1800	200	2146433
Dissolved Selenium (Se)	ug/L	ND	ND	2146662	ND	2150488	ND	2	2146662
Total Selenium (Se)	ug/L	ND	ND	2146433	ND	2150122	ND	2	2146433
Dissolved Silicon (Si)	ug/L	3100	3200	2146662	3200	2150488	3100	50	2146662
Total Silicon (Si)	ug/L	3900	4000	2146433	3600	2150122	3600	50	2146433
Dissolved Silver (Ag)	ug/L	ND	ND	2146662	ND	2150488	ND	0.1	2146662
Total Silver (Ag)	ug/L	ND	ND	2146433	ND	2150122	ND	0.1	2146433
Dissolved Sodium (Na)	ug/L	6600	2400	2146662	4100	2150488	6600	100	2146662
Total Sodium (Na)	ug/L	7200	2300	2146433	4400	2150122	6800	100	2146433
Dissolved Strontium (Sr)	ug/L	69	56	2146662	71	2150488	67	1	2146662
Total Strontium (Sr)	ug/L	81	62	2146433	73	2150122	74	1	2146433
Dissolved Tellurium (Te)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Tellurium (Te)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Thallium (Tl)	ug/L	ND	ND	2146662	ND	2150488	ND	0.05	2146662
Total Thallium (Tl)	ug/L	ND	ND	2146433	ND	2150122	ND	0.05	2146433
Dissolved Thorium (Th)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Thorium (Th)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Tin (Sn)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Tin (Sn)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Titanium (Ti)	ug/L	ND	ND	2146662	ND	2150488	ND	5	2146662
Total Titanium (Ti)	ug/L	8	13	2146433	6	2150122	ND	5	2146433
Dissolved Tungsten (W)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8899	FT8900		FT8901		FT8902		
Sampling Date		2010/05/03	2010/05/03		2010/05/03		2010/05/03		
COC Number		00599930	00599930		00599930		00599930		
	Units	**SW1**	**SW2**	**QC Batch**	**SW3**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433
Dissolved Uranium (U)	ug/L	0.8	0.6	2146662	0.6	2150488	0.6	0.1	2146662
Total Uranium (U)	ug/L	0.9	0.7	2146433	0.7	2150122	0.7	0.1	2146433
Dissolved Vanadium (V)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Vanadium (V)	ug/L	1	2	2146433	1	2150122	ND	1	2146433
Dissolved Zinc (Zn)	ug/L	19	23	2146662	23	2150488	15	5	2146662
Total Zinc (Zn)	ug/L	ND	7	2146433	ND	2150122	5	5	2146433
Dissolved Zirconium (Zr)	ug/L	ND	ND	2146662	ND	2150488	ND	1	2146662
Total Zirconium (Zr)	ug/L	ND	ND	2146433	ND	2150122	ND	1	2146433

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8903	FT8904	FT8905		FT8906		
Sampling Date		2010/05/03	2010/05/03	2010/05/03		2010/05/03		
COC Number		00599930	00599930	00599930		00599930		
	Units	**SW7**	**SW8**	**SW9**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	ND	2144511	ND	0.0001	2144511
Dissolved Sulphur (S)	mg/L	1.4	2.4	3.6	2147245	3.3	0.5	2147245
Total Sulphur (S)	mg/L	1.2	2.4	3.6	2146515	3.2	0.5	2146515
Dissolved Aluminum (Al)	ug/L	86	40	53	2146662	110	5	2150488
Total Aluminum (Al)	ug/L	520	110	76	2146433	190	5	2150122
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	2146662	ND	0.5	2150488
Total Antimony (Sb)	ug/L	ND	ND	ND	2146433	ND	0.5	2150122
Dissolved Arsenic (As)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Arsenic (As)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Barium (Ba)	ug/L	29	19	25	2146662	26	5	2150488
Total Barium (Ba)	ug/L	23	14	17	2146433	17	5	2150122
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	2146662	ND	0.5	2150488
Total Beryllium (Be)	ug/L	ND	ND	ND	2146433	ND	0.5	2150122
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Bismuth (Bi)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Boron (B)	ug/L	14	12	12	2146662	15	10	2150488
Total Boron (B)	ug/L	12	13	12	2146433	25	10	2150122
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	2146662	ND	0.1	2150488
Total Cadmium (Cd)	ug/L	ND	ND	ND	2146433	ND	0.1	2150122
Dissolved Calcium (Ca)	ug/L	31000	23000	27000	2146662	29000	200	2150488
Total Calcium (Ca)	ug/L	31000	24000	28000	2146433	29000	200	2150122
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	2146662	ND	5	2150488
Total Chromium (Cr)	ug/L	ND	ND	ND	2146433	ND	5	2150122
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	2146662	ND	0.5	2150488
Total Cobalt (Co)	ug/L	ND	ND	ND	2146433	ND	0.5	2150122
Dissolved Copper (Cu)	ug/L	1	ND	1	2146662	1	1	2150488
Total Copper (Cu)	ug/L	2	1	2	2146433	2	1	2150122
Dissolved Iron (Fe)	ug/L	170	100	ND	2146662	240	100	2150488
Total Iron (Fe)	ug/L	650	180	120	2146433	400	100	2150122
Dissolved Lead (Pb)	ug/L	ND	ND	ND	2146662	ND	0.5	2150488
Total Lead (Pb)	ug/L	ND	ND	ND	2146433	ND	0.5	2150122
Dissolved Lithium (Li)	ug/L	ND	ND	ND	2146662	ND	5	2150488

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8903	FT8904	FT8905		FT8906		
Sampling Date		2010/05/03	2010/05/03	2010/05/03		2010/05/03		
COC Number		00599930	00599930	00599930		00599930		
	Units	**SW7**	**SW8**	**SW9**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	ND	ND	2146433	5	5	2150122
Dissolved Magnesium (Mg)	ug/L	12000	10000	11000	2146662	13000	50	2150488
Total Magnesium (Mg)	ug/L	13000	12000	13000	2146433	12000	50	2150122
Dissolved Manganese (Mn)	ug/L	33	10	3	2146662	12	2	2150488
Total Manganese (Mn)	ug/L	47	17	3	2146433	43	2	2150122
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Molybdenum (Mo)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Nickel (Ni)	ug/L	1	ND	2	2146662	1	1	2150488
Total Nickel (Ni)	ug/L	2	1	2	2146433	2	1	2150122
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	2146662	ND	100	2150488
Dissolved Potassium (K)	ug/L	1200	1200	1700	2146662	1700	200	2150488
Total Potassium (K)	ug/L	1300	1200	1700	2146433	1800	200	2150122
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2146662	ND	2	2150488
Total Selenium (Se)	ug/L	ND	ND	ND	2146433	ND	2	2150122
Dissolved Silicon (Si)	ug/L	3000	2800	3800	2146662	3300	50	2150488
Total Silicon (Si)	ug/L	4100	3200	4300	2146433	3500	50	2150122
Dissolved Silver (Ag)	ug/L	ND	ND	ND	2146662	ND	0.1	2150488
Total Silver (Ag)	ug/L	ND	ND	ND	2146433	ND	0.1	2150122
Dissolved Sodium (Na)	ug/L	2600	9300	2200	2146662	6800	100	2150488
Total Sodium (Na)	ug/L	2700	10000	2300	2146433	6700	100	2150122
Dissolved Strontium (Sr)	ug/L	53	54	51	2146662	71	1	2150488
Total Strontium (Sr)	ug/L	59	62	57	2146433	68	1	2150122
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Tellurium (Te)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	2146662	ND	0.05	2150488
Total Thallium (Tl)	ug/L	ND	ND	ND	2146433	ND	0.05	2150122
Dissolved Thorium (Th)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Thorium (Th)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Tin (Sn)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Tin (Sn)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	2146662	ND	5	2150488
Total Titanium (Ti)	ug/L	14	ND	ND	2146433	7	5	2150122
Dissolved Tungsten (W)	ug/L	ND	ND	ND	2146662	ND	1	2150488

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8903	FT8904	FT8905		FT8906		
Sampling Date		2010/05/03	2010/05/03	2010/05/03		2010/05/03		
COC Number		00599930	00599930	00599930		00599930		
	Units	**SW7**	**SW8**	**SW9**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	2146433	ND	1	2150122
Dissolved Uranium (U)	ug/L	0.5	0.3	0.6	2146662	0.6	0.1	2150488
Total Uranium (U)	ug/L	0.6	0.4	0.7	2146433	0.6	0.1	2150122
Dissolved Vanadium (V)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Vanadium (V)	ug/L	2	ND	ND	2146433	2	1	2150122
Dissolved Zinc (Zn)	ug/L	12	17	15	2146662	39	5	2150488
Total Zinc (Zn)	ug/L	ND	5	ND	2146433	ND	5	2150122
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	2146662	ND	1	2150488
Total Zirconium (Zr)	ug/L	ND	ND	ND	2146433	ND	1	2150122

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8907	FT8908	FT8909	FT8909	FT8910		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		00599930	00599930	00599930	00599930	00599930		
	Units	**SW11**	**SW12**	**SW13**	**SW13 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	ND	N/A	ND	0.0001	2144511
Dissolved Sulphur (S)	mg/L	0.6	1.0	1.1	1.1	ND	0.5	2147245
Total Sulphur (S)	mg/L	0.6	0.8	1.1	N/A	ND	0.5	2146515
Dissolved Aluminum (Al)	ug/L	46	45	70	N/A	ND	5	2146662
Total Aluminum (Al)	ug/L	130	63	180	N/A	7	5	2146433
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	N/A	ND	0.5	2146662
Total Antimony (Sb)	ug/L	ND	ND	0.6	N/A	ND	0.5	2146433
Dissolved Arsenic (As)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Arsenic (As)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Barium (Ba)	ug/L	22	20	19	N/A	ND	5	2146662
Total Barium (Ba)	ug/L	9	10	17	N/A	ND	5	2146433
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	N/A	ND	0.5	2146662
Total Beryllium (Be)	ug/L	ND	ND	ND	N/A	ND	0.5	2146433
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Bismuth (Bi)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Boron (B)	ug/L	10	ND	10	N/A	ND	10	2146662
Total Boron (B)	ug/L	ND	ND	11	N/A	ND	10	2146433
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	N/A	ND	0.1	2146662
Total Cadmium (Cd)	ug/L	ND	ND	ND	N/A	ND	0.1	2146433
Dissolved Calcium (Ca)	ug/L	17000	20000	29000	N/A	ND	200	2146662
Total Calcium (Ca)	ug/L	17000	21000	31000	N/A	ND	200	2146433
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	N/A	ND	5	2146662
Total Chromium (Cr)	ug/L	ND	ND	ND	N/A	ND	5	2146433
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	N/A	ND	0.5	2146662
Total Cobalt (Co)	ug/L	ND	ND	ND	N/A	ND	0.5	2146433
Dissolved Copper (Cu)	ug/L	ND	1	ND	N/A	ND	1	2146662
Total Copper (Cu)	ug/L	ND	2	2	N/A	ND	1	2146433
Dissolved Iron (Fe)	ug/L	260	ND	110	N/A	ND	100	2146662
Total Iron (Fe)	ug/L	400	150	280	N/A	ND	100	2146433
Dissolved Lead (Pb)	ug/L	ND	ND	ND	N/A	ND	0.5	2146662

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8907	FT8908	FT8909	FT8909	FT8910		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		00599930	00599930	00599930	00599930	00599930		
	Units	**SW11**	**SW12**	**SW13**	**SW13 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	ND	N/A	ND	0.5	2146433
Dissolved Lithium (Li)	ug/L	ND	ND	ND	N/A	ND	5	2146662
Total Lithium (Li)	ug/L	ND	ND	ND	N/A	ND	5	2146433
Dissolved Magnesium (Mg)	ug/L	7900	9000	12000	N/A	ND	50	2146662
Total Magnesium (Mg)	ug/L	9000	9800	14000	N/A	ND	50	2146433
Dissolved Manganese (Mn)	ug/L	21	7	18	N/A	ND	2	2146662
Total Manganese (Mn)	ug/L	27	11	23	N/A	ND	2	2146433
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Molybdenum (Mo)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Nickel (Ni)	ug/L	ND	1	ND	N/A	ND	1	2146662
Total Nickel (Ni)	ug/L	ND	1	1	N/A	ND	1	2146433
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	N/A	N/A	100	2146662
Dissolved Potassium (K)	ug/L	680	1200	1100	N/A	ND	200	2146662
Total Potassium (K)	ug/L	830	1100	1300	N/A	ND	200	2146433
Dissolved Selenium (Se)	ug/L	ND	ND	ND	N/A	ND	2	2146662
Total Selenium (Se)	ug/L	ND	ND	ND	N/A	ND	2	2146433
Dissolved Silicon (Si)	ug/L	1700	2300	2500	N/A	ND	50	2146662
Total Silicon (Si)	ug/L	2100	2500	3100	N/A	ND	50	2146433
Dissolved Silver (Ag)	ug/L	ND	ND	ND	N/A	ND	0.1	2146662
Total Silver (Ag)	ug/L	ND	ND	ND	N/A	ND	0.1	2146433
Dissolved Sodium (Na)	ug/L	1200	1400	2100	N/A	ND	100	2146662
Total Sodium (Na)	ug/L	1300	1400	2300	N/A	ND	100	2146433
Dissolved Strontium (Sr)	ug/L	28	38	60	N/A	ND	1	2146662
Total Strontium (Sr)	ug/L	33	41	70	N/A	ND	1	2146433
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Tellurium (Te)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	N/A	ND	0.05	2146662
Total Thallium (Tl)	ug/L	ND	ND	ND	N/A	ND	0.05	2146433
Dissolved Thorium (Th)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Thorium (Th)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Tin (Sn)	ug/L	ND	ND	ND	N/A	ND	1	2146662

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		FT8907	FT8908	FT8909	FT8909	FT8910		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		00599930	00599930	00599930	00599930	00599930		
	Units	**SW11**	**SW12**	**SW13**	**SW13 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	N/A	ND	5	2146662
Total Titanium (Ti)	ug/L	7	ND	7	N/A	ND	5	2146433
Dissolved Tungsten (W)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Tungsten (W)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Uranium (U)	ug/L	ND	0.2	0.3	N/A	ND	0.1	2146662
Total Uranium (U)	ug/L	ND	0.2	0.5	N/A	ND	0.1	2146433
Dissolved Vanadium (V)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Vanadium (V)	ug/L	ND	ND	ND	N/A	ND	1	2146433
Dissolved Zinc (Zn)	ug/L	19	15	20	N/A	ND	5	2146662
Total Zinc (Zn)	ug/L	6	ND	6	N/A	10	5	2146433
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	N/A	ND	1	2146662
Total Zirconium (Zr)	ug/L	ND	ND	ND	N/A	ND	1	2146433

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Klohn Crippen Berger Ltd

Maxxam Job #: B054962
Report Date: 2010/05/14

GENERAL COMMENTS

Sample FT8899-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8900-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8901-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

The results for dissolved Barium are greater than total Barium. The results were confirmed by re-analysis.

Sample FT8902-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8905-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8906-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

The results for dissolved zinc and barium are greater than total zinc and barium. The results have been confirmed by re-analysis.

Sample FT8907-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8908-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8909-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample FT8910-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #:
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB054962

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2144094	KTH	QC Standard	Turbidity	2010/05/07		99	%	85 - 115
		Method Blank	Turbidity	2010/05/07	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/05/07	1.0		%	25
2144428	HAG	QC Standard	Total Dissolved Solids	2010/05/07		99	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/05/07	ND, RDL=10		mg/L	
		RPD [FT8903-03]	Total Dissolved Solids	2010/05/07	3.9		%	25
2144431	HAG	QC Standard	Total Suspended Solids	2010/05/07		98	%	85 - 115
		Method Blank	Total Suspended Solids	2010/05/07	ND, RDL=1		mg/L	
		RPD [FT8910-03]	Total Suspended Solids	2010/05/07	NC		%	25
2144467	HAG	QC Standard	Total Dissolved Solids	2010/05/07		102	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/05/07	ND, RDL=10		mg/L	
		RPD [FT8907-03]	Total Dissolved Solids	2010/05/07	2.4		%	25
2144511	MC	Matrix Spike	Mercury (Hg)	2010/05/07		105	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/05/07		100	%	80 - 120
		Method Blank	Mercury (Hg)	2010/05/07	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/05/07	NC		%	25
2144524	CAT	Method Blank	Carbon Dioxide	2010/05/07	ND, RDL=0.6		L/m3	
		RPD [FT8909-12]	Carbon Dioxide	2010/05/07	NC		%	25
2144741	HAL	QC Standard	Total BOD	2010/05/12		97	%	85 - 115
		Method Blank	Total BOD	2010/05/12	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/05/12	NC		%	25
2144744	MAT	Method Blank	Acidity as CaC03	2010/05/11	ND, RDL=10		mg/L	
		RPD [FT8908-04]	Acidity as CaC03	2010/05/11	NC		%	25
2144835	SAC	Matrix Spike	Sulphide	2010/05/11		89	%	75 - 125
		Spiked Blank	Sulphide	2010/05/11		92	%	85 - 115
		Method Blank	Sulphide	2010/05/11	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/05/11	4.0		%	25
2144906	KTH	QC Standard	Turbidity	2010/05/07		100	%	85 - 115
		Method Blank	Turbidity	2010/05/07	ND, RDL=0.1		NTU	
		RPD [FT8905-01]	Turbidity	2010/05/07	7.1		%	25
2145049	LHA	Matrix Spike	Total Cyanide (CN)	2010/05/07		113	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/05/07		103	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/05/07	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/05/07	NC		%	25
2145151	KTH	QC Standard	Turbidity	2010/05/10		99	%	85 - 115
		Method Blank	Turbidity	2010/05/10	ND, RDL=0.1		NTU	
		RPD [FT8902-01]	Turbidity	2010/05/10	3.3		%	25
2146222	ADB	Matrix Spike	Total Ammonia-N	2010/05/11		NC	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/05/11		98	%	85 - 115
		Method Blank	Total Ammonia-N	2010/05/11	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2010/05/11	8.4		%	25
2146285	C_H	Matrix Spike	Total Organic Carbon (TOC)	2010/05/11		94	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/05/11		93	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/05/11	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2010/05/11	1.6		%	20
2146287	KTH	Spiked Blank	Colour	2010/05/10		97	%	75 - 125
		Method Blank	Colour	2010/05/10	ND, RDL=2		TCU	
		RPD [FT8909-01]	Colour	2010/05/10	0.2		%	25
2146288	CP	Matrix Spike [FT8899-07]	Total Chemical Oxygen Demand (COD)	2010/05/11		92	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/05/11		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/05/11	ND, RDL=4		mg/L	
		RPD [FT8899-07]	Total Chemical Oxygen Demand (COD)	2010/05/11	0		%	25
2146319	DN	QC Standard	Redox Potential	2010/05/11		+242	%	N/A
		Method Blank	Redox Potential	2010/05/11	+251		mV	

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2146319	DN	RPD [FT8903-04]	Redox Potential	2010/05/11	1.0		%	10
2146321	DN	QC Standard	Redox Potential	2010/05/11		+242	%	N/A
		Method Blank	Redox Potential	2010/05/11	+251		mV	
		RPD [FT8909-04]	Redox Potential	2010/05/11	1.0		%	10
2146347	C_N	Matrix Spike						
		[FT8907-01]	Nitrite (N)	2010/05/10		113	%	80 - 120
			Nitrate (N)	2010/05/10		100	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/05/10		107	%	85 - 115
			Nitrate (N)	2010/05/10		100	%	85 - 115
		Method Blank	Nitrite (N)	2010/05/10	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/05/10	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/05/10	ND, RDL=0.1		mg/L	
		RPD [FT8907-01]	Nitrite (N)	2010/05/10	NC		%	25
			Nitrate (N)	2010/05/10	NC		%	25
			Nitrate + Nitrite	2010/05/10	NC		%	25
2146365	JDE	Matrix Spike						
		[FT8899-07]	Total Kjeldahl Nitrogen (TKN)	2010/05/11		NC	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/05/11		87	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/05/11		88	%	80 - 120
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/05/11	0.1, RDL=0.1		mg/L	
		RPD [FT8899-07]	Total Kjeldahl Nitrogen (TKN)	2010/05/11	4.6		%	20
2146433	ADA	Matrix Spike	Total Aluminum (Al)	2010/05/11		109	%	80 - 120
			Total Antimony (Sb)	2010/05/11		111	%	80 - 120
			Total Arsenic (As)	2010/05/11		107	%	80 - 120
			Total Barium (Ba)	2010/05/11		104	%	80 - 120
			Total Beryllium (Be)	2010/05/11		106	%	75 - 125
			Total Bismuth (Bi)	2010/05/11		109	%	75 - 125
			Total Boron (B)	2010/05/11		100	%	75 - 125
			Total Cadmium (Cd)	2010/05/11		107	%	80 - 120
			Total Calcium (Ca)	2010/05/11		NC	%	75 - 125
			Total Chromium (Cr)	2010/05/11		104	%	80 - 120
			Total Cobalt (Co)	2010/05/11		103	%	80 - 120
			Total Copper (Cu)	2010/05/11		102	%	80 - 120
			Total Iron (Fe)	2010/05/11		104	%	80 - 120
			Total Lead (Pb)	2010/05/11		104	%	80 - 120
			Total Lithium (Li)	2010/05/11		101	%	75 - 125
			Total Magnesium (Mg)	2010/05/11		NC	%	80 - 120
			Total Manganese (Mn)	2010/05/11		106	%	80 - 120
			Total Molybdenum (Mo)	2010/05/11		108	%	80 - 120
			Total Nickel (Ni)	2010/05/11		103	%	80 - 120
			Total Potassium (K)	2010/05/11		100	%	75 - 125
			Total Selenium (Se)	2010/05/11		104	%	75 - 125
			Total Silicon (Si)	2010/05/11		94	%	75 - 125
			Total Silver (Ag)	2010/05/11		102	%	80 - 120
			Total Sodium (Na)	2010/05/11		NC	%	75 - 125
			Total Strontium (Sr)	2010/05/11		NC	%	80 - 120
			Total Tellurium (Te)	2010/05/11		103	%	75 - 125
			Total Thallium (Tl)	2010/05/11		103	%	80 - 120
			Total Thorium (Th)	2010/05/11		101	%	75 - 125
			Total Tin (Sn)	2010/05/11		106	%	75 - 125
			Total Titanium (Ti)	2010/05/11		100	%	75 - 125
			Total Tungsten (W)	2010/05/11		106	%	75 - 125
			Total Uranium (U)	2010/05/11		111	%	80 - 120
			Total Vanadium (V)	2010/05/11		106	%	80 - 120
			Total Zinc (Zn)	2010/05/11		105	%	80 - 120

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2146433	ADA	Matrix Spike	Total Zirconium (Zr)	2010/05/11		108	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/05/11		112	%	80 - 120
			Total Antimony (Sb)	2010/05/11		109	%	82 - 120
			Total Arsenic (As)	2010/05/11		104	%	86 - 119
			Total Barium (Ba)	2010/05/11		103	%	83 - 115
			Total Beryllium (Be)	2010/05/11		105	%	85 - 132
			Total Bismuth (Bi)	2010/05/11		107	%	78 - 120
			Total Boron (B)	2010/05/11		107	%	78 - 133
			Total Cadmium (Cd)	2010/05/11		104	%	85 - 116
			Total Calcium (Ca)	2010/05/11		101	%	75 - 125
			Total Chromium (Cr)	2010/05/11		104	%	80 - 120
			Total Cobalt (Co)	2010/05/11		105	%	82 - 117
			Total Copper (Cu)	2010/05/11		104	%	80 - 117
			Total Iron (Fe)	2010/05/11		105	%	80 - 120
			Total Lead (Pb)	2010/05/11		103	%	80 - 120
			Total Lithium (Li)	2010/05/11		100	%	86 - 131
			Total Magnesium (Mg)	2010/05/11		110	%	80 - 120
			Total Manganese (Mn)	2010/05/11		107	%	80 - 120
			Total Molybdenum (Mo)	2010/05/11		105	%	82 - 117
			Total Nickel (Ni)	2010/05/11		104	%	81 - 117
			Total Potassium (K)	2010/05/11		102	%	75 - 125
			Total Selenium (Se)	2010/05/11		106	%	82 - 118
			Total Silicon (Si)	2010/05/11		95	%	67 - 140
			Total Silver (Ag)	2010/05/11		101	%	80 - 120
			Total Sodium (Na)	2010/05/11		108	%	75 - 125
			Total Strontium (Sr)	2010/05/11		108	%	83 - 120
			Total Tellurium (Te)	2010/05/11		103	%	80 - 116
			Total Thallium (Tl)	2010/05/11		104	%	80 - 129
			Total Thorium (Th)	2010/05/11		100	%	80 - 125
			Total Tin (Sn)	2010/05/11		103	%	83 - 119
			Total Titanium (Ti)	2010/05/11		100	%	60 - 125
			Total Tungsten (W)	2010/05/11		103	%	81 - 123
			Total Uranium (U)	2010/05/11		111	%	82 - 120
			Total Vanadium (V)	2010/05/11		106	%	82 - 118
			Total Zinc (Zn)	2010/05/11		105	%	80 - 120
			Total Zirconium (Zr)	2010/05/11		106	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/05/11	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/05/11	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/05/11	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/05/11	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/05/11	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/05/11	ND, RDL=1		ug/L	
			Total Boron (B)	2010/05/11	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/05/11	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/05/11	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/05/11	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/05/11	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/05/11	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/05/11	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/05/11	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/05/11	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/05/11	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/05/11	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/05/11	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/05/11	ND, RDL=1		ug/L	

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2146433	ADA	Method Blank	Total Potassium (K)	2010/05/11	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/05/11	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/05/11	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/05/11	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/05/11	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/05/11	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/05/11	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/05/11	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/05/11	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/05/11	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/05/11	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/05/11	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/05/11	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/05/11	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/05/11	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/05/11	ND, RDL=1		ug/L	
		RPD	Total Boron (B)	2010/05/11	5.6		%	25
			Total Calcium (Ca)	2010/05/11	3.0		%	25
			Total Cobalt (Co)	2010/05/11	NC		%	25
			Total Iron (Fe)	2010/05/11	NC		%	25
			Total Magnesium (Mg)	2010/05/11	2.3		%	25
			Total Manganese (Mn)	2010/05/11	1.3		%	25
			Total Nickel (Ni)	2010/05/11	NC		%	25
			Total Potassium (K)	2010/05/11	4.2		%	25
			Total Sodium (Na)	2010/05/11	2.6		%	25
			Total Strontium (Sr)	2010/05/11	3.2		%	25
			Total Zinc (Zn)	2010/05/11	NC		%	25
2146461	VRO	Matrix Spike						
		[FT8909-07]	Total Phosphorus	2010/05/11		101	%	80 - 120
		QC Standard	Total Phosphorus	2010/05/11		105	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/05/11		103	%	85 - 115
		Method Blank	Total Phosphorus	2010/05/11	ND, RDL=0.002		mg/L	
		RPD [FT8909-07]	Total Phosphorus	2010/05/11	9.4		%	20
2146507	VRO	Matrix Spike						
		[FT8909-01]	Dissolved Phosphorus	2010/05/11		107	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/05/11		103	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/05/11		97	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/05/11	ND, RDL=0.002		mg/L	
		RPD [FT8909-01]	Dissolved Phosphorus	2010/05/11	6.8		%	20
2146515	JOH	Matrix Spike	Total Sulphur (S)	2010/05/11		NC	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/05/11		101	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/05/11	ND, RDL=0.5		mg/L	
		RPD	Total Sulphur (S)	2010/05/11	0.5		%	25
2146568	C_N	Matrix Spike	Nitrite (N)	2010/05/11		102	%	80 - 120
			Nitrate (N)	2010/05/11		96	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/05/11		102	%	85 - 115
			Nitrate (N)	2010/05/11		97	%	85 - 115
		Method Blank	Nitrite (N)	2010/05/11	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/05/11	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/05/11	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/05/11	NC		%	25
			Nitrate (N)	2010/05/11	NC		%	25
			Nitrate + Nitrite	2010/05/11	NC		%	25
2146662	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/05/11		98	%	80 - 120
			Dissolved Antimony (Sb)	2010/05/11		104	%	80 - 120

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2146662	HRE	Matrix Spike	Dissolved Arsenic (As)	2010/05/11		102	%	80 - 120
			Dissolved Barium (Ba)	2010/05/11		98	%	80 - 120
			Dissolved Beryllium (Be)	2010/05/11		92	%	80 - 120
			Dissolved Bismuth (Bi)	2010/05/11		101	%	80 - 120
			Dissolved Boron (B)	2010/05/11		NC	%	80 - 120
			Dissolved Cadmium (Cd)	2010/05/11		102	%	80 - 120
			Dissolved Calcium (Ca)	2010/05/11		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/05/11		98	%	80 - 120
			Dissolved Cobalt (Co)	2010/05/11		98	%	80 - 120
			Dissolved Copper (Cu)	2010/05/11		96	%	80 - 120
			Dissolved Iron (Fe)	2010/05/11		101	%	80 - 120
			Dissolved Lead (Pb)	2010/05/11		99	%	80 - 120
			Dissolved Lithium (Li)	2010/05/11		92	%	80 - 120
			Dissolved Magnesium (Mg)	2010/05/11		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/05/11		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/05/11		106	%	80 - 120
			Dissolved Nickel (Ni)	2010/05/11		96	%	80 - 120
			Dissolved Phosphorus (P)	2010/05/11		104	%	80 - 120
			Dissolved Potassium (K)	2010/05/11		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/05/11		101	%	80 - 120
			Dissolved Silicon (Si)	2010/05/11		98	%	80 - 120
			Dissolved Silver (Ag)	2010/05/11		94	%	80 - 120
			Dissolved Sodium (Na)	2010/05/11		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/05/11		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/05/11		99	%	80 - 120
			Dissolved Thallium (Tl)	2010/05/11		98	%	80 - 120
			Dissolved Thorium (Th)	2010/05/11		102	%	80 - 120
			Dissolved Tin (Sn)	2010/05/11		103	%	80 - 120
			Dissolved Titanium (Ti)	2010/05/11		99	%	80 - 120
			Dissolved Tungsten (W)	2010/05/11		104	%	80 - 120
			Dissolved Uranium (U)	2010/05/11		105	%	80 - 120
			Dissolved Vanadium (V)	2010/05/11		99	%	80 - 120
			Dissolved Zinc (Zn)	2010/05/11		97	%	80 - 120
			Dissolved Zirconium (Zr)	2010/05/11		106	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/05/11		100	%	90 - 110
			Dissolved Antimony (Sb)	2010/05/11		102	%	90 - 110
			Dissolved Arsenic (As)	2010/05/11		100	%	90 - 110
			Dissolved Barium (Ba)	2010/05/11		97	%	90 - 110
			Dissolved Beryllium (Be)	2010/05/11		98	%	90 - 110
			Dissolved Bismuth (Bi)	2010/05/11		99	%	90 - 110
			Dissolved Boron (B)	2010/05/11		96	%	90 - 110
			Dissolved Cadmium (Cd)	2010/05/11		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/05/11		101	%	90 - 110
			Dissolved Chromium (Cr)	2010/05/11		101	%	90 - 110
			Dissolved Cobalt (Co)	2010/05/11		99	%	90 - 110
			Dissolved Copper (Cu)	2010/05/11		99	%	90 - 110
			Dissolved Iron (Fe)	2010/05/11		101	%	90 - 110
			Dissolved Lead (Pb)	2010/05/11		98	%	90 - 110
			Dissolved Lithium (Li)	2010/05/11		97	%	90 - 110
			Dissolved Magnesium (Mg)	2010/05/11		100	%	90 - 110
			Dissolved Manganese (Mn)	2010/05/11		100	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/05/11		101	%	90 - 110
			Dissolved Nickel (Ni)	2010/05/11		99	%	90 - 110
			Dissolved Phosphorus (P)	2010/05/11		103	%	90 - 110
			Dissolved Potassium (K)	2010/05/11		100	%	90 - 110

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2146662	HRE	Spiked Blank	Dissolved Selenium (Se)	2010/05/11		101	%	90 - 110
			Dissolved Silicon (Si)	2010/05/11		102	%	90 - 110
			Dissolved Silver (Ag)	2010/05/11		99	%	90 - 110
			Dissolved Sodium (Na)	2010/05/11		101	%	90 - 110
			Dissolved Strontium (Sr)	2010/05/11		100	%	90 - 110
			Dissolved Tellurium (Te)	2010/05/11		99	%	90 - 110
			Dissolved Thallium (Tl)	2010/05/11		96	%	90 - 110
			Dissolved Thorium (Th)	2010/05/11		97	%	90 - 110
			Dissolved Tin (Sn)	2010/05/11		101	%	90 - 110
			Dissolved Titanium (Ti)	2010/05/11		100	%	90 - 110
			Dissolved Tungsten (W)	2010/05/11		102	%	90 - 110
			Dissolved Uranium (U)	2010/05/11		102	%	90 - 110
			Dissolved Vanadium (V)	2010/05/11		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/05/11		100	%	90 - 110
			Dissolved Zirconium (Zr)	2010/05/11		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/05/11	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/05/11	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/05/11	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/05/11	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/05/11	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/05/11	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/05/11	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/05/11	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/05/11	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/05/11	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/05/11	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/05/11	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/05/11	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/05/11	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/05/11	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/05/11	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/05/11	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/05/11	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/05/11	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/05/11	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/05/11	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2010/05/11	NC		%	25
			Dissolved Arsenic (As)	2010/05/11	NC		%	25
			Dissolved Barium (Ba)	2010/05/11	0.7		%	25
			Dissolved Beryllium (Be)	2010/05/11	NC		%	25

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2146662	HRE	RPD	Dissolved Cadmium (Cd)	2010/05/11	NC		%	25
			Dissolved Chromium (Cr)	2010/05/11	NC		%	25
			Dissolved Cobalt (Co)	2010/05/11	NC		%	25
			Dissolved Copper (Cu)	2010/05/11	NC		%	25
			Dissolved Lead (Pb)	2010/05/11	NC		%	25
			Dissolved Molybdenum (Mo)	2010/05/11	2.6		%	25
			Dissolved Nickel (Ni)	2010/05/11	NC		%	25
			Dissolved Selenium (Se)	2010/05/11	NC		%	25
			Dissolved Silver (Ag)	2010/05/11	NC		%	25
			Dissolved Thallium (Tl)	2010/05/11	NC		%	25
			Dissolved Vanadium (V)	2010/05/11	NC		%	25
			Dissolved Zinc (Zn)	2010/05/11	NC		%	25
2146674	C_H	Matrix Spike	Dissolved Organic Carbon	2010/05/10		93	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/05/10		95	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/05/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/05/10	0.5		%	20
2146678	C_H	Matrix Spike	Dissolved Organic Carbon	2010/05/10		93	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/05/10		96	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/05/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/05/10	NC		%	20
2146705	C_H	Matrix Spike	Dissolved Organic Carbon	2010/05/10		97	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/05/10		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/05/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/05/10	0.3		%	20
2146798	C_N	Matrix Spike	Nitrite (N)	2010/05/11		99	%	80 - 120
			Nitrate (N)	2010/05/11		NC	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/05/11		102	%	85 - 115
			Nitrate (N)	2010/05/11		96	%	85 - 115
		Method Blank	Nitrite (N)	2010/05/11	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/05/11	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/05/11	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/05/11	NC		%	25
			Nitrate (N)	2010/05/11	0.2		%	25
2146816	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/05/11		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/05/11	ND, RDL=1		mg/L	
		RPD [FT8904-01]	Alkalinity (Total as CaCO3)	2010/05/11	0.3		%	25
2146818	YPA	QC Standard	Conductivity	2010/05/11		103	%	85 - 115
		Method Blank	Conductivity	2010/05/11	ND, RDL=1		umho/cm	
		RPD [FT8904-01]	Conductivity	2010/05/11	0		%	25
2146819	YPA	Matrix Spike [FT8904-01]	Fluoride (F-)	2010/05/11		103	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/05/11		103	%	85 - 115
		Method Blank	Fluoride (F-)	2010/05/11	ND, RDL=0.1		mg/L	
		RPD [FT8904-01]	Fluoride (F-)	2010/05/11	NC		%	25
2146854	C_H	Matrix Spike	Dissolved Organic Carbon	2010/05/10		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/05/10		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/05/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/05/10	0.6		%	20
2146862	KTH	Spiked Blank	Colour	2010/05/10		102	%	75 - 125
		Method Blank	Colour	2010/05/10	ND, RDL=2		TCU	
		RPD	Colour	2010/05/10	NC		%	25
2146875	C_H	Matrix Spike	Dissolved Organic Carbon	2010/05/10		95	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/05/10		99	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/05/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/05/10	0.4		%	20

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2146923	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/05/11		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/05/11		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/05/11	0.8		%	20
2146928	DRM	Matrix Spike	Orthophosphate (P)	2010/05/11		105	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/05/11		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/05/11	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/05/11	NC		%	25
2146929	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/05/11		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/05/11		107	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/05/11	0.7		%	25
2146931	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/05/11		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/05/11		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/05/11	1.5		%	20
2146940	DRM	Matrix Spike	Orthophosphate (P)	2010/05/11		105	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/05/11		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/05/11	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/05/11	NC		%	25
2146941	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/05/11		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/05/11		107	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/05/11	1.1		%	25
2147058	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/05/11		102	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/05/11		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/05/11	NC		%	20
2147060	DRM	Matrix Spike	Orthophosphate (P)	2010/05/11		103	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/05/11		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/05/11	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/05/11	NC		%	25
2147061	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/05/11		107	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/05/11		107	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/05/11	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/05/11	2.0		%	25
2147245	AFZ	Matrix Spike [FT8909-06]	Dissolved Sulphur (S)	2010/05/11		100	%	85 - 115
		Spiked Blank	Dissolved Sulphur (S)	2010/05/11		102	%	85 - 115
		Method Blank	Dissolved Sulphur (S)	2010/05/11	ND, RDL=0.5		mg/L	
		RPD [FT8909-06]	Dissolved Sulphur (S)	2010/05/11	NC		%	25
2147727	DLB	Matrix Spike	Reactive Silica (SiO2)	2010/05/11		101	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/05/11		100	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/05/11		102	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/05/11	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/05/11	18.7		%	25
2150122	HRE	Matrix Spike	Total Aluminum (Al)	2010/05/13		102	%	80 - 120
			Total Antimony (Sb)	2010/05/13		106	%	80 - 120
			Total Arsenic (As)	2010/05/13		106	%	80 - 120
			Total Barium (Ba)	2010/05/13		99	%	80 - 120
			Total Beryllium (Be)	2010/05/13		103	%	75 - 125
			Total Bismuth (Bi)	2010/05/13		100	%	75 - 125
			Total Boron (B)	2010/05/13		NC	%	75 - 125
			Total Cadmium (Cd)	2010/05/13		100	%	80 - 120
			Total Calcium (Ca)	2010/05/13		NC	%	75 - 125

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2150122	HRE	Matrix Spike	Total Chromium (Cr)	2010/05/13		98	%	80 - 120
			Total Cobalt (Co)	2010/05/13		98	%	80 - 120
			Total Copper (Cu)	2010/05/13		94	%	80 - 120
			Total Iron (Fe)	2010/05/13		105	%	80 - 120
			Total Lead (Pb)	2010/05/13		99	%	80 - 120
			Total Lithium (Li)	2010/05/13		103	%	75 - 125
			Total Magnesium (Mg)	2010/05/13		NC	%	80 - 120
			Total Manganese (Mn)	2010/05/13		97	%	80 - 120
			Total Molybdenum (Mo)	2010/05/13		104	%	80 - 120
			Total Nickel (Ni)	2010/05/13		95	%	80 - 120
			Total Potassium (K)	2010/05/13		NC	%	75 - 125
			Total Selenium (Se)	2010/05/13		100	%	75 - 125
			Total Silicon (Si)	2010/05/13		99	%	75 - 125
			Total Silver (Ag)	2010/05/13		93	%	80 - 120
			Total Sodium (Na)	2010/05/13		NC	%	75 - 125
			Total Strontium (Sr)	2010/05/13		NC	%	80 - 120
			Total Tellurium (Te)	2010/05/13		97	%	75 - 125
			Total Thallium (Tl)	2010/05/13		96	%	80 - 120
			Total Thorium (Th)	2010/05/13		105	%	75 - 125
			Total Tin (Sn)	2010/05/13		102	%	75 - 125
			Total Titanium (Ti)	2010/05/13		104	%	75 - 125
			Total Tungsten (W)	2010/05/13		104	%	75 - 125
			Total Uranium (U)	2010/05/13		105	%	80 - 120
			Total Vanadium (V)	2010/05/13		101	%	80 - 120
			Total Zinc (Zn)	2010/05/13		95	%	80 - 120
			Total Zirconium (Zr)	2010/05/13		106	%	75 - 125
		Spiked Blank	Total Aluminum (Al)	2010/05/13		102	%	80 - 120
			Total Antimony (Sb)	2010/05/13		102	%	82 - 120
			Total Arsenic (As)	2010/05/13		104	%	86 - 119
			Total Barium (Ba)	2010/05/13		101	%	83 - 115
			Total Beryllium (Be)	2010/05/13		103	%	85 - 132
			Total Bismuth (Bi)	2010/05/13		101	%	78 - 120
			Total Boron (B)	2010/05/13		104	%	78 - 133
			Total Cadmium (Cd)	2010/05/13		101	%	85 - 116
			Total Calcium (Ca)	2010/05/13		105	%	75 - 125
			Total Chromium (Cr)	2010/05/13		100	%	80 - 120
			Total Cobalt (Co)	2010/05/13		99	%	82 - 117
			Total Copper (Cu)	2010/05/13		97	%	80 - 117
			Total Iron (Fe)	2010/05/13		106	%	80 - 120
			Total Lead (Pb)	2010/05/13		101	%	80 - 120
			Total Lithium (Li)	2010/05/13		105	%	86 - 131
			Total Magnesium (Mg)	2010/05/13		107	%	80 - 120
			Total Manganese (Mn)	2010/05/13		101	%	80 - 120
			Total Molybdenum (Mo)	2010/05/13		100	%	82 - 117
			Total Nickel (Ni)	2010/05/13		99	%	81 - 117
			Total Potassium (K)	2010/05/13		103	%	75 - 125
			Total Selenium (Se)	2010/05/13		101	%	82 - 118
			Total Silicon (Si)	2010/05/13		101	%	67 - 140
			Total Silver (Ag)	2010/05/13		96	%	80 - 120
			Total Sodium (Na)	2010/05/13		104	%	75 - 125
			Total Strontium (Sr)	2010/05/13		101	%	83 - 120
			Total Tellurium (Te)	2010/05/13		98	%	80 - 116
			Total Thallium (Tl)	2010/05/13		98	%	80 - 129
			Total Thorium (Th)	2010/05/13		100	%	80 - 125
			Total Tin (Sn)	2010/05/13		99	%	83 - 119

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2150122	HRE	Spiked Blank	Total Titanium (Ti)	2010/05/13		105	%	60 - 125
			Total Tungsten (W)	2010/05/13		101	%	81 - 123
			Total Uranium (U)	2010/05/13		103	%	82 - 120
			Total Vanadium (V)	2010/05/13		100	%	82 - 118
			Total Zinc (Zn)	2010/05/13		99	%	80 - 120
			Total Zirconium (Zr)	2010/05/13		101	%	84 - 118
		Method Blank	Total Aluminum (Al)	2010/05/13	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/05/13	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/05/13	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/05/13	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/05/13	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/05/13	ND, RDL=1		ug/L	
			Total Boron (B)	2010/05/13	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/05/13	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/05/13	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/05/13	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/05/13	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/05/13	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/05/13	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/05/13	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/05/13	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/05/13	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/05/13	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/05/13	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/05/13	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/05/13	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/05/13	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/05/13	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/05/13	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/05/13	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/05/13	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/05/13	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/05/13	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/05/13	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/05/13	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/05/13	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/05/13	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/05/13	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/05/13	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/05/13	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/05/13	ND, RDL=1		ug/L	
		RPD	Total Calcium (Ca)	2010/05/13	0.9		%	25
			Total Iron (Fe)	2010/05/13	NC		%	25
			Total Magnesium (Mg)	2010/05/13	2.7		%	25
			Total Potassium (K)	2010/05/13	1.5		%	25
			Total Sodium (Na)	2010/05/13	0.8		%	25
2150488	ADA	Matrix Spike	Dissolved Aluminum (Al)	2010/05/14		102	%	80 - 120
			Dissolved Antimony (Sb)	2010/05/14		109	%	80 - 120
			Dissolved Arsenic (As)	2010/05/14		103	%	80 - 120
			Dissolved Barium (Ba)	2010/05/14		102	%	80 - 120
			Dissolved Beryllium (Be)	2010/05/14		106	%	80 - 120
			Dissolved Bismuth (Bi)	2010/05/14		101	%	80 - 120
			Dissolved Boron (B)	2010/05/14		108	%	80 - 120
			Dissolved Cadmium (Cd)	2010/05/14		106	%	80 - 120
			Dissolved Calcium (Ca)	2010/05/14		NC	%	80 - 120

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB054962

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2150488	ADA	Matrix Spike	Dissolved Chromium (Cr)	2010/05/14		102	%	80 - 120
			Dissolved Cobalt (Co)	2010/05/14		102	%	80 - 120
			Dissolved Copper (Cu)	2010/05/14		100	%	80 - 120
			Dissolved Iron (Fe)	2010/05/14		103	%	80 - 120
			Dissolved Lead (Pb)	2010/05/14		100	%	80 - 120
			Dissolved Lithium (Li)	2010/05/14		103	%	80 - 120
			Dissolved Magnesium (Mg)	2010/05/14		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/05/14		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/05/14		109	%	80 - 120
			Dissolved Nickel (Ni)	2010/05/14		101	%	80 - 120
			Dissolved Phosphorus (P)	2010/05/14		103	%	80 - 120
			Dissolved Potassium (K)	2010/05/14		98	%	80 - 120
			Dissolved Selenium (Se)	2010/05/14		103	%	80 - 120
			Dissolved Silicon (Si)	2010/05/14		100	%	80 - 120
			Dissolved Silver (Ag)	2010/05/14		103	%	80 - 120
			Dissolved Sodium (Na)	2010/05/14		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/05/14		99	%	80 - 120
			Dissolved Tellurium (Te)	2010/05/14		105	%	80 - 120
			Dissolved Thallium (Tl)	2010/05/14		101	%	80 - 120
			Dissolved Thorium (Th)	2010/05/14		100	%	80 - 120
			Dissolved Tin (Sn)	2010/05/14		108	%	80 - 120
			Dissolved Titanium (Ti)	2010/05/14		99	%	80 - 120
			Dissolved Tungsten (W)	2010/05/14		105	%	80 - 120
			Dissolved Uranium (U)	2010/05/14		106	%	80 - 120
			Dissolved Vanadium (V)	2010/05/14		102	%	80 - 120
			Dissolved Zinc (Zn)	2010/05/14		NC	%	80 - 120
			Dissolved Zirconium (Zr)	2010/05/14		109	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/05/14		101	%	90 - 110
			Dissolved Antimony (Sb)	2010/05/14		103	%	90 - 110
			Dissolved Arsenic (As)	2010/05/14		97	%	90 - 110
			Dissolved Barium (Ba)	2010/05/14		99	%	90 - 110
			Dissolved Beryllium (Be)	2010/05/14		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/05/14		98	%	90 - 110
			Dissolved Boron (B)	2010/05/14		104	%	90 - 110
			Dissolved Cadmium (Cd)	2010/05/14		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/05/14		99	%	90 - 110
			Dissolved Chromium (Cr)	2010/05/14		99	%	90 - 110
			Dissolved Cobalt (Co)	2010/05/14		99	%	90 - 110
			Dissolved Copper (Cu)	2010/05/14		96	%	90 - 110
			Dissolved Iron (Fe)	2010/05/14		99	%	90 - 110
			Dissolved Lead (Pb)	2010/05/14		97	%	90 - 110
			Dissolved Lithium (Li)	2010/05/14		99	%	90 - 110
			Dissolved Magnesium (Mg)	2010/05/14		99	%	90 - 110
			Dissolved Manganese (Mn)	2010/05/14		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/05/14		102	%	90 - 110
			Dissolved Nickel (Ni)	2010/05/14		98	%	90 - 110
			Dissolved Phosphorus (P)	2010/05/14		92	%	90 - 110
			Dissolved Potassium (K)	2010/05/14		97	%	90 - 110
			Dissolved Selenium (Se)	2010/05/14		99	%	90 - 110
			Dissolved Silicon (Si)	2010/05/14		97	%	90 - 110
			Dissolved Silver (Ag)	2010/05/14		99	%	90 - 110
			Dissolved Sodium (Na)	2010/05/14		99	%	90 - 110
			Dissolved Strontium (Sr)	2010/05/14		98	%	90 - 110
			Dissolved Tellurium (Te)	2010/05/14		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/05/14		98	%	90 - 110

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB054962

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2150488	ADA	Spiked Blank	Dissolved Thorium (Th)	2010/05/14		95	%	90 - 110
			Dissolved Tin (Sn)	2010/05/14		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/05/14		94	%	90 - 110
			Dissolved Tungsten (W)	2010/05/14		100	%	90 - 110
			Dissolved Uranium (U)	2010/05/14		102	%	90 - 110
			Dissolved Vanadium (V)	2010/05/14		99	%	90 - 110
			Dissolved Zinc (Zn)	2010/05/14		96	%	90 - 110
			Dissolved Zirconium (Zr)	2010/05/14		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/05/14	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/05/14	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/05/14	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/05/14	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/05/14	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/05/14	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/05/14	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/05/14	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/05/14	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/05/14	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/05/14	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/05/14	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/05/14	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/05/14	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/05/14	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/05/14	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/05/14	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/05/14	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/05/14	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/05/14	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/05/14	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/05/14	NC		%	25
			Dissolved Antimony (Sb)	2010/05/14	NC		%	25
			Dissolved Arsenic (As)	2010/05/14	NC		%	25
			Dissolved Barium (Ba)	2010/05/14	1.7		%	25
			Dissolved Beryllium (Be)	2010/05/14	NC		%	25
			Dissolved Boron (B)	2010/05/14	NC		%	25
			Dissolved Cadmium (Cd)	2010/05/14	NC		%	25
			Dissolved Calcium (Ca)	2010/05/14	0.05		%	25
			Dissolved Chromium (Cr)	2010/05/14	NC		%	25
			Dissolved Cobalt (Co)	2010/05/14	NC		%	25
			Dissolved Copper (Cu)	2010/05/14	NC		%	25

Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB054962

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2150488	ADA	RPD	Dissolved Iron (Fe)	2010/05/14	0.7		%	25
			Dissolved Lead (Pb)	2010/05/14	NC		%	25
			Dissolved Magnesium (Mg)	2010/05/14	1.3		%	25
			Dissolved Manganese (Mn)	2010/05/14	1.2		%	25
			Dissolved Molybdenum (Mo)	2010/05/14	NC		%	25
			Dissolved Nickel (Ni)	2010/05/14	NC		%	25
			Dissolved Phosphorus (P)	2010/05/14	NC		%	25
			Dissolved Potassium (K)	2010/05/14	2.2		%	25
			Dissolved Selenium (Se)	2010/05/14	NC		%	25
			Dissolved Silicon (Si)	2010/05/14	0.6		%	25
			Dissolved Silver (Ag)	2010/05/14	NC		%	25
			Dissolved Sodium (Na)	2010/05/14	0.8		%	25
			Dissolved Strontium (Sr)	2010/05/14	1.4		%	25
			Dissolved Thallium (Tl)	2010/05/14	NC		%	25
			Dissolved Titanium (Ti)	2010/05/14	NC		%	25
			Dissolved Uranium (U)	2010/05/14	NC		%	25
			Dissolved Vanadium (V)	2010/05/14	NC		%	25
			Dissolved Zinc (Zn)	2010/05/14	0.3		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B054962

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section

KEVIN MACDONALD, Inorganics Supervisor

GRACE SISON, Technical and Customer Service Coordinator

CRISTINA CARRIERE, Scientific Services

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Analytics — 6740 Campobello Road, Mississauga, ON L5N 2L8
Phone: 905-817-5700 Fax: 905-817-5778 Toll Free: (800) 563-6266

CHAIN OF CUSTODY RECORD

Page 1 of 2

INVOICE INFORMATION	REPORT INFORMATION (if differs from invoice)	PROJECT INFORMATION	MAXXAM JOB NUMBER
Company Name: 2343 3Rainy River Resources Ltd	Company Name: 10142 Klohn Crippen Berger Ltd	Quotation #: A92895	
Contact Name: Evelyn Funk	Contact Name: Leanne Hollingsworth	P.O. #:	CHAIN OF CUSTODY #
Address: 303-1620 W 8th Ave	Address: 500-2955 Virtual way	Project #:	00599930
Vancouver BC V6J 1V4	Vancouver BC V5M 4X6	Project Name: Rainy River	
Phone: 604-639-4491 Fax: 604-639-4492	Phone: 604-251-8554 Fax: 604-251-8510	Location:	
Email: efunk@rainyriverresources.com	Email:	Sampled By:	

REGULATORY CRITERIA

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form.

- MISA
- PWQO
- Reg. 558
- Reg. 153: Table 1 / Table 2 / Table 3 / Table 6
- Residential / Parkland / Industrial / Commercial / Medium / Fine / Coarse
- Sewer Use: Sanitary / Storm
- Municipality:
- Other (specify):
- Report Criteria on C of A? -

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

ANALYSIS REQUESTED (Please be specific)

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
- [x] 5 to 7 Working Days

Rush TAT: Rush Confirmation #: (call Lab for #)
- [ ] 1 d
- DATE F
- TIME F

Please note that ... contact your Pro...

5-May-10 09:37
ANTONELLA BRASIL
B054962
HSO ENV-823

	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil, etc.)	Regulated Drinking Water? (Y / N)	Metals Field Filtered? (Y / N)	GENERAL	BOD	NUTRIENTS	TOTAL CYANIDE	DOC	MERCURY IN WATER BY CVAA	DISSOLVED METALS BY ICPMS	TOTAL METALS BY ICPMS	TOTAL DISSOLVED SOLIDS	LOW LEVEL TOTAL SUSP SOLIDS	SULPHIDE	# of Cont.
1	SW1	May 3/10	1:20pm	WT		✓	-	-	-	-	-	-	-	-	-	-	-	8/8/17°C 10/9/10°C
2	SW2	May 3/10	11:00Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
3	SW3	May 3/10	9:30Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	7/7/16°C 7/7/16°C
4	SW6	May 3/10	12:40pm	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
5	SW7	May 3/10	10:45Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	9/7/10°C
6	SW8	May 3/10	1:00pm	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
7	SW9	May 3/10	10:13Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
8	SW10	May 3/10	12:40pm	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
9	SW11	May 3/10	12:00pm	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
10	SW12	May 3/10	11:20Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
11	SW13	May 3/10	9:50Am	WT		✓	-	-	-	-	-	-	-	-	-	-	-	
12																		

REC'D IN WINNIPEG MAY 5 '10

Sherry Bechtig May 4/10 9:00Am

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time
M. Hentzeleff M. Hentzeleff	Self drop off 7pm	May 3	7pm
	Antonella Brasil	2010/05/05	09:37

JARS USED AND NOT SUBMITTED

Laboratory Use Only
Temperature (°C) on Receipt: 5.0, 7.2, 6.0

*MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

ENVCOCFORM-MISS-09/08 Maxxam Analytics International Corporation o/a Maxxam Analytics White: Maxxam Yellow: Mail Pink: Client

...auga, ON L5N 2L8
... Fax: 905-817-5778 Toll Free: (800) 563-6266

CHAIN OF CUSTODY RECORD

...ORMATION	REPORT INFORMATION (if differs from invoice)	PROJECT INFORMATION	MAXXAM JOB NUMBER
...155 Rainy River Resources Ltd	Company Name: 10142 Klohn Crippen Berger Ltd	Quotation #: A92895	
Contact Name: Evelyn Funk	Contact Name: Leanne Hollingsworth	P.O. #:	CHAIN OF CUSTODY #
Address: 303-1620 8th Ave	Address: 500-2955 Virtual way	Project #: Rainy River	
Vancouver BC V6J 1V4	Vancouver BC V5M 4X6	Project Name:	00599931
Phone: 604-639-4491 Fax: 604-639-4492	Phone: 604-251-8554 Fax: 604-251-8510	Location:	
Email: eFunk@RainyRiverResources.com	Email:	Sampled By:	

REGULATORY CRITERIA

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form.

- ☐ MISA — Reg. 153: ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 — ☐ Residential / Parkland ☐ Industrial / Commercial ☐ Medium / Fine ☐ Coarse — Sewer Use: ☐ Sanitary ☐ Storm — Municipality:
- ☐ PWQO
- ☐ Reg. 558

Other (specify): Report Criteria on C of A? ☐

SAMPLES MUST BE KEPT COOL (<10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

ANALYSIS REQUESTED (Please be specific)

TURNAROUND TIME (TAT) REQUIRED

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.

Regular (Standard) TAT:
☑ 5 to 7 Working Days

Rush TAT: Rush Confirmation #: (call Lab for #)
☐ 1 day ☑ 2 days ☐ 3 days

DATE Required:

TIME Required:

Please note that TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

	Sample Identification	Date Sampled	Time Sampled	Matrix (GW, SW, Soil, etc.)	Regulated Drinking Water? (Y / N)	Metals Field Filtered? (Y / N)	DISSOLVED CO2 IN WATER	DISSOLVED GASES IN WATER (only)	WAD CYANIDE	# of Cont.	COMMENTS / TAT COMMENTS
1	SW1	May 3/10	1:20pm	WT		✓	-	-	-		
2	SW2	May 3/10	11:00Am	WT		✓	✓	-	-		
3	SW3	May 3/10	9:30Am	WT		✓	✓	-	-		
4	SW6	May 3/10	12:40pm	WT		✓	✓	-	-		
5	SW7	May 3/10	10:45Am	WT		✓	✓	-	-		
6	SW8	May 3/10	1:00pm	WT		✓	✓	-	-		
7	SW9	May 3/10	10:13Am	WT		✓	✓	-	-		
8	SW10	May 3/10	12:40pm	WT		✓	✓	-	-		
9	SW11	May 3/10	12:00pm	WT		✓	✓	-	-		
10	SW12	May 3/10	11:20Am	WT		✓	✓	-	-		
11	SW13	May 3/10	9:50Am	WT		✓	✓	-	-		
12											

5/8/17°C 10/9/10°C
7/7/16°C 7/7/16°C
9/7/10°C

MAY 5'10 9:57

REC'D IN WINNIPEG

Sturi Beck 4
May 4/10 9:00Am

RELINQUISHED BY (Signature/Print)	RECEIVED BY (Signature/Print)	Date	Time
M. Henteleff M. Henteleff	Self drop off	7pm	May 3
	ASAD BHATTI	2010/05/05	09:37

JARS USED AND NOT SUBMITTED

Laboratory Use Only
Temperature (°C) on Receipt
5.0, 7.0, 6.0

*MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

ENVCOCFORM-MISS-09/08

Maxxam Analytics International Corporation o/a Maxxam Analytics White: Maxxam Yellow: Client

Your Project #: B054962
Your C.O.C. #: 08312714

Attention: ANTONELLA BRASIL
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/05/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B030766
Received: 2010/05/10, 08:45

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	12	N/A	2010/05/11	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ROB MACARTHUR, BBY Customer Service
Email: rob.macarthur@maxxamanalytics.com
Phone# (604) 639-8431

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B030766
Report Date: 2010/05/11

Client Project #: B054962

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		U02495	U02496	U02497	U02498	U02499		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		08312714	08312714	08312714	08312714	08312714		
	Units	**SW1 (FT8899-08R)**	**SW2 (FT8900-08R)**	**SW3 (FT8901-08R)**	**SW6 (FT8902-08R)**	**SW7 (FT8903-08R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0012	0.0008	0.0011	0.0009	0.0005	3949365

RDL = Reportable Detection Limit

Maxxam ID		U02500	U02501	U02502	U02503	U02504		
Sampling Date		2010/05/03	2010/05/03	2010/05/03	2010/05/03	2010/05/03		
COC Number		08312714	08312714	08312714	08312714	08312714		
	Units	**SW8 (FT8904-08R)**	**SW9 (FT8905-08R)**	**SW10 (FT8906-08R)**	**SW11 (FT8907-08R)**	**SW12 (FT8908-08R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0012	0.0013	0.0013	0.0013	0.0010	0.0005	3949365

RDL = Reportable Detection Limit

Maxxam ID		U02505	U02506	U02506		
Sampling Date		2010/05/03	2010/05/03	2010/05/03		
COC Number		08312714	08312714	08312714		
	Units	**SW13 (FT8909-08R)**	**TRIP BLANK (FT8910-07R)**	**TRIP BLANK (FT8910-07R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0011	<0.0005	0.0005	0.0005	3949365

RDL = Reportable Detection Limit

Maxxam Job #: B030766
Report Date: 2010/05/11

MAXXAM ANALYTICS INC.
Client Project #: B054962

Package 1	12.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: ANTONELLA BRASIL
Client Project #: B054962
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB030766

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3949365	TS1	Matrix Spike [U02506-01]	Weak Acid Dissoc. Cyanide (CN)	2010/05/11		97	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/05/11		95	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/05/11	<0.0005		mg/L	
		RPD [U02506-01]	Weak Acid Dissoc. Cyanide (CN)	2010/05/11	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B030766

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
May 2010

Your Project #: SW
Your C.O.C. #: 19318301, 193183-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/06/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B071617
Received: 2010/06/03, 09:20

Sample Matrix: TISSUE
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Mercury in Tissue by CVAA	2	N/A	2010/06/10	CAM SOP-0447	EPA 7471A (modified)
Metals in Tissue by ICPMS	1	N/A	2010/06/09	CAM SOP-00447	EPA 6020 (modified)
Metals in Tissue by ICPMS	1	N/A	2010/06/15	CAM SOP-00447	EPA 6020 (modified)

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/06/08	2010/06/15	SLA SOP-00100	APHA SM2310B
Alkalinity	16	N/A	2010/06/08	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/06/09		
Biological Oxygen Demand (BOD)	16	N/A	2010/06/13	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	16	N/A	2010/06/09	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/06/08	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/06/09	CAM SOP-00416	APHA 5220D
Colour	15	N/A	2010/06/08	CAM SOP-00412	APHA 2120
Colour	1	N/A	2010/06/09	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/06/08	CAM SOP-00448	SM 2510
Total Cyanide	16	2010/06/08	2010/06/08	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	16	N/A	2010/06/08	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/06/05	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/06/08	2010/06/08	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/06/05		
Hardness (calculated as CaCO3)	2	N/A	2010/06/09	CAM SOP 00102	SM 2340 B
Hardness (calculated as CaCO3)	14	N/A	2010/06/10	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	1	2010/06/07	2010/06/08	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	15	2010/06/09	2010/06/09	CAM SOP-00453	EPA 7470
Dissolved Metals Analysis by ICP	16	2010/06/08	2010/06/08	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	16	N/A	2010/06/09	CAM SOP-00447	EPA 6020
Metals Analysis by ICPMS (as received) (9)	1	2010/06/09	2010/06/09	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/06/09	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/06/08	2010/06/09	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/06/09	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (6)	16	N/A	2010/06/10	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	16	N/A	2010/06/08	CAM SOP-00448	SM 4500H

../2

Your Project #: SW
Your C.O.C. #: 19318301, 193183-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/06/16

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Orthophosphate	16	N/A	2010/06/09	CAM SOP-00461	SM 4500 P-F
Reactive Silica ø	16	N/A	2010/06/09	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	16	N/A	2010/06/09	CAM SOP-00464	EPA 375.4
Redox Potential ø	8	2010/06/07	2010/06/08	SM 2580 B & ASTM DI 498-76	
Redox Potential ø	8	2010/06/07	2010/06/15	SM 2580 B & ASTM DI 498-76	
Sulphide	16	N/A	2010/06/08	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	16	N/A	2010/06/08	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/06/08	2010/06/09	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2010/06/09	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	16	2010/06/08	2010/06/09	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	16	2010/06/08	2010/06/09	CAM SOP-00407	APHA 4500 P,B,F
Low Level Total Suspended Solids	16	N/A	2010/06/08	CAM SOP-00428	SM 2540D
Turbidity	16	N/A	2010/06/07	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Metals analysis was performed on the sample 'as received'.
(5) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

Your Project #: SW
Your C.O.C. #: 19318301, 193183-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/06/16

CERTIFICATE OF ANALYSIS

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 3

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (TISSUE)

Maxxam ID		GB9044	GB9044	GC4056		
Sampling Date						
COC Number		193183-0	193183-0	193183-0		
	Units	**RAINY RIVER RESOURCES FISH SAMPLE**	**RAINY RIVER RESOURCES FISH SAMPLE Lab-Dup**	**RAINY RIVER RESOURCES FIS**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	ug/g	0.067	0.065	0.086	0.005	2173749
Aluminum (Al)	ug/g	1.0	1.0	1.0	0.3	2173665
Arsenic (As)	ug/g	ND	ND	0.1	0.1	2173665
Antimony (Sb)	ug/g	ND	ND	ND	0.05	2173665
Barium (Ba)	ug/g	22	9.4 (1)	4.3	0.3	2173665
Beryllium (Be)	ug/g	ND	ND	ND	0.05	2173665
Bismuth (Bi)	ug/g	ND	ND	ND	0.05	2173665
Boron (B)	ug/g	ND	ND	ND	0.5	2173665
Cadmium (Cd)	ug/g	ND	ND	0.04	0.01	2173665
Calcium (Ca)	ug/g	13000	5200 (1)	7800	50	2173665
Chromium (Cr)	ug/g	ND	ND	ND	0.3	2173665
Cobalt (Co)	ug/g	0.008	0.015	0.051	0.005	2173665
Copper (Cu)	ug/g	1.3	1.2	1.3	0.5	2173665
Iron (Fe)	ug/g	37	36	43	3	2173665
Lead (Pb)	ug/g	ND	ND	0.05	0.03	2173665
Magnesium (Mg)	ug/g	430	300	370	100	2173665
Manganese (Mn)	ug/g	7.1	3.5 (1)	6.6	0.3	2173665
Molybdenum (Mo)	ug/g	ND	ND	0.07	0.05	2173665
Nickel (Ni)	ug/g	ND	ND	ND	0.05	2173665
Phosphorus (P)	ug/g	8900	5000 (1)	6400	50	2173665
Potassium (K)	ug/g	3500	3400	3400	100	2173665
Selenium (Se)	ug/g	0.3	0.3	0.3	0.2	2173665
Silver (Ag)	ug/g	ND	ND	ND	0.05	2173665
Sodium (Na)	ug/g	930	870	970	50	2173665
Strontium (Sr)	ug/g	79	24 (1)	8.7	0.5	2173665
Thallium (Tl)	ug/g	ND	ND	0.019	0.003	2173665
Tin (Sn)	ug/g	ND	ND	ND	0.3	2173665

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (TISSUE)

Maxxam ID		GB9044	GB9044	GC4056		
Sampling Date						
COC Number		193183-0	193183-0	193183-0		
	Units	**RAINY RIVER RESOURCES FISH SAMPLE**	**RAINY RIVER RESOURCES FISH SAMPLE Lab-Dup**	**RAINY RIVER RESOURCES FIS**	**RDL**	**QC Batch**
Titanium (Ti)	ug/g	ND	ND	ND	0.5	2173665
Uranium (U)	ug/g	ND	ND	0.043	0.005	2173665
Vanadium (V)	ug/g	ND	ND	0.07	0.05	2173665
Zinc (Zn)	ug/g	64	47 (1)	59	2	2173665

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9028	GB9028			GB9029		
Sampling Date		2010/06/02 13:30	2010/06/02 13:30			2010/06/02 15:47		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	102	N/A	1	2171742	88	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Hardness (CaCO3)	mg/L	120	N/A	1	2171631	97	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Inorganics								
Acidity as CaC03	mg/L	10	N/A	10	2172796	ND	10	2172796
Total Ammonia-N	mg/L	ND	N/A	0.05	2173054	ND	0.05	2173054
Total BOD	mg/L	ND	N/A	2	2173170	ND	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	87	N/A	4	2173176	58	4	2173176
Colour	TCU	150	N/A	4	2172838	140	4	2173231
Conductivity	umho/cm	226	225	1	2173208	172	1	2173208
Total Dissolved Solids	mg/L	148	N/A	10	2171885	110	10	2171885
Fluoride (F-)	mg/L	ND	ND	0.1	2173207	ND	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.6	N/A	0.2	2173383	1.1	0.2	2173383
Dissolved Organic Carbon	mg/L	37.5	N/A	0.2	2172818	27.1	0.2	2172818
Total Organic Carbon (TOC)	mg/L	37.8	N/A	0.2	2172829	27.8	0.2	2172829
Orthophosphate (P)	mg/L	0.10	N/A	0.05	2173266	0.02	0.01	2172920
Dissolved Oxygen	mg/L	7.12	N/A	N/A	2171162	8.33	N/A	2171162
pH	pH	7.7	7.7	N/A	2173209	7.8	N/A	2173209
Dissolved Phosphorus	mg/L	0.055	N/A	0.002	2172651	0.020	0.002	2172651
Total Phosphorus	mg/L	0.070	N/A	0.002	2172652	0.024	0.002	2172652
Reactive Silica (SiO2)	mg/L	6.5	N/A	0.5	2173836	5.1	0.5	2173836
Total Suspended Solids	mg/L	8	N/A	1	2171704	5	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	2173267	ND	1	2172921
Sulphide	mg/L	ND	N/A	0.02	2172476	ND	0.02	2172476
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2172485	ND	0.005	2172485
Turbidity	NTU	7.2	N/A	0.1	2172164	3.3	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	103	102	1	2173204	88	1	2173204
Dissolved Chloride (Cl)	mg/L	9	N/A	5	2173261	2	1	2172916

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9028	GB9028			GB9029		
Sampling Date		2010/06/02 13:30	2010/06/02 13:30			2010/06/02 15:47		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2172878	ND	0.01	2172870
Nitrate (N)	mg/L	ND	N/A	0.1	2172878	ND	0.1	2172870
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2172878	ND	0.1	2172870
Subcontracted Analysis								
Redox Potential	mV	+183	N/A	N/A	2171658	+174	N/A	2171658

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9030			GB9031	GB9031		
Sampling Date		2010/06/02 14:00			2010/06/02 12:15	2010/06/02 12:15		
COC Number		193183-0			193183-0	193183-0		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**SW4 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	106	1	2171742	40	N/A	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	N/A	1	2171742
Hardness (CaCO3)	mg/L	120	1	2171631	48	N/A	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	N/A	1	2171742
Inorganics								
Acidity as CaC03	mg/L	10	10	2172796	ND	N/A	10	2172796
Total Ammonia-N	mg/L	ND	0.05	2173054	0.08	N/A	0.05	2173054
Total BOD	mg/L	ND	2	2173170	ND	N/A	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	74	4	2173176	62	N/A	4	2173176
Colour	TCU	150	4	2173755	120	N/A	4	2173231
Conductivity	umho/cm	221	1	2173208	96	N/A	1	2173208
Total Dissolved Solids	mg/L	140	10	2171885	60	N/A	10	2171885
Fluoride (F-)	mg/L	ND	0.1	2173207	ND	N/A	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	0.2	2173383	1.0	N/A	0.1	2173383
Dissolved Organic Carbon	mg/L	32.5	0.2	2172818	26.3	N/A	0.2	2172818
Total Organic Carbon (TOC)	mg/L	32.8	0.2	2172829	25.8	27.2	0.2	2172829
Orthophosphate (P)	mg/L	0.05	0.01	2173266	0.01	N/A	0.01	2172920
Dissolved Oxygen	mg/L	7.05	N/A	2171162	6.13	N/A	N/A	2171162
pH	pH	7.7	N/A	2173209	7.2	N/A	N/A	2173209
Dissolved Phosphorus	mg/L	0.064	0.002	2172651	0.004	0.005	0.002	2172651
Total Phosphorus	mg/L	0.073	0.002	2172652	0.009	0.009	0.002	2172652
Reactive Silica (SiO2)	mg/L	7.5	0.5	2173836	2.9	N/A	0.5	2173836
Total Suspended Solids	mg/L	5	1	2171704	1	N/A	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	1	2173267	ND	N/A	1	2172921
Sulphide	mg/L	ND	0.02	2172476	ND	N/A	0.02	2172476
Total Cyanide (CN)	mg/L	ND	0.005	2172485	ND	N/A	0.005	2172485
Turbidity	NTU	4.6	0.1	2172164	0.8	N/A	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	107	1	2173204	40	N/A	1	2173204
Dissolved Chloride (Cl)	mg/L	5	1	2173261	6	N/A	1	2172916
Nitrite (N)	mg/L	ND	0.01	2172878	ND	N/A	0.01	2172870

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9030			GB9031	GB9031		
Sampling Date		2010/06/02 14:00			2010/06/02 12:15	2010/06/02 12:15		
COC Number		193183-0			193183-0	193183-0		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**SW4 Lab-Dup**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	0.1	2172878	ND	N/A	0.1	2172870
Nitrate + Nitrite	mg/L	ND	0.1	2172878	ND	N/A	0.1	2172870
Subcontracted Analysis								
Redox Potential	mV	+178	N/A	2171658	+175	N/A	N/A	2171658

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9032	GB9032			GB9033		
Sampling Date		2010/06/02 16:30	2010/06/02 16:30			2010/06/02 13:10		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW7A**	**SW7A Lab-Dup**	**RDL**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	153	N/A	1	2171742	96	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	N/A	1	2171742	ND	1	2171742
Hardness (CaCO3)	mg/L	160	N/A	1	2171631	110	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2172796	ND	10	2172796
Total Ammonia-N	mg/L	ND	N/A	0.05	2173054	ND	0.05	2173054
Total BOD	mg/L	ND	N/A	2	2173170	ND	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	48	N/A	4	2173176	79	4	2173176
Colour	TCU	79	N/A	2	2172838	210	6	2172838
Conductivity	umho/cm	302	N/A	1	2173208	211	1	2173208
Total Dissolved Solids	mg/L	198	N/A	10	2171885	132	10	2171885
Fluoride (F-)	mg/L	ND	N/A	0.1	2173207	ND	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.1	2173383	1.5	0.2	2173383
Dissolved Organic Carbon	mg/L	20.4	N/A	0.2	2172818	38.6	0.2	2172818
Total Organic Carbon (TOC)	mg/L	20.7	N/A	0.2	2172829	38.7	0.2	2172829
Orthophosphate (P)	mg/L	0.03	N/A	0.01	2172920	0.09	0.05	2173266
Dissolved Oxygen	mg/L	8.50	N/A	N/A	2171162	7.48	N/A	2171162
pH	pH	8.0	N/A	N/A	2173209	7.7	N/A	2173209
Dissolved Phosphorus	mg/L	0.035	N/A	0.002	2172651	0.045	0.002	2172651
Total Phosphorus	mg/L	0.056	N/A	0.002	2172652	0.052	0.002	2172652
Reactive Silica (SiO2)	mg/L	8.5	N/A	0.5	2173836	6.5	0.5	2173836
Total Suspended Solids	mg/L	23	N/A	1	2171704	4	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2172921	ND (1)	5	2173267
Sulphide	mg/L	ND	N/A	0.02	2172476	ND	0.02	2172476
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2172485	ND	0.005	2172485
Turbidity	NTU	10	N/A	0.1	2172164	4.4	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	155	N/A	1	2173204	96	1	2173204
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2172916	10	5	2173261

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9032	GB9032			GB9033		
Sampling Date		2010/06/02 16:30	2010/06/02 16:30			2010/06/02 13:10		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW7A**	**SW7A Lab-Dup**	**RDL**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2172870	ND	0.1	2172878
Nitrate (N)	mg/L	ND	N/A	0.1	2172870	ND	1	2172878
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2172870	ND	1	2172878
Subcontracted Analysis								
Redox Potential	mV	+178	+178	N/A	2171658	+171	N/A	2171658

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9033		GB9034	GB9034		
Sampling Date		2010/06/02 13:10		2010/06/02 12:45	2010/06/02 12:45		
COC Number		193183-0		193183-0	193183-0		
	Units	**SW10 Lab-Dup**	**RDL**	**SW11**	**SW11 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	64	N/A	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	ND	N/A	1	2171742
Hardness (CaCO3)	mg/L	N/A	1	79	N/A	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	ND	N/A	1	2171742
Inorganics							
Acidity as CaC03	mg/L	N/A	10	ND	N/A	10	2172796
Total Ammonia-N	mg/L	N/A	0.05	ND	ND	0.05	2173054
Total BOD	mg/L	N/A	2	ND	N/A	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	88	N/A	4	2173176
Colour	TCU	N/A	6	210	N/A	6	2172838
Conductivity	umho/cm	N/A	1	129	N/A	1	2173208
Total Dissolved Solids	mg/L	N/A	10	80	N/A	10	2171885
Fluoride (F-)	mg/L	N/A	0.1	ND	N/A	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	1.4	N/A	0.2	2173383
Dissolved Organic Carbon	mg/L	N/A	0.2	40.4	N/A	0.2	2172818
Total Organic Carbon (TOC)	mg/L	N/A	0.2	40.5	N/A	0.2	2172829
Orthophosphate (P)	mg/L	0.09	0.05	0.02	N/A	0.01	2173266
Dissolved Oxygen	mg/L	N/A	N/A	5.93	N/A	N/A	2171162
pH	pH	N/A	N/A	7.4	N/A	N/A	2173209
Dissolved Phosphorus	mg/L	N/A	0.002	0.016	N/A	0.002	2172651
Total Phosphorus	mg/L	N/A	0.002	0.015	N/A	0.002	2172652
Reactive Silica (SiO2)	mg/L	N/A	0.5	5.7	N/A	0.5	2173836
Total Suspended Solids	mg/L	N/A	1	2	N/A	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	5	ND	N/A	1	2173267
Sulphide	mg/L	N/A	0.02	ND	N/A	0.02	2172476
Total Cyanide (CN)	mg/L	N/A	0.005	ND	N/A	0.005	2172485
Turbidity	NTU	N/A	0.1	1.2	N/A	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	N/A	1	65	N/A	1	2173204
Dissolved Chloride (Cl)	mg/L	9	5	2	N/A	1	2173261
Nitrite (N)	mg/L	N/A	0.1	ND	N/A	0.1	2172878

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Maxxam Job #: B071617
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Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9033		GB9034	GB9034		
Sampling Date		2010/06/02 13:10		2010/06/02 12:45	2010/06/02 12:45		
COC Number		193183-0		193183-0	193183-0		
	Units	**SW10 Lab-Dup**	**RDL**	**SW11**	**SW11 Lab-Dup**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	N/A	1	ND	N/A	1	2172878
Nitrate + Nitrite	mg/L	N/A	1	ND	N/A	1	2172878
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	+161	N/A	N/A	2171658

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9035			GB9036		
Sampling Date		2010/06/02 15:15			2010/06/02 14:20		
COC Number		193183-0			193183-0		
	Units	**SW12A**	**RDL**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	33	1	2171742	120	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	1	2171742
Hardness (CaCO3)	mg/L	42	1	2171631	130	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	1	2171742
Inorganics							
Acidity as CaC03	mg/L	ND	10	2172796	ND	10	2172796
Total Ammonia-N	mg/L	ND	0.05	2173054	ND	0.05	2173054
Total BOD	mg/L	ND	2	2173170	ND	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	55	4	2173176	56	4	2173176
Colour	TCU	120	4	2172838	92	2	2173231
Conductivity	umho/cm	71	1	2173208	231	1	2173208
Total Dissolved Solids	mg/L	46	10	2171885	140	10	2171885
Fluoride (F-)	mg/L	ND	0.1	2173207	ND	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	0.1	2173383	0.9	0.1	2173383
Dissolved Organic Carbon	mg/L	22.0	0.2	2172818	24.1	0.2	2172814
Total Organic Carbon (TOC)	mg/L	22.5	0.2	2172829	25.3	0.2	2172829
Orthophosphate (P)	mg/L	0.01	0.01	2173266	0.02	0.01	2172920
Dissolved Oxygen	mg/L	5.14	N/A	2171162	7.47	N/A	2171162
pH	pH	7.1	N/A	2173209	7.8	N/A	2173209
Dissolved Phosphorus	mg/L	0.008	0.002	2172651	0.024	0.002	2172651
Total Phosphorus	mg/L	0.021	0.002	2172652	0.024	0.002	2172652
Reactive Silica (SiO2)	mg/L	2.5	0.5	2173836	5.3	0.5	2173836
Total Suspended Solids	mg/L	9	1	2171704	6	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	1	2173267	ND	1	2172921
Sulphide	mg/L	ND	0.02	2172476	ND	0.02	2172476
Total Cyanide (CN)	mg/L	ND	0.005	2172485	ND	0.005	2172485
Turbidity	NTU	2.5	0.1	2172164	3.3	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	33	1	2173204	121	1	2173204
Dissolved Chloride (Cl)	mg/L	2	1	2173261	1	1	2172916
Nitrite (N)	mg/L	ND	0.01	2172878	ND	0.01	2172870

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd
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RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9035			GB9036		
Sampling Date		2010/06/02 15:15			2010/06/02 14:20		
COC Number		193183-0			193183-0		
	Units	**SW12A**	**RDL**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	0.1	2172878	ND	0.1	2172870
Nitrate + Nitrite	mg/L	ND	0.1	2172878	ND	0.1	2172870
Subcontracted Analysis							
Redox Potential	mV	+178	N/A	2171658	+261	N/A	2171662

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9037	GB9037			GB9038		
Sampling Date		2010/06/02 14:45	2010/06/02 14:45			2010/06/02 09:55		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW14**	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	51	N/A	1	2171742	73	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Hardness (CaCO3)	mg/L	62	N/A	1	2171631	89	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Inorganics								
Acidity as CaC03	mg/L	ND	ND	10	2172796	ND	10	2172796
Total Ammonia-N	mg/L	ND	N/A	0.05	2173054	ND	0.05	2173054
Total BOD	mg/L	ND	N/A	2	2173170	ND	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	72	N/A	4	2173176	91	4	2173176
Colour	TCU	170	N/A	6	2173231	240	6	2173231
Conductivity	umho/cm	103	N/A	1	2173208	154	1	2173208
Total Dissolved Solids	mg/L	66	N/A	10	2171885	98	10	2171885
Fluoride (F-)	mg/L	ND	N/A	0.1	2173207	ND	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.1	2173383	1.6	0.2	2173383
Dissolved Organic Carbon	mg/L	31.8	N/A	0.2	2172818	40.5	0.2	2172818
Total Organic Carbon (TOC)	mg/L	33.6	N/A	0.2	2172829	44.5	0.2	2172829
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2172920	0.07	0.05	2172920
Dissolved Oxygen	mg/L	6.36	N/A	N/A	2171162	8.64	N/A	2171162
pH	pH	7.4	N/A	N/A	2173209	7.7	N/A	2173209
Dissolved Phosphorus	mg/L	0.008	N/A	0.002	2172651	0.033	0.002	2172651
Total Phosphorus	mg/L	0.005	N/A	0.002	2172652	0.073	0.002	2172652
Reactive Silica (SiO2)	mg/L	4.2	N/A	0.5	2173836	6.0	0.5	2173836
Total Suspended Solids	mg/L	4	N/A	1	2171704	33	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2172921	ND (1)	5	2172921
Sulphide	mg/L	ND	N/A	0.02	2172476	ND	0.02	2172476
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2172485	ND	0.005	2172496
Turbidity	NTU	1.0	N/A	0.1	2172164	34	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	51	N/A	1	2173204	74	1	2173204
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2172916	5	5	2172916

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9037	GB9037			GB9038		
Sampling Date		2010/06/02 14:45	2010/06/02 14:45			2010/06/02 09:55		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW14**	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.1	2172870	ND	0.1	2172870
Nitrate (N)	mg/L	ND	N/A	1	2172870	ND	1	2172870
Nitrate + Nitrite	mg/L	ND	N/A	1	2172870	ND	1	2172870
Subcontracted Analysis								
Redox Potential	mV	+255	N/A	N/A	2171662	+208	N/A	2171662

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
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Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9039			GB9040	GB9040		
Sampling Date		2010/06/02 11:00			2010/06/02 09:30	2010/06/02 09:30		
COC Number		193183-0			193183-0	193183-0		
	Units	**SW16**	**RDL**	**QC Batch**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	37	1	2171742	53	N/A	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	N/A	1	2171742
Hardness (CaCO3)	mg/L	40	1	2171631	64	N/A	1	2171631
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2171742	ND	N/A	1	2171742
Inorganics								
Acidity as CaC03	mg/L	ND	10	2172796	ND	N/A	10	2172796
Total Ammonia-N	mg/L	ND	0.05	2173054	ND	N/A	0.05	2173054
Total BOD	mg/L	ND	2	2173170	ND	N/A	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	36	4	2173176	61	60	4	2173176
Colour	TCU	85	2	2172838	140	N/A	4	2172838
Conductivity	umho/cm	101	1	2173208	130	N/A	1	2173208
Total Dissolved Solids	mg/L	64	10	2171885	80	N/A	10	2171885
Fluoride (F-)	mg/L	ND	0.1	2173207	ND	N/A	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	0.8	0.1	2173383	1.1	N/A	0.1	2173383
Dissolved Organic Carbon	mg/L	17.0	0.2	2172814	26.3	N/A	0.2	2172818
Total Organic Carbon (TOC)	mg/L	17.5	0.2	2172829	27.3	N/A	0.2	2172829
Orthophosphate (P)	mg/L	0.02	0.01	2173266	0.02	N/A	0.01	2172920
Dissolved Oxygen	mg/L	8.44	N/A	2171162	8.46	N/A	N/A	2171162
pH	pH	7.5	N/A	2173209	7.6	N/A	N/A	2173209
Dissolved Phosphorus	mg/L	0.020	0.002	2172651	0.022	N/A	0.002	2172651
Total Phosphorus	mg/L	0.034	0.002	2172652	0.029	N/A	0.002	2172652
Reactive Silica (SiO2)	mg/L	2.9	0.5	2173836	4.8	N/A	0.5	2173836
Total Suspended Solids	mg/L	33	1	2171704	5	N/A	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	1	2173267	ND	N/A	1	2172921
Sulphide	mg/L	ND	0.02	2172476	ND	N/A	0.02	2172476
Total Cyanide (CN)	mg/L	ND	0.005	2172496	ND	N/A	0.005	2172496
Turbidity	NTU	7.3	0.1	2172164	4.7	N/A	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	37	1	2173204	53	N/A	1	2173204
Dissolved Chloride (Cl)	mg/L	4	1	2173261	4	N/A	1	2172916
Nitrite (N)	mg/L	ND	0.01	2172878	ND	N/A	0.01	2172870

ND = Not detected
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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9039			GB9040	GB9040		
Sampling Date		2010/06/02 11:00			2010/06/02 09:30	2010/06/02 09:30		
COC Number		193183-0			193183-0	193183-0		
	Units	**SW16**	**RDL**	**QC Batch**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	0.1	2172878	ND	N/A	0.1	2172870
Nitrate + Nitrite	mg/L	ND	0.1	2172878	ND	N/A	0.1	2172870
Subcontracted Analysis								
Redox Potential	mV	+268	N/A	2171662	+262	+260	N/A	2171662

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9041	GB9041			GB9042		
Sampling Date		2010/06/02 16:10	2010/06/02 16:10			2010/06/02 16:20		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	116	N/A	1	2171742	115	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Hardness (CaCO3)	mg/L	120	N/A	1	2172260	130	1	2172260
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742	ND	1	2171742
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2172796	10	10	2172796
Total Ammonia-N	mg/L	ND	N/A	0.05	2173054	ND	0.05	2173054
Total BOD	mg/L	ND	N/A	2	2173170	ND	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	80	N/A	4	2173176	84	4	2173176
Colour	TCU	150	N/A	4	2173231	150	4	2173231
Conductivity	umho/cm	226	N/A	1	2173208	227	1	2173208
Total Dissolved Solids	mg/L	148	N/A	10	2171885	140	10	2171885
Fluoride (F-)	mg/L	ND	N/A	0.1	2173207	ND	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	1.4	1.3	0.1	2173383	1.5	0.2	2173383
Dissolved Organic Carbon	mg/L	34.0	N/A	0.2	2172818	34.9	0.2	2172818
Total Organic Carbon (TOC)	mg/L	35.0	N/A	0.2	2172829	35.7	0.2	2172829
Orthophosphate (P)	mg/L	0.03	N/A	0.01	2172920	0.03	0.01	2172920
Dissolved Oxygen	mg/L	6.34	N/A	N/A	2171162	5.67	N/A	2171162
pH	pH	7.7	N/A	N/A	2173209	7.7	N/A	2173209
Dissolved Phosphorus	mg/L	0.041	N/A	0.002	2172651	0.041	0.002	2172651
Total Phosphorus	mg/L	0.045	N/A	0.002	2172652	0.041	0.002	2172652
Reactive Silica (SiO2)	mg/L	11	N/A	0.5	2173836	11	0.5	2173836
Total Suspended Solids	mg/L	1	N/A	1	2171704	2	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2172921	ND	1	2172921
Sulphide	mg/L	ND	N/A	0.02	2172476	ND	0.02	2172476
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2172496	ND	0.005	2172485
Turbidity	NTU	2.8	N/A	0.1	2172164	2.0	0.1	2172164
Alkalinity (Total as CaCO3)	mg/L	117	N/A	1	2173204	116	1	2173204
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2172916	2	1	2172916
Nitrite (N)	mg/L	ND	N/A	0.01	2172870	ND	0.01	2172870

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9041	GB9041			GB9042		
Sampling Date		2010/06/02 16:10	2010/06/02 16:10			2010/06/02 16:20		
COC Number		193183-0	193183-0			193183-0		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	N/A	0.1	2172870	ND	0.1	2172870
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2172870	ND	0.1	2172870
Subcontracted Analysis								
Redox Potential	mV	+231	N/A	N/A	2171662	+218	N/A	2171662

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9043	GB9043		
Sampling Date					
COC Number		193183-0	193183-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742
Hardness (CaCO3)	mg/L	ND	N/A	1	2172260
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2171742
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2172796
Total Ammonia-N	mg/L	ND	N/A	0.05	2173054
Total BOD	mg/L	ND	N/A	2	2173170
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2173176
Colour	TCU	ND	N/A	2	2172838
Conductivity	umho/cm	1	N/A	1	2173208
Total Dissolved Solids	mg/L	ND	ND	10	2171885
Fluoride (F-)	mg/L	ND	N/A	0.1	2173207
Total Kjeldahl Nitrogen (TKN)	mg/L	0.2	N/A	0.1	2173383
Dissolved Organic Carbon	mg/L	0.3	N/A	0.2	2172818
Total Organic Carbon (TOC)	mg/L	0.3	N/A	0.2	2172829
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2173266
Dissolved Oxygen	mg/L	9.97	N/A	N/A	2171162
pH	pH	6.1	N/A	N/A	2173209
Dissolved Phosphorus	mg/L	ND	N/A	0.002	2172651
Total Phosphorus	mg/L	ND	N/A	0.002	2172652
Reactive Silica (SiO2)	mg/L	ND	ND	0.5	2173836
Total Suspended Solids	mg/L	ND	N/A	1	2171704
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2173267
Sulphide	mg/L	ND	N/A	0.02	2172476
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2172496
Turbidity	NTU	ND	N/A	0.1	2172168
Alkalinity (Total as CaCO3)	mg/L	ND	N/A	1	2173204
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	2173261
Nitrite (N)	mg/L	ND	N/A	0.01	2172878

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GB9043	GB9043		
Sampling Date					
COC Number		193183-0	193183-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	N/A	0.1	2172878
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2172878
Subcontracted Analysis					
Redox Potential	mV	+292	N/A	N/A	2171662

ND = Not detected
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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

PERMANENT GASES (WATER)

Maxxam ID		GB9028	GB9029	GB9030	GB9031		
Sampling Date		2010/06/02 13:30	2010/06/02 15:47	2010/06/02 14:00	2010/06/02 12:15		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW1A**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.6	2.1	3.7	4.6	0.6	2173221
Calculated Carbon Dioxide	mg/L	6	4	7	8	1	2171152

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GB9032	GB9033	GB9034	GB9035		
Sampling Date		2010/06/02 16:30	2010/06/02 13:10	2010/06/02 12:45	2010/06/02 15:15		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW7A**	**SW10**	**SW11**	**SW12A**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	2.4	3.7	6.9	6.7	0.6	2173221
Calculated Carbon Dioxide	mg/L	4	7	12	12	1	2171152

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GB9036	GB9037	GB9037	GB9038		
Sampling Date		2010/06/02 14:20	2010/06/02 14:45	2010/06/02 14:45	2010/06/02 09:55		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW13**	**SW14**	**SW14 Lab-Dup**	**SW15**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.0	4.4	4.8	2.1	0.6	2173221
Calculated Carbon Dioxide	mg/L	5	8	N/A	4	1	2171152

N/A = Not Applicable
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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

PERMANENT GASES (WATER)

Maxxam ID		GB9039	GB9040	GB9041	GB9042	GB9043		
Sampling Date		2010/06/02 11:00	2010/06/02 09:30	2010/06/02 16:10	2010/06/02 16:20			
COC Number		193183-0	193183-0	193183-0	193183-0	193183-0		
	Units	**SW16**	**SW17**	**SW18**	**SW6**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	1.1	1.5	6.0	5.6	5.8	0.6	2173221
Calculated Carbon Dioxide	mg/L	2	3	11	10	10	1	2171152

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GB9043		
Sampling Date				
COC Number		193183-0		
	Units	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases				
Carbon Dioxide	L/m3	6.4	0.6	2173221

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9028	GB9028	GB9029		GB9030		
Sampling Date		2010/06/02 13:30	2010/06/02 13:30	2010/06/02 15:47		2010/06/02 14:00		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**SW2**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	ND	2173687	ND	0.0001	2173687
Dissolved Sulphur (S)	mg/L	1.2	N/A	ND	2173189	0.9	0.5	2173189
Total Sulphur (S)	mg/L	1.3	1.2	ND	2173265	0.9	0.5	2173265
Dissolved Aluminum (Al)	ug/L	57	N/A	35	2174195	38	5	2173832
Total Aluminum (Al)	ug/L	240	210	85	2173262	140	5	2173262
Dissolved Antimony (Sb)	ug/L	ND	N/A	ND	2174195	ND	0.5	2173832
Total Antimony (Sb)	ug/L	ND	ND	ND	2173262	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	1	N/A	ND	2174195	1	1	2173832
Total Arsenic (As)	ug/L	2	2	1	2173262	1	1	2173262
Dissolved Barium (Ba)	ug/L	49	N/A	33	2174195	33	5	2173832
Total Barium (Ba)	ug/L	20	20	13	2173262	17	5	2173262
Dissolved Beryllium (Be)	ug/L	ND	N/A	ND	2174195	ND	0.5	2173832
Total Beryllium (Be)	ug/L	ND	ND	ND	2173262	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Bismuth (Bi)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Boron (B)	ug/L	21	N/A	11	2174195	17	10	2173832
Total Boron (B)	ug/L	16	19	ND	2173262	14	10	2173262
Dissolved Cadmium (Cd)	ug/L	ND	N/A	ND	2174195	ND	0.1	2173832
Total Cadmium (Cd)	ug/L	ND	ND	ND	2173262	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	29000	N/A	24000	2174195	30000	200	2173832
Total Calcium (Ca)	ug/L	30000	30000	25000	2173262	30000	200	2173262
Dissolved Chromium (Cr)	ug/L	ND	N/A	ND	2174195	ND	5	2173832
Total Chromium (Cr)	ug/L	ND	ND	ND	2173262	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	ND	N/A	ND	2174195	ND	0.5	2173832
Total Cobalt (Co)	ug/L	ND	ND	ND	2173262	ND	0.5	2173262
Dissolved Copper (Cu)	ug/L	ND	N/A	1	2174195	1	1	2173832
Total Copper (Cu)	ug/L	1	N/A	ND	2177090	ND	1	2177090
Dissolved Iron (Fe)	ug/L	380	N/A	230	2174195	270	100	2173832
Total Iron (Fe)	ug/L	730	690	380	2173262	450	100	2173262
Dissolved Lead (Pb)	ug/L	ND	N/A	ND	2174195	ND	0.5	2173832

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9028	GB9028	GB9029		GB9030		
Sampling Date		2010/06/02 13:30	2010/06/02 13:30	2010/06/02 15:47		2010/06/02 14:00		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**SW2**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	ND	2173262	ND	0.5	2173262
Dissolved Lithium (Li)	ug/L	ND	N/A	ND	2174195	ND	5	2173832
Total Lithium (Li)	ug/L	ND	ND	ND	2173262	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	11000	N/A	9200	2174195	11000	50	2173832
Total Magnesium (Mg)	ug/L	13000	13000	10000	2173262	13000	50	2173262
Dissolved Manganese (Mn)	ug/L	43	N/A	21	2174195	40	2	2173832
Total Manganese (Mn)	ug/L	70	69	25	2173262	50	2	2173262
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Molybdenum (Mo)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	2	N/A	1	2174195	1	1	2173832
Total Nickel (Ni)	ug/L	2	2	1	2173262	2	1	2173262
Dissolved Phosphorus (P)	ug/L	ND	N/A	ND	2174195	ND	100	2173832
Dissolved Potassium (K)	ug/L	1300	N/A	1000	2174195	1000	200	2173832
Total Potassium (K)	ug/L	1500	1500	540	2173262	1100	200	2173262
Dissolved Selenium (Se)	ug/L	ND	N/A	ND	2174195	ND	2	2173832
Total Selenium (Se)	ug/L	ND	ND	ND	2173262	ND	2	2173262
Dissolved Silicon (Si)	ug/L	3100	N/A	2300	2174195	3300	50	2173832
Total Silicon (Si)	ug/L	3700	3600	2600	2173262	3800	50	2173262
Dissolved Silver (Ag)	ug/L	ND	N/A	ND	2174195	ND	0.1	2173832
Total Silver (Ag)	ug/L	ND	ND	ND	2173262	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	4800	N/A	1600	2174195	3200	100	2173832
Total Sodium (Na)	ug/L	5200	5100	1200	2173262	3200	100	2173262
Dissolved Strontium (Sr)	ug/L	64	N/A	37	2174195	59	1	2173832
Total Strontium (Sr)	ug/L	75	74	40	2173262	64	1	2173262
Dissolved Tellurium (Te)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Tellurium (Te)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	ND	N/A	ND	2174195	ND	0.05	2173832
Total Thallium (Tl)	ug/L	ND	ND	ND	2173262	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Thorium (Th)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Tin (Sn)	ug/L	ND	N/A	ND	2174195	ND	1	2173832

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QC Batch = Quality Control Batch

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9028	GB9028	GB9029		GB9030		
Sampling Date		2010/06/02 13:30	2010/06/02 13:30	2010/06/02 15:47		2010/06/02 14:00		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**SW2**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	ND	N/A	7	2174195	ND	5	2173832
Total Titanium (Ti)	ug/L	10	9	ND	2173262	5	5	2173262
Dissolved Tungsten (W)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Tungsten (W)	ug/L	ND	ND	ND	2173262	ND	1	2173262
Dissolved Uranium (U)	ug/L	0.4	N/A	0.1	2174195	0.3	0.1	2173832
Total Uranium (U)	ug/L	0.5	0.4	0.2	2173262	0.3	0.1	2173262
Dissolved Vanadium (V)	ug/L	1	N/A	1	2174195	ND	1	2173832
Total Vanadium (V)	ug/L	2	2	ND	2173262	1	1	2173262
Dissolved Zinc (Zn)	ug/L	36	N/A	42	2174195	33	5	2173832
Total Zinc (Zn)	ug/L	6	6	ND	2173262	ND	5	2173262
Dissolved Zirconium (Zr)	ug/L	ND	N/A	ND	2174195	ND	1	2173832
Total Zirconium (Zr)	ug/L	ND	ND	ND	2173262	ND	1	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9031	GB9031		GB9032		
Sampling Date		2010/06/02 12:15	2010/06/02 12:15		2010/06/02 16:30		
COC Number		193183-0	193183-0		193183-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW7A**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	2172518	ND	0.0001	2173687
Dissolved Sulphur (S)	mg/L	ND	N/A	2173189	0.6	0.5	2173189
Total Sulphur (S)	mg/L	ND	N/A	2173265	0.6	0.5	2173265
Dissolved Aluminum (Al)	ug/L	18	N/A	2174195	65	5	2174097
Total Aluminum (Al)	ug/L	24	N/A	2173262	210	5	2173262
Dissolved Antimony (Sb)	ug/L	ND	N/A	2174195	ND	0.5	2174097
Total Antimony (Sb)	ug/L	ND	N/A	2173262	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	ND	N/A	2174195	1	1	2174097
Total Arsenic (As)	ug/L	ND	N/A	2173262	1	1	2173262
Dissolved Barium (Ba)	ug/L	33	N/A	2174195	40	5	2174097
Total Barium (Ba)	ug/L	7	N/A	2173262	25	5	2173262
Dissolved Beryllium (Be)	ug/L	ND	N/A	2174195	ND	0.5	2174097
Total Beryllium (Be)	ug/L	ND	N/A	2173262	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Bismuth (Bi)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Boron (B)	ug/L	ND	N/A	2174195	23	10	2174097
Total Boron (B)	ug/L	ND	N/A	2173262	13	10	2173262
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2174195	ND	0.1	2174097
Total Cadmium (Cd)	ug/L	ND	N/A	2173262	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	11000	N/A	2174195	40000	200	2174097
Total Calcium (Ca)	ug/L	12000	N/A	2173262	41000	200	2173262
Dissolved Chromium (Cr)	ug/L	ND	N/A	2174195	ND	5	2174097
Total Chromium (Cr)	ug/L	ND	N/A	2173262	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	ND	N/A	2174195	ND	0.5	2174097
Total Cobalt (Co)	ug/L	ND	N/A	2173262	ND	0.5	2173262
Dissolved Copper (Cu)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Copper (Cu)	ug/L	ND	N/A	2177090	2	1	2177090
Dissolved Iron (Fe)	ug/L	ND	N/A	2174195	270	100	2174097
Total Iron (Fe)	ug/L	180	N/A	2173262	630	100	2173262
Dissolved Lead (Pb)	ug/L	ND	N/A	2174195	ND	0.5	2174097

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9031	GB9031		GB9032		
Sampling Date		2010/06/02 12:15	2010/06/02 12:15		2010/06/02 16:30		
COC Number		193183-0	193183-0		193183-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW7A**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2173262	ND	0.5	2173262
Dissolved Lithium (Li)	ug/L	ND	N/A	2174195	ND	5	2174097
Total Lithium (Li)	ug/L	ND	N/A	2173262	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	4800	N/A	2174195	16000	50	2174097
Total Magnesium (Mg)	ug/L	5400	N/A	2173262	16000	50	2173262
Dissolved Manganese (Mn)	ug/L	20	N/A	2174195	54	2	2174097
Total Manganese (Mn)	ug/L	26	N/A	2173262	85	2	2173262
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Molybdenum (Mo)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	ND	N/A	2174195	1	1	2174097
Total Nickel (Ni)	ug/L	ND	N/A	2173262	1	1	2173262
Dissolved Phosphorus (P)	ug/L	ND	N/A	2174195	ND	100	2174097
Dissolved Potassium (K)	ug/L	590	N/A	2174195	1500	200	2174097
Total Potassium (K)	ug/L	680	N/A	2173262	1500	200	2173262
Dissolved Selenium (Se)	ug/L	ND	N/A	2174195	ND	2	2174097
Total Selenium (Se)	ug/L	ND	N/A	2173262	ND	2	2173262
Dissolved Silicon (Si)	ug/L	1300	N/A	2174195	4100	50	2174097
Total Silicon (Si)	ug/L	1500	N/A	2173262	4400	50	2173262
Dissolved Silver (Ag)	ug/L	ND	N/A	2174195	ND	0.1	2174097
Total Silver (Ag)	ug/L	ND	N/A	2173262	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	3400	N/A	2174195	2300	100	2174097
Total Sodium (Na)	ug/L	3600	N/A	2173262	2000	100	2173262
Dissolved Strontium (Sr)	ug/L	22	N/A	2174195	70	1	2174097
Total Strontium (Sr)	ug/L	24	N/A	2173262	72	1	2173262
Dissolved Tellurium (Te)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Tellurium (Te)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	ND	N/A	2174195	ND	0.05	2174097
Total Thallium (Tl)	ug/L	ND	N/A	2173262	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Thorium (Th)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Tin (Sn)	ug/L	ND	N/A	2174195	ND	1	2174097

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9031	GB9031		GB9032		
Sampling Date		2010/06/02 12:15	2010/06/02 12:15		2010/06/02 16:30		
COC Number		193183-0	193183-0		193183-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW7A**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	ND	N/A	2174195	8	5	2174097
Total Titanium (Ti)	ug/L	ND	N/A	2173262	8	5	2173262
Dissolved Tungsten (W)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Tungsten (W)	ug/L	ND	N/A	2173262	ND	1	2173262
Dissolved Uranium (U)	ug/L	ND	N/A	2174195	0.6	0.1	2174097
Total Uranium (U)	ug/L	ND	N/A	2173262	0.6	0.1	2173262
Dissolved Vanadium (V)	ug/L	ND	N/A	2174195	1	1	2174097
Total Vanadium (V)	ug/L	ND	N/A	2173262	2	1	2173262
Dissolved Zinc (Zn)	ug/L	22	N/A	2174195	21	5	2174097
Total Zinc (Zn)	ug/L	11	N/A	2173262	6	5	2173262
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2174195	ND	1	2174097
Total Zirconium (Zr)	ug/L	ND	N/A	2173262	ND	1	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9033		GB9034		GB9035		
Sampling Date		2010/06/02 13:10		2010/06/02 12:45		2010/06/02 15:15		
COC Number		193183-0		193183-0		193183-0		
	Units	**SW10**	**QC Batch**	**SW11**	**QC Batch**	**SW12A**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2173687	ND	2173687	ND	0.0001	2173687
Dissolved Sulphur (S)	mg/L	1.2	2173189	ND	2173189	ND	0.5	2173189
Total Sulphur (S)	mg/L	1.1	2173265	ND	2173265	ND	0.5	2173265
Dissolved Aluminum (Al)	ug/L	81	2174195	39	2174097	74	5	2174195
Total Aluminum (Al)	ug/L	150	2173262	48	2173262	140	5	2173262
Dissolved Antimony (Sb)	ug/L	ND	2174195	ND	2174097	ND	0.5	2174195
Total Antimony (Sb)	ug/L	ND	2173262	ND	2173262	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	1	2174195	ND	2174097	ND	1	2174195
Total Arsenic (As)	ug/L	1	2173262	ND	2173262	ND	1	2173262
Dissolved Barium (Ba)	ug/L	42	2174195	15	2174097	44	5	2174195
Total Barium (Ba)	ug/L	17	2173262	10	2173262	8	5	2173262
Dissolved Beryllium (Be)	ug/L	ND	2174195	ND	2174097	ND	0.5	2174195
Total Beryllium (Be)	ug/L	ND	2173262	ND	2173262	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Bismuth (Bi)	ug/L	ND	2173262	ND	2173262	ND	1	2173262
Dissolved Boron (B)	ug/L	18	2174195	12	2174097	ND	10	2174195
Total Boron (B)	ug/L	14	2173262	ND	2173262	ND	10	2173262
Dissolved Cadmium (Cd)	ug/L	ND	2174195	ND	2174097	ND	0.1	2174195
Total Cadmium (Cd)	ug/L	ND	2173262	ND	2173262	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	28000	2174195	18000	2174097	11000	200	2174195
Total Calcium (Ca)	ug/L	26000	2173262	18000	2173262	10000	200	2173262
Dissolved Chromium (Cr)	ug/L	ND	2174195	ND	2174097	ND	5	2174195
Total Chromium (Cr)	ug/L	ND	2173262	ND	2173262	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	ND	2174195	ND	2174097	ND	0.5	2174195
Total Cobalt (Co)	ug/L	ND	2173262	ND	2173262	ND	0.5	2173262
Dissolved Copper (Cu)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Copper (Cu)	ug/L	1	2177090	ND	2177090	ND	1	2177090
Dissolved Iron (Fe)	ug/L	400	2174195	410	2174097	400	100	2174195
Total Iron (Fe)	ug/L	520	2173262	440	2173262	690	100	2173262
Dissolved Lead (Pb)	ug/L	ND	2174195	ND	2174097	ND	0.5	2174195
Total Lead (Pb)	ug/L	ND	2173262	ND	2173262	ND	0.5	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9033		GB9034		GB9035		
Sampling Date		2010/06/02 13:10		2010/06/02 12:45		2010/06/02 15:15		
COC Number		193183-0		193183-0		193183-0		
	Units	**SW10**	**QC Batch**	**SW11**	**QC Batch**	**SW12A**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2174195	ND	2174097	ND	5	2174195
Total Lithium (Li)	ug/L	ND	2173262	ND	2173262	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	11000	2174195	8400	2174097	3300	50	2174195
Total Magnesium (Mg)	ug/L	11000	2173262	8800	2173262	3500	50	2173262
Dissolved Manganese (Mn)	ug/L	39	2174195	26	2174097	27	2	2174195
Total Manganese (Mn)	ug/L	40	2173262	26	2173262	37	2	2173262
Dissolved Molybdenum (Mo)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Molybdenum (Mo)	ug/L	1	2173262	ND	2173262	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	2	2174195	ND	2174097	ND	1	2174195
Total Nickel (Ni)	ug/L	2	2173262	ND	2173262	ND	1	2173262
Dissolved Phosphorus (P)	ug/L	ND	2174195	ND	2174097	ND	100	2174195
Dissolved Potassium (K)	ug/L	1100	2174195	350	2174097	350	200	2174195
Total Potassium (K)	ug/L	1200	2173262	410	2173262	350	200	2173262
Dissolved Selenium (Se)	ug/L	ND	2174195	ND	2174097	ND	2	2174195
Total Selenium (Se)	ug/L	ND	2173262	ND	2173262	ND	2	2173262
Dissolved Silicon (Si)	ug/L	2900	2174195	2600	2174097	1200	50	2174195
Total Silicon (Si)	ug/L	3200	2173262	2700	2173262	1300	50	2173262
Dissolved Silver (Ag)	ug/L	ND	2174195	ND	2174097	ND	0.1	2174195
Total Silver (Ag)	ug/L	ND	2173262	ND	2173262	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	4800	2174195	1200	2174097	910	100	2174195
Total Sodium (Na)	ug/L	4700	2173262	1100	2173262	770	100	2173262
Dissolved Strontium (Sr)	ug/L	62	2174195	34	2174097	19	1	2174195
Total Strontium (Sr)	ug/L	65	2173262	36	2173262	19	1	2173262
Dissolved Tellurium (Te)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Tellurium (Te)	ug/L	ND	2173262	ND	2173262	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	ND	2174195	ND	2174097	ND	0.05	2174195
Total Thallium (Tl)	ug/L	ND	2173262	ND	2173262	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Thorium (Th)	ug/L	ND	2173262	ND	2173262	ND	1	2173262
Dissolved Tin (Sn)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Tin (Sn)	ug/L	ND	2173262	ND	2173262	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	ND	2174195	ND	2174097	ND	5	2174195

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9033		GB9034		GB9035		
Sampling Date		2010/06/02 13:10		2010/06/02 12:45		2010/06/02 15:15		
COC Number		193183-0		193183-0		193183-0		
	Units	**SW10**	**QC Batch**	**SW11**	**QC Batch**	**SW12A**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	6	2173262	ND	2173262	ND	5	2173262
Dissolved Tungsten (W)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Tungsten (W)	ug/L	ND	2173262	ND	2173262	ND	1	2173262
Dissolved Uranium (U)	ug/L	0.3	2174195	ND	2174097	ND	0.1	2174195
Total Uranium (U)	ug/L	0.3	2173262	ND	2173262	ND	0.1	2173262
Dissolved Vanadium (V)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Vanadium (V)	ug/L	1	2173262	ND	2173262	ND	1	2173262
Dissolved Zinc (Zn)	ug/L	35	2174195	18	2174097	31	5	2174195
Total Zinc (Zn)	ug/L	ND	2173262	6	2173262	7	5	2173262
Dissolved Zirconium (Zr)	ug/L	ND	2174195	ND	2174097	ND	1	2174195
Total Zirconium (Zr)	ug/L	ND	2173262	ND	2173262	ND	1	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9036	GB9037	GB9038	GB9039		
Sampling Date		2010/06/02 14:20	2010/06/02 14:45	2010/06/02 09:55	2010/06/02 11:00		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW13**	**SW14**	**SW15**	**SW16**	**RDL**	**QC Batch**
Metals							
. Aluminum (Al)	ug/L	N/A	N/A	360	N/A	5	2174074
. Antimony (Sb)	ug/L	N/A	N/A	ND	N/A	0.5	2174074
. Arsenic (As)	ug/L	N/A	N/A	1	N/A	1	2174074
. Barium (Ba)	ug/L	N/A	N/A	19	N/A	5	2174074
. Beryllium (Be)	ug/L	N/A	N/A	ND	N/A	0.5	2174074
. Bismuth (Bi)	ug/L	N/A	N/A	ND	N/A	1	2174074
. Boron (B)	ug/L	N/A	N/A	10	N/A	10	2174074
. Cadmium (Cd)	ug/L	N/A	N/A	ND	N/A	0.1	2174074
. Calcium (Ca)	ug/L	N/A	N/A	23000	N/A	200	2174074
. Chromium (Cr)	ug/L	N/A	N/A	ND	N/A	5	2174074
. Cobalt (Co)	ug/L	N/A	N/A	0.5	N/A	0.5	2174074
. Copper (Cu)	ug/L	N/A	N/A	2	N/A	1	2174074
. Iron (Fe)	ug/L	N/A	N/A	770	N/A	100	2174074
. Lead (Pb)	ug/L	N/A	N/A	0.7	N/A	0.5	2174074
. Lithium (Li)	ug/L	N/A	N/A	ND	N/A	5	2174074
. Magnesium (Mg)	ug/L	N/A	N/A	9800	N/A	50	2174074
. Manganese (Mn)	ug/L	N/A	N/A	70	N/A	2	2174074
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2173687
. Molybdenum (Mo)	ug/L	N/A	N/A	ND	N/A	1	2174074
. Nickel (Ni)	ug/L	N/A	N/A	2	N/A	1	2174074
. Phosphorus (P)	ug/L	N/A	N/A	ND	N/A	100	2174074
. Potassium (K)	ug/L	N/A	N/A	850	N/A	200	2174074
. Selenium (Se)	ug/L	N/A	N/A	ND	N/A	2	2174074
. Silicon (Si)	ug/L	N/A	N/A	3200	N/A	50	2174074
. Silver (Ag)	ug/L	N/A	N/A	ND	N/A	0.1	2174074
. Sodium (Na)	ug/L	N/A	N/A	2000	N/A	100	2174074
. Strontium (Sr)	ug/L	N/A	N/A	40	N/A	1	2174074
Dissolved Sulphur (S)	mg/L	0.6	ND	1.2	2.6	0.5	2173189
Total Sulphur (S)	mg/L	0.6	ND	1.3	2.6	0.5	2173265
. Tellurium (Te)	ug/L	N/A	N/A	ND	N/A	1	2174074

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9036	GB9037	GB9038	GB9039		
Sampling Date		2010/06/02 14:20	2010/06/02 14:45	2010/06/02 09:55	2010/06/02 11:00		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW13**	**SW14**	**SW15**	**SW16**	**RDL**	**QC Batch**
. Thallium (Tl)	ug/L	N/A	N/A	ND	N/A	0.05	2174074
. Thorium (Th)	ug/L	N/A	N/A	ND	N/A	1	2174074
. Tin (Sn)	ug/L	N/A	N/A	ND	N/A	1	2174074
. Titanium (Ti)	ug/L	N/A	N/A	13	N/A	5	2174074
. Tungsten (W)	ug/L	N/A	N/A	ND	N/A	1	2174074
. Uranium (U)	ug/L	N/A	N/A	0.3	N/A	0.1	2174074
. Vanadium (V)	ug/L	N/A	N/A	2	N/A	1	2174074
. Zinc (Zn)	ug/L	N/A	N/A	18	N/A	5	2174074
. Zirconium (Zr)	ug/L	N/A	N/A	1	N/A	1	2174074
Dissolved Aluminum (Al)	ug/L	17	38	200	100	5	2174195
Total Aluminum (Al)	ug/L	68	41	1700	200	5	2173262
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2174195
Total Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	ND	ND	1	ND	1	2174195
Total Arsenic (As)	ug/L	ND	ND	2	ND	1	2173262
Dissolved Barium (Ba)	ug/L	35	30	24	29	5	2174195
Total Barium (Ba)	ug/L	13	9	27	13	5	2173262
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2174195
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2174195
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2173262
Dissolved Boron (B)	ug/L	14	ND	11	ND	10	2174195
Total Boron (B)	ug/L	11	ND	13	ND	10	2173262
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2174195
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	31000	15000	21000	10000	200	2174195
Total Calcium (Ca)	ug/L	31000	16000	23000	11000	200	2173262
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2174195
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2174195
Total Cobalt (Co)	ug/L	ND	ND	1.0	ND	0.5	2173262

ND = Not detected
N/A = Not Applicable
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QC Batch = Quality Control Batch

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9036	GB9037	GB9038	GB9039		
Sampling Date		2010/06/02 14:20	2010/06/02 14:45	2010/06/02 09:55	2010/06/02 11:00		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW13**	**SW14**	**SW15**	**SW16**	**RDL**	**QC Batch**
Dissolved Copper (Cu)	ug/L	ND	ND	ND	1	1	2174195
Total Copper (Cu)	ug/L	ND	ND	3	2	1	2177090
Dissolved Iron (Fe)	ug/L	120	170	440	150	100	2174195
Total Iron (Fe)	ug/L	220	270	2000	340	100	2173262
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2174195
Total Lead (Pb)	ug/L	ND	ND	1.0	ND	0.5	2173262
Dissolved Lithium (Li)	ug/L	ND	ND	ND	ND	5	2174195
Total Lithium (Li)	ug/L	ND	ND	6	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	13000	5800	8800	3300	50	2174195
Total Magnesium (Mg)	ug/L	13000	6600	11000	3700	50	2173262
Dissolved Manganese (Mn)	ug/L	29	14	45	19	2	2174195
Total Manganese (Mn)	ug/L	36	15	85	35	2	2173262
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2174195
Total Molybdenum (Mo)	ug/L	ND	ND	2	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	ND	ND	2	ND	1	2174195
Total Nickel (Ni)	ug/L	ND	ND	4	1	1	2173262
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2174195
Dissolved Potassium (K)	ug/L	620	ND	720	830	200	2174195
Total Potassium (K)	ug/L	590	ND	1300	930	200	2173262
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2174195
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2173262
Dissolved Silicon (Si)	ug/L	2400	1800	2900	1600	50	2174195
Total Silicon (Si)	ug/L	2600	2100	6700	1800	50	2173262
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2174195
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	1900	1100	2100	5600	100	2174195
Total Sodium (Na)	ug/L	1800	960	2200	5500	100	2173262
Dissolved Strontium (Sr)	ug/L	57	25	40	26	1	2174195
Total Strontium (Sr)	ug/L	60	27	48	28	1	2173262
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2174195
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2174195

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9036	GB9037	GB9038	GB9039		
Sampling Date		2010/06/02 14:20	2010/06/02 14:45	2010/06/02 09:55	2010/06/02 11:00		
COC Number		193183-0	193183-0	193183-0	193183-0		
	Units	**SW13**	**SW14**	**SW15**	**SW16**	**RDL**	**QC Batch**
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2174195
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	2173262
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2174195
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	ND	ND	8	ND	5	2174195
Total Titanium (Ti)	ug/L	ND	ND	71	6	5	2173262
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2174195
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2173262
Dissolved Uranium (U)	ug/L	0.2	ND	0.3	0.1	0.1	2174195
Total Uranium (U)	ug/L	0.2	ND	0.4	0.2	0.1	2173262
Dissolved Vanadium (V)	ug/L	ND	ND	1	ND	1	2174195
Total Vanadium (V)	ug/L	ND	ND	5	ND	1	2173262
Dissolved Zinc (Zn)	ug/L	21	23	22	14	5	2174195
Total Zinc (Zn)	ug/L	ND	ND	9	12	5	2173262
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2174195
Total Zirconium (Zr)	ug/L	ND	ND	3	ND	1	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9039	GB9040	GB9041		GB9042		
Sampling Date		2010/06/02 11:00	2010/06/02 09:30	2010/06/02 16:10		2010/06/02 16:20		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW16 Lab-Dup**	**SW17**	**SW18**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	N/A	ND	ND	2173687	ND	0.0001	2173687
Dissolved Sulphur (S)	mg/L	2.5	2.4	0.7	2173189	0.8	0.5	2173189
Total Sulphur (S)	mg/L	N/A	2.4	0.7	2173265	0.8	0.5	2173265
Dissolved Aluminum (Al)	ug/L	N/A	73	43	2174195	51	5	2173832
Total Aluminum (Al)	ug/L	N/A	190	84	2173262	87	5	2173262
Dissolved Antimony (Sb)	ug/L	N/A	ND	ND	2174195	ND	0.5	2173832
Total Antimony (Sb)	ug/L	N/A	ND	1.0	2173262	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	N/A	ND	1	2174195	1	1	2173832
Total Arsenic (As)	ug/L	N/A	1	1	2173262	1	1	2173262
Dissolved Barium (Ba)	ug/L	N/A	26	35	2174195	42	5	2173832
Total Barium (Ba)	ug/L	N/A	16	19	2173262	19	5	2173262
Dissolved Beryllium (Be)	ug/L	N/A	ND	ND	2174195	ND	0.5	2173832
Total Beryllium (Be)	ug/L	N/A	ND	ND	2173262	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Bismuth (Bi)	ug/L	N/A	ND	1	2173262	ND	1	2173262
Dissolved Boron (B)	ug/L	N/A	12	22	2174195	20	10	2173832
Total Boron (B)	ug/L	N/A	10	16	2173262	16	10	2173262
Dissolved Cadmium (Cd)	ug/L	N/A	ND	ND	2174195	ND	0.1	2173832
Total Cadmium (Cd)	ug/L	N/A	ND	ND	2173262	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	N/A	16000	30000	2174195	31000	200	2173832
Total Calcium (Ca)	ug/L	N/A	16000	32000	2173262	33000	200	2173262
Dissolved Chromium (Cr)	ug/L	N/A	ND	ND	2174195	ND	5	2173832
Total Chromium (Cr)	ug/L	N/A	ND	ND	2173262	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	N/A	ND	ND	2174195	ND	0.5	2173832
Total Cobalt (Co)	ug/L	N/A	ND	ND	2173262	ND	0.5	2173262
Dissolved Copper (Cu)	ug/L	N/A	1	ND	2174195	ND	1	2173832
Total Copper (Cu)	ug/L	N/A	1	ND	2177090	ND	1	2177090
Dissolved Iron (Fe)	ug/L	N/A	190	150	2174195	190	100	2173832
Total Iron (Fe)	ug/L	N/A	410	270	2173262	280	100	2173262
Dissolved Lead (Pb)	ug/L	N/A	ND	ND	2174195	ND	0.5	2173832

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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9039	GB9040	GB9041		GB9042		
Sampling Date		2010/06/02 11:00	2010/06/02 09:30	2010/06/02 16:10		2010/06/02 16:20		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW16 Lab-Dup**	**SW17**	**SW18**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	N/A	ND	ND	2173262	ND	0.5	2173262
Dissolved Lithium (Li)	ug/L	N/A	ND	ND	2174195	ND	5	2173832
Total Lithium (Li)	ug/L	N/A	ND	ND	2173262	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	N/A	5500	12000	2174195	12000	50	2173832
Total Magnesium (Mg)	ug/L	N/A	6000	13000	2173262	14000	50	2173262
Dissolved Manganese (Mn)	ug/L	N/A	20	25	2174195	26	2	2173832
Total Manganese (Mn)	ug/L	N/A	40	30	2173262	32	2	2173262
Dissolved Molybdenum (Mo)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Molybdenum (Mo)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	N/A	1	2	2174195	2	1	2173832
Total Nickel (Ni)	ug/L	N/A	1	2	2173262	2	1	2173262
Dissolved Phosphorus (P)	ug/L	N/A	ND	ND	2174195	ND	100	2173832
Dissolved Potassium (K)	ug/L	N/A	820	1100	2174195	1200	200	2173832
Total Potassium (K)	ug/L	N/A	900	1100	2173262	1200	200	2173262
Dissolved Selenium (Se)	ug/L	N/A	ND	ND	2174195	ND	2	2173832
Total Selenium (Se)	ug/L	N/A	ND	ND	2173262	ND	2	2173262
Dissolved Silicon (Si)	ug/L	N/A	2200	4800	2174195	4900	50	2173832
Total Silicon (Si)	ug/L	N/A	2500	5100	2173262	5300	50	2173262
Dissolved Silver (Ag)	ug/L	N/A	ND	ND	2174195	ND	0.1	2173832
Total Silver (Ag)	ug/L	N/A	ND	ND	2173262	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	N/A	4200	1900	2174195	2100	100	2173832
Total Sodium (Na)	ug/L	N/A	4600	2000	2173262	2100	100	2173262
Dissolved Strontium (Sr)	ug/L	N/A	32	57	2174195	58	1	2173832
Total Strontium (Sr)	ug/L	N/A	34	64	2173262	65	1	2173262
Dissolved Tellurium (Te)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Tellurium (Te)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	N/A	ND	ND	2174195	ND	0.05	2173832
Total Thallium (Tl)	ug/L	N/A	ND	ND	2173262	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Thorium (Th)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Tin (Sn)	ug/L	N/A	ND	ND	2174195	ND	1	2173832

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QC Batch = Quality Control Batch

Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9039	GB9040	GB9041		GB9042		
Sampling Date		2010/06/02 11:00	2010/06/02 09:30	2010/06/02 16:10		2010/06/02 16:20		
COC Number		193183-0	193183-0	193183-0		193183-0		
	Units	**SW16 Lab-Dup**	**SW17**	**SW18**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	N/A	ND	ND	2174195	ND	5	2173832
Total Titanium (Ti)	ug/L	N/A	6	ND	2173262	ND	5	2173262
Dissolved Tungsten (W)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Tungsten (W)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Uranium (U)	ug/L	N/A	0.2	0.2	2174195	0.3	0.1	2173832
Total Uranium (U)	ug/L	N/A	0.2	0.5	2173262	0.4	0.1	2173262
Dissolved Vanadium (V)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Vanadium (V)	ug/L	N/A	ND	ND	2173262	ND	1	2173262
Dissolved Zinc (Zn)	ug/L	N/A	22	18	2174195	35	5	2173832
Total Zinc (Zn)	ug/L	N/A	ND	6	2173262	ND	5	2173262
Dissolved Zirconium (Zr)	ug/L	N/A	ND	ND	2174195	ND	1	2173832
Total Zirconium (Zr)	ug/L	N/A	ND	ND	2173262	ND	1	2173262

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9043		
Sampling Date				
COC Number		193183-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2173687
Dissolved Sulphur (S)	mg/L	ND	0.5	2173189
Total Sulphur (S)	mg/L	ND	0.5	2173265
Dissolved Aluminum (Al)	ug/L	ND	5	2174195
Total Aluminum (Al)	ug/L	6	5	2173262
Dissolved Antimony (Sb)	ug/L	ND	0.5	2174195
Total Antimony (Sb)	ug/L	ND	0.5	2173262
Dissolved Arsenic (As)	ug/L	ND	1	2174195
Total Arsenic (As)	ug/L	ND	1	2173262
Dissolved Barium (Ba)	ug/L	ND	5	2174195
Total Barium (Ba)	ug/L	ND	5	2173262
Dissolved Beryllium (Be)	ug/L	ND	0.5	2174195
Total Beryllium (Be)	ug/L	ND	0.5	2173262
Dissolved Bismuth (Bi)	ug/L	ND	1	2174195
Total Bismuth (Bi)	ug/L	ND	1	2173262
Dissolved Boron (B)	ug/L	ND	10	2174195
Total Boron (B)	ug/L	ND	10	2173262
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2174195
Total Cadmium (Cd)	ug/L	ND	0.1	2173262
Dissolved Calcium (Ca)	ug/L	ND	200	2174195
Total Calcium (Ca)	ug/L	ND	200	2173262
Dissolved Chromium (Cr)	ug/L	ND	5	2174195
Total Chromium (Cr)	ug/L	ND	5	2173262
Dissolved Cobalt (Co)	ug/L	ND	0.5	2174195
Total Cobalt (Co)	ug/L	ND	0.5	2173262
Dissolved Copper (Cu)	ug/L	ND	1	2174195
Total Copper (Cu)	ug/L	ND	1	2177090
Dissolved Iron (Fe)	ug/L	ND	100	2174195
Total Iron (Fe)	ug/L	ND	100	2173262
Dissolved Lead (Pb)	ug/L	ND	0.5	2174195
Total Lead (Pb)	ug/L	ND	0.5	2173262
Dissolved Lithium (Li)	ug/L	ND	5	2174195

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QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9043		
Sampling Date				
COC Number		193183-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	5	2173262
Dissolved Magnesium (Mg)	ug/L	ND	50	2174195
Total Magnesium (Mg)	ug/L	ND	50	2173262
Dissolved Manganese (Mn)	ug/L	ND	2	2174195
Total Manganese (Mn)	ug/L	ND	2	2173262
Dissolved Molybdenum (Mo)	ug/L	ND	1	2174195
Total Molybdenum (Mo)	ug/L	ND	1	2173262
Dissolved Nickel (Ni)	ug/L	ND	1	2174195
Total Nickel (Ni)	ug/L	ND	1	2173262
Dissolved Potassium (K)	ug/L	ND	200	2174195
Total Potassium (K)	ug/L	ND	200	2173262
Dissolved Selenium (Se)	ug/L	ND	2	2174195
Total Selenium (Se)	ug/L	ND	2	2173262
Dissolved Silicon (Si)	ug/L	ND	50	2174195
Total Silicon (Si)	ug/L	ND	50	2173262
Dissolved Silver (Ag)	ug/L	ND	0.1	2174195
Total Silver (Ag)	ug/L	ND	0.1	2173262
Dissolved Sodium (Na)	ug/L	ND	100	2174195
Total Sodium (Na)	ug/L	ND	100	2173262
Dissolved Strontium (Sr)	ug/L	ND	1	2174195
Total Strontium (Sr)	ug/L	ND	1	2173262
Dissolved Tellurium (Te)	ug/L	ND	1	2174195
Total Tellurium (Te)	ug/L	ND	1	2173262
Dissolved Thallium (Tl)	ug/L	ND	0.05	2174195
Total Thallium (Tl)	ug/L	ND	0.05	2173262
Dissolved Thorium (Th)	ug/L	ND	1	2174195
Total Thorium (Th)	ug/L	ND	1	2173262
Dissolved Tin (Sn)	ug/L	ND	1	2174195
Total Tin (Sn)	ug/L	ND	1	2173262
Dissolved Titanium (Ti)	ug/L	ND	5	2174195
Total Titanium (Ti)	ug/L	ND	5	2173262
Dissolved Tungsten (W)	ug/L	ND	1	2174195
Total Tungsten (W)	ug/L	ND	1	2173262

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B071617
Report Date: 2010/06/16

Klohn Crippen Berger Ltd
Client Project #: SW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GB9043		
Sampling Date				
COC Number		193183-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Uranium (U)	ug/L	ND	0.1	2174195
Total Uranium (U)	ug/L	ND	0.1	2173262
Dissolved Vanadium (V)	ug/L	ND	1	2174195
Total Vanadium (V)	ug/L	ND	1	2173262
Dissolved Zinc (Zn)	ug/L	ND	5	2174195
Total Zinc (Zn)	ug/L	ND	5	2173262
Dissolved Zirconium (Zr)	ug/L	ND	1	2174195
Total Zirconium (Zr)	ug/L	ND	1	2173262

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

The results for dissolved zinc and barium are greater than total zinc and barium. The results have been confirmed by re-analysis.

Sample GB9028-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GB9031-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GB9033-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Sample GB9034-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Sample GB9035-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GB9037-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Sample GB9038-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Sample GB9039-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GB9043-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GB9044-01: Metals Analysis: Sample consisted of composite fish parts. Some elements show poor duplicate reproducability due to the heterogeneous nature of the sample.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: MB071617

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2171658	MAT	QC Standard	Redox Potential	2010/06/15		+248	%	N/A
		Method Blank	Redox Potential	2010/06/15	+242		mV	
		RPD [GB9032-04]	Redox Potential	2010/06/15	0		%	10
2171662	DN	QC Standard	Redox Potential	2010/06/08		+242	%	N/A
		Method Blank	Redox Potential	2010/06/08	+264		mV	
		RPD [GB9040-04]	Redox Potential	2010/06/08	0.8		%	10
2171704	HAG	QC Standard	Total Suspended Solids	2010/06/08		97	%	85 - 115
		Method Blank	Total Suspended Solids	2010/06/08	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/06/08	NC		%	25
2171885	HAG	QC Standard	Total Dissolved Solids	2010/06/08		101	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/06/08	ND, RDL=10		mg/L	
		RPD [GB9043-03]	Total Dissolved Solids	2010/06/08	NC		%	25
2172164	KTH	QC Standard	Turbidity	2010/06/07		101	%	85 - 115
		Method Blank	Turbidity	2010/06/07	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/06/07	NC		%	25
2172168	KTH	QC Standard	Turbidity	2010/06/07		100	%	85 - 115
		Method Blank	Turbidity	2010/06/07	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/06/07	3.8		%	25
2172476	YPA	Matrix Spike	Sulphide	2010/06/08		89	%	75 - 125
		Spiked Blank	Sulphide	2010/06/08		102	%	85 - 115
		Method Blank	Sulphide	2010/06/08	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/06/08	7.9		%	25
2172485	LHA	Matrix Spike	Total Cyanide (CN)	2010/06/08		77 (1)	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/06/08		103	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/06/08	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/06/08	NC		%	25
2172496	LHA	Matrix Spike	Total Cyanide (CN)	2010/06/08		100	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/06/08		108	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/06/08	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/06/08	NC		%	25
2172518	LCH	Matrix Spike						
		[GB9031-11]	Mercury (Hg)	2010/06/08		104	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/06/08		101	%	80 - 120
		Method Blank	Mercury (Hg)	2010/06/08	ND, RDL=0.0001		mg/L	
		RPD [GB9031-11]	Mercury (Hg)	2010/06/08	NC		%	25
2172651	VRO	Matrix Spike						
		[GB9031-01]	Dissolved Phosphorus	2010/06/09		120	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/06/09		104	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/06/09		104	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/06/09	ND, RDL=0.002		mg/L	
		RPD [GB9031-01]	Dissolved Phosphorus	2010/06/09	NC		%	20
2172652	VRO	Matrix Spike						
		[GB9031-05]	Total Phosphorus	2010/06/09		104	%	80 - 120
		QC Standard	Total Phosphorus	2010/06/09		105	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/06/09		109	%	85 - 115
		Method Blank	Total Phosphorus	2010/06/09	ND, RDL=0.002		mg/L	
		RPD [GB9031-05]	Total Phosphorus	2010/06/09	NC		%	20
2172796	MAT	Method Blank	Acidity as CaC03	2010/06/15	ND, RDL=10		mg/L	
		RPD [GB9037-02]	Acidity as CaC03	2010/06/15	NC		%	25
2172814	C_H	Matrix Spike	Dissolved Organic Carbon	2010/06/08		111	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/06/08		112	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/06/08	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/06/08	6.9		%	20
2172818	C_H	Matrix Spike	Dissolved Organic Carbon	2010/06/08		112	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/06/08		112	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2172818	C_H	Method Blank	Dissolved Organic Carbon	2010/06/08	0.2, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/06/08	0.2		%	20
2172829	C_H	Matrix Spike						
		[GB9031-05]	Total Organic Carbon (TOC)	2010/06/09		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/06/08		108	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/06/08	ND, RDL=0.2		mg/L	
		RPD [GB9031-05]	Total Organic Carbon (TOC)	2010/06/09	5.4		%	20
2172838	CP	Spiked Blank	Colour	2010/06/08		95	%	75 - 125
		Method Blank	Colour	2010/06/08	ND, RDL=2		TCU	
		RPD	Colour	2010/06/08	0.4		%	25
2172870	C_N	Matrix Spike	Nitrite (N)	2010/06/10		105	%	80 - 120
			Nitrate (N)	2010/06/10		NC	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/10		111	%	85 - 115
			Nitrate (N)	2010/06/10		94	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/10	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/10	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/10	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/10	0.5		%	25
			Nitrate (N)	2010/06/10	0.4		%	25
2172878	C_N	Matrix Spike	Nitrite (N)	2010/06/10		109	%	80 - 120
			Nitrate (N)	2010/06/10		84	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/10		111	%	85 - 115
			Nitrate (N)	2010/06/10		97	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/10	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/10	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/10	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/10	NC		%	25
			Nitrate (N)	2010/06/10	0.3		%	25
2172916	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/06/09		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/06/09		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/06/09	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/06/09	0.03		%	20
2172920	DRM	Matrix Spike	Orthophosphate (P)	2010/06/09		85	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/06/09		105	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/06/09	0.02, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/06/09	NC		%	25
2172921	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/06/09		99	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/06/09		96	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/06/09	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/06/09	NC		%	25
2173054	ADB	Matrix Spike						
		[GB9034-05]	Total Ammonia-N	2010/06/09		100	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/06/09		101	%	85 - 115
		Method Blank	Total Ammonia-N	2010/06/09	ND, RDL=0.05		mg/L	
		RPD [GB9034-05]	Total Ammonia-N	2010/06/09	NC		%	25
2173170	JKU	QC Standard	Total BOD	2010/06/13		99	%	85 - 115
		Method Blank	Total BOD	2010/06/13	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/06/13	0		%	25
2173176	CP	Matrix Spike						
		[GB9040-05]	Total Chemical Oxygen Demand (COD)	2010/06/09		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/06/09		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/06/09	ND, RDL=4		mg/L	
		RPD [GB9040-05]	Total Chemical Oxygen Demand (COD)	2010/06/09	1.7		%	25
2173189	AFZ	Matrix Spike						
		[GB9039-07]	Dissolved Sulphur (S)	2010/06/08		92	%	85 - 115

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2173189	AFZ	Spiked Blank	Dissolved Sulphur (S)	2010/06/08		93	%	85 - 115
		Method Blank	Dissolved Sulphur (S)	2010/06/08	ND, RDL=0.5		mg/L	
		RPD [GB9039-07]	Dissolved Sulphur (S)	2010/06/08	1.7		%	25
2173204	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/06/08		95	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/06/08	ND, RDL=1		mg/L	
		RPD [GB9028-01]	Alkalinity (Total as CaCO3)	2010/06/08	1.3		%	25
2173207	YPA	Matrix Spike						
		[GB9028-01]	Fluoride (F-)	2010/06/08		104	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/06/08		101	%	85 - 115
		Method Blank	Fluoride (F-)	2010/06/08	ND, RDL=0.1		mg/L	
		RPD [GB9028-01]	Fluoride (F-)	2010/06/08	NC		%	25
2173208	YPA	QC Standard	Conductivity	2010/06/08		101	%	85 - 115
		Method Blank	Conductivity	2010/06/08	ND, RDL=1		umho/cm	
		RPD [GB9028-01]	Conductivity	2010/06/08	0.4		%	25
2173221	EAY	Method Blank	Carbon Dioxide	2010/06/08	ND, RDL=0.6		L/m3	
		RPD [GB9037-12]	Carbon Dioxide	2010/06/08	7.6		%	25
		RPD [GB9043-11]	Carbon Dioxide	2010/06/08	10.5		%	25
2173231	CP	Spiked Blank	Colour	2010/06/08		96	%	75 - 125
		Method Blank	Colour	2010/06/08	ND, RDL=2		TCU	
		RPD	Colour	2010/06/08	2.5		%	25
2173261	DRM	Matrix Spike						
		[GB9033-01]	Dissolved Chloride (Cl)	2010/06/09		98	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/06/09		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/06/09	ND, RDL=1		mg/L	
		RPD [GB9033-01]	Dissolved Chloride (Cl)	2010/06/09	NC		%	20
2173262	JBW	Matrix Spike						
		[GB9028-06]	Total Aluminum (Al)	2010/06/09		120	%	80 - 120
			Total Antimony (Sb)	2010/06/09		110	%	80 - 120
			Total Arsenic (As)	2010/06/09		107	%	80 - 120
			Total Barium (Ba)	2010/06/09		105	%	80 - 120
			Total Beryllium (Be)	2010/06/09		100	%	80 - 120
			Total Bismuth (Bi)	2010/06/09		105	%	80 - 120
			Total Boron (B)	2010/06/09		97	%	80 - 120
			Total Cadmium (Cd)	2010/06/09		107	%	80 - 120
			Total Calcium (Ca)	2010/06/09		NC	%	80 - 120
			Total Chromium (Cr)	2010/06/09		104	%	80 - 120
			Total Cobalt (Co)	2010/06/09		105	%	80 - 120
			Total Iron (Fe)	2010/06/09		109	%	80 - 120
			Total Lead (Pb)	2010/06/09		104	%	80 - 120
			Total Lithium (Li)	2010/06/09		103	%	80 - 120
			Total Magnesium (Mg)	2010/06/09		101	%	80 - 120
			Total Manganese (Mn)	2010/06/09		108	%	80 - 120
			Total Molybdenum (Mo)	2010/06/09		107	%	80 - 120
			Total Nickel (Ni)	2010/06/09		103	%	80 - 120
			Total Potassium (K)	2010/06/09		102	%	80 - 120
			Total Selenium (Se)	2010/06/09		108	%	80 - 120
			Total Silicon (Si)	2010/06/09		97	%	80 - 120
			Total Silver (Ag)	2010/06/09		100	%	80 - 120
			Total Sodium (Na)	2010/06/09		105	%	80 - 120
			Total Strontium (Sr)	2010/06/09		107	%	80 - 120
			Total Tellurium (Te)	2010/06/09		106	%	80 - 120
			Total Thallium (Tl)	2010/06/09		104	%	80 - 120
			Total Thorium (Th)	2010/06/09		103	%	80 - 120
			Total Tin (Sn)	2010/06/09		109	%	80 - 120
			Total Titanium (Ti)	2010/06/09		103	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2173262	JBW	Matrix Spike						
		[GB9028-06]	Total Tungsten (W)	2010/06/09		106	%	80 - 120
			Total Uranium (U)	2010/06/09		107	%	80 - 120
			Total Vanadium (V)	2010/06/09		104	%	80 - 120
			Total Zinc (Zn)	2010/06/09		106	%	80 - 120
			Total Zirconium (Zr)	2010/06/09		108	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/06/09		110	%	85 - 115
			Total Antimony (Sb)	2010/06/09		109	%	85 - 115
			Total Arsenic (As)	2010/06/09		110	%	85 - 115
			Total Barium (Ba)	2010/06/09		105	%	85 - 115
			Total Beryllium (Be)	2010/06/09		101	%	85 - 115
			Total Bismuth (Bi)	2010/06/09		104	%	85 - 115
			Total Boron (B)	2010/06/09		97	%	85 - 115
			Total Cadmium (Cd)	2010/06/09		109	%	85 - 116
			Total Calcium (Ca)	2010/06/09		105	%	85 - 115
			Total Chromium (Cr)	2010/06/09		107	%	85 - 115
			Total Cobalt (Co)	2010/06/09		108	%	85 - 115
			Total Iron (Fe)	2010/06/09		112	%	85 - 115
			Total Lead (Pb)	2010/06/09		105	%	85 - 115
			Total Lithium (Li)	2010/06/09		102	%	85 - 115
			Total Magnesium (Mg)	2010/06/09		109	%	85 - 115
			Total Manganese (Mn)	2010/06/09		110	%	85 - 115
			Total Molybdenum (Mo)	2010/06/09		106	%	85 - 115
			Total Nickel (Ni)	2010/06/09		108	%	85 - 115
			Total Potassium (K)	2010/06/09		101	%	85 - 115
			Total Selenium (Se)	2010/06/09		109	%	85 - 115
			Total Silicon (Si)	2010/06/09		99	%	85 - 115
			Total Silver (Ag)	2010/06/09		100	%	85 - 115
			Total Sodium (Na)	2010/06/09		106	%	85 - 115
			Total Strontium (Sr)	2010/06/09		110	%	85 - 115
			Total Tellurium (Te)	2010/06/09		105	%	85 - 115
			Total Thallium (Tl)	2010/06/09		105	%	85 - 115
			Total Thorium (Th)	2010/06/09		101	%	85 - 115
			Total Tin (Sn)	2010/06/09		108	%	85 - 115
			Total Titanium (Ti)	2010/06/09		103	%	85 - 115
			Total Tungsten (W)	2010/06/09		105	%	85 - 115
			Total Uranium (U)	2010/06/09		106	%	85 - 115
			Total Vanadium (V)	2010/06/09		107	%	85 - 115
			Total Zinc (Zn)	2010/06/09		109	%	85 - 115
			Total Zirconium (Zr)	2010/06/09		107	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/06/09	8, RDL=5		ug/L	
			Total Antimony (Sb)	2010/06/09	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/06/09	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/06/09	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/06/09	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/06/09	ND, RDL=1		ug/L	
			Total Boron (B)	2010/06/09	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/06/09	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/06/09	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/06/09	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/06/09	ND, RDL=0.5		ug/L	
			Total Iron (Fe)	2010/06/09	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/06/09	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/06/09	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/06/09	ND, RDL=50		ug/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2173262	JBW	Method Blank	Total Manganese (Mn)	2010/06/09	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/06/09	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/06/09	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/06/09	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/06/09	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/06/09	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/06/09	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/06/09	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/06/09	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/06/09	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/06/09	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/06/09	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/06/09	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/06/09	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/06/09	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/06/09	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/06/09	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/06/09	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/06/09	ND, RDL=1		ug/L	
		RPD [GB9028-06]	Total Aluminum (Al)	2010/06/09	14.7		%	25
			Total Antimony (Sb)	2010/06/09	NC		%	25
			Total Arsenic (As)	2010/06/09	NC		%	25
			Total Barium (Ba)	2010/06/09	NC		%	25
			Total Beryllium (Be)	2010/06/09	NC		%	25
			Total Bismuth (Bi)	2010/06/09	NC		%	25
			Total Boron (B)	2010/06/09	NC		%	25
			Total Cadmium (Cd)	2010/06/09	NC		%	25
			Total Calcium (Ca)	2010/06/09	1.1		%	25
			Total Chromium (Cr)	2010/06/09	NC		%	25
			Total Cobalt (Co)	2010/06/09	NC		%	25
			Total Iron (Fe)	2010/06/09	5.4		%	25
			Total Lead (Pb)	2010/06/09	NC		%	25
			Total Lithium (Li)	2010/06/09	NC		%	25
			Total Magnesium (Mg)	2010/06/09	1.3		%	25
			Total Manganese (Mn)	2010/06/09	0.8		%	25
			Total Molybdenum (Mo)	2010/06/09	NC		%	25
			Total Nickel (Ni)	2010/06/09	NC		%	25
			Total Potassium (K)	2010/06/09	2.1		%	25
			Total Selenium (Se)	2010/06/09	NC		%	25
			Total Silicon (Si)	2010/06/09	3.4		%	25
			Total Silver (Ag)	2010/06/09	NC		%	25
			Total Sodium (Na)	2010/06/09	2.4		%	25
			Total Strontium (Sr)	2010/06/09	1.6		%	25
			Total Tellurium (Te)	2010/06/09	NC		%	25
			Total Thallium (Tl)	2010/06/09	NC		%	25
			Total Thorium (Th)	2010/06/09	NC		%	25
			Total Tin (Sn)	2010/06/09	NC		%	25
			Total Titanium (Ti)	2010/06/09	NC		%	25
			Total Tungsten (W)	2010/06/09	NC		%	25
			Total Uranium (U)	2010/06/09	NC		%	25
			Total Vanadium (V)	2010/06/09	NC		%	25
			Total Zinc (Zn)	2010/06/09	NC		%	25
			Total Zirconium (Zr)	2010/06/09	NC		%	25
2173265	JOH	Matrix Spike [GB9028-06]	Total Sulphur (S)	2010/06/09		101	%	75 - 125

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2173265	JOH	Spiked Blank	Total Sulphur (S)	2010/06/09		102	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/06/09	ND, RDL=0.5		mg/L	
		RPD [GB9028-06]	Total Sulphur (S)	2010/06/09	NC		%	25
2173266	DRM	Matrix Spike						
		[GB9033-01]	Orthophosphate (P)	2010/06/09		95	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/06/09		106	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/06/09	0.02, RDL=0.01		mg/L	
		RPD [GB9033-01]	Orthophosphate (P)	2010/06/09	NC		%	25
2173267	DRM	Matrix Spike						
		[GB9033-01]	Dissolved Sulphate (SO4)	2010/06/09		110	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/06/09		93	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/06/09	ND, RDL=1		mg/L	
		RPD [GB9033-01]	Dissolved Sulphate (SO4)	2010/06/09	NC		%	25
2173383	JDE	Matrix Spike						
		[GB9041-05]	Total Kjeldahl Nitrogen (TKN)	2010/06/09		NC	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/06/09		99	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/09		97	%	80 - 120
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/09	0.2, RDL=0.1		mg/L	
		RPD [GB9041-05]	Total Kjeldahl Nitrogen (TKN)	2010/06/09	0.5		%	20
2173665	JBW	Matrix Spike						
		[GB9044-01]	Aluminum (Al)	2010/06/09		111	%	75 - 125
			Arsenic (As)	2010/06/09		103	%	75 - 125
			Antimony (Sb)	2010/06/09		110	%	75 - 125
			Barium (Ba)	2010/06/09		NC	%	75 - 125
			Beryllium (Be)	2010/06/09		97	%	75 - 125
			Bismuth (Bi)	2010/06/09		102	%	75 - 125
			Boron (B)	2010/06/09		103	%	75 - 125
			Cadmium (Cd)	2010/06/09		104	%	75 - 125
			Calcium (Ca)	2010/06/09		NC	%	75 - 125
			Chromium (Cr)	2010/06/09		104	%	75 - 125
			Cobalt (Co)	2010/06/09		102	%	75 - 125
			Copper (Cu)	2010/06/09		99	%	75 - 125
			Iron (Fe)	2010/06/09		107	%	75 - 125
			Lead (Pb)	2010/06/09		99	%	75 - 125
			Magnesium (Mg)	2010/06/09		NC	%	75 - 125
			Manganese (Mn)	2010/06/09		129 (1)	%	75 - 125
			Molybdenum (Mo)	2010/06/09		108	%	75 - 125
			Nickel (Ni)	2010/06/09		100	%	75 - 125
			Potassium (K)	2010/06/09		NC	%	75 - 125
			Selenium (Se)	2010/06/09		100	%	75 - 125
			Silver (Ag)	2010/06/09		98	%	75 - 125
			Sodium (Na)	2010/06/09		NC	%	75 - 125
			Strontium (Sr)	2010/06/09		NC	%	75 - 125
			Thallium (Tl)	2010/06/09		98	%	75 - 125
			Tin (Sn)	2010/06/09		84	%	75 - 125
			Titanium (Ti)	2010/06/09		100	%	75 - 125
			Vanadium (V)	2010/06/09		106	%	75 - 125
			Zinc (Zn)	2010/06/09		NC	%	75 - 125
		QC Standard	Arsenic (As)	2010/06/09		91	%	70 - 130
			Cadmium (Cd)	2010/06/09		100	%	70 - 130
			Chromium (Cr)	2010/06/09		79	%	60 - 140
			Cobalt (Co)	2010/06/09		95	%	70 - 130
			Copper (Cu)	2010/06/09		90	%	70 - 130
			Iron (Fe)	2010/06/09		88	%	70 - 130
			Lead (Pb)	2010/06/09		91	%	70 - 130

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2173665	JBW	QC Standard	Manganese (Mn)	2010/06/09		95	%	70 - 130
			Molybdenum (Mo)	2010/06/09		108	%	70 - 730
			Nickel (Ni)	2010/06/09		80	%	60 - 140
			Selenium (Se)	2010/06/09		108	%	70 - 130
			Strontium (Sr)	2010/06/09		99	%	70 - 130
			Vanadium (V)	2010/06/09		108	%	70 - 130
			Zinc (Zn)	2010/06/09		94	%	70 - 130
		Method Blank	Aluminum (Al)	2010/06/09	ND, RDL=0.3		ug/g	
			Arsenic (As)	2010/06/09	ND, RDL=0.1		ug/g	
			Antimony (Sb)	2010/06/09	ND, RDL=0.05		ug/g	
			Barium (Ba)	2010/06/09	ND, RDL=0.3		ug/g	
			Beryllium (Be)	2010/06/09	ND, RDL=0.05		ug/g	
			Bismuth (Bi)	2010/06/09	ND, RDL=0.05		ug/g	
			Boron (B)	2010/06/09	ND, RDL=0.5		ug/g	
			Cadmium (Cd)	2010/06/09	ND, RDL=0.01		ug/g	
			Calcium (Ca)	2010/06/09	ND, RDL=50		ug/g	
			Chromium (Cr)	2010/06/09	ND, RDL=0.3		ug/g	
			Cobalt (Co)	2010/06/09	ND, RDL=0.005		ug/g	
			Copper (Cu)	2010/06/09	ND, RDL=0.5		ug/g	
			Iron (Fe)	2010/06/09	ND, RDL=3		ug/g	
			Lead (Pb)	2010/06/09	ND, RDL=0.03		ug/g	
			Magnesium (Mg)	2010/06/09	ND, RDL=100		ug/g	
			Manganese (Mn)	2010/06/09	ND, RDL=0.3		ug/g	
			Molybdenum (Mo)	2010/06/09	ND, RDL=0.05		ug/g	
			Nickel (Ni)	2010/06/09	ND, RDL=0.05		ug/g	
			Phosphorus (P)	2010/06/09	ND, RDL=50		ug/g	
			Potassium (K)	2010/06/09	ND, RDL=100		ug/g	
			Selenium (Se)	2010/06/09	ND, RDL=0.2		ug/g	
			Silver (Ag)	2010/06/09	ND, RDL=0.05		ug/g	
			Sodium (Na)	2010/06/09	ND, RDL=50		ug/g	
			Strontium (Sr)	2010/06/09	ND, RDL=0.5		ug/g	
			Thallium (Tl)	2010/06/09	ND, RDL=0.003		ug/g	
			Tin (Sn)	2010/06/09	ND, RDL=0.3		ug/g	
			Titanium (Ti)	2010/06/09	ND, RDL=0.5		ug/g	
			Uranium (U)	2010/06/09	ND, RDL=0.005		ug/g	
			Vanadium (V)	2010/06/09	ND, RDL=0.05		ug/g	
			Zinc (Zn)	2010/06/09	ND, RDL=2		ug/g	
		RPD [GB9044-01]	Aluminum (Al)	2010/06/15	NC		%	20
			Arsenic (As)	2010/06/15	NC		%	20
			Antimony (Sb)	2010/06/15	NC		%	20
			Barium (Ba)	2010/06/15	79.3 (1)		%	20
			Beryllium (Be)	2010/06/15	NC		%	20
			Bismuth (Bi)	2010/06/15	NC		%	20
			Boron (B)	2010/06/15	NC		%	20
			Cadmium (Cd)	2010/06/15	NC		%	20
			Calcium (Ca)	2010/06/15	83.8 (1)		%	20
			Chromium (Cr)	2010/06/15	NC		%	20
			Cobalt (Co)	2010/06/15	NC		%	20
			Copper (Cu)	2010/06/15	NC		%	20
			Iron (Fe)	2010/06/15	3.2		%	20
			Lead (Pb)	2010/06/15	NC		%	20
			Magnesium (Mg)	2010/06/15	NC		%	20
			Manganese (Mn)	2010/06/15	68.1 (1)		%	20
			Molybdenum (Mo)	2010/06/15	NC		%	20
			Nickel (Ni)	2010/06/15	NC		%	20

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2173665	JBW	RPD [GB9044-01]	Phosphorus (P)	2010/06/15	55.4 (1)		%	20
			Potassium (K)	2010/06/15	1.6		%	20
			Selenium (Se)	2010/06/15	NC		%	20
			Silver (Ag)	2010/06/15	NC		%	20
			Sodium (Na)	2010/06/15	6.4		%	20
			Strontium (Sr)	2010/06/15	106 (1)		%	20
			Thallium (Tl)	2010/06/15	NC		%	20
			Tin (Sn)	2010/06/15	NC		%	20
			Titanium (Ti)	2010/06/15	NC		%	20
			Uranium (U)	2010/06/15	NC		%	20
			Vanadium (V)	2010/06/15	NC		%	20
			Zinc (Zn)	2010/06/15	30.5 (1)		%	20
2173687	LCH	Matrix Spike	Mercury (Hg)	2010/06/09		101	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/06/09		111	%	80 - 120
		Method Blank	Mercury (Hg)	2010/06/09	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/06/09	NC		%	25
2173749	MC	Matrix Spike [GB9044-01]	Mercury (Hg)	2010/06/10		NC (2)	%	75 - 125
		QC Standard	Mercury (Hg)	2010/06/10		100	%	70 - 130
		Method Blank	Mercury (Hg)	2010/06/10	ND, RDL=0.005		ug/g	
		RPD [GB9044-01]	Mercury (Hg)	2010/06/10	3.2		%	20
2173755	CP	Spiked Blank	Colour	2010/06/09		97	%	75 - 125
		Method Blank	Colour	2010/06/09	ND, RDL=2		TCU	
		RPD	Colour	2010/06/09	NC		%	25
2173832	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/06/09		96	%	80 - 120
			Dissolved Antimony (Sb)	2010/06/09		103	%	80 - 120
			Dissolved Arsenic (As)	2010/06/09		107	%	80 - 120
			Dissolved Barium (Ba)	2010/06/09		96	%	80 - 120
			Dissolved Beryllium (Be)	2010/06/09		95	%	80 - 120
			Dissolved Bismuth (Bi)	2010/06/09		97	%	80 - 120
			Dissolved Boron (B)	2010/06/09		93	%	80 - 120
			Dissolved Cadmium (Cd)	2010/06/09		96	%	80 - 120
			Dissolved Calcium (Ca)	2010/06/09		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/06/09		97	%	80 - 120
			Dissolved Cobalt (Co)	2010/06/09		94	%	80 - 120
			Dissolved Copper (Cu)	2010/06/09		89	%	80 - 120
			Dissolved Iron (Fe)	2010/06/09		98	%	80 - 120
			Dissolved Lead (Pb)	2010/06/09		93	%	80 - 120
			Dissolved Lithium (Li)	2010/06/09		95	%	80 - 120
			Dissolved Magnesium (Mg)	2010/06/09		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/06/09		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/06/09		108	%	80 - 120
			Dissolved Nickel (Ni)	2010/06/09		93	%	80 - 120
			Dissolved Phosphorus (P)	2010/06/09		104	%	80 - 120
			Dissolved Potassium (K)	2010/06/09		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/06/09		104	%	80 - 120
			Dissolved Silicon (Si)	2010/06/09		100	%	80 - 120
			Dissolved Silver (Ag)	2010/06/09		82	%	80 - 120
			Dissolved Sodium (Na)	2010/06/09		S	%	80 - 120
			Dissolved Strontium (Sr)	2010/06/09		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/06/09		94	%	80 - 120
			Dissolved Thallium (Tl)	2010/06/09		92	%	80 - 120
			Dissolved Thorium (Th)	2010/06/09		94	%	80 - 120
			Dissolved Tin (Sn)	2010/06/09		102	%	80 - 120
			Dissolved Titanium (Ti)	2010/06/09		103	%	80 - 120

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2173832	HRE	Matrix Spike	Dissolved Tungsten (W)	2010/06/09		102	%	80 - 120
			Dissolved Uranium (U)	2010/06/09		104	%	80 - 120
			Dissolved Vanadium (V)	2010/06/09		99	%	80 - 120
			Dissolved Zinc (Zn)	2010/06/09		88	%	80 - 120
			Dissolved Zirconium (Zr)	2010/06/09		108	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/06/09		99	%	90 - 110
			Dissolved Antimony (Sb)	2010/06/09		104	%	90 - 110
			Dissolved Arsenic (As)	2010/06/09		106	%	90 - 110
			Dissolved Barium (Ba)	2010/06/09		100	%	90 - 110
			Dissolved Beryllium (Be)	2010/06/09		100	%	90 - 110
			Dissolved Bismuth (Bi)	2010/06/09		107	%	90 - 110
			Dissolved Boron (B)	2010/06/09		100	%	90 - 110
			Dissolved Cadmium (Cd)	2010/06/09		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/06/09		107	%	90 - 110
			Dissolved Chromium (Cr)	2010/06/09		102	%	90 - 110
			Dissolved Cobalt (Co)	2010/06/09		100	%	90 - 110
			Dissolved Copper (Cu)	2010/06/09		100	%	90 - 110
			Dissolved Iron (Fe)	2010/06/09		106	%	90 - 110
			Dissolved Lead (Pb)	2010/06/09		104	%	90 - 110
			Dissolved Lithium (Li)	2010/06/09		99	%	90 - 110
			Dissolved Magnesium (Mg)	2010/06/09		104	%	90 - 110
			Dissolved Manganese (Mn)	2010/06/09		102	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/06/09		105	%	90 - 110
			Dissolved Nickel (Ni)	2010/06/09		102	%	90 - 110
			Dissolved Phosphorus (P)	2010/06/09		101	%	90 - 110
			Dissolved Potassium (K)	2010/06/09		105	%	90 - 110
			Dissolved Selenium (Se)	2010/06/09		102	%	90 - 110
			Dissolved Silicon (Si)	2010/06/09		104	%	90 - 110
			Dissolved Silver (Ag)	2010/06/09		100	%	90 - 110
			Dissolved Sodium (Na)	2010/06/09		106	%	90 - 110
			Dissolved Strontium (Sr)	2010/06/09		102	%	90 - 110
			Dissolved Tellurium (Te)	2010/06/09		101	%	90 - 110
			Dissolved Thallium (Tl)	2010/06/09		104	%	90 - 110
			Dissolved Thorium (Th)	2010/06/09		101	%	90 - 110
			Dissolved Tin (Sn)	2010/06/09		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/06/09		106	%	90 - 110
			Dissolved Tungsten (W)	2010/06/09		108	%	90 - 110
			Dissolved Uranium (U)	2010/06/09		109	%	90 - 110
			Dissolved Vanadium (V)	2010/06/09		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/06/09		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/06/09		107	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/06/09	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/06/09	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/06/09	ND, RDL=0.5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: SW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2173832	HRE	Method Blank	Dissolved Lithium (Li)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/06/09	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/06/09	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/06/09	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/06/09	NC		%	25
2173836	SMT	Matrix Spike						
		[GB9043-01]	Reactive Silica (SiO2)	2010/06/09		97	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/06/09		99	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/06/09		98	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/06/09	ND, RDL=0.5		mg/L	
		RPD [GB9043-01]	Reactive Silica (SiO2)	2010/06/09	NC		%	25
2174074	HRE	Matrix Spike	. Aluminum (Al)	2010/06/09		94	%	80 - 120
			. Antimony (Sb)	2010/06/09		105	%	80 - 120
			. Arsenic (As)	2010/06/09		103	%	80 - 120
			. Barium (Ba)	2010/06/09		95	%	80 - 120
			. Beryllium (Be)	2010/06/09		96	%	80 - 120
			. Bismuth (Bi)	2010/06/09		102	%	80 - 120
			. Boron (B)	2010/06/09		96	%	80 - 120
			. Cadmium (Cd)	2010/06/09		98	%	80 - 120
			. Calcium (Ca)	2010/06/09		NC	%	80 - 120
			. Chromium (Cr)	2010/06/09		97	%	80 - 120
			. Cobalt (Co)	2010/06/09		93	%	80 - 120
			. Copper (Cu)	2010/06/09		93	%	80 - 120
			. Iron (Fe)	2010/06/09		99	%	80 - 120
			. Lead (Pb)	2010/06/09		99	%	80 - 120
			. Lithium (Li)	2010/06/09		96	%	80 - 120
			. Magnesium (Mg)	2010/06/09		NC	%	80 - 120
			. Manganese (Mn)	2010/06/09		97	%	80 - 120
			. Molybdenum (Mo)	2010/06/09		103	%	80 - 120
			. Nickel (Ni)	2010/06/09		94	%	80 - 120
			. Phosphorus (P)	2010/06/09		98	%	80 - 120
			. Potassium (K)	2010/06/09		99	%	80 - 120
			. Selenium (Se)	2010/06/09		99	%	80 - 120
			. Silicon (Si)	2010/06/09		99	%	80 - 120
			. Silver (Ag)	2010/06/09		96	%	80 - 120
			. Sodium (Na)	2010/06/09		NC	%	80 - 120
			. Strontium (Sr)	2010/06/09		99	%	80 - 120

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2174074 HRE	Matrix Spike	. Tellurium (Te)	2010/06/09		97	%	80 - 120
		. Thallium (Tl)	2010/06/09		99	%	80 - 120
		. Thorium (Th)	2010/06/09		95	%	80 - 120
		. Tin (Sn)	2010/06/09		99	%	80 - 120
		. Titanium (Ti)	2010/06/09		101	%	80 - 120
		. Tungsten (W)	2010/06/09		103	%	80 - 120
		. Uranium (U)	2010/06/09		105	%	80 - 120
		. Vanadium (V)	2010/06/09		96	%	80 - 120
		. Zinc (Zn)	2010/06/09		94	%	80 - 120
		. Zirconium (Zr)	2010/06/09		104	%	80 - 120
	Spiked Blank	. Aluminum (Al)	2010/06/09		97	%	90 - 110
		. Antimony (Sb)	2010/06/09		101	%	90 - 110
		. Arsenic (As)	2010/06/09		102	%	90 - 110
		. Barium (Ba)	2010/06/09		96	%	90 - 110
		. Beryllium (Be)	2010/06/09		97	%	90 - 110
		. Bismuth (Bi)	2010/06/09		103	%	90 - 110
		. Boron (B)	2010/06/09		95	%	90 - 110
		. Cadmium (Cd)	2010/06/09		99	%	90 - 110
		. Calcium (Ca)	2010/06/09		104	%	90 - 110
		. Chromium (Cr)	2010/06/09		98	%	90 - 110
		. Cobalt (Co)	2010/06/09		96	%	90 - 110
		. Copper (Cu)	2010/06/09		97	%	90 - 110
		. Iron (Fe)	2010/06/09		101	%	90 - 110
		. Lead (Pb)	2010/06/09		100	%	90 - 110
		. Lithium (Li)	2010/06/09		97	%	90 - 110
		. Magnesium (Mg)	2010/06/09		100	%	90 - 110
		. Manganese (Mn)	2010/06/09		100	%	90 - 110
		. Molybdenum (Mo)	2010/06/09		103	%	90 - 110
		. Nickel (Ni)	2010/06/09		98	%	90 - 110
		. Phosphorus (P)	2010/06/09		99	%	90 - 110
		. Potassium (K)	2010/06/09		101	%	90 - 110
		. Selenium (Se)	2010/06/09		99	%	90 - 110
		. Silicon (Si)	2010/06/09		102	%	90 - 110
		. Silver (Ag)	2010/06/09		97	%	90 - 110
		. Sodium (Na)	2010/06/09		101	%	90 - 110
		. Strontium (Sr)	2010/06/09		98	%	90 - 110
		. Tellurium (Te)	2010/06/09		97	%	90 - 110
		. Thallium (Tl)	2010/06/09		99	%	90 - 110
		. Thorium (Th)	2010/06/09		97	%	90 - 110
		. Tin (Sn)	2010/06/09		99	%	90 - 110
		. Titanium (Ti)	2010/06/09		103	%	90 - 110
		. Tungsten (W)	2010/06/09		103	%	90 - 110
		. Uranium (U)	2010/06/09		106	%	90 - 110
		. Vanadium (V)	2010/06/09		97	%	90 - 110
		. Zinc (Zn)	2010/06/09		99	%	90 - 110
		. Zirconium (Zr)	2010/06/09		104	%	90 - 110
	Method Blank	. Aluminum (Al)	2010/06/09	ND, RDL=5		ug/L	
		. Antimony (Sb)	2010/06/09	ND, RDL=0.5		ug/L	
		. Arsenic (As)	2010/06/09	ND, RDL=1		ug/L	
		. Barium (Ba)	2010/06/09	ND, RDL=5		ug/L	
		. Beryllium (Be)	2010/06/09	ND, RDL=0.5		ug/L	
		. Bismuth (Bi)	2010/06/09	ND, RDL=1		ug/L	
		. Boron (B)	2010/06/09	ND, RDL=10		ug/L	
		. Cadmium (Cd)	2010/06/09	ND, RDL=0.1		ug/L	
		. Calcium (Ca)	2010/06/09	ND, RDL=200		ug/L	

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2174074	HRE	Method Blank	. Chromium (Cr)	2010/06/09	ND, RDL=5		ug/L	
			. Cobalt (Co)	2010/06/09	ND, RDL=0.5		ug/L	
			. Copper (Cu)	2010/06/09	ND, RDL=1		ug/L	
			. Iron (Fe)	2010/06/09	ND, RDL=100		ug/L	
			. Lead (Pb)	2010/06/09	ND, RDL=0.5		ug/L	
			. Lithium (Li)	2010/06/09	ND, RDL=5		ug/L	
			. Magnesium (Mg)	2010/06/09	ND, RDL=50		ug/L	
			. Manganese (Mn)	2010/06/09	ND, RDL=2		ug/L	
			. Molybdenum (Mo)	2010/06/09	ND, RDL=1		ug/L	
			. Nickel (Ni)	2010/06/09	ND, RDL=1		ug/L	
			. Phosphorus (P)	2010/06/09	ND, RDL=100		ug/L	
			. Potassium (K)	2010/06/09	ND, RDL=200		ug/L	
			. Selenium (Se)	2010/06/09	ND, RDL=2		ug/L	
			. Silicon (Si)	2010/06/09	ND, RDL=50		ug/L	
			. Silver (Ag)	2010/06/09	ND, RDL=0.1		ug/L	
			. Sodium (Na)	2010/06/09	ND, RDL=100		ug/L	
			. Strontium (Sr)	2010/06/09	ND, RDL=1		ug/L	
			. Tellurium (Te)	2010/06/09	ND, RDL=1		ug/L	
			. Thallium (Tl)	2010/06/09	ND, RDL=0.05		ug/L	
			. Thorium (Th)	2010/06/09	ND, RDL=1		ug/L	
			. Tin (Sn)	2010/06/09	ND, RDL=1		ug/L	
			. Titanium (Ti)	2010/06/09	ND, RDL=5		ug/L	
			. Tungsten (W)	2010/06/09	ND, RDL=1		ug/L	
			. Uranium (U)	2010/06/09	ND, RDL=0.1		ug/L	
			. Vanadium (V)	2010/06/09	ND, RDL=1		ug/L	
			. Zinc (Zn)	2010/06/09	ND, RDL=5		ug/L	
			. Zirconium (Zr)	2010/06/09	ND, RDL=1		ug/L	
		RPD	. Uranium (U)	2010/06/09	NC		%	25
2174097	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/06/09		100	%	80 - 120
			Dissolved Antimony (Sb)	2010/06/09		105	%	80 - 120
			Dissolved Arsenic (As)	2010/06/09		99	%	80 - 120
			Dissolved Barium (Ba)	2010/06/09		100	%	80 - 120
			Dissolved Beryllium (Be)	2010/06/09		101	%	80 - 120
			Dissolved Bismuth (Bi)	2010/06/09		96	%	80 - 120
			Dissolved Boron (B)	2010/06/09		102	%	80 - 120
			Dissolved Cadmium (Cd)	2010/06/09		103	%	80 - 120
			Dissolved Calcium (Ca)	2010/06/09		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/06/09		100	%	80 - 120
			Dissolved Cobalt (Co)	2010/06/09		97	%	80 - 120
			Dissolved Copper (Cu)	2010/06/09		97	%	80 - 120
			Dissolved Iron (Fe)	2010/06/09		NC	%	80 - 120
			Dissolved Lead (Pb)	2010/06/09		97	%	80 - 120
			Dissolved Lithium (Li)	2010/06/09		100	%	80 - 120
			Dissolved Magnesium (Mg)	2010/06/09		95	%	80 - 120
			Dissolved Manganese (Mn)	2010/06/09		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/06/09		102	%	80 - 120
			Dissolved Nickel (Ni)	2010/06/09		96	%	80 - 120
			Dissolved Phosphorus (P)	2010/06/09		106	%	80 - 120
			Dissolved Potassium (K)	2010/06/09		98	%	80 - 120
			Dissolved Selenium (Se)	2010/06/09		104	%	80 - 120
			Dissolved Silicon (Si)	2010/06/09		99	%	80 - 120
			Dissolved Silver (Ag)	2010/06/09		98	%	80 - 120
			Dissolved Sodium (Na)	2010/06/09		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/06/09		98	%	80 - 120
			Dissolved Tellurium (Te)	2010/06/09		103	%	80 - 120

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2174097	JBW	Matrix Spike	Dissolved Thallium (Tl)	2010/06/09		97	%	80 - 120
			Dissolved Thorium (Th)	2010/06/09		98	%	80 - 120
			Dissolved Tin (Sn)	2010/06/09		105	%	80 - 120
			Dissolved Titanium (Ti)	2010/06/09		98	%	80 - 120
			Dissolved Tungsten (W)	2010/06/09		98	%	80 - 120
			Dissolved Uranium (U)	2010/06/09		100	%	80 - 120
			Dissolved Vanadium (V)	2010/06/09		101	%	80 - 120
			Dissolved Zinc (Zn)	2010/06/09		99	%	80 - 120
			Dissolved Zirconium (Zr)	2010/06/09		106	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/06/09		104	%	90 - 110
			Dissolved Antimony (Sb)	2010/06/09		104	%	90 - 110
			Dissolved Arsenic (As)	2010/06/09		98	%	90 - 110
			Dissolved Barium (Ba)	2010/06/09		101	%	90 - 110
			Dissolved Beryllium (Be)	2010/06/09		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/06/09		98	%	90 - 110
			Dissolved Boron (B)	2010/06/09		106	%	90 - 110
			Dissolved Cadmium (Cd)	2010/06/09		104	%	90 - 110
			Dissolved Calcium (Ca)	2010/06/09		102	%	90 - 110
			Dissolved Chromium (Cr)	2010/06/09		101	%	90 - 110
			Dissolved Cobalt (Co)	2010/06/09		100	%	90 - 110
			Dissolved Copper (Cu)	2010/06/09		101	%	90 - 110
			Dissolved Iron (Fe)	2010/06/09		104	%	90 - 110
			Dissolved Lead (Pb)	2010/06/09		99	%	90 - 110
			Dissolved Lithium (Li)	2010/06/09		100	%	90 - 110
			Dissolved Magnesium (Mg)	2010/06/09		101	%	90 - 110
			Dissolved Manganese (Mn)	2010/06/09		103	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/06/09		104	%	90 - 110
			Dissolved Nickel (Ni)	2010/06/09		100	%	90 - 110
			Dissolved Phosphorus (P)	2010/06/09		109	%	90 - 110
			Dissolved Potassium (K)	2010/06/09		100	%	90 - 110
			Dissolved Selenium (Se)	2010/06/09		104	%	90 - 110
			Dissolved Silicon (Si)	2010/06/09		103	%	90 - 110
			Dissolved Silver (Ag)	2010/06/09		101	%	90 - 110
			Dissolved Sodium (Na)	2010/06/09		102	%	90 - 110
			Dissolved Strontium (Sr)	2010/06/09		102	%	90 - 110
			Dissolved Tellurium (Te)	2010/06/09		104	%	90 - 110
			Dissolved Thallium (Tl)	2010/06/09		97	%	90 - 110
			Dissolved Thorium (Th)	2010/06/09		99	%	90 - 110
			Dissolved Tin (Sn)	2010/06/09		107	%	90 - 110
			Dissolved Titanium (Ti)	2010/06/09		98	%	90 - 110
			Dissolved Tungsten (W)	2010/06/09		99	%	90 - 110
			Dissolved Uranium (U)	2010/06/09		102	%	90 - 110
			Dissolved Vanadium (V)	2010/06/09		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/06/09		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/06/09		106	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/06/09	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/06/09	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/06/09	ND, RDL=5		ug/L	

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2174097	JBW	Method Blank	Dissolved Cobalt (Co)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/06/09	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/06/09	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/06/09	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/06/09	NC		%	25
2174195	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/06/09		94	%	80 - 120
			Dissolved Antimony (Sb)	2010/06/09		100	%	80 - 120
			Dissolved Arsenic (As)	2010/06/09		104	%	80 - 120
			Dissolved Barium (Ba)	2010/06/09		94	%	80 - 120
			Dissolved Beryllium (Be)	2010/06/09		94	%	80 - 120
			Dissolved Bismuth (Bi)	2010/06/09		97	%	80 - 120
			Dissolved Boron (B)	2010/06/09		94	%	80 - 120
			Dissolved Cadmium (Cd)	2010/06/09		96	%	80 - 120
			Dissolved Calcium (Ca)	2010/06/09		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/06/09		97	%	80 - 120
			Dissolved Cobalt (Co)	2010/06/09		92	%	80 - 120
			Dissolved Copper (Cu)	2010/06/09		91	%	80 - 120
			Dissolved Iron (Fe)	2010/06/09		97	%	80 - 120
			Dissolved Lead (Pb)	2010/06/09		94	%	80 - 120
			Dissolved Lithium (Li)	2010/06/09		94	%	80 - 120
			Dissolved Magnesium (Mg)	2010/06/09		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/06/09		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/06/09		103	%	80 - 120
			Dissolved Nickel (Ni)	2010/06/09		92	%	80 - 120
			Dissolved Phosphorus (P)	2010/06/09		111	%	80 - 120
			Dissolved Potassium (K)	2010/06/09		98	%	80 - 120
			Dissolved Selenium (Se)	2010/06/09		97	%	80 - 120
			Dissolved Silicon (Si)	2010/06/09		100	%	80 - 120
			Dissolved Silver (Ag)	2010/06/09		75 (1)	%	80 - 120
			Dissolved Sodium (Na)	2010/06/09		NC (2)	%	80 - 120
			Dissolved Strontium (Sr)	2010/06/09		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/06/09		92	%	80 - 120
			Dissolved Thallium (Tl)	2010/06/09		92	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: SW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2174195 HRE	Matrix Spike	Dissolved Thorium (Th)	2010/06/09		93	%	80 - 120
		Dissolved Tin (Sn)	2010/06/09		99	%	80 - 120
		Dissolved Titanium (Ti)	2010/06/09		100	%	80 - 120
		Dissolved Tungsten (W)	2010/06/09		101	%	80 - 120
		Dissolved Uranium (U)	2010/06/09		103	%	80 - 120
		Dissolved Vanadium (V)	2010/06/09		96	%	80 - 120
		Dissolved Zinc (Zn)	2010/06/09		89	%	80 - 120
		Dissolved Zirconium (Zr)	2010/06/09		106	%	80 - 120
	Spiked Blank	Dissolved Aluminum (Al)	2010/06/09		97	%	90 - 110
		Dissolved Antimony (Sb)	2010/06/09		100	%	90 - 110
		Dissolved Arsenic (As)	2010/06/09		103	%	90 - 110
		Dissolved Barium (Ba)	2010/06/09		97	%	90 - 110
		Dissolved Beryllium (Be)	2010/06/09		96	%	90 - 110
		Dissolved Bismuth (Bi)	2010/06/09		102	%	90 - 110
		Dissolved Boron (B)	2010/06/09		94	%	90 - 110
		Dissolved Cadmium (Cd)	2010/06/09		97	%	90 - 110
		Dissolved Calcium (Ca)	2010/06/09		104	%	90 - 110
		Dissolved Chromium (Cr)	2010/06/09		99	%	90 - 110
		Dissolved Cobalt (Co)	2010/06/09		97	%	90 - 110
		Dissolved Copper (Cu)	2010/06/09		99	%	90 - 110
		Dissolved Iron (Fe)	2010/06/09		102	%	90 - 110
		Dissolved Lead (Pb)	2010/06/09		100	%	90 - 110
		Dissolved Lithium (Li)	2010/06/09		96	%	90 - 110
		Dissolved Magnesium (Mg)	2010/06/09		102	%	90 - 110
		Dissolved Manganese (Mn)	2010/06/09		100	%	90 - 110
		Dissolved Molybdenum (Mo)	2010/06/09		102	%	90 - 110
		Dissolved Nickel (Ni)	2010/06/09		99	%	90 - 110
		Dissolved Phosphorus (P)	2010/06/09		99	%	90 - 110
		Dissolved Potassium (K)	2010/06/09		102	%	90 - 110
		Dissolved Selenium (Se)	2010/06/09		100	%	90 - 110
		Dissolved Silicon (Si)	2010/06/09		102	%	90 - 110
		Dissolved Silver (Ag)	2010/06/09		97	%	90 - 110
		Dissolved Sodium (Na)	2010/06/09		102	%	90 - 110
		Dissolved Strontium (Sr)	2010/06/09		99	%	90 - 110
		Dissolved Tellurium (Te)	2010/06/09		97	%	90 - 110
		Dissolved Thallium (Tl)	2010/06/09		99	%	90 - 110
		Dissolved Thorium (Th)	2010/06/09		95	%	90 - 110
		Dissolved Tin (Sn)	2010/06/09		98	%	90 - 110
		Dissolved Titanium (Ti)	2010/06/09		103	%	90 - 110
		Dissolved Tungsten (W)	2010/06/09		103	%	90 - 110
		Dissolved Uranium (U)	2010/06/09		106	%	90 - 110
		Dissolved Vanadium (V)	2010/06/09		98	%	90 - 110
		Dissolved Zinc (Zn)	2010/06/09		100	%	90 - 110
		Dissolved Zirconium (Zr)	2010/06/09		104	%	90 - 110
	Method Blank	Dissolved Aluminum (Al)	2010/06/09	ND, RDL=5		ug/L	
		Dissolved Antimony (Sb)	2010/06/09	ND, RDL=0.5		ug/L	
		Dissolved Arsenic (As)	2010/06/09	ND, RDL=1		ug/L	
		Dissolved Barium (Ba)	2010/06/09	ND, RDL=5		ug/L	
		Dissolved Beryllium (Be)	2010/06/09	ND, RDL=0.5		ug/L	
		Dissolved Bismuth (Bi)	2010/06/09	ND, RDL=1		ug/L	
		Dissolved Boron (B)	2010/06/09	ND, RDL=10		ug/L	
		Dissolved Cadmium (Cd)	2010/06/09	ND, RDL=0.1		ug/L	
		Dissolved Calcium (Ca)	2010/06/09	ND, RDL=200		ug/L	
		Dissolved Chromium (Cr)	2010/06/09	ND, RDL=5		ug/L	
		Dissolved Cobalt (Co)	2010/06/09	ND, RDL=0.5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: SW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB071617

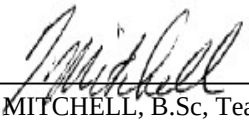
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2174195	HRE	Method Blank	Dissolved Copper (Cu)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/06/09	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/06/09	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/06/09	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/06/09	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/06/09	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/06/09	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/06/09	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/06/09	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/06/09	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/06/09	ND, RDL=1		ug/L	
		RPD	Dissolved Lead (Pb)	2010/06/09	NC		%	25
2177090	VIV	Matrix Spike	Total Copper (Cu)	2010/06/12		101	%	80 - 120
		Spiked Blank	Total Copper (Cu)	2010/06/12		103	%	85 - 115
		Method Blank	Total Copper (Cu)	2010/06/12	ND, RDL=1		ug/L	
		RPD	Total Copper (Cu)	2010/06/12	12.4		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.
(2) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

Validation Signature Page

Maxxam Job #: B071617

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



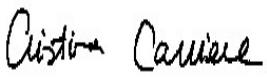
TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section



KEVIN MACDONALD, Inorganics Supervisor



GRACE SISON, Technical and Customer Service Coordinator



CRISTINA CARRIERE, Scientific Services

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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IMMEDIATE TEST

3-Jun-10 09:20
ANTONELLA BRASIL

B071617
FW ENV-929

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CHAIN OF

Page 1 of 4

BOD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATI		Use Only:	
Company Name:	#23403 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	BOTTLE ORDER #:	193183
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:			
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:		C#193183-01-01	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐ Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Metals Analysis by ICP	Dissolved Metals by ICPMS	Dissolved Phosphorus	Mercury in Water by CVAA	Nitrate (NO3) and Nitrite (NO2) in Water	pH	Total Cyanide	Total Dissolved Solids	# of Bottles	Comments
1		SW 1A	June 2 2010	1:30 pm	WT		✓	–	–	–	–	–	–	–	–	✓	–	17	
2		SW 2	June 2/10	3:47 pm	WT		–	–	–	✓	–	✓	–	–	–	✓	–	17	
3		SW 3	June 2/10	2:00 pm	WT		–	✓	–	✓	–	✓	–	–	–	–	–	17	
4		SW 4	June 2/10	12:15 pm	WT		✓	✓	–	✓	–	✓	–	–	✓	✓	–	17	
5		SW 7A	June 2/10	4:30 pm	WT		–	✓	–	✓	–	✓	–	✓	–	✓	–	17	
6		SW 10	June 2/10	1:10 pm	WT		–	✓	–	✓	–	✓	–	✓	–	✓	–	17	JUN 4'10 0939
7		SW 11	June 2/10	12:45 pm	WT		–	✓	–	–	–	✓	–	✓	–	–	–	17	
8		SW 12 A	June 2/10	3:15 pm	WT		✓	✓	–	✓	–	✓	–	✓	–	✓	–	17	
9		SW 13	June 2/10	2:20	WT		–	✓	–	–	–	✓	–	–	–	–	–	17	REC'D IN WINNIPEG
10		SW 14	June 2/10	2:45 pm	WT		✓	–	–	–	–	✓	–	–	–	–	–	17	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. HENTELEFF	10/06/03	8:00am	Sheri Bekkin	Jun 3/10	9:20		X	14.0/13.0	☐ Yes ☐ No
M. Henteleff			HLA Misissauga	10/06/04	09:35				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 193183
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:		C#193183-02-02	ANTONELLA BRASIL
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Residential/Parkland
☐ Reg. 558 ☐ Table 2 ☐ Industrial/Commercial
☐ Table 3 ☐ Medium/Fine
☐ Table 6 ☐ Coarse
Municipality
Other (specify)
Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS
Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:
PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Carbon Dioxide in Water	Low Level Total Suspended Solids	Sulphide	# of Bottles	Comments
1		SW 1	June 2/10	1:30 pm	WT		-	✓	-	✓	✓	✓	✓	✓	-	✓	✓	17	
2		SW 2	June 2/10	3:47 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	
3		SW 3	June 2/10	2:00 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	
4		SW 4	June 2/10	12:15 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	
5		SW 7A	June 2/10	4:30 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	
6		SW 10	June 2/10	1:10 pm	WT		-	✓	✓	✓	✓	✓	✓	✓	-	✓	-	17	
7		SW 11	June 2/10	12:45 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	JUN 4'10 0830
8		SW 12A	June 2/10	3:15 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	
9		SW 13	June 2/10	2:20 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	RECD IN WINNIPEG
10		SW 14	June 2/10	2:45 pm	WT		-	✓	-	✓	-	✓	-	✓	-	✓	-	17	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. HENTELEFF	10/06/03	8:00		10 06 04	09:39		X	10/10/10C 9/10/9C 9/10/9C	☐ Yes ☐ No
M. Henteleff		am							

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			193183
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:			
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:		C#193183-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Carbon Dioxide in Water	Low Level Total Suspended Solids	Sulphide	# of Bottles	Comments
1		SW 15	June 2/10	9:55 Am	WT		✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	17	
2		SW 16	June 2/10	11:00 Am	WT		✓	✓	—	✓	—	✓	✓	✓	✓	✓	✓	17	
3		SW 17	June 2/10	9:30 Am	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
4		SW 18	June 2/10	4:10 pm	WT		✓	✓	—	✓	—	✓	✓	✓	✓	✓	✓	17	
5		SW 6	June 2/10	4:20	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
6																			JUN 4'10 9:40
7																			
8																			
9																			RECD IN WINNIPEG
10																			

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff	10/06/03	8:00 am		10/06/04	09:39	
M. Henteleff						

Laboratory Use Only
Time Sensitive: [X]
Temperature (°C) on Receipt: 9/10/10C 9/10/9C 9/10/9C 10/9/10C
Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			193183
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		C#193183-02-01	ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:			
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS
Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Metals Analysis by ICP	Dissolved Metals by ICPMS	Dissolved Phosphorus	Mercury in Water by CVAA	Nitrate (NO3) and Nitrite (NO2) in Water	pH	Total Cyanide	Total Dissolved Solids	# of Bottles	Comments
1		SW 15	June 2/10	9:55 Am	WT		✓	—	✓	—	✓	✓	✓	—	✓	✓	✓	17	
2		SW 16	June 2/10	11:00 Am	WT		—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
3		SW 17	June 2/10	9:30 Am	WT		✓	✓	—	✓	—	✓	✓	✓	✓	✓	✓	17	
4		SW 18	June 2/10	4:10 pm	WT		—	✓	✓	✓	—	✓	—	✓	✓	✓	✓	17	
5		SW 6	June 2/10	4:20	WT		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
6																			JUN 4 '10
7																			
8																			
9																			REC'D IN WINNIPEG
10																			

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Henteleff	10/06/03	8:00am		10/06/04	09:34		[X]	9/10/9c 9/10/9c 9/10/9c 9/10/9c 9/10/9c	☐ Yes ☐ No
M. Henteleff									

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

MAXXAM ANALYTICS
6740 Campobello Road
Mississauga, Ontario, L5N 2L8
Phone: (905) 817-5700
Fax: (905) 817-5777

Rainy River Resources Ltd
Maxxam PM Antonella Brasil

SUBCONTRACTING REQUEST FORM

To: Maxxam Sladeview Petrochemical

Job# B071617

☐ Yes ☑ No International Sample/BioHazard (if yes, add copy of Movement Cert., heat treat is required prior to disposal)
☐ Yes ☑ No Special Protocol (if yes, Protocol _____)

Received @ Subcontract Lab by (sign) _____ (print) _____

Received @ Subcontract Lab (Date) _____ (Time) _____

Received Lab's Job # _____ Inspected by (print) _____ SIF ☐ Yes ☐ No
Upon receipt, record 3 temperatures for **each** package/cooler. If required by contract or legal sample, indicate if custody sealed.

Temp1 _____ Temp2 _____ Temp3 _____ Custody sealed _____

Sample ID	Matrix	Test(s) Required	Container	Date Sampled	Date Required
GB9028-02R \ SW1A	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9028-04R \ SW1A	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9029-02R \ SW2	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9029-04R \ SW2	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9030-04R \ SW3	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9030-02R \ SW3	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9031-02R \ SW4	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9031-04R \ SW4	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9032-02R \ SW7A	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9032-04R \ SW7A	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9033-02R \ SW10	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9033-04R \ SW10	W	Redox Potential	2(G250)	2010/06/02	2010/06/09
GB9034-02R \ SW11	W	Acidity as CaC03 in liquid	1(BOD)	2010/06/02	2010/06/09
GB9034-04R \ SW11	W	Redox Potential	2(G250)	2010/06/02	2010/06/09

Continued...

Your Project #: MB071617
Your C.O.C. #: 08317384

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/06/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B042077
Received: 2010/06/08, 08:35

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/06/09	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 639-2616 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B042077
Report Date: 2010/06/11

Client Project #: MB071617

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		U63481	U63482	U63483	U63484		
Sampling Date		2010/06/02	2010/06/02	2010/06/02	2010/06/02		
COC Number		08317384	08317384	08317384	08317384		
	Units	**GB9028-08R\SW1A**	**GB9029-08R\SW2**	**GB9030-08R\SW3**	**GB9031-08R\SW4**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0015	0.0011	0.0014	0.0011	0.0005	4019478

RDL = Reportable Detection Limit

Maxxam ID		U63485	U63486	U63487	U63488		
Sampling Date		2010/06/02	2010/06/02	2010/06/02	2010/06/02		
COC Number		08317384	08317384	08317384	08317384		
	Units	**GB9032-08R\SW7A**	**GB9033-08R\SW10**	**GB9034-08R\SW11**	**GB9035-08R\SW12A**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0010	0.0014	0.0015	0.0012	0.0005	4019478

RDL = Reportable Detection Limit

Maxxam ID		U63489	U63490	U63491	U63492		
Sampling Date		2010/06/02	2010/06/02	2010/06/02	2010/06/02		
COC Number		08317384	08317384	08317384	08317384		
	Units	**GB9036-08R\SW13**	**GB9037-08R\SW14**	**GB9038-08R\SW15**	**GB9039-08R\SW16**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0012	0.0014	0.0016	0.0010	0.0005	4019478

RDL = Reportable Detection Limit

Maxxam ID		U63493	U63494	U63495	U63496		
Sampling Date		2010/06/02	2010/06/02	2010/06/02	2010/06/02		
COC Number		08317384	08317384	08317384	08317384		
	Units	**GB9040-08R\SW17**	**GB9041-08R\SW18**	**GB9042-08R\SW6**	**GB9043-07R\TRIP BLANK**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0013	0.0016	0.0015	<0.0005	0.0005	4019478

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B042077
Report Date: 2010/06/11

Client Project #: MB071617

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		U63496		
Sampling Date		2010/06/02		
COC Number		08317384		
	Units	**GB9043-07R\TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics				
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	4019478

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B042077
Report Date: 2010/06/11

Client Project #: MB071617

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB071617
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB042077

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4019478	TS1	Matrix Spike [U63496-01]	Weak Acid Dissoc. Cyanide (CN)	2010/06/09		102	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/09		106	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/09	<0.0005		mg/L	
		RPD [U63496-01]	Weak Acid Dissoc. Cyanide (CN)	2010/06/09	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B042077

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
June 2010

Your C.O.C. #: 19512201, 195122-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/07/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B083607
Received: 2010/06/26, 12:40

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/06/29	2010/07/07	SLA SOP-00100	APHA SM2310B
Alkalinity	16	N/A	2010/06/30	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/07/02		
Biological Oxygen Demand (BOD)	16	N/A	2010/07/03	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	2	N/A	2010/06/30	CAM SOP-00463	SM 4500 Cl E
Chloride by Automated Colourimetry	14	N/A	2010/07/05	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/06/30	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/07/06	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/07/05	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/06/30	CAM SOP-00448	SM 2510
Total Cyanide	13	2010/06/29	2010/07/02	CAM SOP-00457	EPA 335.3
Total Cyanide	3	2010/07/02	2010/07/02	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	16	N/A	2010/07/04	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/06/28	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/06/30	2010/06/30	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/06/28		
Hardness (calculated as CaCO3)	16	N/A	2010/07/05	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	15	2010/07/02	2010/07/02	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	16	2010/07/03	2010/07/05	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	16	2010/07/03	2010/07/05	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/07/06	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/07/05	2010/07/06	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/07/05	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (9)	16	N/A	2010/06/30	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2010/06/28	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/06/28	2010/06/28	CAM SOP-00326	EPA 1664A
pH	16	N/A	2010/06/30	CAM SOP-00448	SM 4500H
Orthophosphate	2	N/A	2010/06/30	CAM SOP-00461	SM 4500 P-F
Orthophosphate	14	N/A	2010/07/05	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	16	N/A	2010/07/02	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	2	N/A	2010/06/30	CAM SOP-00464	EPA 375.4
Sulphate by Automated Colourimetry	14	N/A	2010/07/05	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/06/29	2010/07/07	SM 2580 B & ASTM DI 498-76	
Sulphide	13	N/A	2010/06/29	CAM SOP-00455	SM 4500-S G
Sulphide	3	N/A	2010/06/30	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	16	N/A	2010/06/30	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/07/02	2010/07/02	CAM SOP-00454	EPA 351.2 Rev 2

../2

Your C.O.C. #: 19512201, 195122-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/07/09

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Total Organic Carbon (TOC)	10	N/A	2010/07/04	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	6	N/A	2010/07/05	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	14	2010/07/04	2010/07/06	CAM SOP-00407	APHA 4500 P,B,F
Dissolved Phosphorus	2	2010/07/08	2010/07/09	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	14	2010/07/02	2010/07/05	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	2	2010/07/08	2010/07/09	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/06/28	2010/06/28	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	16	N/A	2010/06/29	CAM SOP-00428	SM 2540D
Turbidity	16	N/A	2010/06/29	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9417	GH9417			GH9418		
Sampling Date		2010/06/24 09:50	2010/06/24 09:50			2010/06/24 08:25		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2191460	ND	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	106	N/A	1	2191457	98	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	120	N/A	1	2191380	110	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Inorganics								
Acidity as CaC03	mg/L	32	N/A	10	2192723	18	10	2192723
Total Ammonia-N	mg/L	0.05	N/A	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	ND	N/A	2	2191937	ND	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	80	80	4	2195224	64	4	2195224
Colour	TCU	170	N/A	4	2194108	140	4	2194108
Conductivity	umho/cm	222	N/A	1	2194442	188	1	2194442
Total Dissolved Solids	mg/L	140	N/A	10	2192309	120	10	2192309
Fluoride (F-)	mg/L	ND	N/A	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	N/A	0.2	2195270	1.0	0.2	2195270
Dissolved Organic Carbon	mg/L	30.4	N/A	0.2	2194568	23.3	0.2	2194568
Total Organic Carbon (TOC)	mg/L	28.4	N/A	0.2	2194497	23.1	0.2	2194497
Orthophosphate (P)	mg/L	0.03	N/A	0.01	2193768	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	7.59	N/A	N/A	2191779	8.34	N/A	2191779
pH	pH	7.6	N/A	N/A	2194448	7.6	N/A	2194448
Dissolved Phosphorus	mg/L	0.069	N/A	0.002	2196510	0.028	0.002	2196510
Total Phosphorus	mg/L	0.076	N/A	0.002	2195558	0.050	0.002	2195558
Reactive Silica (SiO2)	mg/L	9.3	N/A	0.5	2194252	7.2	0.5	2194252
Total Suspended Solids	mg/L	6	N/A	1	2192305	13	1	2192305
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2193772	ND (1)	10	2194317
Sulphide	mg/L	ND	N/A	0.02	2192463	ND	0.02	2192463
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2193518	ND	0.005	2193518
Turbidity	NTU	3.0	N/A	0.1	2192685	3.4	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	106	N/A	1	2194432	99	1	2194432

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9417	GH9417			GH9418		
Sampling Date		2010/06/24 09:50	2010/06/24 09:50			2010/06/24 08:25		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	6	N/A	1	2193762	ND (1)	10	2194244
Nitrite (N)	mg/L	ND	N/A	0.01	2194181	ND	0.01	2194171
Nitrate (N)	mg/L	ND	N/A	0.1	2194181	ND	0.1	2194171
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2194181	ND	0.1	2194171
Subcontracted Analysis								
Redox Potential	mV	+263	N/A	N/A	2192725	+249	N/A	2192725
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2192090	ND	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2192095	ND	0.5	2192095

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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9419			GH9420		
Sampling Date		2010/06/24 07:14			2010/06/24 11:00		
COC Number		195122-0			195122-0		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2191460	1.9	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	116	1	2191457	43	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	130	1	2191380	53	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2191457	ND	1	2191457
Inorganics							
Acidity as CaC03	mg/L	24	10	2192723	20	10	2192723
Total Ammonia-N	mg/L	ND	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	ND	2	2191937	ND	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	73	4	2195224	66	4	2195224
Colour	TCU	140	4	2195037	130	4	2194108
Conductivity	umho/cm	237	1	2194442	104	1	2194442
Total Dissolved Solids	mg/L	150	10	2192309	66	10	2192309
Fluoride (F-)	mg/L	ND	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	0.2	2195270	0.9	0.1	2195270
Dissolved Organic Carbon	mg/L	27.7	0.2	2194568	25.1	0.2	2196238
Total Organic Carbon (TOC)	mg/L	26.3	0.2	2194497	25.0	0.2	2194497
Orthophosphate (P)	mg/L	ND (1)	0.1	2194315	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	6.15	N/A	2191779	5.55	N/A	2191779
pH	pH	7.6	N/A	2194448	7.0	N/A	2194448
Dissolved Phosphorus	mg/L	0.069	0.002	2196510	0.005	0.002	2200755
Total Phosphorus	mg/L	0.090	0.002	2195558	0.010	0.002	2200760
Reactive Silica (SiO2)	mg/L	11	0.5	2194252	4.0	0.5	2194252
Total Suspended Solids	mg/L	11	1	2192305	1	1	2192304
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	2194317	ND (1)	10	2194317
Sulphide	mg/L	ND	0.02	2192450	ND	0.02	2192450
Total Cyanide (CN)	mg/L	ND	0.005	2193518	ND	0.005	2193518
Turbidity	NTU	2.1	0.1	2192685	0.9	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	117	1	2194432	44	1	2194432
Dissolved Chloride (Cl)	mg/L	ND (1)	10	2194244	ND (1)	10	2194244

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RDL = Reportable Detection Limit
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9419			GH9420		
Sampling Date		2010/06/24 07:14			2010/06/24 11:00		
COC Number		195122-0			195122-0		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2194171	ND	0.01	2194171
Nitrate (N)	mg/L	ND	0.1	2194171	ND	0.1	2194171
Nitrate + Nitrite	mg/L	ND	0.1	2194171	ND	0.1	2194171
Subcontracted Analysis							
Redox Potential	mV	+250	N/A	2192725	+243	N/A	2192725
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	2192090	1.9	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2192095	ND	0.5	2192095

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N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9421	GH9421			GH9422		
Sampling Date		2010/06/24 08:10	2010/06/24 08:10			2010/06/24 10:05		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 7A**	**SW 7A Lab-Dup**	**RDL**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2191460	ND	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	140	N/A	1	2191457	102	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	150	N/A	1	2191380	120	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Inorganics								
Acidity as CaC03	mg/L	26	24	10	2192723	22	10	2192723
Total Ammonia-N	mg/L	ND	N/A	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	ND	N/A	2	2191937	ND	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	55	N/A	4	2195224	85	4	2195224
Colour	TCU	100	N/A	4	2194108	180	4	2194108
Conductivity	umho/cm	274	N/A	1	2194442	215	1	2194442
Total Dissolved Solids	mg/L	176	174	10	2192309	134	10	2192309
Fluoride (F-)	mg/L	ND	N/A	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	0.8	N/A	0.1	2195270	1.2	0.2	2195270
Dissolved Organic Carbon	mg/L	21.5	N/A	0.2	2196238	31.5	0.2	2194568
Total Organic Carbon (TOC)	mg/L	20.6	20.7	0.2	2194497	29.1	0.2	2194497
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2193768	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	6.95	N/A	N/A	2191779	6.83	N/A	2191779
pH	pH	7.7	N/A	N/A	2194448	7.7	N/A	2194448
Dissolved Phosphorus	mg/L	0.039	N/A	0.002	2196510	0.057	0.002	2196510
Total Phosphorus	mg/L	0.050	N/A	0.002	2195558	0.057	0.002	2195558
Reactive Silica (SiO2)	mg/L	9.5	N/A	0.5	2194252	9.2	0.5	2194252
Total Suspended Solids	mg/L	6	N/A	1	2192305	4	1	2192305
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2193772	ND (1)	10	2194317
Sulphide	mg/L	ND	N/A	0.02	2192450	ND	0.02	2192450
Total Cyanide (CN)	mg/L	ND	ND	0.005	2193518	ND	0.005	2193518
Turbidity	NTU	4.8	N/A	0.1	2192685	2.5	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	141	N/A	1	2194432	103	1	2194432

ND = Not detected
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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9421	GH9421			GH9422		
Sampling Date		2010/06/24 08:10	2010/06/24 08:10			2010/06/24 10:05		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 7A**	**SW 7A Lab-Dup**	**RDL**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	3	N/A	1	2193762	ND (1)	10	2194244
Nitrite (N)	mg/L	ND	N/A	0.01	2194181	ND	0.1	2194181
Nitrate (N)	mg/L	ND	N/A	0.1	2194181	ND	1	2194181
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2194181	ND	1	2194181
Subcontracted Analysis								
Redox Potential	mV	+251	N/A	N/A	2192725	+244	N/A	2192725
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2192090	ND	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2192095	ND	0.5	2192095

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RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9422			GH9423	GH9423		
Sampling Date		2010/06/24 10:05			2010/06/24 09:15	2010/06/24 09:15		
COC Number		195122-0			195122-0	195122-0		
	Units	**SW 10 Lab-Dup**	**RDL**	**QC Batch**	**SW 12 A**	**SW 12 A Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2191460	0.9	N/A	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	34	N/A	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	ND	N/A	1	2191457
Hardness (CaCO3)	mg/L	N/A	1	2191380	39	N/A	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	ND	N/A	1	2191457
Inorganics								
Acidity as CaC03	mg/L	N/A	10	2192723	22	N/A	10	2192723
Total Ammonia-N	mg/L	N/A	0.05	2195219	0.08	N/A	0.05	2195219
Total BOD	mg/L	N/A	2	2191937	ND	N/A	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2195224	60	N/A	4	2195224
Colour	TCU	N/A	4	2194108	140	N/A	4	2194108
Conductivity	umho/cm	215	1	2194442	69	N/A	1	2194442
Total Dissolved Solids	mg/L	N/A	10	2192309	46	N/A	10	2192309
Fluoride (F-)	mg/L	ND	0.1	2194443	ND	N/A	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	2195270	1.0	N/A	0.2	2195270
Dissolved Organic Carbon	mg/L	N/A	0.2	2194568	22.0	N/A	0.2	2194568
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2194497	21.0	N/A	0.2	2194497
Orthophosphate (P)	mg/L	N/A	0.1	2194315	ND (1)	N/A	0.1	2194315
Dissolved Oxygen	mg/L	N/A	N/A	2191779	5.38	N/A	N/A	2191779
pH	pH	7.6	N/A	2194448	6.9	N/A	N/A	2194448
Dissolved Phosphorus	mg/L	N/A	0.002	2196510	0.009	N/A	0.002	2196510
Total Phosphorus	mg/L	N/A	0.002	2195558	0.027	N/A	0.002	2195558
Reactive Silica (SiO2)	mg/L	N/A	0.5	2194252	4.2	N/A	0.5	2194252
Total Suspended Solids	mg/L	N/A	1	2192305	11	N/A	1	2192305
Dissolved Sulphate (SO4)	mg/L	N/A	10	2194317	ND (1)	N/A	10	2194317
Sulphide	mg/L	N/A	0.02	2192450	ND	N/A	0.02	2192463
Total Cyanide (CN)	mg/L	N/A	0.005	2193518	ND	N/A	0.005	2193518
Turbidity	NTU	N/A	0.1	2192685	3.8	N/A	0.1	2192685

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9422			GH9423	GH9423		
Sampling Date		2010/06/24 10:05			2010/06/24 09:15	2010/06/24 09:15		
COC Number		195122-0			195122-0	195122-0		
	Units	**SW 10 Lab-Dup**	**RDL**	**QC Batch**	**SW 12 A**	**SW 12 A Lab-Dup**	**RDL**	**QC Batch**
Alkalinity (Total as CaCO3)	mg/L	103	1	2194432	34	N/A	1	2194432
Dissolved Chloride (Cl)	mg/L	N/A	10	2194244	ND (1)	N/A	10	2194244
Nitrite (N)	mg/L	N/A	0.1	2194181	ND	N/A	0.01	2194171
Nitrate (N)	mg/L	N/A	1	2194181	ND	N/A	0.1	2194171
Nitrate + Nitrite	mg/L	N/A	1	2194181	ND	N/A	0.1	2194171
Subcontracted Analysis								
Redox Potential	mV	N/A	N/A	2192725	+246	+246	N/A	2192725
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	N/A	0.5	2192090	0.9	N/A	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2192095	ND	N/A	0.5	2192095

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9424		GH9425	GH9425		
Sampling Date		2010/06/24 07:30		2010/06/24 08:45	2010/06/24 08:45		
COC Number		195122-0		195122-0	195122-0		
	Units	**SW 13**	**QC Batch**	**SW 14**	**SW 14 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	2191460	ND	N/A	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	120	2191457	59	N/A	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2191457	ND	N/A	1	2191457
Hardness (CaCO3)	mg/L	130	2191380	70	N/A	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2191457	ND	N/A	1	2191457
Inorganics							
Acidity as CaC03	mg/L	22	2192723	22	N/A	10	2192724
Total Ammonia-N	mg/L	ND	2195219	ND	ND	0.05	2195219
Total BOD	mg/L	ND	2191937	ND	N/A	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	58	2195224	75	N/A	4	2195224
Colour	TCU	100	2194108	170	N/A	4	2194108
Conductivity	umho/cm	232	2194442	115	N/A	1	2194442
Total Dissolved Solids	mg/L	150	2192309	76	N/A	10	2192309
Fluoride (F-)	mg/L	ND	2194443	ND	N/A	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	2195270	0.8	N/A	0.2	2195270
Dissolved Organic Carbon	mg/L	23.0	2194568	28.7	N/A	0.2	2194568
Total Organic Carbon (TOC)	mg/L	22.5	2194497	27.3	N/A	0.2	2194497
Orthophosphate (P)	mg/L	ND (1)	2194315	ND (1)	N/A	0.1	2194315
Dissolved Oxygen	mg/L	7.40	2191779	4.79	N/A	N/A	2191779
pH	pH	7.6	2194448	7.2	N/A	N/A	2194448
Dissolved Phosphorus	mg/L	0.029	2196510	0.006	0.004	0.002	2200755
Total Phosphorus	mg/L	0.027	2195558	0.003	0.007	0.002	2200760
Reactive Silica (SiO2)	mg/L	5.5	2194252	6.4	N/A	0.5	2194252
Total Suspended Solids	mg/L	ND	2192305	ND	N/A	1	2192305
Dissolved Sulphate (SO4)	mg/L	ND (1)	2194317	ND (1)	N/A	10	2194317
Sulphide	mg/L	ND	2192463	ND	ND	0.02	2192450
Total Cyanide (CN)	mg/L	ND	2193518	ND	N/A	0.005	2193518
Turbidity	NTU	0.9	2192685	0.6	N/A	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	121	2194432	59	N/A	1	2194432

ND = Not detected
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Lab-Dup = Laboratory Initiated Duplicate
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9424		GH9425	GH9425		
Sampling Date		2010/06/24 07:30		2010/06/24 08:45	2010/06/24 08:45		
COC Number		195122-0		195122-0	195122-0		
	Units	**SW 13**	**QC Batch**	**SW 14**	**SW 14 Lab-Dup**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	ND (1)	2194244	ND (1)	N/A	10	2194244
Nitrite (N)	mg/L	ND	2194171	ND	N/A	0.01	2194171
Nitrate (N)	mg/L	ND	2194171	ND	N/A	0.1	2194171
Nitrate + Nitrite	mg/L	ND	2194171	ND	N/A	0.1	2194171
Subcontracted Analysis							
Redox Potential	mV	+253	2192725	+239	N/A	N/A	2192726
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	2192090	ND	N/A	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2192095	ND	N/A	0.5	2192095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9426			GH9427		
Sampling Date		2010/06/24 14:30			2010/06/24 14:30		
COC Number		195122-0			195122-0		
	Units	**SW 15**	**RDL**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2191460	ND	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	79	1	2191457	79	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	98	1	2191380	94	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2191457	ND	1	2191457
Inorganics							
Acidity as CaC03	mg/L	12	10	2192724	14	10	2192724
Total Ammonia-N	mg/L	ND	0.05	2195219	0.07	0.05	2195219
Total BOD	mg/L	ND	2	2191937	ND	2	2191937
Total Chemical Oxygen Demand (COD)	mg/L	110	4	2195224	99	4	2195224
Colour	TCU	270	10	2194108	120	4	2194108
Conductivity	umho/cm	162	1	2194442	161	1	2194442
Total Dissolved Solids	mg/L	102	10	2192309	104	10	2192309
Fluoride (F-)	mg/L	ND	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	0.2	2195270	1.4	0.2	2195270
Dissolved Organic Carbon	mg/L	39.8	0.2	2194568	40.3	0.2	2194568
Total Organic Carbon (TOC)	mg/L	38.8	0.2	2194497	39.1	0.2	2194497
Orthophosphate (P)	mg/L	ND (1)	0.1	2194315	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	7.93	N/A	2191779	8.50	N/A	2191779
pH	pH	7.5	N/A	2194448	7.5	N/A	2194448
Dissolved Phosphorus	mg/L	0.037	0.002	2196510	0.046	0.002	2196510
Total Phosphorus	mg/L	0.063	0.002	2195558	0.074	0.002	2195558
Reactive Silica (SiO2)	mg/L	7.1	0.5	2194252	7.0	0.5	2194252
Total Suspended Solids	mg/L	29	1	2192305	22	1	2192305
Dissolved Sulphate (SO4)	mg/L	ND (1)	10	2194317	ND (1)	10	2194317
Sulphide	mg/L	ND	0.02	2192463	ND	0.02	2192450
Total Cyanide (CN)	mg/L	ND	0.005	2193518	ND	0.005	2193518
Turbidity	NTU	18	0.1	2192685	13	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	79	1	2194432	79	1	2194432
Dissolved Chloride (Cl)	mg/L	ND (1)	10	2194244	ND (1)	10	2194244

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9426			GH9427		
Sampling Date		2010/06/24 14:30			2010/06/24 14:30		
COC Number		195122-0			195122-0		
	Units	**SW 15**	**RDL**	**QC Batch**	**SW 6**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.1	2194181	ND	0.1	2194181
Nitrate (N)	mg/L	ND	1	2194181	ND	1	2194181
Nitrate + Nitrite	mg/L	ND	1	2194181	ND	1	2194181
Subcontracted Analysis							
Redox Potential	mV	+242	N/A	2192726	+234	N/A	2192726
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	2192090	ND	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2192095	ND	0.5	2192095

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9428	GH9428			GH9429		
Sampling Date		2010/06/24 12:15	2010/06/24 12:15			2010/06/24 13:45		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 16**	**SW 16 Lab-Dup**	**RDL**	**QC Batch**	**SW 17**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2191460	ND	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	39	N/A	1	2191457	50	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	47	N/A	1	2191380	60	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2192724	ND	10	2192724
Total Ammonia-N	mg/L	ND	N/A	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	ND	ND	2	2191938	ND	2	2191938
Total Chemical Oxygen Demand (COD)	mg/L	56	N/A	4	2195224	67	4	2195224
Colour	TCU	150	N/A	4	2194108	150	4	2194108
Conductivity	umho/cm	106	N/A	1	2194442	123	1	2194442
Total Dissolved Solids	mg/L	70	N/A	10	2192309	80	10	2192309
Fluoride (F-)	mg/L	ND	N/A	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	0.8	0.8	0.1	2195270	0.9	0.2	2195270
Dissolved Organic Carbon	mg/L	22.3	20.6	0.2	2195046	24.8	0.2	2194568
Total Organic Carbon (TOC)	mg/L	20.8	N/A	0.2	2194497	24.3	0.2	2194497
Orthophosphate (P)	mg/L	ND (1)	N/A	0.1	2194315	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	7.77	N/A	N/A	2191779	7.74	N/A	2191779
pH	pH	7.2	N/A	N/A	2194448	7.2	N/A	2194448
Dissolved Phosphorus	mg/L	0.019	N/A	0.002	2196510	0.024	0.002	2196510
Total Phosphorus	mg/L	0.045	N/A	0.002	2195558	0.038	0.002	2195558
Reactive Silica (SiO2)	mg/L	4.5	N/A	0.5	2194252	5.3	0.5	2194252
Total Suspended Solids	mg/L	13	N/A	1	2192305	5	1	2192305
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	10	2194317	ND (1)	10	2194317
Sulphide	mg/L	ND	N/A	0.02	2192450	ND	0.02	2192450
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2193518	ND	0.005	2193518
Turbidity	NTU	5.5	N/A	0.1	2192685	5.7	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	39	N/A	1	2194432	50	1	2194432

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QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9428	GH9428			GH9429		
Sampling Date		2010/06/24 12:15	2010/06/24 12:15			2010/06/24 13:45		
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 16**	**SW 16 Lab-Dup**	**RDL**	**QC Batch**	**SW 17**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	10	2194244	ND (1)	10	2194244
Nitrite (N)	mg/L	ND	N/A	0.01	2194171	ND	0.01	2194181
Nitrate (N)	mg/L	ND	N/A	0.1	2194171	ND	0.1	2194181
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2194171	ND	0.1	2194181
Subcontracted Analysis								
Redox Potential	mV	+227	N/A	N/A	2192726	+230	N/A	2192726
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2192090	ND	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2192095	ND	0.5	2192095

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Maxxam Job #: B083607
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RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9429			GH9430		
Sampling Date		2010/06/24 13:45			2010/06/24 07:45		
COC Number		195122-0			195122-0		
	Units	**SW 17 Lab-Dup**	**RDL**	**QC Batch**	**SW 18**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2191460	0.8	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	121	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	N/A	1	2191380	140	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2191457	ND	1	2191457
Inorganics							
Acidity as CaC03	mg/L	10	10	2192724	24	10	2192724
Total Ammonia-N	mg/L	N/A	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	N/A	2	2191938	ND	2	2191938
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2195224	80	4	2195224
Colour	TCU	N/A	4	2194108	210	10	2194108
Conductivity	umho/cm	N/A	1	2194442	236	1	2194442
Total Dissolved Solids	mg/L	N/A	10	2192309	150	10	2192309
Fluoride (F-)	mg/L	N/A	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	2195270	1.2	0.2	2195270
Dissolved Organic Carbon	mg/L	N/A	0.2	2194568	31.6	0.2	2196238
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2194497	28.5	0.2	2194497
Orthophosphate (P)	mg/L	N/A	0.1	2194315	ND (1)	0.1	2194315
Dissolved Oxygen	mg/L	N/A	N/A	2191779	4.62	N/A	2191779
pH	pH	N/A	N/A	2194448	7.6	N/A	2194448
Dissolved Phosphorus	mg/L	N/A	0.002	2196510	0.064	0.002	2196510
Total Phosphorus	mg/L	N/A	0.002	2195558	0.063	0.002	2195558
Reactive Silica (SiO2)	mg/L	N/A	0.5	2194252	13	0.5	2194252
Total Suspended Solids	mg/L	N/A	1	2192305	1	1	2192304
Dissolved Sulphate (SO4)	mg/L	N/A	10	2194317	ND (1)	10	2194317
Sulphide	mg/L	N/A	0.02	2192450	ND	0.02	2194029
Total Cyanide (CN)	mg/L	N/A	0.005	2193518	ND	0.005	2195318
Turbidity	NTU	N/A	0.1	2192685	1.9	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2194432	122	1	2194432

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9429			GH9430		
Sampling Date		2010/06/24 13:45			2010/06/24 07:45		
COC Number		195122-0			195122-0		
	Units	**SW 17 Lab-Dup**	**RDL**	**QC Batch**	**SW 18**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	N/A	10	2194244	ND (1)	10	2194244
Nitrite (N)	mg/L	N/A	0.01	2194181	ND	0.01	2194171
Nitrate (N)	mg/L	N/A	0.1	2194181	ND	0.1	2194171
Nitrate + Nitrite	mg/L	N/A	0.1	2194181	ND	0.1	2194171
Subcontracted Analysis							
Redox Potential	mV	+239	N/A	2192726	+239	N/A	2192726
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2192090	0.8	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2192095	ND	0.5	2192095

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9431	GH9431			GH9432		
Sampling Date		2010/06/24 10:38	2010/06/24 10:38					
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 11**	**SW 11 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2191460	ND	0.5	2191460
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	70	N/A	1	2191457	ND	1	2191457
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Hardness (CaCO3)	mg/L	85	N/A	1	2191380	ND	1	2191380
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2191457	ND	1	2191457
Inorganics								
Acidity as CaC03	mg/L	20	N/A	10	2192724	ND	10	2192724
Total Ammonia-N	mg/L	ND	N/A	0.05	2195219	ND	0.05	2195219
Total BOD	mg/L	ND	N/A	2	2191938	ND	2	2191938
Total Chemical Oxygen Demand (COD)	mg/L	97	N/A	4	2195224	ND	4	2195224
Colour	TCU	220	N/A	10	2194108	ND	2	2195037
Conductivity	umho/cm	136	N/A	1	2194442	2	1	2194442
Total Dissolved Solids	mg/L	90	N/A	10	2192309	ND	10	2192309
Fluoride (F-)	mg/L	ND	N/A	0.1	2194443	ND	0.1	2194443
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	N/A	0.2	2195270	0.1	0.1	2195270
Dissolved Organic Carbon	mg/L	36.9	N/A	0.2	2196238	0.2	0.2	2195046
Total Organic Carbon (TOC)	mg/L	36.6	N/A	0.2	2194497	0.2	0.2	2194497
Orthophosphate (P)	mg/L	ND (1)	N/A	0.1	2194315	ND	0.01	2194315
Dissolved Oxygen	mg/L	4.56	N/A	N/A	2191779	10.9	N/A	2191779
pH	pH	7.2	N/A	N/A	2194448	6.1	N/A	2194448
Dissolved Phosphorus	mg/L	0.020	0.022	0.002	2196510	0.005	0.002	2196510
Total Phosphorus	mg/L	0.031	N/A	0.002	2195558	ND	0.002	2195558
Reactive Silica (SiO2)	mg/L	8.4	N/A	0.5	2194252	ND	0.5	2194252
Total Suspended Solids	mg/L	2	N/A	1	2192304	ND	1	2192304
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	10	2194317	ND	1	2194317
Sulphide	mg/L	ND	N/A	0.02	2194029	ND	0.02	2194029
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2195318	ND	0.005	2195318
Turbidity	NTU	2.7	N/A	0.1	2192685	0.1	0.1	2192685
Alkalinity (Total as CaCO3)	mg/L	70	N/A	1	2194432	ND	1	2194432

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

RESULTS OF ANALYSES OF WATER

Maxxam ID		GH9431	GH9431			GH9432		
Sampling Date		2010/06/24 10:38	2010/06/24 10:38					
COC Number		195122-0	195122-0			195122-0		
	Units	**SW 11**	**SW 11 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	10	2194244	ND	1	2194244
Nitrite (N)	mg/L	ND	N/A	0.1	2194171	ND	0.01	2194171
Nitrate (N)	mg/L	ND	N/A	1	2194171	ND	0.1	2194171
Nitrate + Nitrite	mg/L	ND	N/A	1	2194171	ND	0.1	2194171
Subcontracted Analysis								
Redox Potential	mV	+233	N/A	N/A	2192726	+184	N/A	2192726
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2192090	ND	0.5	2192090
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2192095	ND	0.5	2192095

ND = Not detected
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RDL = Reportable Detection Limit
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(1) Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

PERMANENT GASES (WATER)

Maxxam ID		GH9417	GH9418	GH9419	GH9420		
Sampling Date		2010/06/24 09:50	2010/06/24 08:25	2010/06/24 07:14	2010/06/24 11:00		
COC Number		195122-0	195122-0	195122-0	195122-0		
	Units	**SW1A**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.5	2.3	4.8	5.5	0.6	2193631
Calculated Carbon Dioxide	mg/L	6	4	9	10	1	2191459

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GH9421	GH9422	GH9423	GH9424		
Sampling Date		2010/06/24 08:10	2010/06/24 10:05	2010/06/24 09:15	2010/06/24 07:30		
COC Number		195122-0	195122-0	195122-0	195122-0		
	Units	**SW 7A**	**SW 10**	**SW 12 A**	**SW 13**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.8	3.8	8.2	4.2	0.6	2193631
Calculated Carbon Dioxide	mg/L	7	7	15	8	1	2191459

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GH9425	GH9426	GH9427	GH9428		
Sampling Date		2010/06/24 08:45	2010/06/24 14:30	2010/06/24 14:30	2010/06/24 12:15		
COC Number		195122-0	195122-0	195122-0	195122-0		
	Units	**SW 14**	**SW 15**	**SW 6**	**SW 16**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	7.0	2.0	2.2	1.3	0.6	2193631
Calculated Carbon Dioxide	mg/L	13	4	4	2	1	2191459

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

PERMANENT GASES (WATER)

Maxxam ID		GH9428	GH9429	GH9430	GH9431	GH9432		
Sampling Date		2010/06/24 12:15	2010/06/24 13:45	2010/06/24 07:45	2010/06/24 10:38			
COC Number		195122-0	195122-0	195122-0	195122-0	195122-0		
	Units	**SW 16 Lab-Dup**	**SW 17**	**SW 18**	**SW 11**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	1.4	1.7	7.4	8.3	2.1	0.6	2193631
Calculated Carbon Dioxide	mg/L	N/A	3	13	15	4	1	2191459

N/A = Not Applicable
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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9417	GH9417		GH9418	GH9418		
Sampling Date		2010/06/24 09:50	2010/06/24 09:50		2010/06/24 08:25	2010/06/24 08:25		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	2195745	ND	N/A	0.0001	2195745
Dissolved Sulphur (S)	mg/L	0.8	N/A	2196447	ND	N/A	0.5	2196447
Total Sulphur (S)	mg/L	0.8	0.8	2197238	ND	N/A	0.5	2197238
Dissolved Aluminum (Al)	ug/L	22	N/A	2196430	13	N/A	5	2196430
Total Aluminum (Al)	ug/L	230	230	2197220	230	N/A	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	N/A	2196430	ND	N/A	0.5	2196430
Total Antimony (Sb)	ug/L	ND	ND	2197220	ND	N/A	0.5	2197220
Dissolved Arsenic (As)	ug/L	1	N/A	2196430	ND	N/A	1	2196430
Total Arsenic (As)	ug/L	1	1	2197220	1	N/A	1	2197220
Dissolved Barium (Ba)	ug/L	15	N/A	2196430	13	N/A	5	2196430
Total Barium (Ba)	ug/L	19	19	2197220	14	N/A	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	N/A	2196430	ND	N/A	0.5	2196430
Total Beryllium (Be)	ug/L	ND	ND	2197220	ND	N/A	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Bismuth (Bi)	ug/L	ND	ND	2197220	ND	N/A	1	2197220
Dissolved Boron (B)	ug/L	19	N/A	2196430	11	N/A	10	2196430
Total Boron (B)	ug/L	19	19	2197220	12	N/A	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2196430	ND	N/A	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	ND	2197220	ND	N/A	0.1	2197220
Dissolved Calcium (Ca)	ug/L	30000	N/A	2196430	27000	N/A	200	2196430
Total Calcium (Ca)	ug/L	29000	29000	2197220	25000	N/A	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	N/A	2196430	ND	N/A	5	2196430
Total Chromium (Cr)	ug/L	ND	ND	2197220	ND	N/A	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	N/A	2196430	ND	N/A	0.5	2196430
Total Cobalt (Co)	ug/L	ND	ND	2197220	ND	N/A	0.5	2197220
Dissolved Copper (Cu)	ug/L	2	N/A	2196430	2	N/A	1	2196430
Total Copper (Cu)	ug/L	2	1	2197220	1	N/A	1	2197220
Dissolved Iron (Fe)	ug/L	310	N/A	2196430	270	N/A	100	2196430
Total Iron (Fe)	ug/L	500	510	2197220	510	N/A	100	2197220
Dissolved Lead (Pb)	ug/L	ND	N/A	2196430	ND	N/A	0.5	2196430

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9417	GH9417		GH9418	GH9418		
Sampling Date		2010/06/24 09:50	2010/06/24 09:50		2010/06/24 08:25	2010/06/24 08:25		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	2197220	ND	N/A	0.5	2197220
Dissolved Lithium (Li)	ug/L	ND	N/A	2196430	ND	N/A	5	2196430
Total Lithium (Li)	ug/L	ND	ND	2197220	ND	N/A	5	2197220
Dissolved Magnesium (Mg)	ug/L	12000	N/A	2196430	10000	N/A	50	2196430
Total Magnesium (Mg)	ug/L	12000	12000	2197220	10000	N/A	50	2197220
Dissolved Manganese (Mn)	ug/L	ND	N/A	2196430	ND	N/A	2	2196430
Total Manganese (Mn)	ug/L	40	43	2197220	37	N/A	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Molybdenum (Mo)	ug/L	ND	ND	2197220	ND	N/A	1	2197220
Dissolved Nickel (Ni)	ug/L	3	N/A	2196430	2	N/A	1	2196430
Total Nickel (Ni)	ug/L	2	2	2197220	2	N/A	1	2197220
Dissolved Potassium (K)	ug/L	1600	N/A	2196430	500	N/A	200	2196430
Total Potassium (K)	ug/L	1600	1600	2197220	490	N/A	200	2197220
Dissolved Selenium (Se)	ug/L	ND	N/A	2196430	ND	N/A	2	2196430
Total Selenium (Se)	ug/L	ND	ND	2197220	ND	N/A	2	2197220
Dissolved Silicon (Si)	ug/L	4200	N/A	2196430	3200	N/A	50	2196430
Total Silicon (Si)	ug/L	4800	4600	2197220	3400	N/A	50	2197220
Dissolved Silver (Ag)	ug/L	ND	N/A	2196430	ND	N/A	0.1	2196430
Total Silver (Ag)	ug/L	ND	ND	2197220	ND	N/A	0.1	2197220
Dissolved Sodium (Na)	ug/L	3600	N/A	2196430	1200	N/A	100	2196430
Total Sodium (Na)	ug/L	3800	3900	2197220	1100	N/A	100	2197220
Dissolved Strontium (Sr)	ug/L	67	N/A	2196430	41	N/A	1	2196430
Total Strontium (Sr)	ug/L	67	70	2197220	42	N/A	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Tellurium (Te)	ug/L	ND	ND	2197220	ND	N/A	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	N/A	2196430	ND	N/A	0.05	2196430
Total Thallium (Tl)	ug/L	ND	ND	2197220	ND	N/A	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Thorium (Th)	ug/L	ND	ND	2197220	ND	N/A	1	2197220
Dissolved Tin (Sn)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Tin (Sn)	ug/L	ND	ND	2197220	ND	N/A	1	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9417	GH9417		GH9418	GH9418		
Sampling Date		2010/06/24 09:50	2010/06/24 09:50		2010/06/24 08:25	2010/06/24 08:25		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	N/A	2196430	ND	N/A	5	2196430
Total Titanium (Ti)	ug/L	16	12	2197220	10	N/A	5	2197220
Dissolved Tungsten (W)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Tungsten (W)	ug/L	ND	ND	2197220	ND	N/A	1	2197220
Dissolved Uranium (U)	ug/L	0.4	N/A	2196430	0.2	N/A	0.1	2196430
Total Uranium (U)	ug/L	0.4	0.4	2197220	0.3	N/A	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Vanadium (V)	ug/L	1	1	2197220	1	N/A	1	2197220
Dissolved Zinc (Zn)	ug/L	6	N/A	2196430	ND	N/A	5	2196430
Total Zinc (Zn)	ug/L	ND	ND	2197220	ND	ND	5	2198094
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2196430	ND	N/A	1	2196430
Total Zirconium (Zr)	ug/L	ND	ND	2197220	ND	N/A	1	2197220

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Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9419	GH9420		GH9421	GH9422		
Sampling Date		2010/06/24 07:14	2010/06/24 11:00		2010/06/24 08:10	2010/06/24 10:05		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW3**	**SW4**	**QC Batch**	**SW 7A**	**SW 10**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	2195745	ND	N/A	0.0001	2195263
Dissolved Sulphur (S)	mg/L	0.7	ND	2196447	ND	0.8	0.5	2196447
Total Sulphur (S)	mg/L	0.8	ND	2197238	0.5	0.8	0.5	2197238
Dissolved Aluminum (Al)	ug/L	12	13	2196430	9	26	5	2196430
Total Aluminum (Al)	ug/L	180	20	2197220	240	140	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	ND	2196430	ND	ND	0.5	2196430
Total Antimony (Sb)	ug/L	ND	ND	2197220	ND	ND	0.5	2197220
Dissolved Arsenic (As)	ug/L	1	ND	2196430	1	1	1	2196430
Total Arsenic (As)	ug/L	1	ND	2197220	1	1	1	2197220
Dissolved Barium (Ba)	ug/L	18	7	2196430	19	19	5	2196430
Total Barium (Ba)	ug/L	19	8	2197220	23	17	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	ND	2196430	ND	ND	0.5	2196430
Total Beryllium (Be)	ug/L	ND	ND	2197220	ND	ND	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Bismuth (Bi)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Boron (B)	ug/L	19	ND	2196430	15	18	10	2196430
Total Boron (B)	ug/L	19	ND	2197220	16	18	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	ND	2196430	ND	ND	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	ND	2197220	ND	ND	0.1	2197220
Dissolved Calcium (Ca)	ug/L	33000	12000	2196430	39000	28000	200	2196430
Total Calcium (Ca)	ug/L	30000	12000	2197220	37000	27000	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	ND	2196430	ND	ND	5	2196430
Total Chromium (Cr)	ug/L	ND	ND	2197220	ND	ND	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	ND	2196430	ND	ND	0.5	2196430
Total Cobalt (Co)	ug/L	ND	ND	2197220	ND	ND	0.5	2197220
Dissolved Copper (Cu)	ug/L	2	1	2196430	2	2	1	2196430
Total Copper (Cu)	ug/L	1	ND	2197220	2	1	1	2197220
Dissolved Iron (Fe)	ug/L	220	160	2196430	210	300	100	2196430
Total Iron (Fe)	ug/L	400	160	2197220	480	400	100	2197220
Dissolved Lead (Pb)	ug/L	ND	ND	2196430	ND	ND	0.5	2196430

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9419	GH9420		GH9421	GH9422		
Sampling Date		2010/06/24 07:14	2010/06/24 11:00		2010/06/24 08:10	2010/06/24 10:05		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW3**	**SW4**	**QC Batch**	**SW 7A**	**SW 10**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	2197220	ND	ND	0.5	2197220
Dissolved Lithium (Li)	ug/L	ND	ND	2196430	ND	ND	5	2196430
Total Lithium (Li)	ug/L	ND	ND	2197220	ND	5	5	2197220
Dissolved Magnesium (Mg)	ug/L	13000	5200	2196430	14000	11000	50	2196430
Total Magnesium (Mg)	ug/L	12000	5000	2197220	14000	11000	50	2197220
Dissolved Manganese (Mn)	ug/L	ND	ND	2196430	ND	ND	2	2196430
Total Manganese (Mn)	ug/L	35	39	2197220	100	31	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Molybdenum (Mo)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Nickel (Ni)	ug/L	2	ND	2196430	2	2	1	2196430
Total Nickel (Ni)	ug/L	2	ND	2197220	1	2	1	2197220
Dissolved Potassium (K)	ug/L	1600	420	2196430	920	1300	200	2196430
Total Potassium (K)	ug/L	1400	340	2197220	880	1200	200	2197220
Dissolved Selenium (Se)	ug/L	ND	ND	2196430	ND	ND	2	2196430
Total Selenium (Se)	ug/L	ND	ND	2197220	ND	ND	2	2197220
Dissolved Silicon (Si)	ug/L	4800	1800	2196430	4300	4200	50	2196430
Total Silicon (Si)	ug/L	4900	1700	2197220	4800	4300	50	2197220
Dissolved Silver (Ag)	ug/L	ND	ND	2196430	ND	ND	0.1	2196430
Total Silver (Ag)	ug/L	ND	ND	2197220	ND	ND	0.1	2197220
Dissolved Sodium (Na)	ug/L	2800	3500	2196430	2100	3700	100	2196430
Total Sodium (Na)	ug/L	2600	3300	2197220	2000	3600	100	2197220
Dissolved Strontium (Sr)	ug/L	65	25	2196430	64	64	1	2196430
Total Strontium (Sr)	ug/L	65	26	2197220	66	65	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Tellurium (Te)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	ND	2196430	ND	ND	0.05	2196430
Total Thallium (Tl)	ug/L	ND	ND	2197220	ND	ND	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Thorium (Th)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Tin (Sn)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Tin (Sn)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Titanium (Ti)	ug/L	ND	ND	2196430	ND	ND	5	2196430

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Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9419	GH9420		GH9421	GH9422		
Sampling Date		2010/06/24 07:14	2010/06/24 11:00		2010/06/24 08:10	2010/06/24 10:05		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW3**	**SW4**	**QC Batch**	**SW 7A**	**SW 10**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	9	ND	2197220	8	6	5	2197220
Dissolved Tungsten (W)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Tungsten (W)	ug/L	ND	ND	2197220	ND	ND	1	2197220
Dissolved Uranium (U)	ug/L	0.2	ND	2196430	0.3	0.3	0.1	2196430
Total Uranium (U)	ug/L	0.3	ND	2197220	0.4	0.3	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Vanadium (V)	ug/L	1	ND	2197220	1	ND	1	2197220
Dissolved Zinc (Zn)	ug/L	ND	ND	2196430	ND	ND	5	2196430
Total Zinc (Zn)	ug/L	ND	ND	2197220	ND	ND	5	2197220
Dissolved Zirconium (Zr)	ug/L	ND	ND	2196430	ND	ND	1	2196430
Total Zirconium (Zr)	ug/L	ND	ND	2197220	ND	ND	1	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9423		GH9424		GH9425		
Sampling Date		2010/06/24 09:15		2010/06/24 07:30		2010/06/24 08:45		
COC Number		195122-0		195122-0		195122-0		
	Units	**SW 12 A**	**QC Batch**	**SW 13**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2195745	ND	2195745	ND	0.0001	2195745
Dissolved Sulphur (S)	mg/L	ND	2196447	ND	2196447	ND	0.5	2196447
Total Sulphur (S)	mg/L	ND	2197238	ND	2197238	ND	0.5	2197238
Dissolved Aluminum (Al)	ug/L	69	2196430	10	2196430	26	5	2196430
Total Aluminum (Al)	ug/L	200	2197220	37	2197220	35	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	2196430	ND	2196430	ND	0.5	2196430
Total Antimony (Sb)	ug/L	ND	2197220	ND	2197220	ND	0.5	2197220
Dissolved Arsenic (As)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Arsenic (As)	ug/L	ND	2197220	1	2197220	ND	1	2197220
Dissolved Barium (Ba)	ug/L	10	2196430	13	2196430	12	5	2196430
Total Barium (Ba)	ug/L	10	2197220	14	2197220	12	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	2196430	ND	2196430	ND	0.5	2196430
Total Beryllium (Be)	ug/L	ND	2197220	ND	2197220	ND	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Bismuth (Bi)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Boron (B)	ug/L	ND	2196430	12	2196430	ND	10	2196430
Total Boron (B)	ug/L	ND	2197220	13	2197220	ND	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	2196430	ND	2196430	ND	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	2197220	ND	2197220	ND	0.1	2197220
Dissolved Calcium (Ca)	ug/L	10000	2196430	33000	2196430	17000	200	2196430
Total Calcium (Ca)	ug/L	10000	2197220	32000	2197220	17000	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	2196430	ND	2196430	ND	5	2196430
Total Chromium (Cr)	ug/L	ND	2197220	ND	2197220	ND	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	2196430	ND	2196430	ND	0.5	2196430
Total Cobalt (Co)	ug/L	0.5	2197220	ND	2197220	ND	0.5	2197220
Dissolved Copper (Cu)	ug/L	2	2196430	2	2196430	1	1	2196430
Total Copper (Cu)	ug/L	1	2197220	15	2197220	ND	1	2197220
Dissolved Iron (Fe)	ug/L	520	2196430	180	2196430	200	100	2196430
Total Iron (Fe)	ug/L	780	2197220	220	2197220	210	100	2197220
Dissolved Lead (Pb)	ug/L	ND	2196430	ND	2196430	ND	0.5	2196430
Total Lead (Pb)	ug/L	ND	2197220	ND	2197220	ND	0.5	2197220

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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9423		GH9424		GH9425		
Sampling Date		2010/06/24 09:15		2010/06/24 07:30		2010/06/24 08:45		
COC Number		195122-0		195122-0		195122-0		
	Units	**SW 12 A**	**QC Batch**	**SW 13**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2196430	ND	2196430	ND	5	2196430
Total Lithium (Li)	ug/L	ND	2197220	ND	2197220	ND	5	2197220
Dissolved Magnesium (Mg)	ug/L	3300	2196430	13000	2196430	6500	50	2196430
Total Magnesium (Mg)	ug/L	3100	2197220	13000	2197220	6500	50	2197220
Dissolved Manganese (Mn)	ug/L	ND	2196430	ND	2196430	ND	2	2196430
Total Manganese (Mn)	ug/L	42	2197220	25	2197220	25	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Molybdenum (Mo)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Nickel (Ni)	ug/L	1	2196430	2	2196430	1	1	2196430
Total Nickel (Ni)	ug/L	1	2197220	2	2197220	ND	1	2197220
Dissolved Potassium (K)	ug/L	210	2196430	410	2196430	ND	200	2196430
Total Potassium (K)	ug/L	220	2197220	350	2197220	ND	200	2197220
Dissolved Selenium (Se)	ug/L	ND	2196430	ND	2196430	ND	2	2196430
Total Selenium (Se)	ug/L	ND	2197220	ND	2197220	ND	2	2197220
Dissolved Silicon (Si)	ug/L	1900	2196430	2500	2196430	2800	50	2196430
Total Silicon (Si)	ug/L	1900	2197220	2500	2197220	2700	50	2197220
Dissolved Silver (Ag)	ug/L	ND	2196430	ND	2196430	ND	0.1	2196430
Total Silver (Ag)	ug/L	ND	2197220	ND	2197220	ND	0.1	2197220
Dissolved Sodium (Na)	ug/L	600	2196430	1600	2196430	830	100	2196430
Total Sodium (Na)	ug/L	570	2197220	1600	2197220	810	100	2197220
Dissolved Strontium (Sr)	ug/L	19	2196430	59	2196430	29	1	2196430
Total Strontium (Sr)	ug/L	19	2197220	63	2197220	29	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Tellurium (Te)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	2196430	ND	2196430	ND	0.05	2196430
Total Thallium (Tl)	ug/L	ND	2197220	ND	2197220	ND	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Thorium (Th)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Tin (Sn)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Tin (Sn)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Titanium (Ti)	ug/L	ND	2196430	ND	2196430	ND	5	2196430
Total Titanium (Ti)	ug/L	ND	2197220	ND	2197220	ND	5	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9423		GH9424		GH9425		
Sampling Date		2010/06/24 09:15		2010/06/24 07:30		2010/06/24 08:45		
COC Number		195122-0		195122-0		195122-0		
	Units	**SW 12 A**	**QC Batch**	**SW 13**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Dissolved Tungsten (W)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Tungsten (W)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Uranium (U)	ug/L	ND	2196430	0.2	2196430	ND	0.1	2196430
Total Uranium (U)	ug/L	0.1	2197220	0.1	2197220	ND	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Vanadium (V)	ug/L	ND	2197220	ND	2197220	ND	1	2197220
Dissolved Zinc (Zn)	ug/L	5	2196430	ND	2196430	8	5	2196430
Total Zinc (Zn)	ug/L	ND	2198094	ND	2197220	ND	5	2198094
Dissolved Zirconium (Zr)	ug/L	ND	2196430	ND	2196430	ND	1	2196430
Total Zirconium (Zr)	ug/L	ND	2197220	ND	2197220	ND	1	2197220

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Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9426	GH9426		GH9427	GH9428		
Sampling Date		2010/06/24 14:30	2010/06/24 14:30		2010/06/24 14:30	2010/06/24 12:15		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW 15**	**SW 15 Lab-Dup**	**QC Batch**	**SW 6**	**SW 16**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	2195263	ND	ND	0.0001	2195745
Dissolved Sulphur (S)	mg/L	1.0	N/A	2196447	0.9	2.2	0.5	2196447
Total Sulphur (S)	mg/L	1.1	N/A	2197238	1.1	2.2	0.5	2197238
Dissolved Aluminum (Al)	ug/L	69	N/A	2196430	69	48	5	2196430
Total Aluminum (Al)	ug/L	830	N/A	2197220	970	240	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	N/A	2196430	ND	ND	0.5	2196430
Total Antimony (Sb)	ug/L	ND	N/A	2197220	ND	ND	0.5	2197220
Dissolved Arsenic (As)	ug/L	1	N/A	2196430	1	ND	1	2196430
Total Arsenic (As)	ug/L	2	N/A	2197220	2	ND	1	2197220
Dissolved Barium (Ba)	ug/L	15	N/A	2196430	15	12	5	2196430
Total Barium (Ba)	ug/L	22	N/A	2197220	23	15	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	N/A	2196430	ND	ND	0.5	2196430
Total Beryllium (Be)	ug/L	ND	N/A	2197220	ND	ND	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Bismuth (Bi)	ug/L	ND	N/A	2197220	ND	ND	1	2197220
Dissolved Boron (B)	ug/L	12	N/A	2196430	11	11	10	2196430
Total Boron (B)	ug/L	16	N/A	2197220	15	11	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2196430	ND	ND	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	N/A	2197220	ND	ND	0.1	2197220
Dissolved Calcium (Ca)	ug/L	24000	N/A	2196430	23000	12000	200	2196430
Total Calcium (Ca)	ug/L	24000	N/A	2197220	24000	12000	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	N/A	2196430	ND	ND	5	2196430
Total Chromium (Cr)	ug/L	ND	N/A	2197220	ND	ND	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	N/A	2196430	ND	ND	0.5	2196430
Total Cobalt (Co)	ug/L	ND	N/A	2197220	0.7	ND	0.5	2197220
Dissolved Copper (Cu)	ug/L	3	N/A	2196430	2	2	1	2196430
Total Copper (Cu)	ug/L	2	N/A	2197220	2	2	1	2197220
Dissolved Iron (Fe)	ug/L	420	N/A	2196430	400	230	100	2196430
Total Iron (Fe)	ug/L	1100	N/A	2197220	1300	420	100	2197220
Dissolved Lead (Pb)	ug/L	ND	N/A	2196430	ND	ND	0.5	2196430

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9426	GH9426		GH9427	GH9428		
Sampling Date		2010/06/24 14:30	2010/06/24 14:30		2010/06/24 14:30	2010/06/24 12:15		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW 15**	**SW 15 Lab-Dup**	**QC Batch**	**SW 6**	**SW 16**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	0.6	N/A	2197220	0.8	ND	0.5	2197220
Dissolved Lithium (Li)	ug/L	ND	N/A	2196430	ND	ND	5	2196430
Total Lithium (Li)	ug/L	6	N/A	2197220	ND	ND	5	2197220
Dissolved Magnesium (Mg)	ug/L	9500	N/A	2196430	9200	3900	50	2196430
Total Magnesium (Mg)	ug/L	11000	N/A	2197220	10000	3800	50	2197220
Dissolved Manganese (Mn)	ug/L	ND	N/A	2196430	ND	ND	2	2196430
Total Manganese (Mn)	ug/L	46	N/A	2197220	65	45	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Molybdenum (Mo)	ug/L	ND	N/A	2197220	ND	ND	1	2197220
Dissolved Nickel (Ni)	ug/L	2	N/A	2196430	2	2	1	2196430
Total Nickel (Ni)	ug/L	3	N/A	2197220	4	2	1	2197220
Dissolved Potassium (K)	ug/L	680	N/A	2196430	660	930	200	2196430
Total Potassium (K)	ug/L	850	N/A	2197220	940	830	200	2197220
Dissolved Selenium (Se)	ug/L	ND	N/A	2196430	ND	ND	2	2196430
Total Selenium (Se)	ug/L	ND	N/A	2197220	ND	ND	2	2197220
Dissolved Silicon (Si)	ug/L	3200	N/A	2196430	3100	2000	50	2196430
Total Silicon (Si)	ug/L	4900	N/A	2197220	5100	2100	50	2197220
Dissolved Silver (Ag)	ug/L	ND	N/A	2196430	ND	ND	0.1	2196430
Total Silver (Ag)	ug/L	ND	N/A	2197220	ND	ND	0.1	2197220
Dissolved Sodium (Na)	ug/L	1900	N/A	2196430	1800	5400	100	2196430
Total Sodium (Na)	ug/L	2100	N/A	2197220	2000	5400	100	2197220
Dissolved Strontium (Sr)	ug/L	45	N/A	2196430	43	28	1	2196430
Total Strontium (Sr)	ug/L	51	N/A	2197220	50	31	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Tellurium (Te)	ug/L	ND	N/A	2197220	ND	ND	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	N/A	2196430	ND	ND	0.05	2196430
Total Thallium (Tl)	ug/L	ND	N/A	2197220	ND	ND	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Thorium (Th)	ug/L	ND	N/A	2197220	ND	ND	1	2197220
Dissolved Tin (Sn)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Tin (Sn)	ug/L	ND	N/A	2197220	ND	ND	1	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9426	GH9426		GH9427	GH9428		
Sampling Date		2010/06/24 14:30	2010/06/24 14:30		2010/06/24 14:30	2010/06/24 12:15		
COC Number		195122-0	195122-0		195122-0	195122-0		
	Units	**SW 15**	**SW 15 Lab-Dup**	**QC Batch**	**SW 6**	**SW 16**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	N/A	2196430	ND	ND	5	2196430
Total Titanium (Ti)	ug/L	30	N/A	2197220	42	9	5	2197220
Dissolved Tungsten (W)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Tungsten (W)	ug/L	ND	N/A	2197220	ND	ND	1	2197220
Dissolved Uranium (U)	ug/L	0.3	N/A	2196430	0.3	0.1	0.1	2196430
Total Uranium (U)	ug/L	0.4	N/A	2197220	0.4	0.1	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Vanadium (V)	ug/L	3	N/A	2197220	3	1	1	2197220
Dissolved Zinc (Zn)	ug/L	ND	N/A	2196430	ND	6	5	2196430
Total Zinc (Zn)	ug/L	ND	N/A	2198094	6	6	5	2198094
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2196430	ND	ND	1	2196430
Total Zirconium (Zr)	ug/L	1	N/A	2197220	2	ND	1	2197220

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Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9429		GH9430	GH9431	GH9431		
Sampling Date		2010/06/24 13:45		2010/06/24 07:45	2010/06/24 10:38	2010/06/24 10:38		
COC Number		195122-0		195122-0	195122-0	195122-0		
	Units	**SW 17**	**QC Batch**	**SW 18**	**SW 11**	**SW 11 Lab-Dup**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2195745	ND	ND	N/A	0.0001	2195745
Dissolved Sulphur (S)	mg/L	2.1	2196447	0.5	ND	ND	0.5	2196447
Total Sulphur (S)	mg/L	2.1	2197238	0.6	0.5	N/A	0.5	2197238
Dissolved Aluminum (Al)	ug/L	69	2196430	16	25	N/A	5	2196430
Total Aluminum (Al)	ug/L	250	2197220	97	65	N/A	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	2196430	ND	ND	N/A	0.5	2196430
Total Antimony (Sb)	ug/L	ND	2197220	ND	ND	N/A	0.5	2197220
Dissolved Arsenic (As)	ug/L	ND	2196430	1	ND	N/A	1	2196430
Total Arsenic (As)	ug/L	1	2197220	1	1	N/A	1	2197220
Dissolved Barium (Ba)	ug/L	14	2196430	19	11	N/A	5	2196430
Total Barium (Ba)	ug/L	16	2197220	18	14	N/A	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	2196430	ND	ND	N/A	0.5	2196430
Total Beryllium (Be)	ug/L	ND	2197220	ND	ND	N/A	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Bismuth (Bi)	ug/L	ND	2197220	ND	ND	N/A	1	2197220
Dissolved Boron (B)	ug/L	11	2196430	18	ND	N/A	10	2196430
Total Boron (B)	ug/L	12	2197220	19	11	N/A	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	2196430	ND	ND	N/A	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	2197220	ND	ND	N/A	0.1	2197220
Dissolved Calcium (Ca)	ug/L	16000	2196430	33000	20000	N/A	200	2196430
Total Calcium (Ca)	ug/L	14000	2197220	32000	20000	N/A	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	2196430	ND	ND	N/A	5	2196430
Total Chromium (Cr)	ug/L	ND	2197220	ND	ND	N/A	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	2196430	ND	ND	N/A	0.5	2196430
Total Cobalt (Co)	ug/L	ND	2197220	ND	0.6	N/A	0.5	2197220
Dissolved Copper (Cu)	ug/L	2	2196430	2	1	N/A	1	2196430
Total Copper (Cu)	ug/L	2	2197220	1	ND	N/A	1	2197220
Dissolved Iron (Fe)	ug/L	230	2196430	240	390	N/A	100	2196430
Total Iron (Fe)	ug/L	380	2197220	320	810	N/A	100	2197220
Dissolved Lead (Pb)	ug/L	ND	2196430	ND	ND	N/A	0.5	2196430

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9429		GH9430	GH9431	GH9431		
Sampling Date		2010/06/24 13:45		2010/06/24 07:45	2010/06/24 10:38	2010/06/24 10:38		
COC Number		195122-0		195122-0	195122-0	195122-0		
	Units	**SW 17**	**QC Batch**	**SW 18**	**SW 11**	**SW 11 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	2197220	ND	ND	N/A	0.5	2197220
Dissolved Lithium (Li)	ug/L	ND	2196430	ND	ND	N/A	5	2196430
Total Lithium (Li)	ug/L	ND	2197220	ND	ND	N/A	5	2197220
Dissolved Magnesium (Mg)	ug/L	5200	2196430	13000	8900	N/A	50	2196430
Total Magnesium (Mg)	ug/L	5000	2197220	13000	9100	N/A	50	2197220
Dissolved Manganese (Mn)	ug/L	2	2196430	ND	ND	N/A	2	2196430
Total Manganese (Mn)	ug/L	33	2197220	69	180	N/A	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Molybdenum (Mo)	ug/L	ND	2197220	ND	ND	N/A	1	2197220
Dissolved Nickel (Ni)	ug/L	2	2196430	2	1	N/A	1	2196430
Total Nickel (Ni)	ug/L	2	2197220	2	ND	N/A	1	2197220
Dissolved Potassium (K)	ug/L	960	2196430	1100	460	N/A	200	2196430
Total Potassium (K)	ug/L	880	2197220	1000	420	N/A	200	2197220
Dissolved Selenium (Se)	ug/L	ND	2196430	ND	ND	N/A	2	2196430
Total Selenium (Se)	ug/L	ND	2197220	ND	ND	N/A	2	2197220
Dissolved Silicon (Si)	ug/L	2400	2196430	6000	3800	N/A	50	2196430
Total Silicon (Si)	ug/L	2500	2197220	5900	3900	N/A	50	2197220
Dissolved Silver (Ag)	ug/L	ND	2196430	ND	ND	N/A	0.1	2196430
Total Silver (Ag)	ug/L	ND	2197220	ND	ND	N/A	0.1	2197220
Dissolved Sodium (Na)	ug/L	4600	2196430	1900	1000	N/A	100	2196430
Total Sodium (Na)	ug/L	4300	2197220	1800	960	N/A	100	2197220
Dissolved Strontium (Sr)	ug/L	33	2196430	62	38	N/A	1	2196430
Total Strontium (Sr)	ug/L	33	2197220	65	40	N/A	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Tellurium (Te)	ug/L	ND	2197220	ND	ND	N/A	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	2196430	ND	ND	N/A	0.05	2196430
Total Thallium (Tl)	ug/L	ND	2197220	ND	ND	N/A	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Thorium (Th)	ug/L	ND	2197220	ND	ND	N/A	1	2197220
Dissolved Tin (Sn)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Tin (Sn)	ug/L	ND	2197220	ND	ND	N/A	1	2197220

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9429		GH9430	GH9431	GH9431		
Sampling Date		2010/06/24 13:45		2010/06/24 07:45	2010/06/24 10:38	2010/06/24 10:38		
COC Number		195122-0		195122-0	195122-0	195122-0		
	Units	**SW 17**	**QC Batch**	**SW 18**	**SW 11**	**SW 11 Lab-Dup**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	2196430	ND	ND	N/A	5	2196430
Total Titanium (Ti)	ug/L	10	2197220	6	ND	N/A	5	2197220
Dissolved Tungsten (W)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Tungsten (W)	ug/L	ND	2197220	ND	ND	N/A	1	2197220
Dissolved Uranium (U)	ug/L	0.2	2196430	0.3	ND	N/A	0.1	2196430
Total Uranium (U)	ug/L	0.2	2197220	0.2	ND	N/A	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Vanadium (V)	ug/L	1	2197220	ND	ND	N/A	1	2197220
Dissolved Zinc (Zn)	ug/L	7	2196430	6	6	N/A	5	2196430
Total Zinc (Zn)	ug/L	11	2198094	ND	ND	N/A	5	2197220
Dissolved Zirconium (Zr)	ug/L	ND	2196430	ND	ND	N/A	1	2196430
Total Zirconium (Zr)	ug/L	ND	2197220	ND	ND	N/A	1	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9432		
Sampling Date				
COC Number		195122-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2195263
Dissolved Sulphur (S)	mg/L	ND	0.5	2196447
Total Sulphur (S)	mg/L	ND	0.5	2197238
Dissolved Aluminum (Al)	ug/L	ND	5	2196430
Total Aluminum (Al)	ug/L	6	5	2197220
Dissolved Antimony (Sb)	ug/L	ND	0.5	2196430
Total Antimony (Sb)	ug/L	ND	0.5	2197220
Dissolved Arsenic (As)	ug/L	ND	1	2196430
Total Arsenic (As)	ug/L	ND	1	2197220
Dissolved Barium (Ba)	ug/L	ND	5	2196430
Total Barium (Ba)	ug/L	ND	5	2197220
Dissolved Beryllium (Be)	ug/L	ND	0.5	2196430
Total Beryllium (Be)	ug/L	ND	0.5	2197220
Dissolved Bismuth (Bi)	ug/L	ND	1	2196430
Total Bismuth (Bi)	ug/L	ND	1	2197220
Dissolved Boron (B)	ug/L	ND	10	2196430
Total Boron (B)	ug/L	ND	10	2197220
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2196430
Total Cadmium (Cd)	ug/L	ND	0.1	2197220
Dissolved Calcium (Ca)	ug/L	ND	200	2196430
Total Calcium (Ca)	ug/L	ND	200	2197220
Dissolved Chromium (Cr)	ug/L	ND	5	2196430
Total Chromium (Cr)	ug/L	ND	5	2197220
Dissolved Cobalt (Co)	ug/L	ND	0.5	2196430
Total Cobalt (Co)	ug/L	ND	0.5	2197220
Dissolved Copper (Cu)	ug/L	2	1	2196430
Total Copper (Cu)	ug/L	ND	1	2197220
Dissolved Iron (Fe)	ug/L	ND	100	2196430
Total Iron (Fe)	ug/L	ND	100	2197220
Dissolved Lead (Pb)	ug/L	ND	0.5	2196430
Total Lead (Pb)	ug/L	ND	0.5	2197220
Dissolved Lithium (Li)	ug/L	ND	5	2196430

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9432		
Sampling Date				
COC Number		195122-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	5	2197220
Dissolved Magnesium (Mg)	ug/L	ND	50	2196430
Total Magnesium (Mg)	ug/L	ND	50	2197220
Dissolved Manganese (Mn)	ug/L	ND	2	2196430
Total Manganese (Mn)	ug/L	ND	2	2197220
Dissolved Molybdenum (Mo)	ug/L	ND	1	2196430
Total Molybdenum (Mo)	ug/L	ND	1	2197220
Dissolved Nickel (Ni)	ug/L	ND	1	2196430
Total Nickel (Ni)	ug/L	ND	1	2197220
Dissolved Potassium (K)	ug/L	ND	200	2196430
Total Potassium (K)	ug/L	ND	200	2197220
Dissolved Selenium (Se)	ug/L	ND	2	2196430
Total Selenium (Se)	ug/L	ND	2	2197220
Dissolved Silicon (Si)	ug/L	ND	50	2196430
Total Silicon (Si)	ug/L	ND	50	2197220
Dissolved Silver (Ag)	ug/L	ND	0.1	2196430
Total Silver (Ag)	ug/L	ND	0.1	2197220
Dissolved Sodium (Na)	ug/L	ND	100	2196430
Total Sodium (Na)	ug/L	ND	100	2197220
Dissolved Strontium (Sr)	ug/L	ND	1	2196430
Total Strontium (Sr)	ug/L	ND	1	2197220
Dissolved Tellurium (Te)	ug/L	ND	1	2196430
Total Tellurium (Te)	ug/L	ND	1	2197220
Dissolved Thallium (Tl)	ug/L	ND	0.05	2196430
Total Thallium (Tl)	ug/L	ND	0.05	2197220
Dissolved Thorium (Th)	ug/L	ND	1	2196430
Total Thorium (Th)	ug/L	ND	1	2197220
Dissolved Tin (Sn)	ug/L	ND	1	2196430
Total Tin (Sn)	ug/L	ND	1	2197220
Dissolved Titanium (Ti)	ug/L	ND	5	2196430
Total Titanium (Ti)	ug/L	ND	5	2197220
Dissolved Tungsten (W)	ug/L	ND	1	2196430
Total Tungsten (W)	ug/L	ND	1	2197220

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Klohn Crippen Berger Ltd

Maxxam Job #: B083607
Report Date: 2010/07/09

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GH9432		
Sampling Date				
COC Number		195122-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Uranium (U)	ug/L	ND	0.1	2196430
Total Uranium (U)	ug/L	ND	0.1	2197220
Dissolved Vanadium (V)	ug/L	ND	1	2196430
Total Vanadium (V)	ug/L	ND	1	2197220
Dissolved Zinc (Zn)	ug/L	ND	5	2196430
Total Zinc (Zn)	ug/L	ND	5	2197220
Dissolved Zirconium (Zr)	ug/L	ND	1	2196430
Total Zirconium (Zr)	ug/L	ND	1	2197220

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QC Batch = Quality Control Batch

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Maxxam Job #: B083607
Report Date: 2010/07/09

GENERAL COMMENTS

DO Analysis:
DO reading passed holding time

Sample GH9417-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9418-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9419-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9420-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9421-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9422-01: Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9423-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9424-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9425-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9426-01: Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9427-01: Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9428-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9429-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9430-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9431-01: Nitrite/Nitrate: Due to colour interferences, sample required dilution. Detection limit was adjusted accordingly. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9432-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GH9418, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9423, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9425, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9426, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9427, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9428, Total Metals Analysis by ICPMS: Test repeated.
Sample GH9429, Total Metals Analysis by ICPMS: Test repeated.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB083607

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2191937	JKU	QC Standard	Total BOD	2010/07/03		97	%	85 - 115
		Method Blank	Total BOD	2010/07/03	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/07/03	NC		%	25
2191938	JKU	QC Standard	Total BOD	2010/07/03		110	%	85 - 115
		Method Blank	Total BOD	2010/07/03	ND, RDL=2		mg/L	
		RPD [GH9428-03]	Total BOD	2010/07/03	NC		%	25
2192090	FA	Spiked Blank	Total Oil & Grease	2010/06/28		97	%	85 - 115
		RPD	Total Oil & Grease	2010/06/28	0.3		%	25
		Method Blank	Total Oil & Grease	2010/06/28	ND, RDL=0.5		mg/L	
2192095	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/06/28		97	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/06/28	1.0		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/06/28	ND, RDL=0.5		mg/L	
2192304	JDO	QC Standard	Total Suspended Solids	2010/06/29		93	%	85 - 115
		Method Blank	Total Suspended Solids	2010/06/29	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/06/29	6.2		%	25
2192305	HAG	QC Standard	Total Suspended Solids	2010/06/29		95	%	85 - 115
		Method Blank	Total Suspended Solids	2010/06/29	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/06/29	2.6		%	25
2192309	HAG	QC Standard	Total Dissolved Solids	2010/06/30		99	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/06/30	ND, RDL=10		mg/L	
		RPD [GH9421-04]	Total Dissolved Solids	2010/06/30	1.1		%	25
2192450	SAU	Matrix Spike [GH9425-09]	Sulphide	2010/06/29		116	%	75 - 125
		Spiked Blank	Sulphide	2010/06/29		104	%	85 - 115
		Method Blank	Sulphide	2010/06/29	ND, RDL=0.02		mg/L	
		RPD [GH9425-09]	Sulphide	2010/06/29	NC		%	25
2192463	SAU	Matrix Spike	Sulphide	2010/06/29		104	%	75 - 125
		Spiked Blank	Sulphide	2010/06/29		96	%	85 - 115
		Method Blank	Sulphide	2010/06/29	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/06/29	NC		%	25
2192685	KTH	QC Standard	Turbidity	2010/06/29		99	%	85 - 115
		Method Blank	Turbidity	2010/06/29	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/06/29	1.5		%	25
2192723	RSR	Method Blank	Acidity as CaC03	2010/07/07	ND, RDL=10		mg/L	
		RPD [GH9421-02]	Acidity as CaC03	2010/07/07	NC		%	25
2192724	RSR	Method Blank	Acidity as CaC03	2010/07/07	ND, RDL=10		mg/L	
		RPD [GH9429-02]	Acidity as CaC03	2010/07/07	NC		%	25
2192725	MAT	QC Standard	Redox Potential	2010/07/07		+243	%	N/A
		Method Blank	Redox Potential	2010/07/07	+223		mV	
		RPD [GH9423-07]	Redox Potential	2010/07/07	0		%	10
2192726	MAT	QC Standard	Redox Potential	2010/07/07		+243	%	N/A
		Method Blank	Redox Potential	2010/07/07	+223		mV	
		RPD [GH9429-07]	Redox Potential	2010/07/07	3.8		%	10
2193518	LHA	Matrix Spike [GH9421-05]	Total Cyanide (CN)	2010/07/02		103	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/07/02		105	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/07/02	ND, RDL=0.005		mg/L	
		RPD [GH9421-05]	Total Cyanide (CN)	2010/07/02	NC		%	25
2193631	CAT	Method Blank	Carbon Dioxide	2010/06/30	ND, RDL=0.6		L/m3	
		RPD [GH9428-12]	Carbon Dioxide	2010/06/30	NC		%	25
2193762	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/06/30		100	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/06/30		96	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/06/30	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/06/30	NC		%	20
2193768	DRM	Matrix Spike	Orthophosphate (P)	2010/06/30		107	%	75 - 125

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Quality Assurance Report (Continued)

Maxxam Job Number: MB083607

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2193768	DRM	Spiked Blank	Orthophosphate (P)	2010/06/30		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/06/30	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/06/30	NC		%	25
2193772	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/06/30		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/06/30		101	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/06/30	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/06/30	1.4		%	25
2194029	SAU	Matrix Spike	Sulphide	2010/06/30		105	%	75 - 125
		Spiked Blank	Sulphide	2010/06/30		107	%	85 - 115
		Method Blank	Sulphide	2010/06/30	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/06/30	NC		%	25
2194108	KTH	Spiked Blank	Colour	2010/07/05		100	%	75 - 125
		Method Blank	Colour	2010/07/05	ND, RDL=2		TCU	
		RPD	Colour	2010/07/05	NC		%	25
2194171	C_N	Matrix Spike	Nitrite (N)	2010/06/30		NC (1)	%	80 - 120
			Nitrate (N)	2010/06/30		NC (1)	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/30		108	%	85 - 115
			Nitrate (N)	2010/06/30		108	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/30	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/30	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/30	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/30	0.1		%	25
			Nitrate (N)	2010/06/30	0.7		%	25
			Nitrate + Nitrite	2010/06/30	0.5		%	25
2194181	C_N	Matrix Spike	Nitrite (N)	2010/06/30		106	%	80 - 120
			Nitrate (N)	2010/06/30		109	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/30		107	%	85 - 115
			Nitrate (N)	2010/06/30		105	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/30	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/30	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/30	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/30	NC		%	25
			Nitrate (N)	2010/06/30	NC		%	25
2194244	JDE	Matrix Spike	Dissolved Chloride (Cl)	2010/07/05		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/07/05		95	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/07/05	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/07/05	1.5		%	20
2194252	SMT	Matrix Spike	Reactive Silica (SiO2)	2010/07/02		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/07/02		103	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/07/02		100	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/07/02	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/07/02	0.7		%	25
2194315	JDE	Matrix Spike	Orthophosphate (P)	2010/07/05		93	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/07/05		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/07/05	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/07/05	NC		%	25
2194317	JDE	Matrix Spike	Dissolved Sulphate (SO4)	2010/07/05		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/07/05		101	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/07/05	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/07/05	0.2		%	25
2194432	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/06/30		95	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/06/30	ND, RDL=1		mg/L	
		RPD [GH9422-02]	Alkalinity (Total as CaCO3)	2010/06/30	0.04		%	25
2194442	YPA	QC Standard	Conductivity	2010/06/30		102	%	85 - 115
		Method Blank	Conductivity	2010/06/30	ND, RDL=1		umho/cm	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2194442	YPA	RPD [GH9422-02]	Conductivity	2010/06/30	0		%	25
2194443	YPA	Matrix Spike						
		[GH9422-02]	Fluoride (F-)	2010/06/30		100	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/06/30		99	%	85 - 115
		Method Blank	Fluoride (F-)	2010/06/30	ND, RDL=0.1		mg/L	
		RPD [GH9422-02]	Fluoride (F-)	2010/06/30	NC		%	25
2194497	C_H	Matrix Spike						
		[GH9421-08]	Total Organic Carbon (TOC)	2010/07/04		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/07/04		95	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/07/04	0.2, RDL=0.2		mg/L	
		RPD [GH9421-08]	Total Organic Carbon (TOC)	2010/07/04	0.7		%	20
2194568	C_H	Matrix Spike	Dissolved Organic Carbon	2010/07/04		NC (1)	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/07/04		94	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/07/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/07/04	0.7		%	20
2195037	KTH	Spiked Blank	Colour	2010/07/05		98	%	75 - 125
		Method Blank	Colour	2010/07/05	ND, RDL=2		TCU	
		RPD	Colour	2010/07/05	NC		%	25
2195046	AHA	Matrix Spike						
		[GH9428-10]	Dissolved Organic Carbon	2010/07/04		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/07/04		101	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/07/04	ND, RDL=0.2		mg/L	
		RPD [GH9428-10]	Dissolved Organic Carbon	2010/07/04	7.9		%	20
2195219	ADB	Matrix Spike						
		[GH9425-08]	Total Ammonia-N	2010/07/05		101	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/07/05		99	%	85 - 115
		Method Blank	Total Ammonia-N	2010/07/05	ND, RDL=0.05		mg/L	
		RPD [GH9425-08]	Total Ammonia-N	2010/07/05	NC		%	25
2195224	CP	Matrix Spike						
		[GH9417-08]	Total Chemical Oxygen Demand (COD)	2010/07/06		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/07/06		100	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/07/06	ND, RDL=4		mg/L	
		RPD [GH9417-08]	Total Chemical Oxygen Demand (COD)	2010/07/06	0		%	25
2195263	MC	Matrix Spike						
		[GH9426-11]	Mercury (Hg)	2010/07/02		101	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/07/02		104	%	80 - 120
		Method Blank	Mercury (Hg)	2010/07/02	ND, RDL=0.0001		mg/L	
		RPD [GH9426-11]	Mercury (Hg)	2010/07/02	NC		%	25
2195270	JDE	Matrix Spike						
		[GH9428-08]	Total Kjeldahl Nitrogen (TKN)	2010/07/02		92	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/07/02		87	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/07/02		96	%	80 - 120
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/07/02	ND, RDL=0.1		mg/L	
		RPD [GH9428-08]	Total Kjeldahl Nitrogen (TKN)	2010/07/02	2.2		%	20
2195318	LHA	Matrix Spike	Total Cyanide (CN)	2010/07/02		118	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/07/02		102	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/07/02	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/07/02	NC		%	25
2195558	PAL	Matrix Spike	Total Phosphorus	2010/07/05		NC	%	80 - 120
		QC Standard	Total Phosphorus	2010/07/05		110	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/07/05		103	%	85 - 115
		Method Blank	Total Phosphorus	2010/07/05	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/07/05	0.3		%	20
2195745	MC	Matrix Spike	Mercury (Hg)	2010/07/02		107	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/07/02		106	%	80 - 120

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2195745	MC	Method Blank	Mercury (Hg)	2010/07/02	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/07/02	NC		%	25
2196238	AHA	Matrix Spike	Dissolved Organic Carbon	2010/07/04		98	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/07/04		100	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/07/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/07/04	7.7		%	20
2196430	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/07/05		91	%	80 - 120
			Dissolved Antimony (Sb)	2010/07/05		99	%	80 - 120
			Dissolved Arsenic (As)	2010/07/05		100	%	80 - 120
			Dissolved Barium (Ba)	2010/07/05		100	%	80 - 120
			Dissolved Beryllium (Be)	2010/07/05		98	%	80 - 120
			Dissolved Bismuth (Bi)	2010/07/05		96	%	80 - 120
			Dissolved Boron (B)	2010/07/05		97	%	80 - 120
			Dissolved Cadmium (Cd)	2010/07/05		97	%	80 - 120
			Dissolved Calcium (Ca)	2010/07/05		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/07/05		96	%	80 - 120
			Dissolved Cobalt (Co)	2010/07/05		96	%	80 - 120
			Dissolved Copper (Cu)	2010/07/05		94	%	80 - 120
			Dissolved Iron (Fe)	2010/07/05		99	%	80 - 120
			Dissolved Lead (Pb)	2010/07/05		94	%	80 - 120
			Dissolved Lithium (Li)	2010/07/05		96	%	80 - 120
			Dissolved Magnesium (Mg)	2010/07/05		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/07/05		94	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/07/05		103	%	80 - 120
			Dissolved Nickel (Ni)	2010/07/05		96	%	80 - 120
			Dissolved Potassium (K)	2010/07/05		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/07/05		96	%	80 - 120
			Dissolved Silicon (Si)	2010/07/05		98	%	80 - 120
			Dissolved Silver (Ag)	2010/07/05		93	%	80 - 120
			Dissolved Sodium (Na)	2010/07/05		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/07/05		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/07/05		96	%	80 - 120
			Dissolved Thallium (Tl)	2010/07/05		95	%	80 - 120
			Dissolved Thorium (Th)	2010/07/05		91	%	80 - 120
			Dissolved Tin (Sn)	2010/07/05		99	%	80 - 120
			Dissolved Titanium (Ti)	2010/07/05		101	%	80 - 120
			Dissolved Tungsten (W)	2010/07/05		99	%	80 - 120
			Dissolved Uranium (U)	2010/07/05		99	%	80 - 120
			Dissolved Vanadium (V)	2010/07/05		97	%	80 - 120
			Dissolved Zinc (Zn)	2010/07/05		95	%	80 - 120
			Dissolved Zirconium (Zr)	2010/07/05		102	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/07/05		96	%	90 - 110
			Dissolved Antimony (Sb)	2010/07/05		102	%	90 - 110
			Dissolved Arsenic (As)	2010/07/05		104	%	90 - 110
			Dissolved Barium (Ba)	2010/07/05		101	%	90 - 110
			Dissolved Beryllium (Be)	2010/07/05		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/07/05		99	%	90 - 110
			Dissolved Boron (B)	2010/07/05		101	%	90 - 110
			Dissolved Cadmium (Cd)	2010/07/05		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/07/05		104	%	90 - 110
			Dissolved Chromium (Cr)	2010/07/05		101	%	90 - 110
			Dissolved Cobalt (Co)	2010/07/05		101	%	90 - 110
			Dissolved Copper (Cu)	2010/07/05		99	%	90 - 110
			Dissolved Iron (Fe)	2010/07/05		103	%	90 - 110
			Dissolved Lead (Pb)	2010/07/05		97	%	90 - 110

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2196430	HRE	Spiked Blank	Dissolved Lithium (Li)	2010/07/05		99	%	90 - 110
			Dissolved Magnesium (Mg)	2010/07/05		101	%	90 - 110
			Dissolved Manganese (Mn)	2010/07/05		100	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/07/05		104	%	90 - 110
			Dissolved Nickel (Ni)	2010/07/05		100	%	90 - 110
			Dissolved Potassium (K)	2010/07/05		103	%	90 - 110
			Dissolved Selenium (Se)	2010/07/05		100	%	90 - 110
			Dissolved Silicon (Si)	2010/07/05		104	%	90 - 110
			Dissolved Silver (Ag)	2010/07/05		97	%	90 - 110
			Dissolved Sodium (Na)	2010/07/05		101	%	90 - 110
			Dissolved Strontium (Sr)	2010/07/05		101	%	90 - 110
			Dissolved Tellurium (Te)	2010/07/05		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/07/05		98	%	90 - 110
			Dissolved Thorium (Th)	2010/07/05		98	%	90 - 110
			Dissolved Tin (Sn)	2010/07/05		101	%	90 - 110
			Dissolved Titanium (Ti)	2010/07/05		104	%	90 - 110
			Dissolved Tungsten (W)	2010/07/05		101	%	90 - 110
			Dissolved Uranium (U)	2010/07/05		100	%	90 - 110
			Dissolved Vanadium (V)	2010/07/05		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/07/05		99	%	90 - 110
			Dissolved Zirconium (Zr)	2010/07/05		104	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/07/05	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/07/05	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/07/05	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/07/05	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/07/05	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/07/05	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/07/05	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/07/05	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/07/05	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/07/05	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/07/05	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/07/05	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/07/05	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/07/05	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Potassium (K)	2010/07/05	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/07/05	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/07/05	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/07/05	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/07/05	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/07/05	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/07/05	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/07/05	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/07/05	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/07/05	ND, RDL=5		ug/L	

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2196430	HRE	Method Blank	Dissolved Zirconium (Zr)	2010/07/05	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2010/07/05	NC		%	25
			Dissolved Arsenic (As)	2010/07/05	NC		%	25
			Dissolved Barium (Ba)	2010/07/05	0.4		%	25
			Dissolved Beryllium (Be)	2010/07/05	NC		%	25
			Dissolved Cadmium (Cd)	2010/07/05	NC		%	25
			Dissolved Chromium (Cr)	2010/07/05	NC		%	25
			Dissolved Cobalt (Co)	2010/07/05	NC		%	25
			Dissolved Copper (Cu)	2010/07/05	0.5		%	25
			Dissolved Lead (Pb)	2010/07/05	NC		%	25
			Dissolved Molybdenum (Mo)	2010/07/05	2.4		%	25
			Dissolved Nickel (Ni)	2010/07/05	NC		%	25
			Dissolved Selenium (Se)	2010/07/05	NC		%	25
			Dissolved Silver (Ag)	2010/07/05	NC		%	25
			Dissolved Thallium (Tl)	2010/07/05	NC		%	25
			Dissolved Vanadium (V)	2010/07/05	0.6		%	25
			Dissolved Zinc (Zn)	2010/07/05	NC		%	25
2196447	JOH	Matrix Spike						
		[GH9431-02]	Dissolved Sulphur (S)	2010/07/05		102	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/07/05		98	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/07/05	ND, RDL=0.5		mg/L	
		RPD [GH9431-02]	Dissolved Sulphur (S)	2010/07/05	NC		%	25
2196510	PAL	Matrix Spike						
		[GH9431-02]	Dissolved Phosphorus	2010/07/06		109	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/07/06		113	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/07/06		89	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/07/06	ND, RDL=0.002		mg/L	
		RPD [GH9431-02]	Dissolved Phosphorus	2010/07/06	7.7		%	20
2197220	JBW	Matrix Spike						
		[GH9417-06]	Total Aluminum (Al)	2010/07/06		117	%	80 - 120
			Total Antimony (Sb)	2010/07/06		103	%	80 - 120
			Total Arsenic (As)	2010/07/06		100	%	80 - 120
			Total Barium (Ba)	2010/07/06		100	%	80 - 120
			Total Beryllium (Be)	2010/07/06		102	%	80 - 120
			Total Bismuth (Bi)	2010/07/06		93	%	80 - 120
			Total Boron (B)	2010/07/06		103	%	80 - 120
			Total Cadmium (Cd)	2010/07/06		101	%	80 - 120
			Total Calcium (Ca)	2010/07/06		NC	%	80 - 120
			Total Chromium (Cr)	2010/07/06		101	%	80 - 120
			Total Cobalt (Co)	2010/07/06		100	%	80 - 120
			Total Copper (Cu)	2010/07/06		101	%	80 - 120
			Total Iron (Fe)	2010/07/06		102	%	80 - 120
			Total Lead (Pb)	2010/07/06		92	%	80 - 120
			Total Lithium (Li)	2010/07/06		99	%	80 - 120
			Total Magnesium (Mg)	2010/07/06		103	%	80 - 120
			Total Manganese (Mn)	2010/07/06		104	%	80 - 120
			Total Molybdenum (Mo)	2010/07/06		98	%	80 - 120
			Total Nickel (Ni)	2010/07/06		102	%	80 - 120
			Total Potassium (K)	2010/07/06		101	%	80 - 120
			Total Selenium (Se)	2010/07/06		103	%	80 - 120
			Total Silicon (Si)	2010/07/06		87	%	80 - 120
			Total Silver (Ag)	2010/07/06		97	%	80 - 120
			Total Sodium (Na)	2010/07/06		100	%	80 - 120
			Total Strontium (Sr)	2010/07/06		97	%	80 - 120
			Total Tellurium (Te)	2010/07/06		98	%	80 - 120

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2197220	JBW	Matrix Spike						
		[GH9417-06]	Total Thallium (Tl)	2010/07/06		92	%	80 - 120
			Total Thorium (Th)	2010/07/06		96	%	80 - 120
			Total Tin (Sn)	2010/07/06		99	%	80 - 120
			Total Titanium (Ti)	2010/07/06		100	%	80 - 120
			Total Tungsten (W)	2010/07/06		96	%	80 - 120
			Total Uranium (U)	2010/07/06		93	%	80 - 120
			Total Vanadium (V)	2010/07/06		102	%	80 - 120
			Total Zinc (Zn)	2010/07/06		103	%	80 - 120
			Total Zirconium (Zr)	2010/07/06		99	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/07/06		98	%	85 - 115
			Total Antimony (Sb)	2010/07/06		106	%	85 - 115
			Total Arsenic (As)	2010/07/06		100	%	85 - 115
			Total Barium (Ba)	2010/07/06		101	%	85 - 115
			Total Beryllium (Be)	2010/07/06		102	%	85 - 115
			Total Bismuth (Bi)	2010/07/06		94	%	85 - 115
			Total Boron (B)	2010/07/06		101	%	85 - 115
			Total Cadmium (Cd)	2010/07/06		101	%	85 - 116
			Total Calcium (Ca)	2010/07/06		98	%	85 - 115
			Total Chromium (Cr)	2010/07/06		100	%	85 - 115
			Total Cobalt (Co)	2010/07/06		98	%	85 - 115
			Total Copper (Cu)	2010/07/06		100	%	85 - 115
			Total Iron (Fe)	2010/07/06		99	%	85 - 115
			Total Lead (Pb)	2010/07/06		97	%	85 - 115
			Total Lithium (Li)	2010/07/06		98	%	85 - 115
			Total Magnesium (Mg)	2010/07/06		95	%	85 - 115
			Total Manganese (Mn)	2010/07/06		101	%	85 - 115
			Total Molybdenum (Mo)	2010/07/06		99	%	85 - 115
			Total Nickel (Ni)	2010/07/06		99	%	85 - 115
			Total Potassium (K)	2010/07/06		102	%	85 - 115
			Total Selenium (Se)	2010/07/06		104	%	85 - 115
			Total Silicon (Si)	2010/07/06		90	%	85 - 115
			Total Silver (Ag)	2010/07/06		97	%	85 - 115
			Total Sodium (Na)	2010/07/06		99	%	85 - 115
			Total Strontium (Sr)	2010/07/06		97	%	85 - 115
			Total Tellurium (Te)	2010/07/06		99	%	85 - 115
			Total Thallium (Tl)	2010/07/06		95	%	85 - 115
			Total Thorium (Th)	2010/07/06		100	%	85 - 115
			Total Tin (Sn)	2010/07/06		101	%	85 - 115
			Total Titanium (Ti)	2010/07/06		100	%	85 - 115
			Total Tungsten (W)	2010/07/06		97	%	85 - 115
			Total Uranium (U)	2010/07/06		93	%	85 - 115
			Total Vanadium (V)	2010/07/06		101	%	85 - 115
			Total Zinc (Zn)	2010/07/06		101	%	85 - 115
			Total Zirconium (Zr)	2010/07/06		102	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/07/05	6, RDL=5		ug/L	
			Total Antimony (Sb)	2010/07/05	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/07/05	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/07/05	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/07/05	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/07/05	ND, RDL=1		ug/L	
			Total Boron (B)	2010/07/05	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/07/05	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/07/05	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/07/05	ND, RDL=5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB083607

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2197220	JBW	Method Blank	Total Cobalt (Co)	2010/07/05	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/07/05	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/07/05	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/07/05	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/07/05	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/07/05	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/07/05	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/07/05	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/07/05	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/07/05	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/07/05	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/07/05	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/07/05	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/07/05	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/07/05	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/07/05	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/07/05	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/07/05	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/07/05	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/07/05	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/07/05	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/07/05	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/07/05	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/07/05	13, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/07/05	ND, RDL=1		ug/L	
		RPD [GH9417-06]	Total Aluminum (Al)	2010/07/06	2.4		%	25
			Total Antimony (Sb)	2010/07/06	NC		%	25
			Total Arsenic (As)	2010/07/06	NC		%	25
			Total Barium (Ba)	2010/07/06	NC		%	25
			Total Beryllium (Be)	2010/07/06	NC		%	25
			Total Bismuth (Bi)	2010/07/06	NC		%	25
			Total Boron (B)	2010/07/06	NC		%	25
			Total Cadmium (Cd)	2010/07/06	NC		%	25
			Total Calcium (Ca)	2010/07/06	1.2		%	25
			Total Chromium (Cr)	2010/07/06	NC		%	25
			Total Cobalt (Co)	2010/07/06	NC		%	25
			Total Copper (Cu)	2010/07/06	NC		%	25
			Total Iron (Fe)	2010/07/06	2.1		%	25
			Total Lead (Pb)	2010/07/06	NC		%	25
			Total Lithium (Li)	2010/07/06	NC		%	25
			Total Magnesium (Mg)	2010/07/06	1.9		%	25
			Total Manganese (Mn)	2010/07/06	7.3		%	25
			Total Molybdenum (Mo)	2010/07/06	NC		%	25
			Total Nickel (Ni)	2010/07/06	NC		%	25
			Total Potassium (K)	2010/07/06	0.2		%	25
			Total Selenium (Se)	2010/07/06	NC		%	25
			Total Silicon (Si)	2010/07/06	5.1		%	25
			Total Silver (Ag)	2010/07/06	NC		%	25
			Total Sodium (Na)	2010/07/06	1.6		%	25
			Total Strontium (Sr)	2010/07/06	4.0		%	25
			Total Tellurium (Te)	2010/07/06	NC		%	25
			Total Thallium (Tl)	2010/07/06	NC		%	25
			Total Thorium (Th)	2010/07/06	NC		%	25
			Total Tin (Sn)	2010/07/06	NC		%	25
			Total Titanium (Ti)	2010/07/06	NC		%	25

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB083607

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2197220	JBW	RPD [GH9417-06]	Total Tungsten (W)	2010/07/06	NC		%	25
			Total Uranium (U)	2010/07/06	NC		%	25
			Total Vanadium (V)	2010/07/06	NC		%	25
			Total Zinc (Zn)	2010/07/06	NC		%	25
			Total Zirconium (Zr)	2010/07/06	NC		%	25
2197238	JOH	Matrix Spike						
		[GH9417-06]	Total Sulphur (S)	2010/07/06		98	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/07/06		97	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/07/06	ND, RDL=0.5		mg/L	
		RPD [GH9417-06]	Total Sulphur (S)	2010/07/06	NC		%	25
2198094	GBU	Matrix Spike						
		[GH9418-06]	Total Zinc (Zn)	2010/07/06		103	%	80 - 120
		Spiked Blank	Total Zinc (Zn)	2010/07/06		102	%	85 - 115
		Method Blank	Total Zinc (Zn)	2010/07/06	ND, RDL=5		ug/L	
		RPD [GH9418-06]	Total Zinc (Zn)	2010/07/06	NC		%	25
2200755	PAL	Matrix Spike						
		[GH9425-02]	Dissolved Phosphorus	2010/07/09		107	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/07/09		104	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/07/09		109	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/07/09	ND, RDL=0.002		mg/L	
		RPD [GH9425-02]	Dissolved Phosphorus	2010/07/09	NC		%	20
2200760	PAL	Matrix Spike						
		[GH9425-08]	Total Phosphorus	2010/07/09		98	%	80 - 120
		QC Standard	Total Phosphorus	2010/07/09		102	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/07/09		88	%	85 - 115
		Method Blank	Total Phosphorus	2010/07/09	ND, RDL=0.002		mg/L	
		RPD [GH9425-08]	Total Phosphorus	2010/07/09	NC		%	20

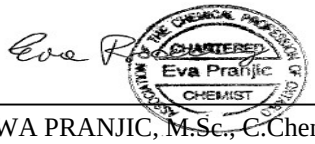
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.

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Validation Signature Page

Maxxam Job #: B083607

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section

KEVIN MACDONALD, Inorganics Supervisor



GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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BOD IMMEDIATE TEST

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CHAIN OF CU

26-Jun-10 12:40
ANTONELLA BRASIL
B083607
NNA ENV-952

Page 1 of 6

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:	
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:	
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:	
				Sampled By:	

Lab Use Only
BOTTLE ORDER #: 195122
CHAIN OF CUSTODY #: C#195122-01-03
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:
PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drin. ? (Y / N)	Metals Field Filtered ? (Y / N)	Oil & Grease - AV/M/T	# of Bottles	Comments
1		SW 1A	June 24/10	9:50 Am				✓	17	
2		SW 2	June 24/10	8:25 Am				✓	17	
3		SW 3	June 24/10	7:14 Am				✓	17	10/10/10°C
4		SW 4	June 24/10	11:00 Am				✓	17	13/13/14°C
5		SW 7A	June 24/10	8:10 Am				✓	17	11/11/11°C
6		SW 10	June 24/10	10:05 Am				✓	17	11/12/13°C
7		SW 12 A	June 24/10	9:15 Am				✓	17	10/11/12°C
8		SW 13	June 24/10	7:30 Am				✓	17	11/12/12°C
9		SW 14	June 24/10	8:45 Am				✓	17	11/11/11°C
10		SW 15	June 24/10	2:30 pm				✓	17	13/13/13°C
									17	14/14/14°C
									17	
									17	REC'D IN WINNIPEG
									17	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff M. HENTELEFF	2010/06/24	9pm		Jun 25/10 10/06/26	8:00AM 12:40	

Laboratory Use Only: Time Sensitive [X] | Temperature (°C) on Receipt 9.0, 9.8, 9.8 | Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 195122
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#195122-01-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Low Level Total Suspended Solids	Mercury in Water by CVAA	Nitrate (NO_3) and Nitrite (NO_2) in Water	pH	# of Bottles	Comments
1		SW 1A	June 24/10	9:50 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
2		SW 2	June 24/10	8:25 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
3		SW 3	June 24/10	7:14 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	10/10/10°C 13/13/14°C
4		SW 4	June 24/10	11:00 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	11/11/11°C 11/12/13°C
5		SW 7A	June 24/10	8:10 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	12/12/12°C 11/11/11°C
6		SW 10	June 24/10	10:05 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	13/13/13°C 14/14/14°C
7		SW 12A	June 24/10	9:15 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	10/11/12°C
8		SW 13	June 24/10	7:30 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
9		SW 14	June 24/10	8:45 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	REC'D IN WINNIPEG
10		SW 15	June 24/10	2:30 Pm				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Henteleff M. HENTELEFF	2010/06/24	9pm	SB FedEx Ground	Jun 25/10 10/06/26	8:00am 12:40		X	9.0, 9.8, 9.8	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 195122
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#195122-02-02	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Dr.? (Y/N)	Metals Field Filtered ? (Y/N)	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)	Lab Filtered Metals by ICPMS	Lab Filtered Metals Analysis by ICP	# of Bottles	Comments
1	~~5~~	SW 1A	June 24/10	9:50 Am				✓	✓	–	–	✓	–	✓	–	–	–	17	
2		SW 2	June 24/10	8:25 Am				–	–	–	–	–	–	–	–	–	–	17	
3		SW 3	June 24/10	7:14 Am				–	–	–	–	–	–	–	–	–	–	17	
4		SW 4	June 24/10	11:00 Am				✓	✓	✓	✓	✓	✓	✓	✓	–	–	17	10/10/10°C
5		SW 7A	June 24/10	8:10 Am				✓	–	✓	–	–	–	–	–	–	–	17	13/13/14°C 11/11/11°C
6		SW 10	June 24/10	10:05 Am				✓	✓	–	✓	–	–	–	–	–	–	17	11/12/13°C 10/11/12°C
7		SW 13	June 24/10	7:30 Am				✓	–	✓	✓	–	✓	–	–	–	–	17	11/12/12°C 11/11/11°C
8		SW 14	June 24/10	8:45 Am				✓	–	–	✓	✓	–	–	–	–	–	17	13/13/13°C 14/14/14°C
9		SW 15	June 24/10	2:30 pm				–	–	–	–	–	–	–	–	–	–	17	REC'D IN WINNIPEG
10		SW 12A	June 24/10	9:15 Am				–	–	–	✓	✓	✓	✓	–	–	–	17	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M-Hentleff	2010/06/24	9pm	SB	Jun 25/10	8:00am	
M-HENTLEFF			[illegible]	10/06/26	10:40	

Laboratory Use Only: Time Sensitive [X] Temperature (°C) on Receipt 9.0, 9.8, 9.7 Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

0359

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 195122
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#195122-02-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐
Reg. 153 ☐ 2004 ☐ 2011
Note: For regulated drinking water samples - please use the Drinking Wa... form

SPECIAL INSTRUCTIONS

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:
PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Low Level Total Suspended Solids	Mercury in Water by CVAA	Nitrate (NO3) and Nitrite (NO2) in Water	pH	# of Bottles	Comments
1		SW 6	June 24/10	2:30 pm				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
2		SW 16	June 24/10	12:15 pm				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3		SW 17	June 24/10	1:45 pm				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4		SW 18	June 24/10	7:45 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10/10/10°C 13/13/14°C
5		SW 11	June 24/10	10:38 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		11/11/11°C 11/12/13°C
6																			10/11/12°C 11/12/12°C
7																			11/11/11°C 13/13/13°C
8																			14/14/14°C
9																			
10																			REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Henteleff M. HENTELEFF	2010/06/24	9pm	SB FANKIWANN	10/06/25 10/06/26	8:00 12:40		X	9.0, 9.8, 9.8	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:

Company Name: #23433 Rainy River Resources Ltd
Contact Name: Evelyn Funk
Address: 303 - 1620 W 8th Ave
Vancouver BC V6J 1V4
Phone: (604)639-4491 Fax: (604)639-4492
Email: etf@rainyriverresources.com

REPORT INFORMATION (if differs from invoice):

Company Name: #10142 Klohn Crippen Berger Ltd
Contact Name: Leann Graham
Address: 500 - -2955 Virtual Way
Vancouver BC V5M 4X6
Phone: (604)251-8441 Fax: (604)251-8510
Email: lgraham@klohn.com;lhollingsworth@klohn.com

PROJECT INFORMATION:

Quotation #: B03165
P.O. #:
Project #:
Project Name:
Site #:
Sampled By:

Laboratory Use Only:

MAXXAM JOB #:
BOTTLE ORDER #: 195122
CHAIN OF CUSTODY #: C#195122-01-02
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA Reg. 153/04 Sewer Use ☑ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)	Lab Filtered Metals by ICPMS	Lab Filtered Metals Analysis by ICP	# of Bottles	Comments
1		SW 6	June 24/10	2:30 pm				✓	✓	–	✓	–	✓	✓	–	✓	–	17	
2		SW 16	June 24/10	12:15 pm				✓	✓	✓	✓	✓	✓	✓	✓	–	✓	17	
3		SW 17	June 24/10	1:45 pm				✓	✓	✓	✓	✓	✓	–	✓	✓	–	17	10/10/10°C 13/13/14°C
4		SW 18	June 24/10	7:45 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	11/11/11°C 11/12/13°C
5		SW 11	June 24/10	10:30 Am				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	10/11/12°C 11/12/12°C
6																		~~17~~ 7	11/11/11°C 13/13/13°C
7																		~~17~~ 3	14/14/14°C
8																		~~17~~	
9																			REC'D IN WINNIPEG
10																			

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff M. HENTELEFF	2010/06/24	9pm	SB FANG WANG	June 25/10 10/06/26	8:00AM 12:40	

Laboratory Use Only: Time Sensitive [X] | Temperature (°C) on Receipt: 9.0, 9.8, 9.8 | Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 195122
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#195122-02-03	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA: ☐ MISA ☐ Reg. 153/04 ☐ PWQO ☐ Reg. 558 — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse — Sewer Use: ☑ Sanitary ☐ Storm ☐ Combined — Municipality: ____ — Other (specify): ____ — Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified).
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ____ Time Required: ____ ☐
Rush Confirmation Number: ____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drink. (Y/N)	Metals Field Filtered ? (Y/N)	Oil & Grease - AV/MT	# of Bottles	Comments
1		Sw 6	June 24/10	2:30 pm				✓	17	
2		Sw 16	June 24/10	12:15 pm				✓	17	10/10/10°C 13/13/14°C
3		Sw 17	June 24/10	1:45 pm				✓	17	11/11/11°C 11/12/13°C
4		Sw 18	June 24/10	7:45 Am				✓	17	10/11/12°C 11/12/12°C
5		Sw 11	June 24/10	10:30 Am				✓	17	11/11/11°C 13/13/13°C
6										14/14/14°C
7										REC'D IN WINNIPEG
8										SB Jun 25/10
9										RUSH!
10										

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Hentaleff M. HENTALEFF	2010/06/24	9pm	SB FANWANG	Jun 25/10 10/06/26	8:00Am 12:40		X	9.0, 9.8, 9.8	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: MB083607
Your C.O.C. #: 08318325, 08318326

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/06/30

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B051209
Received: 2010/06/29, 08:50

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/06/30	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 639-2616 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B051209
Report Date: 2010/06/30

Client Project #: MB083607

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V10979	V10980	V10981	V10982	V10983		
Sampling Date		2010/06/24	2010/06/24	2010/06/24	2010/06/24	2010/06/24		
COC Number		08318325	08318325	08318325	08318325	08318325		
	Units	**SW1A (GH9417-05R)**	**SW2 (GH9418-05R)**	**SW3 (GH9419-05R)**	**SW4 (GH9420-05R)**	**SW7A (GH9421-05R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0008	0.0005	0.0008	0.0007	0.0007	0.0005	4070805

RDL = Reportable Detection Limit

Maxxam ID		V10984	V10985	V10986	V10987	V10988		
Sampling Date		2010/06/24	2010/06/24	2010/06/24	2010/06/24	2010/06/24		
COC Number		08318325	08318325	08318325	08318325	08318325		
	Units	**SW10 (GH9422-05R)**	**SW12A (GH9423-05R)**	**SW13 (GH9424-05R)**	**SW14 (GH9425-05R)**	**SW15 (GH9426-05R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0009	0.0007	0.0007	0.0009	0.0012	0.0005	4070805

RDL = Reportable Detection Limit

Maxxam ID		V10989	V10992	V10993	V10994	V10995		
Sampling Date		2010/06/24	2010/06/24	2010/06/24	2010/06/24	2010/06/24		
COC Number		08318325	08318326	08318326	08318326	08318326		
	Units	**SW6 (GH9427-05R)**	**SW16 (GH9428-05R)**	**SW17 (GH9429-05R)**	**SW18 (GH9430-05R)**	**SW11 (GH9431-05R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0013	0.0007	0.0007	0.0010	0.0012	0.0005	4070805

RDL = Reportable Detection Limit

Maxxam ID		V10996	V10996		
Sampling Date		2010/06/24	2010/06/24		
COC Number		08318326	08318326		
	Units	**TRIP BLANK (GH9432-06R)**	**TRIP BLANK (GH9432-06R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0005	4070805

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.
Maxxam Job #: B051209
Client Project #: MB083607
Report Date: 2010/06/30

Package 1	1.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB083607
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB051209

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4070805	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/06/30		101	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/30		102	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/30	<0.0005		mg/L	
		RPD [V10996-01]	Weak Acid Dissoc. Cyanide (CN)	2010/06/30	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B051209

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
July 2010

Your C.O.C. #: 20036301, 200363-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/08/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0A0779
Received: 2010/07/28, 09:55

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/07/30	2010/08/04	SLA SOP-00100	APHA SM2310B
Alkalinity	15	N/A	2010/08/03	CAM SOP-00448	SM 2320B
Alkalinity	1	N/A	2010/08/04	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	15	N/A	2010/08/04		
Carbonate, Bicarbonate and Hydroxide	1	N/A	2010/08/05		
Biological Oxygen Demand (BOD)	16	N/A	2010/08/04	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	16	N/A	2010/08/04	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/07/30	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/08/04	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/08/03	CAM SOP-00412	APHA 2120
Conductivity	15	N/A	2010/08/03	CAM SOP-00448	SM 2510
Conductivity	1	N/A	2010/08/04	CAM SOP-00448	SM 2510
Total Cyanide	16	2010/07/30	2010/07/30	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	16	N/A	2010/08/03	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/07/29	CAM SOP-00427	APHA 4500 OG
Fluoride	15	2010/07/30	2010/08/03	CAM SOP-00448	APHA 4500FC
Fluoride	1	2010/08/04	2010/08/04	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/07/29		
Hardness (calculated as CaCO3)	16	N/A	2010/08/04	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	16	2010/07/30	2010/07/30	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	4	2010/08/03	2010/08/03	CAM SOP-00408	EPA 6010
Lab Filtered Metals Analysis by ICP	11	2010/08/03	2010/08/04	CAM SOP-00408	EPA 6010
Lab Filtered Metals Analysis by ICP	1	2010/08/04	2010/08/05	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	16	2010/08/04	2010/08/04	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/08/03	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/08/03	2010/08/04	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/08/04	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	1	N/A	2010/08/03	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (1)	15	N/A	2010/08/04	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2010/07/30	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/07/30	2010/07/30	CAM SOP-00326	EPA 1664A
pH	15	N/A	2010/08/03	CAM SOP-00448	SM 4500H
pH	1	N/A	2010/08/04	CAM SOP-00448	SM 4500H
Orthophosphate	16	N/A	2010/08/04	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	16	N/A	2010/08/04	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	16	N/A	2010/08/04	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/07/30	2010/08/04	SM 2580 B & ASTM DI 498-76	

../2

Your C.O.C. #: 20036301, 200363-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/08/10

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Sulphide	16	N/A	2010/07/30	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	16	N/A	2010/07/30	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/08/03	2010/08/03	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	9	N/A	2010/07/30	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	7	N/A	2010/07/31	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	15	2010/08/03	2010/08/04	CAM SOP-00407	APHA 4500 P,B,F
Dissolved Phosphorus	1	2010/08/09	2010/08/10	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	15	2010/08/03	2010/08/04	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	1	2010/08/06	2010/08/09	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/07/30	2010/07/30	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	7	N/A	2010/07/29	CAM SOP-00428	SM 2540D
Low Level Total Suspended Solids	9	N/A	2010/07/30	CAM SOP-00428	SM 2540D
Turbidity	13	N/A	2010/07/30	CAM SOP-00417	APHA 2130B
Turbidity	3	N/A	2010/08/03	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

Your C.O.C. #: 20036301, 200363-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/08/10

CERTIFICATE OF ANALYSIS

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3789	GQ3789			GQ3790		
Sampling Date		2010/07/26 13:30	2010/07/26 13:30			2010/07/26 13:50		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	125	N/A	1	2221572	98	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	140	N/A	1	2221155	110	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2222088	ND	10	2222088
Total Ammonia-N	mg/L	ND	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	N/A	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	100	N/A	4	2222458	72	4	2222458
Colour	TCU	190	N/A	4	2222953	160	4	2222953
Conductivity	umho/cm	260	N/A	1	2222946	191	1	2222946
Total Dissolved Solids	mg/L	166	N/A	10	2222926	120	10	2222926
Fluoride (F-)	mg/L	ND	N/A	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	2.4	N/A	0.2	2223517	1.2	0.2	2223517
Dissolved Organic Carbon	mg/L	38.9	37.3	0.2	2224093	28.3	0.2	2224097
Total Organic Carbon (TOC)	mg/L	36.7	N/A	0.2	2222517	26.3	0.2	2222517
Orthophosphate (P)	mg/L	0.07	N/A	0.05	2222936	0.03	0.01	2222936
Dissolved Oxygen	mg/L	5.51	N/A	N/A	2221593	8.80	N/A	2221593
pH	pH	7.5	N/A	N/A	2222948	7.5	N/A	2222948
Dissolved Phosphorus	mg/L	0.085	N/A	0.002	2224104	0.050	0.002	2224104
Total Phosphorus	mg/L	0.13	N/A	0.002	2224167	0.068	0.002	2224167
Reactive Silica (SiO2)	mg/L	9.4	N/A	0.5	2224783	9.8	0.5	2224783
Total Suspended Solids	mg/L	14	N/A	1	2221612	8	1	2222971
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	2222937	ND	1	2222937
Sulphide	mg/L	ND	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	12	12	0.1	2222206	2.6	0.1	2222206
Alkalinity (Total as CaCO3)	mg/L	125	N/A	1	2222945	98	1	2222945

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3789	GQ3789			GQ3790		
Sampling Date		2010/07/26 13:30	2010/07/26 13:30			2010/07/26 13:50		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW1**	**SW1 Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	7	N/A	5	2222932	2	1	2222932
Nitrite (N)	mg/L	0.02	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis								
Redox Potential	mV	+183	N/A	N/A	2222072	+177	N/A	2222072
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3790			GQ3791		
Sampling Date		2010/07/26 13:50			2010/07/26 14:10		
COC Number		200363-0			200363-0		
	Units	**SW2 Lab-Dup**	**RDL**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2220441	0.7	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	120	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	N/A	1	2221155	130	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	ND	1	2221572
Inorganics							
Acidity as CaC03	mg/L	N/A	10	2222088	ND	10	2222088
Total Ammonia-N	mg/L	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	71	4	2222458	100	4	2222458
Colour	TCU	N/A	4	2222953	200	4	2222953
Conductivity	umho/cm	N/A	1	2222946	234	1	2224660
Total Dissolved Solids	mg/L	118	10	2222926	146	10	2222926
Fluoride (F-)	mg/L	N/A	0.1	2222947	ND	0.1	2224661
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	2223517	2.1	0.2	2223517
Dissolved Organic Carbon	mg/L	N/A	0.2	2224097	39.4	0.2	2224097
Total Organic Carbon (TOC)	mg/L	27.0	0.2	2222517	35.1	0.2	2222517
Orthophosphate (P)	mg/L	N/A	0.01	2222936	0.07	0.05	2222936
Dissolved Oxygen	mg/L	N/A	N/A	2221593	7.49	N/A	2221593
pH	pH	N/A	N/A	2222948	7.6	N/A	2224662
Dissolved Phosphorus	mg/L	N/A	0.002	2224104	0.079	0.002	2224104
Total Phosphorus	mg/L	N/A	0.002	2224167	0.29	0.006	2224167
Reactive Silica (SiO2)	mg/L	N/A	0.5	2224783	11	0.5	2224783
Total Suspended Solids	mg/L	N/A	1	2222971	18	1	2221612
Dissolved Sulphate (SO4)	mg/L	N/A	1	2222937	ND (1)	5	2222937
Sulphide	mg/L	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	N/A	0.1	2222206	13	0.1	2222198
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2222945	120	1	2224659

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3790			GQ3791		
Sampling Date		2010/07/26 13:50			2010/07/26 14:10		
COC Number		200363-0			200363-0		
	Units	**SW2 Lab-Dup**	**RDL**	**QC Batch**	**SW3**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	N/A	1	2222932	ND (1)	5	2222932
Nitrite (N)	mg/L	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	2222072	+182	N/A	2222072
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2221651	0.7	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3792			GQ3793	GQ3793		
Sampling Date		2010/07/26 12:50			2010/07/26 15:00	2010/07/26 15:00		
COC Number		200363-0			200363-0	200363-0		
	Units	**SW4**	**RDL**	**QC Batch**	**SW7A**	**SW7A Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	1.6	0.5	2220441	ND	N/A	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	53	1	2221572	199	N/A	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2221572	2	N/A	1	2221572
Hardness (CaCO3)	mg/L	62	1	2221155	220	N/A	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2221572	ND	N/A	1	2221572
Inorganics								
Acidity as CaC03	mg/L	ND	10	2222088	ND	N/A	10	2222088
Total Ammonia-N	mg/L	ND	0.05	2222450	ND	ND	0.05	2222450
Total BOD	mg/L	ND	2	2221640	ND	N/A	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	83	4	2222458	53	N/A	4	2222458
Colour	TCU	170	4	2222953	72	N/A	2	2222953
Conductivity	umho/cm	121	1	2222946	383	N/A	1	2222946
Total Dissolved Solids	mg/L	76	10	2222926	246	N/A	10	2222926
Fluoride (F-)	mg/L	ND	0.1	2222947	ND	N/A	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	1.5	0.2	2223517	0.9	N/A	0.2	2223517
Dissolved Organic Carbon	mg/L	30.6	0.2	2224097	19.8	N/A	0.2	2224097
Total Organic Carbon (TOC)	mg/L	26.9	0.2	2222517	18.5	N/A	0.2	2222517
Orthophosphate (P)	mg/L	0.01	0.01	2222936	0.02	N/A	0.01	2222939
Dissolved Oxygen	mg/L	5.35	N/A	2221593	7.70	N/A	N/A	2221593
pH	pH	7.0	N/A	2222948	7.9	N/A	N/A	2222948
Dissolved Phosphorus	mg/L	0.014	0.002	2224104	0.044	N/A	0.002	2224104
Total Phosphorus	mg/L	0.032	0.002	2224167	0.063	0.066	0.002	2224167
Reactive Silica (SiO2)	mg/L	7.4	0.5	2224783	13	N/A	0.5	2224783
Total Suspended Solids	mg/L	10	1	2221612	25	N/A	1	2221610
Dissolved Sulphate (SO4)	mg/L	ND	1	2222937	ND	N/A	1	2222940
Sulphide	mg/L	ND	0.02	2221802	ND	N/A	0.02	2221802
Total Cyanide (CN)	mg/L	ND	0.005	2221951	ND	N/A	0.005	2221951
Turbidity	NTU	6.6	0.1	2222206	18	N/A	0.1	2222206
Alkalinity (Total as CaCO3)	mg/L	53	1	2222945	200	N/A	1	2222945
Dissolved Chloride (Cl)	mg/L	6	1	2222932	2	N/A	1	2222938

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3792			GQ3793	GQ3793		
Sampling Date		2010/07/26 12:50			2010/07/26 15:00	2010/07/26 15:00		
COC Number		200363-0			200363-0	200363-0		
	Units	**SW4**	**RDL**	**QC Batch**	**SW7A**	**SW7A Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2222674	ND	N/A	0.01	2222674
Nitrate (N)	mg/L	ND	0.1	2222674	ND	N/A	0.1	2222674
Nitrate + Nitrite	mg/L	ND	0.1	2222674	ND	N/A	0.1	2222674
Subcontracted Analysis								
Redox Potential	mV	+182	N/A	2222072	+174	+171	N/A	2222072
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	1.6	0.5	2221651	ND	N/A	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2221652	ND	N/A	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3794			GQ3795		
Sampling Date		2010/07/26 13:15			2010/07/26 12:30		
COC Number		200363-0			200363-0		
	Units	**SW10**	**RDL**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	122	1	2221572	80	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	140	1	2221155	94	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2221572	ND	1	2221572
Inorganics							
Acidity as CaC03	mg/L	ND	10	2222088	12	10	2222088
Total Ammonia-N	mg/L	ND	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	100	4	2222458	110	4	2222458
Colour	TCU	190	4	2222953	240	8	2222953
Conductivity	umho/cm	253	1	2222946	159	1	2222946
Total Dissolved Solids	mg/L	160	10	2222926	100	10	2222926
Fluoride (F-)	mg/L	ND	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	1.6	0.2	2223517	1.3	0.2	2223517
Dissolved Organic Carbon	mg/L	37.4	0.2	2224097	37.0	0.2	2224093
Total Organic Carbon (TOC)	mg/L	36.0	0.2	2222517	37.8	0.2	2222517
Orthophosphate (P)	mg/L	0.08	0.05	2222936	0.06	0.05	2222936
Dissolved Oxygen	mg/L	6.59	N/A	2221593	2.47	N/A	2221593
pH	pH	7.7	N/A	2222948	7.3	N/A	2222948
Dissolved Phosphorus	mg/L	0.077	0.002	2224104	0.042	0.002	2224104
Total Phosphorus	mg/L	0.11	0.002	2224167	0.077	0.002	2224167
Reactive Silica (SiO2)	mg/L	10	0.5	2224783	12	0.5	2224783
Total Suspended Solids	mg/L	16	1	2222971	10	2	2222971
Dissolved Sulphate (SO4)	mg/L	ND (1)	5	2222937	ND (1)	5	2222937
Sulphide	mg/L	ND	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	4.9	0.1	2222198	3.6	0.1	2222206
Alkalinity (Total as CaCO3)	mg/L	122	1	2222945	80	1	2222945
Dissolved Chloride (Cl)	mg/L	7	5	2222932	ND (1)	5	2222932

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3794			GQ3795		
Sampling Date		2010/07/26 13:15			2010/07/26 12:30		
COC Number		200363-0			200363-0		
	Units	**SW10**	**RDL**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	ND	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis							
Redox Potential	mV	+173	N/A	2222072	+166	N/A	2222072
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3796	GQ3796			GQ3797		
Sampling Date		2010/07/26 11:30	2010/07/26 11:30			2010/07/26 14:30		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW12A**	**SW12A Lab-Dup**	**RDL**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	0.6	N/A	0.5	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	38	N/A	1	2221572	141	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	43	N/A	1	2221155	150	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Inorganics								
Acidity as CaC03	mg/L	14	14	10	2222088	ND	10	2222091
Total Ammonia-N	mg/L	ND	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	N/A	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	67	N/A	4	2222458	74	4	2222458
Colour	TCU	150	N/A	4	2222953	120	4	2222953
Conductivity	umho/cm	78	N/A	1	2222946	275	1	2222946
Total Dissolved Solids	mg/L	50	N/A	10	2222926	174	10	2222926
Fluoride (F-)	mg/L	ND	N/A	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	N/A	0.2	2223517	1.2	0.2	2223517
Dissolved Organic Carbon	mg/L	22.6	N/A	0.2	2224093	27.6	0.2	2224097
Total Organic Carbon (TOC)	mg/L	21.7	N/A	0.2	2222517	26.8	0.2	2222517
Orthophosphate (P)	mg/L	ND	N/A	0.01	2222936	0.03	0.01	2222939
Dissolved Oxygen	mg/L	2.90	N/A	N/A	2221593	7.76	N/A	2221593
pH	pH	6.8	N/A	N/A	2222948	7.6	N/A	2222948
Dissolved Phosphorus	mg/L	0.016	N/A	0.002	2229411	0.057	0.002	2224104
Total Phosphorus	mg/L	0.032	N/A	0.002	2228053	0.075	0.002	2224167
Reactive Silica (SiO2)	mg/L	4.1	N/A	0.5	2224783	13	0.5	2224783
Total Suspended Solids	mg/L	46	N/A	2	2222971	6	1	2221612
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2222937	ND	1	2222940
Sulphide	mg/L	ND	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	5.5	N/A	0.1	2222206	5.5	0.1	2223760
Alkalinity (Total as CaCO3)	mg/L	38	N/A	1	2222945	142	1	2222945
Dissolved Chloride (Cl)	mg/L	1	N/A	1	2222932	2	1	2222938

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3796	GQ3796			GQ3797		
Sampling Date		2010/07/26 11:30	2010/07/26 11:30			2010/07/26 14:30		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW12A**	**SW12A Lab-Dup**	**RDL**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis								
Redox Potential	mV	+187	N/A	N/A	2222072	+193	N/A	2222117
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.6	N/A	0.5	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3797			GQ3798		
Sampling Date		2010/07/26 14:30			2010/07/26 12:05		
COC Number		200363-0			200363-0		
	Units	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	68	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	N/A	1	2221155	78	1	2221155
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2221572	ND	1	2221572
Inorganics							
Acidity as CaC03	mg/L	N/A	10	2222091	ND	10	2222091
Total Ammonia-N	mg/L	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	N/A	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2222458	90	4	2222458
Colour	TCU	N/A	4	2222953	210	8	2222953
Conductivity	umho/cm	N/A	1	2222946	135	1	2222946
Total Dissolved Solids	mg/L	N/A	10	2222926	86	10	2222926
Fluoride (F-)	mg/L	N/A	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	2223517	1.3	0.2	2223517
Dissolved Organic Carbon	mg/L	N/A	0.2	2224097	33.7	0.2	2224097
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2222517	31.4	0.2	2222517
Orthophosphate (P)	mg/L	N/A	0.01	2222939	0.06	0.05	2222939
Dissolved Oxygen	mg/L	N/A	N/A	2221593	4.10	N/A	2221593
pH	pH	N/A	N/A	2222948	7.1	N/A	2222948
Dissolved Phosphorus	mg/L	N/A	0.002	2224104	0.009	0.002	2224104
Total Phosphorus	mg/L	N/A	0.002	2224167	0.020	0.002	2224167
Reactive Silica (SiO2)	mg/L	N/A	0.5	2224783	10	0.5	2224783
Total Suspended Solids	mg/L	N/A	1	2221612	8	1	2221610
Dissolved Sulphate (SO4)	mg/L	N/A	1	2222940	ND (1)	5	2222940
Sulphide	mg/L	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	5.7	0.1	2223760	3.5	0.1	2222206
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2222945	68	1	2222945

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3797			GQ3798		
Sampling Date		2010/07/26 14:30			2010/07/26 12:05		
COC Number		200363-0			200363-0		
	Units	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	N/A	1	2222938	ND (1)	5	2222938
Nitrite (N)	mg/L	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	2222117	+196	N/A	2222117
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3799		GQ3800		
Sampling Date		2010/07/26 10:15		2010/07/26 09:00		
COC Number		200363-0		200363-0		
	Units	**SW16**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	25	2221572	29	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	29	2221155	33	1	2221583
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2221572	ND	1	2221572
Inorganics						
Acidity as CaC03	mg/L	ND	2222091	ND	10	2222091
Total Ammonia-N	mg/L	ND	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	32	2222458	36	4	2222458
Colour	TCU	47	2222953	60	2	2222953
Conductivity	umho/cm	68	2222946	74	1	2222946
Total Dissolved Solids	mg/L	42	2222926	46	10	2222926
Fluoride (F-)	mg/L	ND	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	0.5	2223517	0.7	0.1	2223517
Dissolved Organic Carbon	mg/L	11.6	2224093	13.6	0.2	2224097
Total Organic Carbon (TOC)	mg/L	10.9	2222517	12.2	0.2	2222517
Orthophosphate (P)	mg/L	0.02	2222936	0.01	0.01	2222936
Dissolved Oxygen	mg/L	9.46	2221593	8.90	N/A	2221593
pH	pH	6.8	2222948	6.8	N/A	2222948
Dissolved Phosphorus	mg/L	0.011	2224104	0.018	0.002	2224104
Total Phosphorus	mg/L	0.021	2224167	0.027	0.002	2224167
Reactive Silica (SiO2)	mg/L	3.2	2224783	3.6	0.5	2224783
Total Suspended Solids	mg/L	8	2221610	8	1	2221610
Dissolved Sulphate (SO4)	mg/L	ND	2222937	ND	1	2222937
Sulphide	mg/L	ND	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	2221951	ND	0.005	2221951
Turbidity	NTU	3.3	2222206	7.8	0.1	2222206
Alkalinity (Total as CaCO3)	mg/L	25	2222945	29	1	2222945
Dissolved Chloride (Cl)	mg/L	2	2222932	3	1	2222932

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3799		GQ3800		
Sampling Date		2010/07/26 10:15		2010/07/26 09:00		
COC Number		200363-0		200363-0		
	Units	**SW16**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	2222685	ND	0.01	2222674
Nitrate (N)	mg/L	ND	2222685	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	2222685	ND	0.1	2222674
Subcontracted Analysis						
Redox Potential	mV	+189	2222117	+186	N/A	2222117
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3801	GQ3801			GQ3802		
Sampling Date		2010/07/26 14:40	2010/07/26 14:40			2010/07/26 13:50		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2220441	1.7	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	150	N/A	1	2221572	98	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	160	N/A	1	2221583	110	1	2221583
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Inorganics								
Acidity as CaC03	mg/L	20	N/A	10	2222091	ND	10	2222091
Total Ammonia-N	mg/L	ND	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	N/A	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	95	N/A	4	2222458	78	4	2222458
Colour	TCU	160	N/A	4	2222953	160	4	2222953
Conductivity	umho/cm	294	N/A	1	2222946	191	1	2222946
Total Dissolved Solids	mg/L	186	N/A	10	2222926	122	10	2222926
Fluoride (F-)	mg/L	ND	N/A	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	1.8	N/A	0.2	2223517	1.2	0.2	2223517
Dissolved Organic Carbon	mg/L	32.4	N/A	0.2	2224097	27.9	0.2	2224093
Total Organic Carbon (TOC)	mg/L	32.9	N/A	0.2	2222517	26.3	0.2	2222517
Orthophosphate (P)	mg/L	0.06	N/A	0.01	2222936	0.06	0.05	2222936
Dissolved Oxygen	mg/L	1.37	N/A	N/A	2221593	8.66	N/A	2221593
pH	pH	7.4	N/A	N/A	2222948	7.6	N/A	2222948
Dissolved Phosphorus	mg/L	0.124	0.118	0.002	2224104	0.048	0.002	2224104
Total Phosphorus	mg/L	0.31	N/A	0.006	2224167	0.061	0.002	2224167
Reactive Silica (SiO2)	mg/L	16	N/A	0.5	2224783	9.9	0.5	2224783
Total Suspended Solids	mg/L	13	N/A	2	2221610	19	1	2221612
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2222937	ND (1)	5	2222937
Sulphide	mg/L	ND	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	6.9	N/A	0.1	2223760	10	0.1	2223760
Alkalinity (Total as CaCO3)	mg/L	150	N/A	1	2222945	98	1	2222945

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3801	GQ3801			GQ3802		
Sampling Date		2010/07/26 14:40	2010/07/26 14:40			2010/07/26 13:50		
COC Number		200363-0	200363-0			200363-0		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2222932	ND (1)	5	2222932
Nitrite (N)	mg/L	ND	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis								
Redox Potential	mV	+212	+211	N/A	2222117	+167	N/A	2222117
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2221651	1.7	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3803	GQ3803			GQ3804		
Sampling Date		2010/07/26 09:25	2010/07/26 09:25					
COC Number		200363-0	200363-0			200363-0		
	Units	**SW15**	**SW15 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	1.1	N/A	0.5	2220441	ND	0.5	2220441
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	87	N/A	1	2221572	1	1	2221572
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Hardness (CaCO3)	mg/L	100	N/A	1	2221583	ND	1	2221583
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2221572	ND	1	2221572
Inorganics								
Acidity as CaC03	mg/L	ND	ND	10	2222091	ND	10	2222091
Total Ammonia-N	mg/L	ND	N/A	0.05	2222450	ND	0.05	2222450
Total BOD	mg/L	ND	N/A	2	2221640	ND	2	2221640
Total Chemical Oxygen Demand (COD)	mg/L	100	N/A	4	2222458	ND	4	2222458
Colour	TCU	270	N/A	6	2222953	ND	2	2222953
Conductivity	umho/cm	178	N/A	1	2222946	1	1	2222946
Total Dissolved Solids	mg/L	114	N/A	10	2222926	ND	10	2222926
Fluoride (F-)	mg/L	ND	N/A	0.1	2222947	ND	0.1	2222947
Total Kjeldahl Nitrogen (TKN)	mg/L	1.4	N/A	0.2	2223517	ND	0.1	2223517
Dissolved Organic Carbon	mg/L	42.1	N/A	0.2	2224093	0.4	0.2	2224093
Total Organic Carbon (TOC)	mg/L	39.6	N/A	0.2	2222517	0.3	0.2	2222517
Orthophosphate (P)	mg/L	0.06	N/A	0.05	2222939	ND	0.01	2222936
Dissolved Oxygen	mg/L	8.11	N/A	N/A	2221593	11.1	N/A	2221593
pH	pH	7.5	N/A	N/A	2222948	6.2	N/A	2222948
Dissolved Phosphorus	mg/L	0.052	N/A	0.002	2224104	ND	0.002	2224104
Total Phosphorus	mg/L	0.063	N/A	0.002	2224167	ND	0.002	2224167
Reactive Silica (SiO2)	mg/L	9.8	N/A	0.5	2224783	ND	0.5	2224783
Total Suspended Solids	mg/L	5	N/A	1	2221610	ND	1	2221610
Dissolved Sulphate (SO4)	mg/L	ND (1)	N/A	5	2222940	ND	1	2222937
Sulphide	mg/L	ND	N/A	0.02	2221802	ND	0.02	2221802
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2221951	ND	0.005	2221951
Turbidity	NTU	5.9	N/A	0.1	2222206	ND	0.1	2222198
Alkalinity (Total as CaCO3)	mg/L	87	N/A	1	2222945	1	1	2222945

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

RESULTS OF ANALYSES OF WATER

Maxxam ID		GQ3803	GQ3803			GQ3804		
Sampling Date		2010/07/26 09:25	2010/07/26 09:25					
COC Number		200363-0	200363-0			200363-0		
	Units	**SW15**	**SW15 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	ND (1)	N/A	5	2222938	ND	1	2222932
Nitrite (N)	mg/L	ND	N/A	0.01	2222674	ND	0.01	2222674
Nitrate (N)	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2222674	ND	0.1	2222674
Subcontracted Analysis								
Redox Potential	mV	+164	N/A	N/A	2222117	+198	N/A	2222117
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	1.1	N/A	0.5	2221651	ND	0.5	2221651
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2221652	ND	0.5	2221652

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

Maxxam ID		GQ3804		
Sampling Date				
COC Number		200363-0		
	Units	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Turbidity	NTU	ND	0.1	2222198

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

PERMANENT GASES (WATER)

Maxxam ID		GQ3789	GQ3790	GQ3791	GQ3792		
Sampling Date		2010/07/26 13:30	2010/07/26 13:50	2010/07/26 14:10	2010/07/26 12:50		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW1**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	4.8	2.5	4.6	6.9	0.6	2221838
Calculated Carbon Dioxide	mg/L	9	5	8	12	1	2220539

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GQ3793	GQ3794	GQ3795	GQ3796		
Sampling Date		2010/07/26 15:00	2010/07/26 13:15	2010/07/26 12:30	2010/07/26 11:30		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW7A**	**SW10**	**SW11**	**SW12A**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	2.5	4.1	11	13	0.6	2221838
Calculated Carbon Dioxide	mg/L	5	7	20	23	1	2220539

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GQ3797	GQ3798	GQ3798	GQ3799		
Sampling Date		2010/07/26 14:30	2010/07/26 12:05	2010/07/26 12:05	2010/07/26 10:15		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW13**	**SW14**	**SW14 Lab-Dup**	**SW16**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	5.6	8.8	8.7	0.9	0.6	2221838
Calculated Carbon Dioxide	mg/L	10	16	N/A	2	1	2220539

N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

PERMANENT GASES (WATER)

Maxxam ID		GQ3800	GQ3801	GQ3802	GQ3803	GQ3804		
Sampling Date		2010/07/26 09:00	2010/07/26 14:40	2010/07/26 13:50	2010/07/26 09:25			
COC Number		200363-0	200363-0	200363-0	200363-0	200363-0		
	Units	**SW17**	**SW18**	**SW6**	**SW15**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	0.9	16	2.4	2.4	1.9	0.6	2221838
Calculated Carbon Dioxide	mg/L	2	29	4	4	3	1	2220539

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GQ3804		
Sampling Date				
COC Number		200363-0		
	Units	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases				
Carbon Dioxide	L/m3	2.1	0.6	2221838

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3789	GQ3789	GQ3790	GQ3791		
Sampling Date		2010/07/26 13:30	2010/07/26 13:30	2010/07/26 13:50	2010/07/26 14:10		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW1**	**SW1 Lab-Dup**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	N/A	ND	ND	0.0001	2222076
Dissolved Sulphur (S)	mg/L	1.0	1.0	ND	0.7	0.5	2224302
Total Sulphur (S)	mg/L	1.0	N/A	ND	0.8	0.5	2223827
Dissolved Aluminum (Al)	ug/L	9	N/A	13	20	5	2224940
Total Aluminum (Al)	ug/L	170	N/A	130	240	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	N/A	ND	ND	0.5	2224940
Total Antimony (Sb)	ug/L	ND	N/A	ND	ND	0.5	2223821
Dissolved Arsenic (As)	ug/L	2	N/A	2	2	1	2224940
Total Arsenic (As)	ug/L	3	N/A	2	3	1	2223821
Dissolved Barium (Ba)	ug/L	15	N/A	10	13	5	2224940
Total Barium (Ba)	ug/L	18	N/A	11	16	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	N/A	ND	ND	0.5	2224940
Total Beryllium (Be)	ug/L	ND	N/A	ND	ND	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	N/A	ND	ND	1	2224940
Total Bismuth (Bi)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Boron (B)	ug/L	19	N/A	10	16	10	2224940
Total Boron (B)	ug/L	17	N/A	ND	14	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	N/A	ND	ND	0.1	2224940
Total Cadmium (Cd)	ug/L	ND	N/A	ND	ND	0.1	2223821
Dissolved Calcium (Ca)	ug/L	34000	N/A	27000	31000	200	2224940
Total Calcium (Ca)	ug/L	33000	N/A	25000	34000	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	N/A	ND	ND	5	2224940
Total Chromium (Cr)	ug/L	ND	N/A	ND	ND	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	N/A	ND	ND	0.5	2224940
Total Cobalt (Co)	ug/L	ND	N/A	ND	0.8	0.5	2223821
Dissolved Copper (Cu)	ug/L	1	N/A	1	2	1	2224940
Total Copper (Cu)	ug/L	1	N/A	ND	1	1	2223821
Dissolved Iron (Fe)	ug/L	400	N/A	490	560	100	2224940
Total Iron (Fe)	ug/L	880	N/A	780	1100	100	2223821
Dissolved Lead (Pb)	ug/L	ND	N/A	ND	ND	0.5	2224940

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3789	GQ3789	GQ3790	GQ3791		
Sampling Date		2010/07/26 13:30	2010/07/26 13:30	2010/07/26 13:50	2010/07/26 14:10		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW1**	**SW1 Lab-Dup**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	ND	ND	0.5	2223821
Dissolved Lithium (Li)	ug/L	ND	N/A	ND	ND	5	2224940
Total Lithium (Li)	ug/L	ND	N/A	ND	ND	5	2223821
Dissolved Magnesium (Mg)	ug/L	14000	N/A	10000	13000	50	2224940
Total Magnesium (Mg)	ug/L	13000	N/A	9300	14000	50	2223821
Dissolved Manganese (Mn)	ug/L	2	N/A	ND	10	2	2224940
Total Manganese (Mn)	ug/L	130	N/A	60	170	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	ND	ND	1	2224940
Total Molybdenum (Mo)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Nickel (Ni)	ug/L	2	N/A	2	2	1	2224940
Total Nickel (Ni)	ug/L	2	N/A	2	2	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	N/A	ND	ND	100	2224940
Dissolved Potassium (K)	ug/L	1300	N/A	560	910	200	2224940
Total Potassium (K)	ug/L	1300	N/A	510	1000	200	2223821
Dissolved Selenium (Se)	ug/L	ND	N/A	ND	ND	2	2224940
Total Selenium (Se)	ug/L	ND	N/A	ND	ND	2	2223821
Dissolved Silicon (Si)	ug/L	4300	N/A	4600	4900	50	2224940
Total Silicon (Si)	ug/L	4500	N/A	4500	5600	50	2223821
Dissolved Silver (Ag)	ug/L	ND	N/A	ND	ND	0.1	2224940
Total Silver (Ag)	ug/L	ND	N/A	ND	ND	0.1	2223821
Dissolved Sodium (Na)	ug/L	4000	N/A	1000	2500	100	2224940
Total Sodium (Na)	ug/L	3800	N/A	900	2500	100	2223821
Dissolved Strontium (Sr)	ug/L	82	N/A	42	66	1	2224940
Total Strontium (Sr)	ug/L	84	N/A	41	73	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	N/A	ND	ND	1	2224940
Total Tellurium (Te)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	N/A	ND	ND	0.05	2224940
Total Thallium (Tl)	ug/L	ND	N/A	ND	ND	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	N/A	ND	ND	1	2224940
Total Thorium (Th)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Tin (Sn)	ug/L	ND	N/A	ND	2	1	2224940

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3789	GQ3789	GQ3790	GQ3791		
Sampling Date		2010/07/26 13:30	2010/07/26 13:30	2010/07/26 13:50	2010/07/26 14:10		
COC Number		200363-0	200363-0	200363-0	200363-0		
	Units	**SW1**	**SW1 Lab-Dup**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	N/A	ND	ND	5	2224940
Total Titanium (Ti)	ug/L	10	N/A	6	11	5	2223821
Dissolved Tungsten (W)	ug/L	ND	N/A	ND	ND	1	2224940
Total Tungsten (W)	ug/L	ND	N/A	ND	ND	1	2223821
Dissolved Uranium (U)	ug/L	0.3	N/A	0.1	0.3	0.1	2224940
Total Uranium (U)	ug/L	0.4	N/A	0.1	0.4	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	N/A	ND	1	1	2224940
Total Vanadium (V)	ug/L	2	N/A	1	2	1	2223821
Dissolved Zinc (Zn)	ug/L	ND	N/A	ND	ND	5	2224940
Total Zinc (Zn)	ug/L	7	N/A	ND	9	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	N/A	ND	ND	1	2224940
Total Zirconium (Zr)	ug/L	ND	N/A	ND	ND	1	2223821

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3792		GQ3793	GQ3794	GQ3795		
Sampling Date		2010/07/26 12:50		2010/07/26 15:00	2010/07/26 13:15	2010/07/26 12:30		
COC Number		200363-0		200363-0	200363-0	200363-0		
	Units	**SW4**	**QC Batch**	**SW7A**	**SW10**	**SW11**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2222076	ND	ND	ND	0.0001	2222076
Dissolved Sulphur (S)	mg/L	ND	2223721	0.7	0.8	ND	0.5	2224302
Total Sulphur (S)	mg/L	ND	2223827	0.7	0.9	0.5	0.5	2223827
Dissolved Aluminum (Al)	ug/L	15	2224940	9	13	29	5	2224940
Total Aluminum (Al)	ug/L	56	2223821	140	170	46	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	2224940	ND	ND	ND	0.5	2224940
Total Antimony (Sb)	ug/L	ND	2223821	ND	ND	ND	0.5	2223821
Dissolved Arsenic (As)	ug/L	ND	2224940	1	2	2	1	2224940
Total Arsenic (As)	ug/L	ND	2223821	2	2	3	1	2223821
Dissolved Barium (Ba)	ug/L	10	2224940	23	14	15	5	2224940
Total Barium (Ba)	ug/L	13	2223821	25	17	30	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	2224940	ND	ND	ND	0.5	2224940
Total Beryllium (Be)	ug/L	ND	2223821	ND	ND	ND	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Bismuth (Bi)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Boron (B)	ug/L	ND	2224940	17	17	10	10	2224940
Total Boron (B)	ug/L	ND	2223821	14	16	ND	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	2224940	ND	ND	ND	0.1	2224940
Total Cadmium (Cd)	ug/L	ND	2223821	ND	ND	ND	0.1	2223821
Dissolved Calcium (Ca)	ug/L	15000	2224940	54000	34000	21000	200	2224940
Total Calcium (Ca)	ug/L	15000	2223821	53000	33000	21000	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	2224940	ND	ND	ND	5	2224940
Total Chromium (Cr)	ug/L	ND	2223821	ND	ND	ND	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	2224940	ND	ND	ND	0.5	2224940
Total Cobalt (Co)	ug/L	ND	2223821	ND	ND	3.2	0.5	2223821
Dissolved Copper (Cu)	ug/L	ND	2224940	1	1	ND	1	2224940
Total Copper (Cu)	ug/L	ND	2223821	1	1	ND	1	2223821
Dissolved Iron (Fe)	ug/L	240	2224940	ND	450	1400	100	2224940
Total Iron (Fe)	ug/L	830	2223821	550	880	3100	100	2223821
Dissolved Lead (Pb)	ug/L	ND	2224940	ND	ND	ND	0.5	2224940
Total Lead (Pb)	ug/L	ND	2223821	ND	ND	ND	0.5	2223821

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3792		GQ3793	GQ3794	GQ3795		
Sampling Date		2010/07/26 12:50		2010/07/26 15:00	2010/07/26 13:15	2010/07/26 12:30		
COC Number		200363-0		200363-0	200363-0	200363-0		
	Units	**SW4**	**QC Batch**	**SW7A**	**SW10**	**SW11**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2224940	ND	ND	ND	5	2224940
Total Lithium (Li)	ug/L	ND	2223821	ND	ND	ND	5	2223821
Dissolved Magnesium (Mg)	ug/L	6300	2224940	20000	14000	10000	50	2224940
Total Magnesium (Mg)	ug/L	6200	2223821	19000	13000	9700	50	2223821
Dissolved Manganese (Mn)	ug/L	ND	2224940	ND	ND	7	2	2224940
Total Manganese (Mn)	ug/L	530	2223821	92	98	1000	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Molybdenum (Mo)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Nickel (Ni)	ug/L	ND	2224940	1	2	1	1	2224940
Total Nickel (Ni)	ug/L	ND	2223821	2	2	1	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	2224940	ND	ND	ND	100	2224940
Dissolved Potassium (K)	ug/L	760	2224940	1300	1200	480	200	2224940
Total Potassium (K)	ug/L	740	2223821	1200	1200	450	200	2223821
Dissolved Selenium (Se)	ug/L	ND	2224940	ND	ND	ND	2	2224940
Total Selenium (Se)	ug/L	ND	2223821	ND	ND	ND	2	2223821
Dissolved Silicon (Si)	ug/L	3400	2224940	6300	4900	5400	50	2224940
Total Silicon (Si)	ug/L	3400	2223821	6500	5000	5200	50	2223821
Dissolved Silver (Ag)	ug/L	ND	2224940	ND	ND	ND	0.1	2224940
Total Silver (Ag)	ug/L	ND	2223821	ND	ND	ND	0.1	2223821
Dissolved Sodium (Na)	ug/L	3200	2224940	2300	4400	950	100	2224940
Total Sodium (Na)	ug/L	3100	2223821	2100	4100	890	100	2223821
Dissolved Strontium (Sr)	ug/L	31	2224940	88	82	52	1	2224940
Total Strontium (Sr)	ug/L	33	2223821	88	83	67	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Tellurium (Te)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	2224940	ND	ND	ND	0.05	2224940
Total Thallium (Tl)	ug/L	ND	2223821	ND	ND	ND	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Thorium (Th)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Tin (Sn)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Tin (Sn)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	2224940	ND	ND	ND	5	2224940

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Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3792		GQ3793	GQ3794	GQ3795		
Sampling Date		2010/07/26 12:50		2010/07/26 15:00	2010/07/26 13:15	2010/07/26 12:30		
COC Number		200363-0		200363-0	200363-0	200363-0		
	Units	**SW4**	**QC Batch**	**SW7A**	**SW10**	**SW11**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2223821	ND	9	ND	5	2223821
Dissolved Tungsten (W)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Tungsten (W)	ug/L	ND	2223821	ND	ND	ND	1	2223821
Dissolved Uranium (U)	ug/L	ND	2224940	0.6	0.3	ND	0.1	2224940
Total Uranium (U)	ug/L	ND	2223821	0.7	0.3	ND	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Vanadium (V)	ug/L	ND	2223821	1	1	ND	1	2223821
Dissolved Zinc (Zn)	ug/L	ND	2224940	ND	ND	ND	5	2224940
Total Zinc (Zn)	ug/L	9	2223821	ND	6	ND	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	2224940	ND	ND	ND	1	2224940
Total Zirconium (Zr)	ug/L	ND	2223821	ND	ND	ND	1	2223821

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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3796		GQ3797	GQ3797		
Sampling Date		2010/07/26 11:30		2010/07/26 14:30	2010/07/26 14:30		
COC Number		200363-0		200363-0	200363-0		
	Units	**SW12A**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	2222076	ND	N/A	0.0001	2222076
Dissolved Sulphur (S)	mg/L	ND	2224302	ND	N/A	0.5	2223721
Total Sulphur (S)	mg/L	ND	2223827	ND	N/A	0.5	2223827
Dissolved Aluminum (Al)	ug/L	78	2224940	6	6	5	2225207
Total Aluminum (Al)	ug/L	150	2223821	54	N/A	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	2224940	ND	ND	0.5	2225207
Total Antimony (Sb)	ug/L	ND	2223821	ND	N/A	0.5	2223821
Dissolved Arsenic (As)	ug/L	ND	2224940	2	2	1	2225207
Total Arsenic (As)	ug/L	ND	2223821	2	N/A	1	2223821
Dissolved Barium (Ba)	ug/L	11	2224940	12	12	5	2225207
Total Barium (Ba)	ug/L	12	2223821	15	N/A	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	2224940	ND	ND	0.5	2225207
Total Beryllium (Be)	ug/L	ND	2223821	ND	N/A	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	2224940	ND	ND	1	2225207
Total Bismuth (Bi)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Boron (B)	ug/L	ND	2224940	16	17	10	2225207
Total Boron (B)	ug/L	ND	2223821	13	N/A	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	2224940	ND	ND	0.1	2225207
Total Cadmium (Cd)	ug/L	ND	2223821	ND	N/A	0.1	2223821
Dissolved Calcium (Ca)	ug/L	11000	2224940	37000	36000	200	2225207
Total Calcium (Ca)	ug/L	11000	2223821	37000	N/A	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	2224940	ND	ND	5	2225207
Total Chromium (Cr)	ug/L	ND	2223821	ND	N/A	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	2224940	ND	ND	0.5	2225207
Total Cobalt (Co)	ug/L	0.8	2223821	0.5	N/A	0.5	2223821
Dissolved Copper (Cu)	ug/L	1	2224940	ND	ND	1	2225207
Total Copper (Cu)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Iron (Fe)	ug/L	760	2224940	600	610	100	2225207
Total Iron (Fe)	ug/L	1400	2223821	1200	N/A	100	2223821
Dissolved Lead (Pb)	ug/L	ND	2224940	ND	ND	0.5	2225207

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3796		GQ3797	GQ3797		
Sampling Date		2010/07/26 11:30		2010/07/26 14:30	2010/07/26 14:30		
COC Number		200363-0		200363-0	200363-0		
	Units	**SW12A**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	2223821	ND	N/A	0.5	2223821
Dissolved Lithium (Li)	ug/L	ND	2224940	ND	ND	5	2225207
Total Lithium (Li)	ug/L	ND	2223821	ND	N/A	5	2223821
Dissolved Magnesium (Mg)	ug/L	3500	2224940	15000	15000	50	2225207
Total Magnesium (Mg)	ug/L	3300	2223821	14000	N/A	50	2223821
Dissolved Manganese (Mn)	ug/L	2	2224940	ND	ND	2	2225207
Total Manganese (Mn)	ug/L	120	2223821	230	N/A	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	2224940	ND	ND	1	2225207
Total Molybdenum (Mo)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Nickel (Ni)	ug/L	ND	2224940	2	1	1	2225207
Total Nickel (Ni)	ug/L	2	2223821	2	N/A	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	2224940	ND	ND	100	2225207
Dissolved Potassium (K)	ug/L	350	2224940	610	600	200	2225207
Total Potassium (K)	ug/L	300	2223821	590	N/A	200	2223821
Dissolved Selenium (Se)	ug/L	ND	2224940	ND	ND	2	2225207
Total Selenium (Se)	ug/L	ND	2223821	ND	N/A	2	2223821
Dissolved Silicon (Si)	ug/L	1900	2224940	6000	6000	50	2225207
Total Silicon (Si)	ug/L	1900	2223821	5700	N/A	50	2223821
Dissolved Silver (Ag)	ug/L	ND	2224940	ND	ND	0.1	2225207
Total Silver (Ag)	ug/L	ND	2223821	ND	N/A	0.1	2223821
Dissolved Sodium (Na)	ug/L	640	2224940	1700	1700	100	2225207
Total Sodium (Na)	ug/L	570	2223821	1600	N/A	100	2223821
Dissolved Strontium (Sr)	ug/L	23	2224940	69	70	1	2225207
Total Strontium (Sr)	ug/L	23	2223821	72	N/A	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	2224940	ND	ND	1	2225207
Total Tellurium (Te)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	2224940	ND	ND	0.05	2225207
Total Thallium (Tl)	ug/L	ND	2223821	ND	N/A	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	2224940	ND	ND	1	2225207
Total Thorium (Th)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Tin (Sn)	ug/L	ND	2224940	ND	ND	1	2225207

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3796		GQ3797	GQ3797		
Sampling Date		2010/07/26 11:30		2010/07/26 14:30	2010/07/26 14:30		
COC Number		200363-0		200363-0	200363-0		
	Units	**SW12A**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	2224940	ND	ND	5	2225207
Total Titanium (Ti)	ug/L	ND	2223821	ND	N/A	5	2223821
Dissolved Tungsten (W)	ug/L	ND	2224940	ND	ND	1	2225207
Total Tungsten (W)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Uranium (U)	ug/L	ND	2224940	0.2	0.2	0.1	2225207
Total Uranium (U)	ug/L	ND	2223821	0.2	N/A	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	2224940	ND	ND	1	2225207
Total Vanadium (V)	ug/L	ND	2223821	ND	N/A	1	2223821
Dissolved Zinc (Zn)	ug/L	ND	2224940	ND	ND	5	2225207
Total Zinc (Zn)	ug/L	ND	2223821	ND	N/A	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	2224940	ND	ND	1	2225207
Total Zirconium (Zr)	ug/L	ND	2223821	ND	N/A	1	2223821

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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3798	GQ3799	GQ3799		GQ3800		
Sampling Date		2010/07/26 12:05	2010/07/26 10:15	2010/07/26 10:15		2010/07/26 09:00		
COC Number		200363-0	200363-0	200363-0		200363-0		
	Units	**SW14**	**SW16**	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	N/A	2222076	ND	0.0001	2221791
Dissolved Sulphur (S)	mg/L	ND	1.4	N/A	2224302	1.5	0.5	2223721
Total Sulphur (S)	mg/L	ND	1.5	1.6	2223827	1.3	0.5	2223827
Dissolved Aluminum (Al)	ug/L	25	22	N/A	2224940	23	5	2224940
Total Aluminum (Al)	ug/L	39	140	120	2223821	180	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	ND	N/A	2224940	ND	0.5	2224940
Total Antimony (Sb)	ug/L	ND	ND	ND	2223821	ND	0.5	2223821
Dissolved Arsenic (As)	ug/L	2	ND	N/A	2224940	ND	1	2224940
Total Arsenic (As)	ug/L	2	ND	ND	2223821	ND	1	2223821
Dissolved Barium (Ba)	ug/L	13	8	N/A	2224940	9	5	2224940
Total Barium (Ba)	ug/L	14	9	9	2223821	10	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	ND	N/A	2224940	ND	0.5	2224940
Total Beryllium (Be)	ug/L	ND	ND	ND	2223821	ND	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Bismuth (Bi)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Boron (B)	ug/L	ND	ND	N/A	2224940	ND	10	2224940
Total Boron (B)	ug/L	ND	ND	ND	2223821	ND	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	ND	N/A	2224940	ND	0.1	2224940
Total Cadmium (Cd)	ug/L	ND	ND	ND	2223821	ND	0.1	2223821
Dissolved Calcium (Ca)	ug/L	19000	7500	N/A	2224940	8300	200	2224940
Total Calcium (Ca)	ug/L	19000	7200	7300	2223821	8000	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	ND	N/A	2224940	ND	5	2224940
Total Chromium (Cr)	ug/L	ND	ND	ND	2223821	ND	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	ND	N/A	2224940	ND	0.5	2224940
Total Cobalt (Co)	ug/L	0.5	ND	ND	2223821	ND	0.5	2223821
Dissolved Copper (Cu)	ug/L	ND	1	N/A	2224940	2	1	2224940
Total Copper (Cu)	ug/L	ND	1	1	2223821	2	1	2223821
Dissolved Iron (Fe)	ug/L	350	ND	N/A	2224940	100	100	2224940
Total Iron (Fe)	ug/L	910	200	210	2223821	280	100	2223821
Dissolved Lead (Pb)	ug/L	ND	ND	N/A	2224940	ND	0.5	2224940

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3798	GQ3799	GQ3799		GQ3800		
Sampling Date		2010/07/26 12:05	2010/07/26 10:15	2010/07/26 10:15		2010/07/26 09:00		
COC Number		200363-0	200363-0	200363-0		200363-0		
	Units	**SW14**	**SW16**	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	ND	2223821	ND	0.5	2223821
Dissolved Lithium (Li)	ug/L	ND	ND	N/A	2224940	ND	5	2224940
Total Lithium (Li)	ug/L	ND	ND	ND	2223821	ND	5	2223821
Dissolved Magnesium (Mg)	ug/L	7500	2500	N/A	2224940	2900	50	2224940
Total Magnesium (Mg)	ug/L	6900	2300	2400	2223821	2600	50	2223821
Dissolved Manganese (Mn)	ug/L	ND	ND	N/A	2224940	ND	2	2224940
Total Manganese (Mn)	ug/L	270	14	14	2223821	23	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Molybdenum (Mo)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Nickel (Ni)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Nickel (Ni)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	ND	N/A	2224940	ND	100	2224940
Dissolved Potassium (K)	ug/L	430	680	N/A	2224940	690	200	2224940
Total Potassium (K)	ug/L	380	620	640	2223821	640	200	2223821
Dissolved Selenium (Se)	ug/L	ND	ND	N/A	2224940	ND	2	2224940
Total Selenium (Se)	ug/L	ND	ND	ND	2223821	ND	2	2223821
Dissolved Silicon (Si)	ug/L	4500	1500	N/A	2224940	1700	50	2224940
Total Silicon (Si)	ug/L	4200	1700	1600	2223821	2000	50	2223821
Dissolved Silver (Ag)	ug/L	ND	ND	N/A	2224940	ND	0.1	2224940
Total Silver (Ag)	ug/L	ND	ND	ND	2223821	ND	0.1	2223821
Dissolved Sodium (Na)	ug/L	810	3000	N/A	2224940	2800	100	2224940
Total Sodium (Na)	ug/L	730	2700	2700	2223821	2400	100	2223821
Dissolved Strontium (Sr)	ug/L	34	20	N/A	2224940	22	1	2224940
Total Strontium (Sr)	ug/L	34	20	21	2223821	22	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Tellurium (Te)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	ND	N/A	2224940	ND	0.05	2224940
Total Thallium (Tl)	ug/L	ND	ND	ND	2223821	ND	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Thorium (Th)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Tin (Sn)	ug/L	ND	ND	N/A	2224940	ND	1	2224940

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3798	GQ3799	GQ3799		GQ3800		
Sampling Date		2010/07/26 12:05	2010/07/26 10:15	2010/07/26 10:15		2010/07/26 09:00		
COC Number		200363-0	200363-0	200363-0		200363-0		
	Units	**SW14**	**SW16**	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	ND	N/A	2224940	ND	5	2224940
Total Titanium (Ti)	ug/L	ND	5	6	2223821	11	5	2223821
Dissolved Tungsten (W)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Tungsten (W)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Uranium (U)	ug/L	ND	ND	N/A	2224940	ND	0.1	2224940
Total Uranium (U)	ug/L	ND	ND	ND	2223821	ND	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Vanadium (V)	ug/L	ND	ND	ND	2223821	ND	1	2223821
Dissolved Zinc (Zn)	ug/L	ND	ND	N/A	2224940	ND	5	2224940
Total Zinc (Zn)	ug/L	ND	ND	ND	2223821	ND	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	ND	N/A	2224940	ND	1	2224940
Total Zirconium (Zr)	ug/L	ND	ND	ND	2223821	ND	1	2223821

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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3801	GQ3802		GQ3803		
Sampling Date		2010/07/26 14:40	2010/07/26 13:50		2010/07/26 09:25		
COC Number		200363-0	200363-0		200363-0		
	Units	**SW18**	**SW6**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	2222076	ND	0.0001	2222076
Dissolved Sulphur (S)	mg/L	ND	ND	2224302	0.9	0.5	2223721
Total Sulphur (S)	mg/L	ND	ND	2223827	0.9	0.5	2223827
Dissolved Aluminum (Al)	ug/L	9	13	2224940	46	5	2224940
Total Aluminum (Al)	ug/L	33	140	2223821	310	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	ND	2224940	ND	0.5	2224940
Total Antimony (Sb)	ug/L	ND	ND	2223821	ND	0.5	2223821
Dissolved Arsenic (As)	ug/L	2	2	2224940	2	1	2224940
Total Arsenic (As)	ug/L	3	2	2223821	2	1	2223821
Dissolved Barium (Ba)	ug/L	16	10	2224940	15	5	2224940
Total Barium (Ba)	ug/L	28	12	2223821	17	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	ND	2224940	ND	0.5	2224940
Total Beryllium (Be)	ug/L	ND	ND	2223821	ND	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	ND	2224940	ND	1	2224940
Total Bismuth (Bi)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Boron (B)	ug/L	18	11	2224940	13	10	2224940
Total Boron (B)	ug/L	15	ND	2223821	10	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	ND	2224940	ND	0.1	2224940
Total Cadmium (Cd)	ug/L	ND	ND	2223821	ND	0.1	2223821
Dissolved Calcium (Ca)	ug/L	39000	27000	2224940	24000	200	2224940
Total Calcium (Ca)	ug/L	39000	27000	2223821	24000	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	ND	2224940	ND	5	2224940
Total Chromium (Cr)	ug/L	ND	ND	2223821	ND	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	ND	2224940	ND	0.5	2224940
Total Cobalt (Co)	ug/L	4.1	ND	2223821	ND	0.5	2223821
Dissolved Copper (Cu)	ug/L	ND	1	2224940	2	1	2224940
Total Copper (Cu)	ug/L	ND	2	2223821	2	1	2223821
Dissolved Iron (Fe)	ug/L	450	490	2224940	520	100	2224940
Total Iron (Fe)	ug/L	2700	840	2223821	860	100	2223821
Dissolved Lead (Pb)	ug/L	ND	ND	2224940	ND	0.5	2224940
Total Lead (Pb)	ug/L	ND	ND	2223821	ND	0.5	2223821

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3801	GQ3802		GQ3803		
Sampling Date		2010/07/26 14:40	2010/07/26 13:50		2010/07/26 09:25		
COC Number		200363-0	200363-0		200363-0		
	Units	**SW18**	**SW6**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	ND	2224940	ND	5	2224940
Total Lithium (Li)	ug/L	ND	ND	2223821	ND	5	2223821
Dissolved Magnesium (Mg)	ug/L	16000	11000	2224940	11000	50	2224940
Total Magnesium (Mg)	ug/L	15000	10000	2223821	10000	50	2223821
Dissolved Manganese (Mn)	ug/L	ND	ND	2224940	5	2	2224940
Total Manganese (Mn)	ug/L	1300	68	2223821	53	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	ND	2224940	ND	1	2224940
Total Molybdenum (Mo)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Nickel (Ni)	ug/L	2	2	2224940	2	1	2224940
Total Nickel (Ni)	ug/L	2	2	2223821	2	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	ND	2224940	ND	100	2224940
Dissolved Potassium (K)	ug/L	1100	580	2224940	770	200	2224940
Total Potassium (K)	ug/L	1000	540	2223821	810	200	2223821
Dissolved Selenium (Se)	ug/L	ND	ND	2224940	ND	2	2224940
Total Selenium (Se)	ug/L	ND	ND	2223821	ND	2	2223821
Dissolved Silicon (Si)	ug/L	7600	4700	2224940	4500	50	2224940
Total Silicon (Si)	ug/L	7400	4600	2223821	4900	50	2223821
Dissolved Silver (Ag)	ug/L	ND	ND	2224940	ND	0.1	2224940
Total Silver (Ag)	ug/L	ND	ND	2223821	ND	0.1	2223821
Dissolved Sodium (Na)	ug/L	1800	1000	2224940	2000	100	2224940
Total Sodium (Na)	ug/L	1700	970	2223821	1900	100	2223821
Dissolved Strontium (Sr)	ug/L	75	42	2224940	47	1	2224940
Total Strontium (Sr)	ug/L	77	43	2223821	49	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	ND	2224940	ND	1	2224940
Total Tellurium (Te)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	ND	2224940	ND	0.05	2224940
Total Thallium (Tl)	ug/L	ND	ND	2223821	ND	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	ND	2224940	ND	1	2224940
Total Thorium (Th)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Tin (Sn)	ug/L	ND	ND	2224940	ND	1	2224940
Total Tin (Sn)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	ND	2224940	ND	5	2224940

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3801	GQ3802		GQ3803		
Sampling Date		2010/07/26 14:40	2010/07/26 13:50		2010/07/26 09:25		
COC Number		200363-0	200363-0		200363-0		
	Units	**SW18**	**SW6**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	ND	2223821	13	5	2223821
Dissolved Tungsten (W)	ug/L	ND	ND	2224940	ND	1	2224940
Total Tungsten (W)	ug/L	ND	ND	2223821	ND	1	2223821
Dissolved Uranium (U)	ug/L	ND	0.1	2224940	0.2	0.1	2224940
Total Uranium (U)	ug/L	0.1	0.1	2223821	0.3	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	ND	2224940	ND	1	2224940
Total Vanadium (V)	ug/L	ND	1	2223821	2	1	2223821
Dissolved Zinc (Zn)	ug/L	11	ND	2224940	ND	5	2224940
Total Zinc (Zn)	ug/L	8	5	2223821	ND	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	ND	2224940	ND	1	2224940
Total Zirconium (Zr)	ug/L	ND	ND	2223821	ND	1	2223821

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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3804		
Sampling Date				
COC Number		200363-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2221791
Dissolved Sulphur (S)	mg/L	ND	0.5	2225206
Total Sulphur (S)	mg/L	ND	0.5	2223827
Dissolved Aluminum (Al)	ug/L	ND	5	2225207
Total Aluminum (Al)	ug/L	ND	5	2223821
Dissolved Antimony (Sb)	ug/L	ND	0.5	2225207
Total Antimony (Sb)	ug/L	ND	0.5	2223821
Dissolved Arsenic (As)	ug/L	ND	1	2225207
Total Arsenic (As)	ug/L	ND	1	2223821
Dissolved Barium (Ba)	ug/L	ND	5	2225207
Total Barium (Ba)	ug/L	ND	5	2223821
Dissolved Beryllium (Be)	ug/L	ND	0.5	2225207
Total Beryllium (Be)	ug/L	ND	0.5	2223821
Dissolved Bismuth (Bi)	ug/L	ND	1	2225207
Total Bismuth (Bi)	ug/L	ND	1	2223821
Dissolved Boron (B)	ug/L	ND	10	2225207
Total Boron (B)	ug/L	ND	10	2223821
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2225207
Total Cadmium (Cd)	ug/L	ND	0.1	2223821
Dissolved Calcium (Ca)	ug/L	ND	200	2225207
Total Calcium (Ca)	ug/L	ND	200	2223821
Dissolved Chromium (Cr)	ug/L	ND	5	2225207
Total Chromium (Cr)	ug/L	ND	5	2223821
Dissolved Cobalt (Co)	ug/L	ND	0.5	2225207
Total Cobalt (Co)	ug/L	ND	0.5	2223821
Dissolved Copper (Cu)	ug/L	ND	1	2225207
Total Copper (Cu)	ug/L	ND	1	2223821
Dissolved Iron (Fe)	ug/L	ND	100	2225207
Total Iron (Fe)	ug/L	ND	100	2223821
Dissolved Lead (Pb)	ug/L	ND	0.5	2225207
Total Lead (Pb)	ug/L	ND	0.5	2223821
Dissolved Lithium (Li)	ug/L	ND	5	2225207

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Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3804		
Sampling Date				
COC Number		200363-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	5	2223821
Dissolved Magnesium (Mg)	ug/L	ND	50	2225207
Total Magnesium (Mg)	ug/L	ND	50	2223821
Dissolved Manganese (Mn)	ug/L	ND	2	2225207
Total Manganese (Mn)	ug/L	ND	2	2223821
Dissolved Molybdenum (Mo)	ug/L	ND	1	2225207
Total Molybdenum (Mo)	ug/L	ND	1	2223821
Dissolved Nickel (Ni)	ug/L	ND	1	2225207
Total Nickel (Ni)	ug/L	ND	1	2223821
Dissolved Phosphorus (P)	ug/L	ND	100	2225207
Dissolved Potassium (K)	ug/L	ND	200	2225207
Total Potassium (K)	ug/L	ND	200	2223821
Dissolved Selenium (Se)	ug/L	ND	2	2225207
Total Selenium (Se)	ug/L	ND	2	2223821
Dissolved Silicon (Si)	ug/L	ND	50	2225207
Total Silicon (Si)	ug/L	ND	50	2223821
Dissolved Silver (Ag)	ug/L	ND	0.1	2225207
Total Silver (Ag)	ug/L	ND	0.1	2223821
Dissolved Sodium (Na)	ug/L	ND	100	2225207
Total Sodium (Na)	ug/L	ND	100	2223821
Dissolved Strontium (Sr)	ug/L	ND	1	2225207
Total Strontium (Sr)	ug/L	ND	1	2223821
Dissolved Tellurium (Te)	ug/L	ND	1	2225207
Total Tellurium (Te)	ug/L	ND	1	2223821
Dissolved Thallium (Tl)	ug/L	ND	0.05	2225207
Total Thallium (Tl)	ug/L	ND	0.05	2223821
Dissolved Thorium (Th)	ug/L	ND	1	2225207
Total Thorium (Th)	ug/L	ND	1	2223821
Dissolved Tin (Sn)	ug/L	ND	1	2225207
Total Tin (Sn)	ug/L	ND	1	2223821
Dissolved Titanium (Ti)	ug/L	ND	5	2225207
Total Titanium (Ti)	ug/L	ND	5	2223821
Dissolved Tungsten (W)	ug/L	ND	1	2225207

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GQ3804		
Sampling Date				
COC Number		200363-0		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1	2223821
Dissolved Uranium (U)	ug/L	ND	0.1	2225207
Total Uranium (U)	ug/L	ND	0.1	2223821
Dissolved Vanadium (V)	ug/L	ND	1	2225207
Total Vanadium (V)	ug/L	ND	1	2223821
Dissolved Zinc (Zn)	ug/L	ND	5	2225207
Total Zinc (Zn)	ug/L	ND	5	2223821
Dissolved Zirconium (Zr)	ug/L	ND	1	2225207
Total Zirconium (Zr)	ug/L	ND	1	2223821

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0A0779
Report Date: 2010/08/10

GENERAL COMMENTS

Sample GQ3789-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3790-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3791-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3792-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion.
Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3793-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3794-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3795-01: Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3796-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3797-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3798-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3799-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3800-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3801-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion.

Sample GQ3802-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3803-01: Dissolved Gas Analysis: The result for Carbon Dioxide reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GQ3804-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

Klohn Crippen Berger Ltd
Attention: Leann Graham
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Quality Assurance Report

Maxxam Job Number: MB0A0779

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2221610	JDO	QC Standard	Total Suspended Solids	2010/07/29		93	%	85 - 115
		Method Blank	Total Suspended Solids	2010/07/29	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/07/29	NC		%	25
2221612	JDO	QC Standard	Total Suspended Solids	2010/07/30		96	%	85 - 115
		Method Blank	Total Suspended Solids	2010/07/30	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/07/30	NC		%	25
2221640	FZH	QC Standard	Total BOD	2010/08/04		107	%	85 - 115
		Method Blank	Total BOD	2010/08/04	ND, RDL=2		mg/L	
		RPD [GQ3790-04]	Total BOD	2010/08/04	NC		%	25
2221651	FA	Spiked Blank	Total Oil & Grease	2010/07/30		96	%	85 - 115
		RPD	Total Oil & Grease	2010/07/30	2.6		%	25
		Method Blank	Total Oil & Grease	2010/07/30	ND, RDL=0.5		mg/L	
2221652	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/07/30		97	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/07/30	3.7		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/07/30	ND, RDL=0.5		mg/L	
2221791	MC	Matrix Spike	Mercury (Hg)	2010/07/30		96	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/07/30		102	%	80 - 120
		Method Blank	Mercury (Hg)	2010/07/30	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/07/30	NC		%	25
2221802	SAU	Matrix Spike	Sulphide	2010/07/30		81	%	75 - 125
		Spiked Blank	Sulphide	2010/07/30		87	%	85 - 115
		Method Blank	Sulphide	2010/07/30	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/07/30	NC		%	25
2221838	EAY	Method Blank	Carbon Dioxide	2010/07/30	ND, RDL=0.6		L/m3	
		RPD [GQ3798-15]	Carbon Dioxide	2010/07/30	1.8		%	25
		RPD [GQ3804-11]	Carbon Dioxide	2010/07/30	NC		%	25
2221951	LHA	Matrix Spike	Total Cyanide (CN)	2010/07/30		98	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/07/30		101	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/07/30	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/07/30	NC		%	25
2222072	DN	QC Standard	Redox Potential	2010/08/04		+240	%	N/A
		Method Blank	Redox Potential	2010/08/04	+189		mV	
		RPD [GQ3793-06]	Redox Potential	2010/08/04	1.7		%	10
2222076	MC	Matrix Spike	Mercury (Hg)	2010/07/30		89	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/07/30		88	%	80 - 120
		Method Blank	Mercury (Hg)	2010/07/30	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/07/30	NC		%	25
2222088	MAT	Method Blank	Acidity as CaC03	2010/08/04	ND, RDL=10		mg/L	
		RPD [GQ3796-02]	Acidity as CaC03	2010/08/04	NC		%	25
2222091	MAT	Method Blank	Acidity as CaC03	2010/08/04	ND, RDL=10		mg/L	
		RPD [GQ3803-02]	Acidity as CaC03	2010/08/04	NC		%	25
2222117	DN	QC Standard	Redox Potential	2010/08/04		+241	%	N/A
		Method Blank	Redox Potential	2010/08/04	+191		mV	
		RPD [GQ3801-06]	Redox Potential	2010/08/04	0.5		%	10
2222198	KTH	QC Standard	Turbidity	2010/07/30		99	%	85 - 115
		Method Blank	Turbidity	2010/07/30	ND, RDL=0.1		NTU	
		RPD [GQ3804-02]	Turbidity	2010/07/30	NC		%	25
2222206	KTH	QC Standard	Turbidity	2010/07/30		99	%	85 - 115
		Method Blank	Turbidity	2010/07/30	ND, RDL=0.1		NTU	
		RPD [GQ3789-02]	Turbidity	2010/07/30	1.7		%	25
2222450	ADB	Matrix Spike [GQ3793-11]	Total Ammonia-N	2010/08/04		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/08/04		100	%	85 - 115
		Method Blank	Total Ammonia-N	2010/08/04	ND, RDL=0.05		mg/L	
		RPD [GQ3793-11]	Total Ammonia-N	2010/08/04	NC		%	25

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2222458	CP	Matrix Spike						
		[GQ3790-11]	Total Chemical Oxygen Demand (COD)	2010/08/04		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/08/04		100	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/08/04	ND, RDL=4		mg/L	
		RPD [GQ3790-11]	Total Chemical Oxygen Demand (COD)	2010/08/04	2.0		%	25
2222517	BMO	Matrix Spike						
		[GQ3790-11]	Total Organic Carbon (TOC)	2010/07/30		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/07/30		92	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/07/30	ND, RDL=0.2		mg/L	
		RPD [GQ3790-11]	Total Organic Carbon (TOC)	2010/07/30	2.7		%	20
2222674	C_N	Matrix Spike	Nitrite (N)	2010/08/04		108	%	80 - 120
			Nitrate (N)	2010/08/04		110	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/08/04		102	%	85 - 115
			Nitrate (N)	2010/08/04		103	%	85 - 115
		Method Blank	Nitrite (N)	2010/08/04	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/08/04	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/08/04	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/08/04	NC		%	25
			Nitrate (N)	2010/08/04	NC		%	25
			Nitrate + Nitrite	2010/08/04	NC		%	25
2222685	AHA	Matrix Spike	Nitrite (N)	2010/08/03		104	%	80 - 120
			Nitrate (N)	2010/08/03		109	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/08/03		106	%	85 - 115
			Nitrate (N)	2010/08/03		105	%	85 - 115
		Method Blank	Nitrite (N)	2010/08/03	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/08/03	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/08/03	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/08/03	NC		%	25
			Nitrate (N)	2010/08/03	NC		%	25
			Nitrate + Nitrite	2010/08/03	NC		%	25
2222926	JDO	QC Standard	Total Dissolved Solids	2010/07/30		99	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/07/30	ND, RDL=10		mg/L	
		RPD [GQ3790-05]	Total Dissolved Solids	2010/07/30	1.7		%	25
2222932	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/08/04		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/08/04		106	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/08/04	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/08/04	1.6		%	20
2222936	DRM	Matrix Spike	Orthophosphate (P)	2010/08/04		105	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/08/04		104	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/08/04	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/08/04	NC		%	25
2222937	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/08/04		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/08/04		103	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/08/04	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/08/04	0.1		%	25
2222938	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/08/04		104	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/08/04		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/08/04	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/08/04	1.5		%	20
2222939	DRM	Matrix Spike	Orthophosphate (P)	2010/08/04		113	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/08/04		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/08/04	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/08/04	0.9		%	25
2222940	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/08/04		103	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/08/04		102	%	80 - 120

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2222940	DRM	Method Blank	Dissolved Sulphate (SO4)	2010/08/04	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/08/04	NC		%	25
2222945	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/08/03		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/08/03	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/08/03	1.9		%	25
2222946	YPA	QC Standard	Conductivity	2010/08/03		103	%	85 - 115
		Method Blank	Conductivity	2010/08/03	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/08/03	0.2		%	25
2222947	YPA	Matrix Spike	Fluoride (F-)	2010/08/03		94	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/08/03		94	%	85 - 115
		Method Blank	Fluoride (F-)	2010/08/03	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/08/03	NC		%	25
2222953	CP	Spiked Blank	Colour	2010/08/03		87	%	75 - 125
		Method Blank	Colour	2010/08/03	ND, RDL=2		TCU	
		RPD	Colour	2010/08/03	NC		%	25
2222971	JDO	QC Standard	Total Suspended Solids	2010/07/30		95	%	85 - 115
		Method Blank	Total Suspended Solids	2010/07/30	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/07/30	NC		%	25
2223517	JDE	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2010/08/03		115	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/08/03		96	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/08/03		98	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/08/03	ND, RDL=0.1		mg/L	
		RPD	Total Kjeldahl Nitrogen (TKN)	2010/08/03	1.4		%	20
2223721	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/08/03		102	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/08/03		102	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/08/03	ND, RDL=0.5		mg/L	
2223760	KTH	QC Standard	Turbidity	2010/08/03		99	%	85 - 115
		Method Blank	Turbidity	2010/08/03	ND, RDL=0.1		NTU	
		RPD [GQ3797-02]	Turbidity	2010/08/03	2.7		%	25
2223821	HRE	Matrix Spike						
		[GQ3799-08]	Total Aluminum (Al)	2010/08/03		109	%	80 - 120
			Total Antimony (Sb)	2010/08/03		104	%	80 - 120
			Total Arsenic (As)	2010/08/03		103	%	80 - 120
			Total Barium (Ba)	2010/08/03		96	%	80 - 120
			Total Beryllium (Be)	2010/08/03		97	%	80 - 120
			Total Bismuth (Bi)	2010/08/03		101	%	80 - 120
			Total Boron (B)	2010/08/03		96	%	80 - 120
			Total Cadmium (Cd)	2010/08/03		99	%	80 - 120
			Total Calcium (Ca)	2010/08/03		101	%	80 - 120
			Total Chromium (Cr)	2010/08/03		97	%	80 - 120
			Total Cobalt (Co)	2010/08/03		97	%	80 - 120
			Total Copper (Cu)	2010/08/03		98	%	80 - 120
			Total Iron (Fe)	2010/08/03		98	%	80 - 120
			Total Lead (Pb)	2010/08/03		99	%	80 - 120
			Total Lithium (Li)	2010/08/03		97	%	80 - 120
			Total Magnesium (Mg)	2010/08/03		101	%	80 - 120
			Total Manganese (Mn)	2010/08/03		99	%	80 - 120
			Total Molybdenum (Mo)	2010/08/03		104	%	80 - 120
			Total Nickel (Ni)	2010/08/03		97	%	80 - 120
			Total Potassium (K)	2010/08/03		100	%	80 - 120
			Total Selenium (Se)	2010/08/03		100	%	80 - 120
			Total Silicon (Si)	2010/08/03		93	%	80 - 120
			Total Silver (Ag)	2010/08/03		93	%	80 - 120
			Total Sodium (Na)	2010/08/03		99	%	80 - 120
			Total Strontium (Sr)	2010/08/03		100	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0A0779

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2223821	HRE	Matrix Spike						
		[GQ3799-08]	Total Tellurium (Te)	2010/08/03		98	%	80 - 120
			Total Thallium (Tl)	2010/08/03		97	%	80 - 120
			Total Thorium (Th)	2010/08/03		100	%	80 - 120
			Total Tin (Sn)	2010/08/03		101	%	80 - 120
			Total Titanium (Ti)	2010/08/03		99	%	80 - 120
			Total Tungsten (W)	2010/08/03		101	%	80 - 120
			Total Uranium (U)	2010/08/03		101	%	80 - 120
			Total Vanadium (V)	2010/08/03		97	%	80 - 120
			Total Zinc (Zn)	2010/08/03		98	%	80 - 120
			Total Zirconium (Zr)	2010/08/03		104	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/08/03		104	%	85 - 115
			Total Antimony (Sb)	2010/08/03		109	%	85 - 115
			Total Arsenic (As)	2010/08/03		104	%	85 - 115
			Total Barium (Ba)	2010/08/03		101	%	85 - 115
			Total Beryllium (Be)	2010/08/03		99	%	85 - 115
			Total Bismuth (Bi)	2010/08/03		104	%	85 - 115
			Total Boron (B)	2010/08/03		98	%	85 - 115
			Total Cadmium (Cd)	2010/08/03		103	%	85 - 116
			Total Calcium (Ca)	2010/08/03		105	%	85 - 115
			Total Chromium (Cr)	2010/08/03		101	%	85 - 115
			Total Cobalt (Co)	2010/08/03		102	%	85 - 115
			Total Copper (Cu)	2010/08/03		100	%	85 - 115
			Total Iron (Fe)	2010/08/03		103	%	85 - 115
			Total Lead (Pb)	2010/08/03		103	%	85 - 115
			Total Lithium (Li)	2010/08/03		101	%	85 - 115
			Total Magnesium (Mg)	2010/08/03		105	%	85 - 115
			Total Manganese (Mn)	2010/08/03		102	%	85 - 115
			Total Molybdenum (Mo)	2010/08/03		108	%	85 - 115
			Total Nickel (Ni)	2010/08/03		101	%	85 - 115
			Total Potassium (K)	2010/08/03		103	%	85 - 115
			Total Selenium (Se)	2010/08/03		105	%	85 - 115
			Total Silicon (Si)	2010/08/03		97	%	85 - 115
			Total Silver (Ag)	2010/08/03		96	%	85 - 115
			Total Sodium (Na)	2010/08/03		103	%	85 - 115
			Total Strontium (Sr)	2010/08/03		103	%	85 - 115
			Total Tellurium (Te)	2010/08/03		102	%	85 - 115
			Total Thallium (Tl)	2010/08/03		102	%	85 - 115
			Total Thorium (Th)	2010/08/03		102	%	85 - 115
			Total Tin (Sn)	2010/08/03		105	%	85 - 115
			Total Titanium (Ti)	2010/08/03		104	%	85 - 115
			Total Tungsten (W)	2010/08/03		105	%	85 - 115
			Total Uranium (U)	2010/08/03		106	%	85 - 115
			Total Vanadium (V)	2010/08/03		102	%	85 - 115
			Total Zinc (Zn)	2010/08/03		102	%	85 - 115
			Total Zirconium (Zr)	2010/08/03		107	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/08/03	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/08/03	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/08/03	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/08/03	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/08/03	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/08/03	ND, RDL=1		ug/L	
			Total Boron (B)	2010/08/03	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/08/03	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/08/03	ND, RDL=200		ug/L	

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2223821	HRE	Method Blank	Total Chromium (Cr)	2010/08/03	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/08/03	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/08/03	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/08/03	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/08/03	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/08/03	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/08/03	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/08/03	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/08/03	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/08/03	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/08/03	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/08/03	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/08/03	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/08/03	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/08/03	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/08/03	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/08/03	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/08/03	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/08/03	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/08/03	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/08/03	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/08/03	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/08/03	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/08/03	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/08/03	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/08/03	ND, RDL=1		ug/L	
		RPD [GQ3799-08]	Total Aluminum (Al)	2010/08/03	16.2		%	25
			Total Antimony (Sb)	2010/08/03	NC		%	25
			Total Arsenic (As)	2010/08/03	NC		%	25
			Total Barium (Ba)	2010/08/03	NC		%	25
			Total Beryllium (Be)	2010/08/03	NC		%	25
			Total Bismuth (Bi)	2010/08/03	NC		%	25
			Total Boron (B)	2010/08/03	NC		%	25
			Total Cadmium (Cd)	2010/08/03	NC		%	25
			Total Calcium (Ca)	2010/08/03	1.7		%	25
			Total Chromium (Cr)	2010/08/03	NC		%	25
			Total Cobalt (Co)	2010/08/03	NC		%	25
			Total Copper (Cu)	2010/08/03	NC		%	25
			Total Iron (Fe)	2010/08/03	NC		%	25
			Total Lead (Pb)	2010/08/03	NC		%	25
			Total Lithium (Li)	2010/08/03	NC		%	25
			Total Magnesium (Mg)	2010/08/03	3.8		%	25
			Total Manganese (Mn)	2010/08/03	3.1		%	25
			Total Molybdenum (Mo)	2010/08/03	NC		%	25
			Total Nickel (Ni)	2010/08/03	NC		%	25
			Total Potassium (K)	2010/08/03	NC		%	25
			Total Selenium (Se)	2010/08/03	NC		%	25
			Total Silicon (Si)	2010/08/03	3.8		%	25
			Total Silver (Ag)	2010/08/03	NC		%	25
			Total Sodium (Na)	2010/08/03	1.6		%	25
			Total Strontium (Sr)	2010/08/03	3.9		%	25
			Total Tellurium (Te)	2010/08/03	NC		%	25
			Total Thallium (Tl)	2010/08/03	NC		%	25
			Total Thorium (Th)	2010/08/03	NC		%	25
			Total Tin (Sn)	2010/08/03	NC		%	25

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2223821	HRE	RPD [GQ3799-08]	Total Titanium (Ti)	2010/08/03	NC		%	25
			Total Tungsten (W)	2010/08/03	NC		%	25
			Total Uranium (U)	2010/08/03	NC		%	25
			Total Vanadium (V)	2010/08/03	NC		%	25
			Total Zinc (Zn)	2010/08/03	NC		%	25
			Total Zirconium (Zr)	2010/08/03	NC		%	25
2223827	JOH	Matrix Spike						
		[GQ3799-08]	Total Sulphur (S)	2010/08/04		102	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/08/04		102	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/08/04	ND, RDL=0.5		mg/L	
		RPD [GQ3799-08]	Total Sulphur (S)	2010/08/04	NC		%	25
2224093	C_H	Matrix Spike						
		[GQ3789-14]	Dissolved Organic Carbon	2010/08/03		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/03		98	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/03	0.2, RDL=0.2		mg/L	
		RPD [GQ3789-14]	Dissolved Organic Carbon	2010/08/03	4.4		%	20
2224097	C_H	Matrix Spike	Dissolved Organic Carbon	2010/08/03		95	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/03		98	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/03	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/03	1.5		%	20
2224104	VRO	Matrix Spike						
		[GQ3801-02]	Dissolved Phosphorus	2010/08/04		NC	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/08/04		99	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/08/04		98	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/08/04	ND, RDL=0.002		mg/L	
		RPD [GQ3801-02]	Dissolved Phosphorus	2010/08/04	4.6		%	20
2224167	VRO	Matrix Spike						
		[GQ3793-11]	Total Phosphorus	2010/08/04		NC	%	80 - 120
		QC Standard	Total Phosphorus	2010/08/04		97	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/08/04		103	%	85 - 115
		Method Blank	Total Phosphorus	2010/08/04	ND, RDL=0.002		mg/L	
		RPD [GQ3793-11]	Total Phosphorus	2010/08/04	4.2		%	20
2224302	JOH	Matrix Spike						
		[GQ3789-03]	Dissolved Sulphur (S)	2010/08/04		98	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/08/04		99	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/08/04	ND, RDL=0.5		mg/L	
		RPD [GQ3789-03]	Dissolved Sulphur (S)	2010/08/04	NC		%	25
2224659	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/08/04		94	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/08/04	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/08/04	0.5		%	25
2224660	YPA	QC Standard	Conductivity	2010/08/04		100	%	85 - 115
		Method Blank	Conductivity	2010/08/04	2, RDL=1		umho/cm	
		RPD	Conductivity	2010/08/04	0.2		%	25
2224661	YPA	Matrix Spike	Fluoride (F-)	2010/08/04		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/08/04		98	%	85 - 115
		Method Blank	Fluoride (F-)	2010/08/04	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/08/04	NC		%	25
2224783	DLB	Matrix Spike	Reactive Silica (SiO2)	2010/08/05		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/08/04		100	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/08/04		99	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/08/04	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/08/05	0.8		%	25
2224940	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/08/04		104	%	80 - 120
			Dissolved Antimony (Sb)	2010/08/04		108	%	80 - 120
			Dissolved Arsenic (As)	2010/08/04		107	%	80 - 120

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2224940	HRE	Matrix Spike	Dissolved Barium (Ba)	2010/08/04		103	%	80 - 120
			Dissolved Beryllium (Be)	2010/08/04		109	%	80 - 120
			Dissolved Bismuth (Bi)	2010/08/04		101	%	80 - 120
			Dissolved Boron (B)	2010/08/04		112	%	80 - 120
			Dissolved Cadmium (Cd)	2010/08/04		105	%	80 - 120
			Dissolved Calcium (Ca)	2010/08/04		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/08/04		101	%	80 - 120
			Dissolved Cobalt (Co)	2010/08/04		99	%	80 - 120
			Dissolved Copper (Cu)	2010/08/04		101	%	80 - 120
			Dissolved Iron (Fe)	2010/08/04		104	%	80 - 120
			Dissolved Lead (Pb)	2010/08/04		100	%	80 - 120
			Dissolved Lithium (Li)	2010/08/04		107	%	80 - 120
			Dissolved Magnesium (Mg)	2010/08/04		109	%	80 - 120
			Dissolved Manganese (Mn)	2010/08/04		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/08/04		105	%	80 - 120
			Dissolved Nickel (Ni)	2010/08/04		98	%	80 - 120
			Dissolved Phosphorus (P)	2010/08/04		NC	%	80 - 120
			Dissolved Potassium (K)	2010/08/04		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/08/04		104	%	80 - 120
			Dissolved Silicon (Si)	2010/08/04		107	%	80 - 120
			Dissolved Silver (Ag)	2010/08/04		94	%	80 - 120
			Dissolved Sodium (Na)	2010/08/04		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/08/04		105	%	80 - 120
			Dissolved Tellurium (Te)	2010/08/04		104	%	80 - 120
			Dissolved Thallium (Tl)	2010/08/04		100	%	80 - 120
			Dissolved Thorium (Th)	2010/08/04		101	%	80 - 120
			Dissolved Tin (Sn)	2010/08/04		106	%	80 - 120
			Dissolved Titanium (Ti)	2010/08/04		105	%	80 - 120
			Dissolved Tungsten (W)	2010/08/04		103	%	80 - 120
			Dissolved Uranium (U)	2010/08/04		103	%	80 - 120
			Dissolved Vanadium (V)	2010/08/04		102	%	80 - 120
			Dissolved Zinc (Zn)	2010/08/04		99	%	80 - 120
			Dissolved Zirconium (Zr)	2010/08/04		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/08/04		102	%	90 - 110
			Dissolved Antimony (Sb)	2010/08/04		104	%	90 - 110
			Dissolved Arsenic (As)	2010/08/04		101	%	90 - 110
			Dissolved Barium (Ba)	2010/08/04		99	%	90 - 110
			Dissolved Beryllium (Be)	2010/08/04		106	%	90 - 110
			Dissolved Bismuth (Bi)	2010/08/04		96	%	90 - 110
			Dissolved Boron (B)	2010/08/04		110	%	90 - 110
			Dissolved Cadmium (Cd)	2010/08/04		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/08/04		104	%	90 - 110
			Dissolved Chromium (Cr)	2010/08/04		97	%	90 - 110
			Dissolved Cobalt (Co)	2010/08/04		95	%	90 - 110
			Dissolved Copper (Cu)	2010/08/04		96	%	90 - 110
			Dissolved Iron (Fe)	2010/08/04		100	%	90 - 110
			Dissolved Lead (Pb)	2010/08/04		97	%	90 - 110
			Dissolved Lithium (Li)	2010/08/04		101	%	90 - 110
			Dissolved Magnesium (Mg)	2010/08/04		106	%	90 - 110
			Dissolved Manganese (Mn)	2010/08/04		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/08/04		102	%	90 - 110
			Dissolved Nickel (Ni)	2010/08/04		94	%	90 - 110
			Dissolved Phosphorus (P)	2010/08/04		99	%	90 - 110
			Dissolved Potassium (K)	2010/08/04		102	%	90 - 110
			Dissolved Selenium (Se)	2010/08/04		99	%	90 - 110

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2224940	HRE	Spiked Blank	Dissolved Silicon (Si)	2010/08/04		105	%	90 - 110
			Dissolved Silver (Ag)	2010/08/04		98	%	90 - 110
			Dissolved Sodium (Na)	2010/08/04		106	%	90 - 110
			Dissolved Strontium (Sr)	2010/08/04		100	%	90 - 110
			Dissolved Tellurium (Te)	2010/08/04		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/08/04		97	%	90 - 110
			Dissolved Thorium (Th)	2010/08/04		97	%	90 - 110
			Dissolved Tin (Sn)	2010/08/04		103	%	90 - 110
			Dissolved Titanium (Ti)	2010/08/04		103	%	90 - 110
			Dissolved Tungsten (W)	2010/08/04		100	%	90 - 110
			Dissolved Uranium (U)	2010/08/04		99	%	90 - 110
			Dissolved Vanadium (V)	2010/08/04		97	%	90 - 110
			Dissolved Zinc (Zn)	2010/08/04		97	%	90 - 110
			Dissolved Zirconium (Zr)	2010/08/04		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/08/04	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/08/04	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/08/04	2, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/08/04	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/08/04	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/08/04	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/08/04	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/08/04	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/08/04	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/08/04	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/08/04	3.9		%	25
			Dissolved Antimony (Sb)	2010/08/04	NC		%	25
			Dissolved Arsenic (As)	2010/08/04	NC		%	25
			Dissolved Barium (Ba)	2010/08/04	NC		%	25
			Dissolved Beryllium (Be)	2010/08/04	NC		%	25

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2224940	HRE	RPD	Dissolved Bismuth (Bi)	2010/08/04	NC		%	25
			Dissolved Boron (B)	2010/08/04	0.9		%	25
			Dissolved Cadmium (Cd)	2010/08/04	NC		%	25
			Dissolved Calcium (Ca)	2010/08/04	1.3		%	25
			Dissolved Chromium (Cr)	2010/08/04	NC		%	25
			Dissolved Cobalt (Co)	2010/08/04	NC		%	25
			Dissolved Copper (Cu)	2010/08/04	5.6		%	25
			Dissolved Iron (Fe)	2010/08/04	1.2		%	25
			Dissolved Lead (Pb)	2010/08/04	NC		%	25
			Dissolved Lithium (Li)	2010/08/04	NC		%	25
			Dissolved Magnesium (Mg)	2010/08/04	1.6		%	25
			Dissolved Manganese (Mn)	2010/08/04	0.9		%	25
			Dissolved Molybdenum (Mo)	2010/08/04	NC		%	25
			Dissolved Nickel (Ni)	2010/08/04	NC		%	25
			Dissolved Phosphorus (P)	2010/08/04	0.8		%	25
			Dissolved Potassium (K)	2010/08/04	0.2		%	25
			Dissolved Selenium (Se)	2010/08/04	NC		%	25
			Dissolved Silicon (Si)	2010/08/04	0.3		%	25
			Dissolved Silver (Ag)	2010/08/04	NC		%	25
			Dissolved Sodium (Na)	2010/08/04	0.5		%	25
			Dissolved Strontium (Sr)	2010/08/04	0.8		%	25
			Dissolved Tellurium (Te)	2010/08/04	NC		%	25
			Dissolved Thallium (Tl)	2010/08/04	NC		%	25
			Dissolved Thorium (Th)	2010/08/04	NC		%	25
			Dissolved Tin (Sn)	2010/08/04	NC		%	25
			Dissolved Titanium (Ti)	2010/08/04	NC		%	25
			Dissolved Tungsten (W)	2010/08/04	NC		%	25
			Dissolved Uranium (U)	2010/08/04	NC		%	25
			Dissolved Vanadium (V)	2010/08/04	NC		%	25
			Dissolved Zinc (Zn)	2010/08/04	NC		%	25
			Dissolved Zirconium (Zr)	2010/08/04	NC		%	25
2225206	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/08/05		101	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/08/05		101	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/08/05	ND, RDL=0.5		mg/L	
2225207	HRE	Matrix Spike [GQ3797-03]						
			Dissolved Aluminum (Al)	2010/08/04		104	%	80 - 120
			Dissolved Antimony (Sb)	2010/08/04		105	%	80 - 120
			Dissolved Arsenic (As)	2010/08/04		107	%	80 - 120
			Dissolved Barium (Ba)	2010/08/04		103	%	80 - 120
			Dissolved Beryllium (Be)	2010/08/04		109	%	80 - 120
			Dissolved Bismuth (Bi)	2010/08/04		96	%	80 - 120
			Dissolved Boron (B)	2010/08/04		112	%	80 - 120
			Dissolved Cadmium (Cd)	2010/08/04		104	%	80 - 120
			Dissolved Calcium (Ca)	2010/08/04		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/08/04		99	%	80 - 120
			Dissolved Cobalt (Co)	2010/08/04		97	%	80 - 120
			Dissolved Copper (Cu)	2010/08/04		98	%	80 - 120
			Dissolved Iron (Fe)	2010/08/04		102	%	80 - 120
			Dissolved Lead (Pb)	2010/08/04		99	%	80 - 120
			Dissolved Lithium (Li)	2010/08/04		103	%	80 - 120
			Dissolved Magnesium (Mg)	2010/08/04		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/08/04		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/08/04		102	%	80 - 120
			Dissolved Nickel (Ni)	2010/08/04		97	%	80 - 120
			Dissolved Phosphorus (P)	2010/08/04		105	%	80 - 120

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0A0779

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2225207	HRE	Matrix Spike						
		[GQ3797-03]	Dissolved Potassium (K)	2010/08/04		103	%	80 - 120
			Dissolved Selenium (Se)	2010/08/04		103	%	80 - 120
			Dissolved Silicon (Si)	2010/08/04		105	%	80 - 120
			Dissolved Silver (Ag)	2010/08/04		101	%	80 - 120
			Dissolved Sodium (Na)	2010/08/04		108	%	80 - 120
			Dissolved Strontium (Sr)	2010/08/04		104	%	80 - 120
			Dissolved Tellurium (Te)	2010/08/04		102	%	80 - 120
			Dissolved Thallium (Tl)	2010/08/04		99	%	80 - 120
			Dissolved Thorium (Th)	2010/08/04		98	%	80 - 120
			Dissolved Tin (Sn)	2010/08/04		104	%	80 - 120
			Dissolved Titanium (Ti)	2010/08/04		104	%	80 - 120
			Dissolved Tungsten (W)	2010/08/04		102	%	80 - 120
			Dissolved Uranium (U)	2010/08/04		100	%	80 - 120
			Dissolved Vanadium (V)	2010/08/04		99	%	80 - 120
			Dissolved Zinc (Zn)	2010/08/04		98	%	80 - 120
			Dissolved Zirconium (Zr)	2010/08/04		104	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/08/04		99	%	90 - 110
			Dissolved Antimony (Sb)	2010/08/04		101	%	90 - 110
			Dissolved Arsenic (As)	2010/08/04		99	%	90 - 110
			Dissolved Barium (Ba)	2010/08/04		97	%	90 - 110
			Dissolved Beryllium (Be)	2010/08/04		105	%	90 - 110
			Dissolved Bismuth (Bi)	2010/08/04		92	%	90 - 110
			Dissolved Boron (B)	2010/08/04		107	%	90 - 110
			Dissolved Cadmium (Cd)	2010/08/04		98	%	90 - 110
			Dissolved Calcium (Ca)	2010/08/04		102	%	90 - 110
			Dissolved Chromium (Cr)	2010/08/04		95	%	90 - 110
			Dissolved Cobalt (Co)	2010/08/04		93	%	90 - 110
			Dissolved Copper (Cu)	2010/08/04		96	%	90 - 110
			Dissolved Iron (Fe)	2010/08/04		98	%	90 - 110
			Dissolved Lead (Pb)	2010/08/04		95	%	90 - 110
			Dissolved Lithium (Li)	2010/08/04		99	%	90 - 110
			Dissolved Magnesium (Mg)	2010/08/04		103	%	90 - 110
			Dissolved Manganese (Mn)	2010/08/04		96	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/08/04		99	%	90 - 110
			Dissolved Nickel (Ni)	2010/08/04		92	%	90 - 110
			Dissolved Phosphorus (P)	2010/08/04		97	%	90 - 110
			Dissolved Potassium (K)	2010/08/04		99	%	90 - 110
			Dissolved Selenium (Se)	2010/08/04		96	%	90 - 110
			Dissolved Silicon (Si)	2010/08/04		100	%	90 - 110
			Dissolved Silver (Ag)	2010/08/04		96	%	90 - 110
			Dissolved Sodium (Na)	2010/08/04		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/08/04		99	%	90 - 110
			Dissolved Tellurium (Te)	2010/08/04		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/08/04		95	%	90 - 110
			Dissolved Thorium (Th)	2010/08/04		96	%	90 - 110
			Dissolved Tin (Sn)	2010/08/04		100	%	90 - 110
			Dissolved Titanium (Ti)	2010/08/04		99	%	90 - 110
			Dissolved Tungsten (W)	2010/08/04		99	%	90 - 110
			Dissolved Uranium (U)	2010/08/04		97	%	90 - 110
			Dissolved Vanadium (V)	2010/08/04		95	%	90 - 110
			Dissolved Zinc (Zn)	2010/08/04		95	%	90 - 110
			Dissolved Zirconium (Zr)	2010/08/04		101	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/08/04	ND, RDL=0.5		ug/L	

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0A0779

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2225207	HRE	Method Blank	Dissolved Arsenic (As)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/08/04	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/08/04	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/08/04	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/08/04	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/08/04	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/08/04	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/08/04	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/08/04	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/08/04	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/08/04	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/08/04	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/08/04	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/08/04	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/08/04	ND, RDL=1		ug/L	
		RPD [GQ3797-03]	Dissolved Aluminum (Al)	2010/08/04	NC		%	25
			Dissolved Antimony (Sb)	2010/08/04	NC		%	25
			Dissolved Arsenic (As)	2010/08/04	NC		%	25
			Dissolved Barium (Ba)	2010/08/04	NC		%	25
			Dissolved Beryllium (Be)	2010/08/04	NC		%	25
			Dissolved Bismuth (Bi)	2010/08/04	NC		%	25
			Dissolved Boron (B)	2010/08/04	NC		%	25
			Dissolved Cadmium (Cd)	2010/08/04	NC		%	25
			Dissolved Calcium (Ca)	2010/08/04	0.8		%	25
			Dissolved Chromium (Cr)	2010/08/04	NC		%	25
			Dissolved Cobalt (Co)	2010/08/04	NC		%	25
			Dissolved Copper (Cu)	2010/08/04	NC		%	25
			Dissolved Iron (Fe)	2010/08/04	1.4		%	25
			Dissolved Lead (Pb)	2010/08/04	NC		%	25
			Dissolved Lithium (Li)	2010/08/04	NC		%	25
			Dissolved Magnesium (Mg)	2010/08/04	0.7		%	25
			Dissolved Manganese (Mn)	2010/08/04	NC		%	25
			Dissolved Molybdenum (Mo)	2010/08/04	NC		%	25
			Dissolved Nickel (Ni)	2010/08/04	NC		%	25
			Dissolved Phosphorus (P)	2010/08/04	NC		%	25
			Dissolved Potassium (K)	2010/08/04	NC		%	25

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0A0779

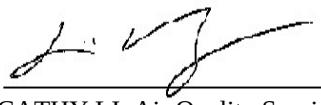
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2225207	HRE	RPD [GQ3797-03]	Dissolved Selenium (Se)	2010/08/04	NC		%	25
			Dissolved Silicon (Si)	2010/08/04	0.2		%	25
			Dissolved Silver (Ag)	2010/08/04	NC		%	25
			Dissolved Sodium (Na)	2010/08/04	0.6		%	25
			Dissolved Strontium (Sr)	2010/08/04	2.3		%	25
			Dissolved Tellurium (Te)	2010/08/04	NC		%	25
			Dissolved Thallium (Tl)	2010/08/04	NC		%	25
			Dissolved Thorium (Th)	2010/08/04	NC		%	25
			Dissolved Tin (Sn)	2010/08/04	NC		%	25
			Dissolved Titanium (Ti)	2010/08/04	NC		%	25
			Dissolved Tungsten (W)	2010/08/04	NC		%	25
			Dissolved Uranium (U)	2010/08/04	NC		%	25
			Dissolved Vanadium (V)	2010/08/04	NC		%	25
			Dissolved Zinc (Zn)	2010/08/04	NC		%	25
			Dissolved Zirconium (Zr)	2010/08/04	NC		%	25
2228053	VRO	Matrix Spike	Total Phosphorus	2010/08/09		107	%	80 - 120
		QC Standard	Total Phosphorus	2010/08/09		110	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/08/09		102	%	85 - 115
		Method Blank	Total Phosphorus	2010/08/09	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/08/09	NC		%	20
2229411	VRO	Matrix Spike	Dissolved Phosphorus	2010/08/10		106	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/08/10		112	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/08/10		99	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/08/10	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/08/10	15.2		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

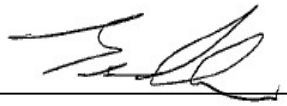
Validation Signature Page

Maxxam Job #: B0A0779

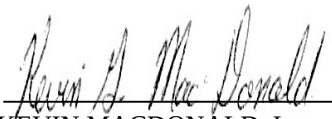
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



CATHY LI, Air Quality Services, Air Lab Analyst



BRAD NEWMAN, Scientific Specialist



KEVIN MACDONALD, Inorganics Supervisor



GRACE SISON, Technical and Customer Service Coordinator



BRUCE REYNOLDS, Laboratory Supervisor

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics — Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

IMMEDIATE TEST

CHAIN OF CU

28-Jul-10 09:55
ANTONELLA BRASIL
B0A0779
J_L ENV-644

e Only:

BOTTLE ORDER #: 200363

CHAIN OF CUSTODY #: C#200363-01-02

PROJECT MANAGER: ANTONELLA BRASIL

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:	

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 1	July 26/10	1:30 pm	WT			✓	✓	✓	✓	✓	–	✓	–	–	–	17	
2		SW 2	July 26/10	1:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	–	17	
3		SW 3	July 26/10	2:10 pm	WT			✓	✓	✓	–	✓	–	✓	✓	✓	–	17	
4		SW 4	July 26/10	12:50 pm	WT			✓	✓	✓	–	✓	–	✓	✓	✓	–	17	
5		SW 7A	July 26/10	3:00 pm	WT			✓	✓	–	–	✓	–	–	✓	–	–	17	17/16/15°C
6		SW 10	July 26/10	1:15 pm	WT			✓	✓	–	–	✓	–	–	–	–	–	17	18/18/17°C 16/16/15°C
7		SW 11	July 26/10	12:30 pm	WT			✓	✓	✓	–	–	–	✓	–	–	–	17	15/14/15°C 14/13/13°C
8		SW 12A	July 26/10	11:30 pm	WT			✓	✓	✓	–	✓	–	–	–	–	–	17	13/15/16°C
9		SW 13	July 26/10	2:30 pm	WT			–	✓	–	–	–	–	–	–	✓	–	17	19/15/16°C 16/17/18°C 15/16/19°C
10		SW 14	July 26/10	12:05 pm	WT			✓	✓	✓	✓	✓	–	✓	✓	–	✓	17	REC'D IN WINNIPEG ice melted

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Hendtleff M. HENDTLEFF	2010/07/26	9:30pm	Zenita ZENITA	10/07/28	8:00AM 09:55		X	10.9, 10.7, 10.6	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 200363
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
				Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#200363-02-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW16	July 26/10	10:15 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
2		SW17	July 26/10	9:00Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
3		SW18	July 26/10	2:40 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
4		SW6	July 26/10	1:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
5		SW15	July 26/10	9:25 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
6																			17/16/15°C
7																			18/18/17°C
8																			16/16/15°C
9																			15/14/15°C
10																			14/13/15°C
																			13/15/16°C
																			REC'D IN WINNIPEG
																			14/15/16°C
																			16/17/18°C 15/16/19°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M. Henteleff	2010/07/26	9:30 pm	Shawn Bell	July 27/10	8:00 am		X	10.9 10.7 10.6	☐ Yes ☐ No
M. Henteleff			Zbluto 20FIA Mercury	10/07/28	09:55			ice method	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 200363
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
				Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#200363-01-01	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

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PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

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(will be applied if Rush TAT is not specified):
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Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW1	July 26/10	1:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
2		SW2	July 26/10	1:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
3		SW3	July 26/10	2:10 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
4		SW4	July 26/10	12:50 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
5		SW7A	July 26/10	3:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
6		SW10	July 26/10	1:15 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	17|16|15°C
7		SW11	July 26/10	12:30 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	18|18|17°C 16|16|15°C
8		SW12A	July 26/10	11:30 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	15|14|15°C 14|13|15°C
9		SW13	July 26/10	2:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	13|15|16°C
10		SW14	July 26/10	12:09 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	REC'D IN WINNIPEG 16|16|16°C 16|17|18°C 15|16|19°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
M-Heafield	2010/07/26	9:30pm	Shan Bahy	10/07/27	8:00am		X	10.9 10.7 10.6	☐ Yes ☐ No
M-Heafield			Zofia Zemla	10/07/28	09:55				

ice melted

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 200363
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#200363-02-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS
Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:
PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 16	July 26/10	10:15 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
2		SW 17	July 26/10	9:00 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
3		SW 18	July 26/10	2:40 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
4		SW 6	July 26/10	1:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	
5		SW 15	July 26/10	9:25 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	17	17/16/15°C
6																			18/18/17°C
7																			~~16/16/15°C~~ 15/14/15°C
8																			14/13/15°C
9																			13/15/16°C
10																			14/15/16°C 16/17/18°C

REC'D IN WINNIPEG
15/16/19°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. MENTECLEFF M. Menteleff	2010/07/26	9:30pm	Shen Reid Zelda ZOFIA ZEREDA	July 27/10 10/07/28	8:00AM 09:55	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	10.9 10.7, 10.6 ice melted	☐ Yes ☐ No

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White: Maxxam Yellow: Client

Maxxam Analytics

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 200363
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#200363-01-03	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

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Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1	July 26/10	1:30 pm	WT			✓	17	
2		SW 2	July 26/10	1:50 pm	WT			✓	17	
3		SW 3	July 26/10	2:10 pm	WT			✓	17	
4		SW 4	July 26/10	12:50 Am	WT			✓	17	
5		SW 7A	July 26/10	3:00 pm	WT			✓	17	
6		SW 10	July 26/10	1:15 Am	WT			✓	17	17/16/15°C 18/18/17°C
7		SW 11	July 26/10	12:30 Am	WT			✓	17	16/16/15°C
8		SW 12A	July 26/10	11:30 Am	WT			✓	17	15/14/15°C 14/13/15°C
9		SW 13	July 26/10	2:30 pm	WT			✓	17	13/15/16°C 14/15/16°C
10		SW 14	July 24/10	12:05 Am	WT			✓	17	REC'D IN WINNIPEG 16/17/18°C 15/16/19°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. HENTELEFF M. Henteleff	2010/07/26	9:30pm	Zenta ZENITA ZENITA ZENITA	10/07/27 10/07/28	8:00 pm 09:55	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	10.9, 10.2, 10.6 ice melted	☐ Yes ☐ No

White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

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Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 200363
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
				Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#200363-02-03	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
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☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW16	July 26/10	10:15 Am	WT			✓	17	
2		SW 17	July 26/10	9:00 Am	WT			✓	17	
3		SW 18	July 26/10	2:40 pm	WT			✓	17	
4		SW 6	July 26/10	1:50 pm	WT			✓	17	
5		SW 15	July 26/10	9:25 Am	WT			✓	17	
6										17/16/15° C 18/18/17° C
7										16/16/15° C
8										15/14/15° C 14/13/15° C
9										13/15/16° C 14/15/16° C 15/16/19° C
10										REC'D IN WINNIPEG 16/17/18° C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
M. Henteleff	2010/07/26	9:30pm	Sher. Bailey	Jul 27/10	5:00pm	
M. Henteleff			Z. Kluza, ZOFIA ZENITA	10/07/28	09:55	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	10.9, 10.7, 10.6	☐ Yes ☐ No

ice melted

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White: Maxxam Yellow: Client

Your Project #: MB0A0779
Your C.O.C. #: 08319963, 08319964

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/08/04

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B065559
Received: 2010/08/03, 08:50

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/08/04	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: Arshdeep.Khalsa@MaxxamAnalytics.com
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: B065559
Client Project #: MB0A0779
Report Date: 2010/08/04

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		V90268	V90269	V90270	V90271	V90272		
Sampling Date		2010/07/26	2010/07/26	2010/07/26	2010/07/26	2010/07/26		
COC Number		08319963	08319963	08319963	08319963	08319963		
	Units	**SW1 (GQ3789-13R)**	**SW2 (GQ3790-13R)**	**SW3 (GQ3791-13R)**	**SW4 (GQ3792-13R)**	**SW7A (GQ3793-13R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0018	0.0012	0.0014	0.0014	0.0010	0.0005	4153236

RDL = Reportable Detection Limit

Maxxam ID		V90273	V90274	V90275	V90276	V90277		
Sampling Date		2010/07/26	2010/07/26	2010/07/26	2010/07/26	2010/07/26		
COC Number		08319963	08319963	08319963	08319963	08319963		
	Units	**SW10 (GQ3794-13R)**	**SW11 (GQ3795-13R)**	**SW12A (GQ3796-13R)**	**SW13 (GQ3797-13R)**	**SW14 (GQ3798-13R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0014	0.0018	0.0011	0.0010	0.0012	0.0005	4153236

RDL = Reportable Detection Limit

Maxxam ID		V90278	V90279	V90280	V90281	V90282		
Sampling Date		2010/07/26	2010/07/26	2010/07/26	2010/07/26	2010/07/26		
COC Number		08319963	08319964	08319964	08319964	08319964		
	Units	**SW16 (GQ3799-13R)**	**SW17 (GQ3800-13R)**	**SW18 (GQ3801-13R)**	**SW6 (GQ3802-13R)**	**SW15 (GQ3803-13R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0006	<0.0005	0.0020	0.0012	0.0013	0.0005	4153236

RDL = Reportable Detection Limit

Maxxam ID		V90283	V90283		
Sampling Date		2010/07/26	2010/07/26		
COC Number		08319964	08319964		
	Units	**TRIP BLANK (GQ3804-13R)**	**TRIP BLANK (GQ3804-13R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0006	0.0006	0.0005	4153236

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B065559
Report Date: 2010/08/04

Client Project #: MB0A0779

Package 1	17.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB0A0779
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB065559

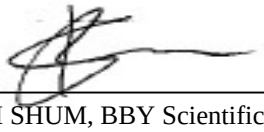
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4153236	TS1	Matrix Spike [V90283-01]	Weak Acid Dissoc. Cyanide (CN)	2010/08/04		100	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/08/04		104	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/08/04	<0.0005		mg/L	
		RPD [V90283-01]	Weak Acid Dissoc. Cyanide (CN)	2010/08/04	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B065559

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



TOM SHUM, BBY Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
August 2010

Your C.O.C. #: 20531501, 205315-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/09/03

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0B6463
Received: 2010/08/25, 09:49

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	15	2010/08/27	2010/09/01	SLA SOP-00100	APHA SM2310B
Alkalinity	16	N/A	2010/08/27	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/08/30		
Biological Oxygen Demand (BOD)	11	N/A	2010/08/31	CAM SOP-00427	APHA 5210B
Biological Oxygen Demand (BOD)	5	N/A	2010/09/01	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	16	N/A	2010/08/30	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/08/27	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/08/30	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/08/27	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/08/27	CAM SOP-00448	SM 2510
Total Cyanide	16	2010/08/27	2010/08/27	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	14	N/A	2010/08/27	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	2	N/A	2010/08/28	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/08/26	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/08/27	2010/08/27	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/08/26		
Hardness (calculated as CaCO3)	16	N/A	2010/08/30	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	16	2010/08/27	2010/08/27	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	16	2010/08/27	2010/08/27	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	16	2010/08/27	2010/08/30	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/08/31	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/08/30	2010/08/31	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/08/30	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (9)	16	N/A	2010/08/27	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	2	N/A	2010/08/27	CAM SOP-00326	SM 5520 B
Animal and Vegetable Oil & Grease	14	N/A	2010/08/28	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/08/27	2010/08/27	CAM SOP-00326	EPA 1664A
pH	16	N/A	2010/08/27	CAM SOP-00448	SM 4500H
Orthophosphate	16	N/A	2010/08/30	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	16	N/A	2010/08/31	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	16	N/A	2010/08/30	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/08/27	2010/09/01	SM 2580 B & ASTM DI 498-76	
Sulphide	16	N/A	2010/08/30	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	16	N/A	2010/08/27	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/08/30	2010/08/31	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2010/08/28	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	15	2010/08/30	2010/08/31	CAM SOP-00407	APHA 4500 P,B,F

../2

Your C.O.C. #: 20531501, 205315-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/09/03

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Dissolved Phosphorus	1	2010/09/02	2010/09/03	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	15	2010/08/30	2010/08/30	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	1	2010/09/02	2010/09/03	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/08/27	2010/08/27	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	16	N/A	2010/08/26	CAM SOP-00428	SM 2540D
Turbidity	16	N/A	2010/08/27	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1650			GY1651	GY1651		
Sampling Date		2010/08/23 11:30			2010/08/23 11:55	2010/08/23 11:55		
COC Number		205315-0			205315-0	205315-0		
	Units	**SW1A**	**RDL**	**QC Batch**	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2246635	ND	N/A	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	162	1	2246683	148	N/A	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	1	2246683	1	N/A	1	2246683
Hardness (CaCO3)	mg/L	180	1	2246503	160	N/A	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2246683	ND	N/A	1	2246683
Inorganics								
Acidity as CaC03	mg/L	10	10	2248250	ND	N/A	10	2248250
Total Ammonia-N	mg/L	ND	0.05	2249714	ND	N/A	0.05	2249714
Total BOD	mg/L	ND	2	2247532	ND	N/A	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	93	4	2249796	65	68	4	2249796
Colour	TCU	130	4	2248232	88	N/A	2	2248232
Conductivity	umho/cm	331	1	2248247	283	N/A	1	2248247
Total Dissolved Solids	mg/L	220	10	2247632	184	N/A	10	2247632
Fluoride (F-)	mg/L	0.1	0.1	2248249	ND	N/A	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	1.6	0.1	2249889	1.1	N/A	0.1	2249889
Dissolved Organic Carbon	mg/L	35.3	0.2	2248578	23.4	N/A	0.2	2247789
Total Organic Carbon (TOC)	mg/L	32.9	0.2	2248750	23.2	N/A	0.2	2248750
Orthophosphate (P)	mg/L	0.03	0.01	2247993	0.02	N/A	0.01	2247993
Dissolved Oxygen	mg/L	6.15	N/A	2247430	8.60	N/A	N/A	2247430
pH	pH	7.9	N/A	2248246	8.0	N/A	N/A	2248246
Dissolved Phosphorus	mg/L	0.060	0.002	2250012	0.028	0.028	0.002	2250012
Total Phosphorus	mg/L	0.094	0.002	2249886	0.044	N/A	0.002	2249886
Reactive Silica (SiO2)	mg/L	12	0.5	2249972	12	N/A	0.5	2249972
Total Suspended Solids	mg/L	11	1	2247772	17	N/A	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	1	2247996	ND	N/A	1	2247996
Sulphide	mg/L	ND	0.02	2247955	ND	N/A	0.02	2247955
Total Cyanide (CN)	mg/L	ND	0.005	2247944	ND	N/A	0.005	2247944
Turbidity	NTU	20	0.1	2248307	17	N/A	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	163	1	2248242	149	N/A	1	2248242
Dissolved Chloride (Cl)	mg/L	6	1	2247988	1	N/A	1	2247988

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1650			GY1651	GY1651		
Sampling Date		2010/08/23 11:30			2010/08/23 11:55	2010/08/23 11:55		
COC Number		205315-0			205315-0	205315-0		
	Units	**SW1A**	**RDL**	**QC Batch**	**SW2**	**SW2 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2248029	ND	N/A	0.01	2248029
Nitrate (N)	mg/L	ND	0.1	2248029	ND	N/A	0.1	2248029
Nitrate + Nitrite	mg/L	ND	0.1	2248029	ND	N/A	0.1	2248029
Subcontracted Analysis								
Redox Potential	mV	+261	N/A	2248237	+205	N/A	N/A	2248237
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2247867	ND	N/A	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2247868	ND	N/A	0.5	2247868

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1652	GY1652			GY1653		
Sampling Date		2010/08/23 12:25	2010/08/23 12:25			2010/08/23 10:05		
COC Number		205315-0	205315-0			205315-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2246635	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	128	N/A	1	2246683	49	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2246683	ND	1	2246683
Hardness (CaCO3)	mg/L	140	N/A	1	2246503	60	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2246683	ND	1	2246683
Inorganics								
Acidity as CaC03	mg/L	10	N/A	10	2248250	14	10	2248250
Total Ammonia-N	mg/L	ND	ND	0.05	2249714	0.10	0.05	2249714
Total BOD	mg/L	ND	N/A	2	2247532	ND	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	100	N/A	4	2249796	81	4	2249796
Colour	TCU	170	N/A	4	2248232	160	4	2248232
Conductivity	umho/cm	253	N/A	1	2248247	116	1	2248247
Total Dissolved Solids	mg/L	160	N/A	10	2247632	72	10	2247632
Fluoride (F-)	mg/L	ND	N/A	0.1	2248249	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	1.7	N/A	0.1	2249889	4.0	0.2	2249889
Dissolved Organic Carbon	mg/L	35.4	N/A	0.2	2247784	27.0	0.2	2247789
Total Organic Carbon (TOC)	mg/L	33.8	N/A	0.2	2248750	26.7	0.2	2248750
Orthophosphate (P)	mg/L	0.04	N/A	0.01	2248251	0.01	0.01	2247993
Dissolved Oxygen	mg/L	6.73	N/A	N/A	2247430	4.37	N/A	2247430
pH	pH	7.9	N/A	N/A	2248246	7.3	N/A	2248246
Dissolved Phosphorus	mg/L	0.061	N/A	0.002	2250012	0.013	0.002	2254398
Total Phosphorus	mg/L	0.078	N/A	0.002	2249886	0.017	0.002	2254024
Reactive Silica (SiO2)	mg/L	14	N/A	0.5	2249972	10	0.5	2249972
Total Suspended Solids	mg/L	9	N/A	1	2247772	3	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2248253	ND	1	2247996
Sulphide	mg/L	ND	N/A	0.02	2247955	ND	0.02	2247955
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2247944	ND	0.005	2247944
Turbidity	NTU	13	N/A	0.1	2248307	2.3	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	129	N/A	1	2248242	49	1	2248242
Dissolved Chloride (Cl)	mg/L	4	N/A	1	2248243	5	1	2247988

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1652	GY1652			GY1653		
Sampling Date		2010/08/23 12:25	2010/08/23 12:25			2010/08/23 10:05		
COC Number		205315-0	205315-0			205315-0		
	Units	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**	**SW4**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2248029	ND	0.01	2248029
Nitrate (N)	mg/L	ND	N/A	0.1	2248029	ND	0.1	2248029
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2248029	ND	0.1	2248029
Subcontracted Analysis								
Redox Potential	mV	+171	N/A	N/A	2248237	+204	N/A	2248237
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2247867	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2247868	ND	0.5	2247868

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1653			GY1654		
Sampling Date		2010/08/23 10:05			2010/08/23 10:45		
COC Number		205315-0			205315-0		
	Units	**SW4 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2246635	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	113	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	ND	1	2246683
Hardness (CaCO3)	mg/L	N/A	1	2246503	120	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	ND	1	2246683
Inorganics							
Acidity as CaC03	mg/L	N/A	10	2248250	24	10	2248250
Total Ammonia-N	mg/L	N/A	0.05	2249714	ND	0.05	2249714
Total BOD	mg/L	N/A	2	2247532	2	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2249796	96	4	2249796
Colour	TCU	160	4	2248232	160	4	2248232
Conductivity	umho/cm	N/A	1	2248247	221	1	2248247
Total Dissolved Solids	mg/L	N/A	10	2247632	140	10	2247632
Fluoride (F-)	mg/L	N/A	0.1	2248249	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.2	2249889	1.7	0.1	2249889
Dissolved Organic Carbon	mg/L	N/A	0.2	2247789	36.9	0.2	2248707
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2248750	33.7	0.2	2248750
Orthophosphate (P)	mg/L	N/A	0.01	2247993	0.03	0.01	2248251
Dissolved Oxygen	mg/L	N/A	N/A	2247430	3.19	N/A	2247430
pH	pH	N/A	N/A	2248246	7.5	N/A	2248246
Dissolved Phosphorus	mg/L	0.013	0.002	2254398	0.029	0.002	2250012
Total Phosphorus	mg/L	N/A	0.002	2254024	0.042	0.002	2249886
Reactive Silica (SiO2)	mg/L	N/A	0.5	2249972	15	0.5	2249972
Total Suspended Solids	mg/L	N/A	1	2247772	7	1	2247772
Dissolved Sulphate (SO4)	mg/L	N/A	1	2247996	ND	1	2248253
Sulphide	mg/L	ND	0.02	2247955	ND	0.02	2247955
Total Cyanide (CN)	mg/L	N/A	0.005	2247944	ND	0.005	2247944
Turbidity	NTU	N/A	0.1	2248307	4.6	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2248242	114	1	2248242
Dissolved Chloride (Cl)	mg/L	N/A	1	2247988	2	1	2248243

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1653			GY1654		
Sampling Date		2010/08/23 10:05			2010/08/23 10:45		
COC Number		205315-0			205315-0		
	Units	**SW4 Lab-Dup**	**RDL**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	0.01	2248029	ND	0.01	2248029
Nitrate (N)	mg/L	N/A	0.1	2248029	ND	0.1	2248029
Nitrate + Nitrite	mg/L	N/A	0.1	2248029	ND	0.1	2248029
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	2248237	+200	N/A	2248237
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2247867	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2247868	ND	0.5	2247868

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1655			GY1656		
Sampling Date		2010/08/23 13:20			2010/08/23 11:10		
COC Number		205315-0			205315-0		
	Units	**SW7A**	**RDL**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2246635	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	247	1	2246683	156	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	1	2246683	1	1	2246683
Hardness (CaCO3)	mg/L	260	1	2246503	180	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2246683	ND	1	2246683
Inorganics							
Acidity as CaC03	mg/L	ND	10	2248250	ND	10	2248250
Total Ammonia-N	mg/L	ND	0.05	2249714	ND	0.05	2249714
Total BOD	mg/L	ND	2	2247532	ND	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	73	4	2249796	98	4	2249796
Colour	TCU	50	2	2248232	150	4	2248232
Conductivity	umho/cm	472	1	2248247	314	1	2248247
Total Dissolved Solids	mg/L	310	10	2247632	200	10	2247632
Fluoride (F-)	mg/L	ND	0.1	2248249	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	1.8	0.1	2249889	1.7	0.1	2249889
Dissolved Organic Carbon	mg/L	16.7	0.2	2247789	35.5	0.2	2247789
Total Organic Carbon (TOC)	mg/L	19.4	0.2	2248750	33.4	0.2	2248750
Orthophosphate (P)	mg/L	0.01	0.01	2247993	0.04	0.01	2248251
Dissolved Oxygen	mg/L	9.97	N/A	2247430	7.54	N/A	2247430
pH	pH	8.2	N/A	2248246	8.0	N/A	2248246
Dissolved Phosphorus	mg/L	0.030	0.002	2250012	0.059	0.002	2250012
Total Phosphorus	mg/L	0.22	0.006	2249886	0.074	0.002	2249886
Reactive Silica (SiO2)	mg/L	9.6	0.5	2249972	12	0.5	2249972
Total Suspended Solids	mg/L	15	1	2247772	7	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	1	2247996	ND	1	2248253
Sulphide	mg/L	ND	0.02	2247955	ND	0.02	2247955
Total Cyanide (CN)	mg/L	ND	0.005	2247944	ND	0.005	2247944
Turbidity	NTU	60	0.1	2248313	10	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	250	1	2248242	157	1	2248242
Dissolved Chloride (Cl)	mg/L	5	1	2247988	6	1	2248243

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1655			GY1656		
Sampling Date		2010/08/23 13:20			2010/08/23 11:10		
COC Number		205315-0			205315-0		
	Units	**SW7A**	**RDL**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2248029	ND	0.01	2248029
Nitrate (N)	mg/L	ND	0.1	2248029	ND	0.1	2248029
Nitrate + Nitrite	mg/L	ND	0.1	2248029	ND	0.1	2248029
Subcontracted Analysis							
Redox Potential	mV	+179	N/A	2248237	+143	N/A	2248237
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	2247867	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2247868	ND	0.5	2247868

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Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1657	GY1657	GY1658		
Sampling Date		2010/08/23 10:45	2010/08/23 10:45	2010/08/23 14:05		
COC Number		205315-0	205315-0	205315-0		
	Units	**SW11**	**SW11 Lab-Dup**	**SW12A**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	111	N/A	41	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	ND	1	2246683
Hardness (CaCO3)	mg/L	120	N/A	46	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	ND	1	2246683
Inorganics						
Acidity as CaC03	mg/L	28	N/A	25	10	2248250
Total Ammonia-N	mg/L	ND	N/A	ND	0.05	2249714
Total BOD	mg/L	ND	N/A	ND	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	98	N/A	67	4	2249796
Colour	TCU	170	N/A	130	4	2248232
Conductivity	umho/cm	216	216	86	1	2248247
Total Dissolved Solids	mg/L	138	N/A	54	10	2247632
Fluoride (F-)	mg/L	ND	ND	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	1.7	N/A	1.3	0.1	2249889
Dissolved Organic Carbon	mg/L	37.2	N/A	22.6	0.2	2248707
Total Organic Carbon (TOC)	mg/L	34.6	N/A	20.4	0.2	2248750
Orthophosphate (P)	mg/L	0.02	N/A	0.01	0.01	2247993
Dissolved Oxygen	mg/L	0.740	N/A	4.46	N/A	2247430
pH	pH	7.5	7.5	7.1	N/A	2248246
Dissolved Phosphorus	mg/L	0.034	N/A	0.021	0.002	2250012
Total Phosphorus	mg/L	0.062	N/A	0.031	0.002	2249886
Reactive Silica (SiO2)	mg/L	15	N/A	4.3	0.5	2249972
Total Suspended Solids	mg/L	8	N/A	17	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	N/A	ND	1	2247996
Sulphide	mg/L	ND	N/A	ND	0.02	2247955
Total Cyanide (CN)	mg/L	ND	N/A	ND	0.005	2247944
Turbidity	NTU	4.2	N/A	7.4	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	112	112	41	1	2248242
Dissolved Chloride (Cl)	mg/L	2	N/A	1	1	2247988

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QC Batch = Quality Control Batch

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Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1657	GY1657	GY1658		
Sampling Date		2010/08/23 10:45	2010/08/23 10:45	2010/08/23 14:05		
COC Number		205315-0	205315-0	205315-0		
	Units	**SW11**	**SW11 Lab-Dup**	**SW12A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	ND	0.01	2248029
Nitrate (N)	mg/L	ND	N/A	ND	0.1	2248029
Nitrate + Nitrite	mg/L	ND	N/A	ND	0.1	2248029
Subcontracted Analysis						
Redox Potential	mV	+172	N/A	+222	N/A	2248237
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	N/A	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	ND	0.5	2247868

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Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1659	GY1659			GY1660		
Sampling Date		2010/08/23 12:45	2010/08/23 12:45			2010/08/23 13:40		
COC Number		205315-0	205315-0			205315-0		
	Units	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2246635	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	152	N/A	1	2246683	72	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	N/A	1	2246683	ND	1	2246683
Hardness (CaCO3)	mg/L	160	N/A	1	2246503	82	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2246683	ND	1	2246683
Inorganics								
Acidity as CaC03	mg/L	N/A	N/A	10	2248250	11	10	2248250
Total Ammonia-N	mg/L	ND	N/A	0.05	2249714	ND	0.05	2249714
Total BOD	mg/L	ND	N/A	2	2247532	ND	2	2247532
Total Chemical Oxygen Demand (COD)	mg/L	62	N/A	4	2249796	81	4	2249796
Colour	TCU	73	N/A	2	2248232	160	4	2248232
Conductivity	umho/cm	292	N/A	1	2248247	141	1	2248247
Total Dissolved Solids	mg/L	186	N/A	10	2247632	88	10	2246763
Fluoride (F-)	mg/L	ND	N/A	0.1	2248249	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	N/A	0.1	2249889	1.2	0.1	2249889
Dissolved Organic Carbon	mg/L	23.3	N/A	0.2	2247784	31.0	0.2	2248714
Total Organic Carbon (TOC)	mg/L	22.5	N/A	0.2	2248750	29.0	0.2	2248750
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2248251	0.01	0.01	2247993
Dissolved Oxygen	mg/L	5.54	N/A	N/A	2247430	6.47	N/A	2247430
pH	pH	7.8	N/A	N/A	2248246	7.6	N/A	2248246
Dissolved Phosphorus	mg/L	0.034	N/A	0.002	2250012	0.019	0.002	2250012
Total Phosphorus	mg/L	0.049	N/A	0.002	2249886	0.016	0.002	2249886
Reactive Silica (SiO2)	mg/L	14	N/A	0.5	2249972	14	0.5	2249972
Total Suspended Solids	mg/L	25	N/A	1	2247772	17	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2248253	ND	1	2247996
Sulphide	mg/L	ND	N/A	0.02	2247955	ND	0.02	2247955
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2247944	ND	0.005	2247944
Turbidity	NTU	15	N/A	0.1	2248307	9.4	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	153	N/A	1	2248242	72	1	2248242
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2248243	2	1	2247988

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1659	GY1659			GY1660		
Sampling Date		2010/08/23 12:45	2010/08/23 12:45			2010/08/23 13:40		
COC Number		205315-0	205315-0			205315-0		
	Units	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2248029	ND	0.01	2248029
Nitrate (N)	mg/L	ND	N/A	0.1	2248029	ND	0.1	2248029
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2248029	ND	0.1	2248029
Subcontracted Analysis								
Redox Potential	mV	+195	+193	N/A	2248237	+190	N/A	2248237
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2247867	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2247868	ND	0.5	2247868

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Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1660			GY1661	GY1661		
Sampling Date		2010/08/23 13:40			2010/08/23 08:10	2010/08/23 08:10		
COC Number		205315-0			205315-0	205315-0		
	Units	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**SW15 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2246635	ND	N/A	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	115	N/A	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	1	N/A	1	2246683
Hardness (CaCO3)	mg/L	N/A	1	2246503	130	N/A	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2246683	ND	N/A	1	2246683
Inorganics								
Acidity as CaC03	mg/L	N/A	10	2248250	ND	N/A	10	2248250
Total Ammonia-N	mg/L	N/A	0.05	2249714	ND	N/A	0.05	2249714
Total BOD	mg/L	N/A	2	2247532	ND	N/A	2	2247842
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2249796	99	N/A	4	2249796
Colour	TCU	N/A	4	2248232	240	N/A	10	2248232
Conductivity	umho/cm	N/A	1	2248247	239	N/A	1	2248247
Total Dissolved Solids	mg/L	N/A	10	2246763	150	N/A	10	2246763
Fluoride (F-)	mg/L	N/A	0.1	2248249	ND	N/A	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.1	2249889	1.6	1.7	0.2	2249889
Dissolved Organic Carbon	mg/L	N/A	0.2	2248714	37.1	N/A	0.2	2247789
Total Organic Carbon (TOC)	mg/L	29.2	0.2	2248750	35.7	N/A	0.2	2248750
Orthophosphate (P)	mg/L	N/A	0.01	2247993	0.02	N/A	0.01	2247993
Dissolved Oxygen	mg/L	N/A	N/A	2247430	8.64	N/A	N/A	2247430
pH	pH	N/A	N/A	2248246	8.0	N/A	N/A	2248246
Dissolved Phosphorus	mg/L	N/A	0.002	2250012	0.047	N/A	0.002	2250012
Total Phosphorus	mg/L	N/A	0.002	2249886	0.068	N/A	0.002	2249886
Reactive Silica (SiO2)	mg/L	N/A	0.5	2249972	10	N/A	0.5	2249972
Total Suspended Solids	mg/L	N/A	1	2247772	12	N/A	1	2247772
Dissolved Sulphate (SO4)	mg/L	N/A	1	2247996	ND	N/A	1	2247996
Sulphide	mg/L	N/A	0.02	2247955	ND	N/A	0.02	2247955
Total Cyanide (CN)	mg/L	N/A	0.005	2247944	ND	N/A	0.005	2247944
Turbidity	NTU	N/A	0.1	2248307	29	N/A	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2248242	116	N/A	1	2248242
Dissolved Chloride (Cl)	mg/L	N/A	1	2247988	5	N/A	1	2247988

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
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RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1660			GY1661	GY1661		
Sampling Date		2010/08/23 13:40			2010/08/23 08:10	2010/08/23 08:10		
COC Number		205315-0			205315-0	205315-0		
	Units	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**SW15 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	0.01	2248029	ND	N/A	0.01	2248029
Nitrate (N)	mg/L	N/A	0.1	2248029	ND	N/A	0.1	2248029
Nitrate + Nitrite	mg/L	N/A	0.1	2248029	ND	N/A	0.1	2248029
Subcontracted Analysis								
Redox Potential	mV	N/A	N/A	2248237	+163	N/A	N/A	2248237
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	N/A	0.5	2247867	ND	N/A	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2247868	ND	N/A	0.5	2247868

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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1662	GY1662		GY1663		
Sampling Date		2010/08/23 09:05	2010/08/23 09:05		2010/08/23 07:35		
COC Number		205315-0	205315-0		205315-0		
	Units	**SW16**	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	2246635	ND	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	30	N/A	2246683	34	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2246683	ND	1	2246683
Hardness (CaCO3)	mg/L	32	N/A	2246503	39	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2246683	ND	1	2246683
Inorganics							
Acidity as CaC03	mg/L	ND	N/A	2248250	ND	10	2248250
Total Ammonia-N	mg/L	ND	N/A	2249714	ND	0.05	2249714
Total BOD	mg/L	ND	N/A	2247842	ND	2	2247842
Total Chemical Oxygen Demand (COD)	mg/L	37	N/A	2249796	44	4	2249796
Colour	TCU	57	N/A	2248232	74	2	2248232
Conductivity	umho/cm	85	N/A	2248247	91	1	2248247
Total Dissolved Solids	mg/L	52	N/A	2246763	58	10	2246763
Fluoride (F-)	mg/L	ND	N/A	2248249	ND	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	0.7	N/A	2249889	0.9	0.1	2249889
Dissolved Organic Carbon	mg/L	12.1	N/A	2248707	14.8	0.2	2247789
Total Organic Carbon (TOC)	mg/L	11.6	N/A	2248750	14.3	0.2	2248750
Orthophosphate (P)	mg/L	0.01	N/A	2247993	0.02	0.01	2248251
Dissolved Oxygen	mg/L	8.98	N/A	2247430	9.16	N/A	2247430
pH	pH	7.6	N/A	2248246	7.7	N/A	2248246
Dissolved Phosphorus	mg/L	0.016	N/A	2250012	0.010	0.002	2250012
Total Phosphorus	mg/L	0.024	0.024	2249886	0.030	0.002	2249886
Reactive Silica (SiO2)	mg/L	3.8	N/A	2249972	4.6	0.5	2249972
Total Suspended Solids	mg/L	4	N/A	2247772	4	1	2247772
Dissolved Sulphate (SO4)	mg/L	2	N/A	2247996	ND	1	2248253
Sulphide	mg/L	ND	N/A	2247955	ND	0.02	2247955
Total Cyanide (CN)	mg/L	ND	N/A	2247944	ND	0.005	2247944
Turbidity	NTU	4.7	N/A	2248307	4.4	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	31	N/A	2248242	34	1	2248242
Dissolved Chloride (Cl)	mg/L	3	N/A	2247988	3	1	2248243

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1662	GY1662		GY1663		
Sampling Date		2010/08/23 09:05	2010/08/23 09:05		2010/08/23 07:35		
COC Number		205315-0	205315-0		205315-0		
	Units	**SW16**	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	2248029	ND	0.01	2248029
Nitrate (N)	mg/L	ND	N/A	2248029	ND	0.1	2248029
Nitrate + Nitrite	mg/L	ND	N/A	2248029	ND	0.1	2248029
Subcontracted Analysis							
Redox Potential	mV	+156	N/A	2248237	+170	N/A	2248237
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	N/A	2247867	ND	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	2247868	ND	0.5	2247868

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1663		GY1664	GY1664		
Sampling Date		2010/08/23 07:35		2010/08/23 13:00	2010/08/23 13:00		
COC Number		205315-0		205315-0	205315-0		
	Units	**SW17 Lab-Dup**	**QC Batch**	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	2246635	ND	N/A	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2246683	177	N/A	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2246683	1	N/A	1	2246683
Hardness (CaCO3)	mg/L	N/A	2246503	190	N/A	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	2246683	ND	N/A	1	2246683
Inorganics							
Acidity as CaC03	mg/L	N/A	2248250	13	14	10	2248250
Total Ammonia-N	mg/L	N/A	2249714	ND	N/A	0.05	2249714
Total BOD	mg/L	N/A	2247842	ND	N/A	2	2247842
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2249796	76	N/A	4	2249796
Colour	TCU	N/A	2248232	100	N/A	2	2248232
Conductivity	umho/cm	N/A	2248247	338	N/A	1	2248247
Total Dissolved Solids	mg/L	N/A	2246763	220	N/A	10	2246763
Fluoride (F-)	mg/L	N/A	2248249	ND	N/A	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	2249889	1.5	N/A	0.1	2249889
Dissolved Organic Carbon	mg/L	N/A	2247789	27.7	N/A	0.2	2248707
Total Organic Carbon (TOC)	mg/L	N/A	2248750	25.9	N/A	0.2	2248750
Orthophosphate (P)	mg/L	0.01	2248251	0.03	N/A	0.01	2247993
Dissolved Oxygen	mg/L	N/A	2247430	4.91	N/A	N/A	2247430
pH	pH	N/A	2248246	7.8	N/A	N/A	2248246
Dissolved Phosphorus	mg/L	N/A	2250012	0.055	N/A	0.002	2250012
Total Phosphorus	mg/L	N/A	2249886	0.10	N/A	0.002	2249886
Reactive Silica (SiO2)	mg/L	N/A	2249972	19	N/A	0.5	2249972
Total Suspended Solids	mg/L	N/A	2247772	4	N/A	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	2248253	ND	N/A	1	2247996
Sulphide	mg/L	N/A	2247955	ND	N/A	0.02	2247955
Total Cyanide (CN)	mg/L	N/A	2247944	ND	N/A	0.005	2247944
Turbidity	NTU	N/A	2248307	3.1	N/A	0.1	2248307
Alkalinity (Total as CaCO3)	mg/L	N/A	2248242	178	N/A	1	2248242
Dissolved Chloride (Cl)	mg/L	3	2248243	2	N/A	1	2247988

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1663		GY1664	GY1664		
Sampling Date		2010/08/23 07:35		2010/08/23 13:00	2010/08/23 13:00		
COC Number		205315-0		205315-0	205315-0		
	Units	**SW17 Lab-Dup**	**QC Batch**	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	2248029	ND	N/A	0.01	2248029
Nitrate (N)	mg/L	N/A	2248029	ND	N/A	0.1	2248029
Nitrate + Nitrite	mg/L	N/A	2248029	ND	N/A	0.1	2248029
Subcontracted Analysis							
Redox Potential	mV	N/A	2248237	+171	N/A	N/A	2248237
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	2247867	ND	N/A	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	2247868	ND	N/A	0.5	2247868

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Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1747	GY1747		
Sampling Date					
COC Number		205315-0	205315-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2246635
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	N/A	1	2246683
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2246683
Hardness (CaCO3)	mg/L	ND	N/A	1	2246503
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2246683
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2248250
Total Ammonia-N	mg/L	ND	N/A	0.05	2249714
Total BOD	mg/L	ND	N/A	2	2247842
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2249796
Colour	TCU	ND	N/A	2	2248232
Conductivity	umho/cm	1	N/A	1	2248247
Total Dissolved Solids	mg/L	ND	N/A	10	2247632
Fluoride (F-)	mg/L	ND	N/A	0.1	2248249
Total Kjeldahl Nitrogen (TKN)	mg/L	0.3	N/A	0.1	2249889
Dissolved Organic Carbon	mg/L	0.2	N/A	0.2	2248714
Total Organic Carbon (TOC)	mg/L	ND	N/A	0.2	2248750
Orthophosphate (P)	mg/L	ND	N/A	0.01	2247993
Dissolved Oxygen	mg/L	10.7	N/A	N/A	2247430
pH	pH	6.1	N/A	N/A	2248246
Dissolved Phosphorus	mg/L	0.007	N/A	0.002	2250012
Total Phosphorus	mg/L	0.003	N/A	0.002	2249886
Reactive Silica (SiO2)	mg/L	ND	ND	0.5	2249972
Total Suspended Solids	mg/L	ND	ND	1	2247772
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2247996
Sulphide	mg/L	ND	N/A	0.02	2247955
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2247944
Turbidity	NTU	0.2	N/A	0.1	2248313
Alkalinity (Total as CaCO3)	mg/L	1	N/A	1	2248242
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	2247988

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

RESULTS OF ANALYSES OF WATER

Maxxam ID		GY1747	GY1747		
Sampling Date					
COC Number		205315-0	205315-0		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2248029
Nitrate (N)	mg/L	ND	N/A	0.1	2248029
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2248029
Subcontracted Analysis					
Redox Potential	mV	+314	N/A	N/A	2248237
Petroleum Hydrocarbons					
Total Oil & Grease	mg/L	ND	N/A	0.5	2247867
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2247868

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

PERMANENT GASES (WATER)

Maxxam ID		GY1650	GY1651	GY1652	GY1653		
Sampling Date		2010/08/23 11:30	2010/08/23 11:55	2010/08/23 12:25	2010/08/23 10:05		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW1A**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	5.4	2.6	4.4	9.3	0.6	2247935
Calculated Carbon Dioxide	mg/L	10	5	8	17	1	2246866

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GY1654	GY1655	GY1656	GY1657		
Sampling Date		2010/08/23 10:45	2010/08/23 13:20	2010/08/23 11:10	2010/08/23 10:45		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW6**	**SW7A**	**SW10**	**SW11**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	12	2.3	3.6	16	0.6	2247935
Calculated Carbon Dioxide	mg/L	21	4	6	29	1	2246866

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		GY1658	GY1659	GY1660	GY1661		
Sampling Date		2010/08/23 14:05	2010/08/23 12:45	2010/08/23 13:40	2010/08/23 08:10		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW12A**	**SW13**	**SW14**	**SW15**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	13	6.3	6.7	1.5	0.6	2247935
Calculated Carbon Dioxide	mg/L	24	11	12	3	1	2246866

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

PERMANENT GASES (WATER)

Maxxam ID		GY1662	GY1663	GY1664	GY1664	GY1747		
Sampling Date		2010/08/23 09:05	2010/08/23 07:35	2010/08/23 13:00	2010/08/23 13:00			
COC Number		205315-0	205315-0	205315-0	205315-0	205315-0		
	Units	**SW16**	**SW17**	**SW18**	**SW18 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	ND	0.6	9.1	9.4	1.4	0.6	2247935
Calculated Carbon Dioxide	mg/L	ND	1	16	N/A	3	1	2246866

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1650	GY1650		GY1651	GY1652		
Sampling Date		2010/08/23 11:30	2010/08/23 11:30		2010/08/23 11:55	2010/08/23 12:25		
COC Number		205315-0	205315-0		205315-0	205315-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	2248137	ND	ND	0.0001	2248075
Dissolved Sulphur (S)	mg/L	1.0	N/A	2247922	ND	0.7	0.5	2247922
Total Sulphur (S)	mg/L	1.1	1.0	2250488	ND	0.8	0.5	2250488
Dissolved Aluminum (Al)	ug/L	10	N/A	2247962	10	17	5	2247962
Total Aluminum (Al)	ug/L	390	330	2250473	200	310	5	2250473
Dissolved Antimony (Sb)	ug/L	ND	N/A	2247962	ND	0.6	0.5	2247962
Total Antimony (Sb)	ug/L	ND	ND	2250473	ND	ND	0.5	2250473
Dissolved Arsenic (As)	ug/L	2	N/A	2247962	2	2	1	2247962
Total Arsenic (As)	ug/L	3	3	2250473	3	3	1	2250473
Dissolved Barium (Ba)	ug/L	19	N/A	2247962	6	13	5	2247962
Total Barium (Ba)	ug/L	24	24	2250473	43	17	5	2250473
Dissolved Beryllium (Be)	ug/L	ND	N/A	2247962	ND	ND	0.5	2247962
Total Beryllium (Be)	ug/L	ND	ND	2250473	ND	ND	0.5	2250473
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Bismuth (Bi)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Boron (B)	ug/L	21	N/A	2247962	12	11	10	2247962
Total Boron (B)	ug/L	23	22	2250473	20	18	10	2250473
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2247962	ND	ND	0.1	2247962
Total Cadmium (Cd)	ug/L	ND	ND	2250473	ND	ND	0.1	2250473
Dissolved Calcium (Ca)	ug/L	43000	N/A	2247962	39000	34000	200	2247962
Total Calcium (Ca)	ug/L	42000	43000	2250473	41000	36000	200	2250473
Dissolved Chromium (Cr)	ug/L	ND	N/A	2247962	ND	ND	5	2247962
Total Chromium (Cr)	ug/L	ND	ND	2250473	ND	ND	5	2250473
Dissolved Cobalt (Co)	ug/L	ND	N/A	2247962	ND	ND	0.5	2247962
Total Cobalt (Co)	ug/L	ND	ND	2250473	0.5	ND	0.5	2250473
Dissolved Copper (Cu)	ug/L	1	N/A	2247962	ND	1	1	2247962
Total Copper (Cu)	ug/L	2	2	2250473	3	2	1	2250473
Dissolved Iron (Fe)	ug/L	190	N/A	2247962	160	530	100	2247962
Total Iron (Fe)	ug/L	720	650	2250473	860	1000	100	2250473
Dissolved Lead (Pb)	ug/L	ND	N/A	2247962	ND	ND	0.5	2247962

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Klohn Crippen Berger Ltd

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Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1650	GY1650		GY1651	GY1652		
Sampling Date		2010/08/23 11:30	2010/08/23 11:30		2010/08/23 11:55	2010/08/23 12:25		
COC Number		205315-0	205315-0		205315-0	205315-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	2250473	ND	ND	0.5	2250473
Dissolved Lithium (Li)	ug/L	6	N/A	2247962	ND	ND	5	2247962
Total Lithium (Li)	ug/L	6	7	2250473	ND	ND	5	2250473
Dissolved Magnesium (Mg)	ug/L	19000	N/A	2247962	15000	14000	50	2247962
Total Magnesium (Mg)	ug/L	17000	17000	2250473	15000	14000	50	2250473
Dissolved Manganese (Mn)	ug/L	16	N/A	2247962	4	18	2	2247962
Total Manganese (Mn)	ug/L	97	98	2250473	320	120	2	2250473
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Molybdenum (Mo)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Nickel (Ni)	ug/L	2	N/A	2247962	2	2	1	2247962
Total Nickel (Ni)	ug/L	3	4	2250473	3	2	1	2250473
Dissolved Phosphorus (P)	ug/L	ND	N/A	2247962	ND	100	100	2247962
Dissolved Potassium (K)	ug/L	1900	N/A	2247962	640	1000	200	2247962
Total Potassium (K)	ug/L	1900	1900	2250473	730	1100	200	2250473
Dissolved Selenium (Se)	ug/L	ND	N/A	2247962	ND	ND	2	2247962
Total Selenium (Se)	ug/L	ND	ND	2250473	ND	ND	2	2250473
Dissolved Silicon (Si)	ug/L	5600	N/A	2247962	5700	6600	50	2247962
Total Silicon (Si)	ug/L	6200	6200	2250473	6200	7200	50	2250473
Dissolved Silver (Ag)	ug/L	ND	N/A	2247962	ND	ND	0.1	2247962
Total Silver (Ag)	ug/L	ND	ND	2250473	ND	ND	0.1	2250473
Dissolved Sodium (Na)	ug/L	4800	N/A	2247962	1300	2600	100	2247962
Total Sodium (Na)	ug/L	4500	4500	2250473	1600	2700	100	2250473
Dissolved Strontium (Sr)	ug/L	110	N/A	2247962	63	76	1	2247962
Total Strontium (Sr)	ug/L	110	110	2250473	68	80	1	2250473
Dissolved Tellurium (Te)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Tellurium (Te)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Thallium (Tl)	ug/L	ND	N/A	2247962	ND	ND	0.05	2247962
Total Thallium (Tl)	ug/L	ND	ND	2250473	ND	ND	0.05	2250473
Dissolved Thorium (Th)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Thorium (Th)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Tin (Sn)	ug/L	ND	N/A	2247962	ND	ND	1	2247962

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1650	GY1650		GY1651	GY1652		
Sampling Date		2010/08/23 11:30	2010/08/23 11:30		2010/08/23 11:55	2010/08/23 12:25		
COC Number		205315-0	205315-0		205315-0	205315-0		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Titanium (Ti)	ug/L	ND	N/A	2247962	ND	ND	5	2247962
Total Titanium (Ti)	ug/L	22	14	2250473	8	17	5	2250473
Dissolved Tungsten (W)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Tungsten (W)	ug/L	ND	ND	2250473	ND	ND	1	2250473
Dissolved Uranium (U)	ug/L	0.6	N/A	2247962	0.3	0.5	0.1	2247962
Total Uranium (U)	ug/L	0.6	0.6	2250473	0.3	0.5	0.1	2250473
Dissolved Vanadium (V)	ug/L	1	N/A	2247962	ND	ND	1	2247962
Total Vanadium (V)	ug/L	2	2	2250473	2	2	1	2250473
Dissolved Zinc (Zn)	ug/L	ND	N/A	2247962	ND	ND	5	2247962
Total Zinc (Zn)	ug/L	ND	ND	2250473	6	13	5	2250473
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2247962	ND	ND	1	2247962
Total Zirconium (Zr)	ug/L	1	1	2250473	ND	1	1	2250473

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1653	GY1653		GY1654		
Sampling Date		2010/08/23 10:05	2010/08/23 10:05		2010/08/23 10:45		
COC Number		205315-0	205315-0		205315-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	2248075	ND	0.0001	2248006
Dissolved Sulphur (S)	mg/L	ND	N/A	2247922	ND	0.5	2247922
Total Sulphur (S)	mg/L	ND	N/A	2250488	ND	0.5	2250488
Dissolved Aluminum (Al)	ug/L	17	N/A	2247962	18	5	2247962
Total Aluminum (Al)	ug/L	24	N/A	2250473	38	5	2250473
Dissolved Antimony (Sb)	ug/L	ND	N/A	2247962	ND	0.5	2247962
Total Antimony (Sb)	ug/L	ND	N/A	2250473	ND	0.5	2250473
Dissolved Arsenic (As)	ug/L	ND	N/A	2247962	2	1	2247962
Total Arsenic (As)	ug/L	ND	N/A	2250473	2	1	2250473
Dissolved Barium (Ba)	ug/L	10	N/A	2247962	13	5	2247962
Total Barium (Ba)	ug/L	11	N/A	2250473	20	5	2250473
Dissolved Beryllium (Be)	ug/L	ND	N/A	2247962	ND	0.5	2247962
Total Beryllium (Be)	ug/L	ND	N/A	2250473	ND	0.5	2250473
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Bismuth (Bi)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Boron (B)	ug/L	ND	N/A	2247962	ND	10	2247962
Total Boron (B)	ug/L	11	N/A	2250473	13	10	2250473
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2247962	ND	0.1	2247962
Total Cadmium (Cd)	ug/L	ND	N/A	2250473	ND	0.1	2250473
Dissolved Calcium (Ca)	ug/L	14000	N/A	2247962	29000	200	2247962
Total Calcium (Ca)	ug/L	13000	N/A	2250473	32000	200	2250473
Dissolved Chromium (Cr)	ug/L	ND	N/A	2247962	ND	5	2247962
Total Chromium (Cr)	ug/L	ND	N/A	2250473	ND	5	2250473
Dissolved Cobalt (Co)	ug/L	ND	N/A	2247962	ND	0.5	2247962
Total Cobalt (Co)	ug/L	ND	N/A	2250473	2.0	0.5	2250473
Dissolved Copper (Cu)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Copper (Cu)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Iron (Fe)	ug/L	280	N/A	2247962	730	100	2247962
Total Iron (Fe)	ug/L	340	N/A	2250473	2000	100	2250473
Dissolved Lead (Pb)	ug/L	ND	N/A	2247962	ND	0.5	2247962

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1653	GY1653		GY1654		
Sampling Date		2010/08/23 10:05	2010/08/23 10:05		2010/08/23 10:45		
COC Number		205315-0	205315-0		205315-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2250473	ND	0.5	2250473
Dissolved Lithium (Li)	ug/L	ND	N/A	2247962	ND	5	2247962
Total Lithium (Li)	ug/L	ND	N/A	2250473	ND	5	2250473
Dissolved Magnesium (Mg)	ug/L	6000	N/A	2247962	12000	50	2247962
Total Magnesium (Mg)	ug/L	6000	N/A	2250473	13000	50	2250473
Dissolved Manganese (Mn)	ug/L	5	N/A	2247962	ND	2	2247962
Total Manganese (Mn)	ug/L	75	N/A	2250473	770	2	2250473
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Molybdenum (Mo)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Nickel (Ni)	ug/L	ND	N/A	2247962	1	1	2247962
Total Nickel (Ni)	ug/L	ND	N/A	2250473	2	1	2250473
Dissolved Phosphorus (P)	ug/L	ND	N/A	2247962	ND	100	2247962
Dissolved Potassium (K)	ug/L	700	N/A	2247962	510	200	2247962
Total Potassium (K)	ug/L	650	N/A	2250473	530	200	2250473
Dissolved Selenium (Se)	ug/L	ND	N/A	2247962	ND	2	2247962
Total Selenium (Se)	ug/L	ND	N/A	2250473	ND	2	2250473
Dissolved Silicon (Si)	ug/L	4800	N/A	2247962	6700	50	2247962
Total Silicon (Si)	ug/L	4600	N/A	2250473	6900	50	2250473
Dissolved Silver (Ag)	ug/L	ND	N/A	2247962	ND	0.1	2247962
Total Silver (Ag)	ug/L	ND	N/A	2250473	ND	0.1	2250473
Dissolved Sodium (Na)	ug/L	3000	N/A	2247962	1100	100	2247962
Total Sodium (Na)	ug/L	2600	N/A	2250473	1100	100	2250473
Dissolved Strontium (Sr)	ug/L	33	N/A	2247962	59	1	2247962
Total Strontium (Sr)	ug/L	32	N/A	2250473	62	1	2250473
Dissolved Tellurium (Te)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Tellurium (Te)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Thallium (Tl)	ug/L	ND	N/A	2247962	ND	0.05	2247962
Total Thallium (Tl)	ug/L	ND	N/A	2250473	ND	0.05	2250473
Dissolved Thorium (Th)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Thorium (Th)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Tin (Sn)	ug/L	ND	N/A	2247962	ND	1	2247962

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1653	GY1653		GY1654		
Sampling Date		2010/08/23 10:05	2010/08/23 10:05		2010/08/23 10:45		
COC Number		205315-0	205315-0		205315-0		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Titanium (Ti)	ug/L	ND	N/A	2247962	ND	5	2247962
Total Titanium (Ti)	ug/L	ND	N/A	2250473	ND	5	2250473
Dissolved Tungsten (W)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Tungsten (W)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Uranium (U)	ug/L	ND	N/A	2247962	ND	0.1	2247962
Total Uranium (U)	ug/L	ND	N/A	2250473	ND	0.1	2250473
Dissolved Vanadium (V)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Vanadium (V)	ug/L	ND	N/A	2250473	ND	1	2250473
Dissolved Zinc (Zn)	ug/L	ND	N/A	2247962	ND	5	2247962
Total Zinc (Zn)	ug/L	ND	N/A	2250473	19	5	2250473
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2247962	ND	1	2247962
Total Zirconium (Zr)	ug/L	ND	N/A	2250473	ND	1	2250473

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1655		GY1656		GY1657		
Sampling Date		2010/08/23 13:20		2010/08/23 11:10		2010/08/23 10:45		
COC Number		205315-0		205315-0		205315-0		
	Units	**SW7A**	**QC Batch**	**SW10**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2248075	ND	2248137	ND	0.0001	2248075
Dissolved Sulphur (S)	mg/L	1.2	2247922	1.0	2247922	ND	0.5	2247922
Total Sulphur (S)	mg/L	1.3	2250488	1.1	2250488	ND	0.5	2250488
Dissolved Aluminum (Al)	ug/L	9	2247962	8	2247962	20	5	2247962
Total Aluminum (Al)	ug/L	1000	2250473	240	2250473	42	5	2250473
Dissolved Antimony (Sb)	ug/L	ND	2247962	ND	2247962	ND	0.5	2247962
Total Antimony (Sb)	ug/L	ND	2250473	ND	2250473	ND	0.5	2250473
Dissolved Arsenic (As)	ug/L	1	2247962	2	2247962	2	1	2247962
Total Arsenic (As)	ug/L	3	2250473	2	2250473	2	1	2250473
Dissolved Barium (Ba)	ug/L	21	2247962	16	2247962	13	5	2247962
Total Barium (Ba)	ug/L	74	2250473	20	2250473	20	5	2250473
Dissolved Beryllium (Be)	ug/L	ND	2247962	ND	2247962	ND	0.5	2247962
Total Beryllium (Be)	ug/L	ND	2250473	ND	2250473	ND	0.5	2250473
Dissolved Bismuth (Bi)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Bismuth (Bi)	ug/L	ND	2250473	ND	2250473	ND	1	2250473
Dissolved Boron (B)	ug/L	17	2247962	17	2247962	ND	10	2247962
Total Boron (B)	ug/L	22	2250473	21	2250473	13	10	2250473
Dissolved Cadmium (Cd)	ug/L	ND	2247962	ND	2247962	ND	0.1	2247962
Total Cadmium (Cd)	ug/L	ND	2250473	ND	2250473	ND	0.1	2250473
Dissolved Calcium (Ca)	ug/L	64000	2247962	42000	2247962	29000	200	2247962
Total Calcium (Ca)	ug/L	63000	2250473	42000	2250473	30000	200	2250473
Dissolved Chromium (Cr)	ug/L	ND	2247962	ND	2247962	ND	5	2247962
Total Chromium (Cr)	ug/L	ND	2250473	ND	2250473	ND	5	2250473
Dissolved Cobalt (Co)	ug/L	ND	2247962	ND	2247962	ND	0.5	2247962
Total Cobalt (Co)	ug/L	1.0	2250473	ND	2250473	2.4	0.5	2250473
Dissolved Copper (Cu)	ug/L	2	2247962	ND	2247962	ND	1	2247962
Total Copper (Cu)	ug/L	3	2250473	1	2250473	ND	1	2250473
Dissolved Iron (Fe)	ug/L	ND	2247962	230	2247962	920	100	2247962
Total Iron (Fe)	ug/L	1900	2250473	620	2250473	2200	100	2250473
Dissolved Lead (Pb)	ug/L	ND	2247962	ND	2247962	ND	0.5	2247962
Total Lead (Pb)	ug/L	0.8	2250473	ND	2250473	ND	0.5	2250473

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1655		GY1656		GY1657		
Sampling Date		2010/08/23 13:20		2010/08/23 11:10		2010/08/23 10:45		
COC Number		205315-0		205315-0		205315-0		
	Units	**SW7A**	**QC Batch**	**SW10**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	7	2247962	ND	2247962	ND	5	2247962
Total Lithium (Li)	ug/L	8	2250473	6	2250473	ND	5	2250473
Dissolved Magnesium (Mg)	ug/L	25000	2247962	17000	2247962	12000	50	2247962
Total Magnesium (Mg)	ug/L	25000	2250473	17000	2250473	13000	50	2250473
Dissolved Manganese (Mn)	ug/L	ND	2247962	64	2247962	ND	2	2247962
Total Manganese (Mn)	ug/L	320	2250473	190	2250473	880	2	2250473
Dissolved Molybdenum (Mo)	ug/L	2	2247962	ND	2247962	ND	1	2247962
Total Molybdenum (Mo)	ug/L	2	2250473	ND	2250473	ND	1	2250473
Dissolved Nickel (Ni)	ug/L	1	2247962	2	2247962	1	1	2247962
Total Nickel (Ni)	ug/L	3	2250473	3	2250473	2	1	2250473
Dissolved Phosphorus (P)	ug/L	ND	2247962	ND	2247962	ND	100	2247962
Dissolved Potassium (K)	ug/L	1600	2247962	1500	2247962	480	200	2247962
Total Potassium (K)	ug/L	1800	2250473	1500	2250473	490	200	2250473
Dissolved Selenium (Se)	ug/L	ND	2247962	ND	2247962	ND	2	2247962
Total Selenium (Se)	ug/L	ND	2250473	ND	2250473	ND	2	2250473
Dissolved Silicon (Si)	ug/L	4600	2247962	5400	2247962	6700	50	2247962
Total Silicon (Si)	ug/L	6500	2250473	5900	2250473	6700	50	2250473
Dissolved Silver (Ag)	ug/L	ND	2247962	ND	2247962	ND	0.1	2247962
Total Silver (Ag)	ug/L	ND	2250473	ND	2250473	ND	0.1	2250473
Dissolved Sodium (Na)	ug/L	5200	2247962	4600	2247962	1100	100	2247962
Total Sodium (Na)	ug/L	5200	2250473	4500	2250473	1100	100	2250473
Dissolved Strontium (Sr)	ug/L	130	2247962	120	2247962	57	1	2247962
Total Strontium (Sr)	ug/L	130	2250473	120	2250473	59	1	2250473
Dissolved Tellurium (Te)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Tellurium (Te)	ug/L	ND	2250473	ND	2250473	ND	1	2250473
Dissolved Thallium (Tl)	ug/L	ND	2247962	ND	2247962	ND	0.05	2247962
Total Thallium (Tl)	ug/L	ND	2250473	ND	2250473	ND	0.05	2250473
Dissolved Thorium (Th)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Thorium (Th)	ug/L	ND	2250473	ND	2250473	ND	1	2250473
Dissolved Tin (Sn)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Tin (Sn)	ug/L	ND	2250473	ND	2250473	ND	1	2250473
Dissolved Titanium (Ti)	ug/L	ND	2247962	ND	2247962	ND	5	2247962

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1655		GY1656		GY1657		
Sampling Date		2010/08/23 13:20		2010/08/23 11:10		2010/08/23 10:45		
COC Number		205315-0		205315-0		205315-0		
	Units	**SW7A**	**QC Batch**	**SW10**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	39	2250473	12	2250473	ND	5	2250473
Dissolved Tungsten (W)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Tungsten (W)	ug/L	ND	2250473	ND	2250473	ND	1	2250473
Dissolved Uranium (U)	ug/L	1.3	2247962	0.6	2247962	ND	0.1	2247962
Total Uranium (U)	ug/L	1.3	2250473	0.6	2250473	ND	0.1	2250473
Dissolved Vanadium (V)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Vanadium (V)	ug/L	4	2250473	2	2250473	ND	1	2250473
Dissolved Zinc (Zn)	ug/L	ND	2247962	ND	2247962	ND	5	2247962
Total Zinc (Zn)	ug/L	14	2250473	7	2250473	5	5	2250473
Dissolved Zirconium (Zr)	ug/L	ND	2247962	ND	2247962	ND	1	2247962
Total Zirconium (Zr)	ug/L	1	2250473	ND	2250473	ND	1	2250473

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1658	GY1659	GY1660	GY1661		
Sampling Date		2010/08/23 14:05	2010/08/23 12:45	2010/08/23 13:40	2010/08/23 08:10		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW12A**	**SW13**	**SW14**	**SW15**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2248075
Dissolved Sulphur (S)	mg/L	ND	ND	ND	1.3	0.5	2247922
Total Sulphur (S)	mg/L	ND	ND	ND	1.5	0.5	2250488
Dissolved Aluminum (Al)	ug/L	61	7	17	27	5	2247962
Total Aluminum (Al)	ug/L	140	220	55	320	5	2250473
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Antimony (Sb)	ug/L	ND	ND	1.3	1.2	0.5	2250473
Dissolved Arsenic (As)	ug/L	ND	1	1	2	1	2247962
Total Arsenic (As)	ug/L	ND	1	1	2	1	2250473
Dissolved Barium (Ba)	ug/L	10	13	13	17	5	2247962
Total Barium (Ba)	ug/L	12	16	14	21	5	2250473
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2250473
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2247962
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Boron (B)	ug/L	ND	12	ND	12	10	2247962
Total Boron (B)	ug/L	ND	15	ND	14	10	2250473
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2247962
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2250473
Dissolved Calcium (Ca)	ug/L	12000	39000	19000	32000	200	2247962
Total Calcium (Ca)	ug/L	12000	38000	19000	33000	200	2250473
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2247962
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2250473
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Cobalt (Co)	ug/L	0.7	ND	ND	ND	0.5	2250473
Dissolved Copper (Cu)	ug/L	ND	ND	ND	2	1	2247962
Total Copper (Cu)	ug/L	ND	1	ND	2	1	2250473
Dissolved Iron (Fe)	ug/L	930	ND	250	360	100	2247962
Total Iron (Fe)	ug/L	1300	410	400	910	100	2250473
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Lead (Pb)	ug/L	ND	ND	ND	0.7	0.5	2250473

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1658	GY1659	GY1660	GY1661		
Sampling Date		2010/08/23 14:05	2010/08/23 12:45	2010/08/23 13:40	2010/08/23 08:10		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW12A**	**SW13**	**SW14**	**SW15**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	ND	ND	ND	5	2247962
Total Lithium (Li)	ug/L	ND	ND	ND	ND	5	2250473
Dissolved Magnesium (Mg)	ug/L	3800	16000	8000	14000	50	2247962
Total Magnesium (Mg)	ug/L	3800	15000	7900	13000	50	2250473
Dissolved Manganese (Mn)	ug/L	18	ND	ND	2	2	2247962
Total Manganese (Mn)	ug/L	86	120	81	63	2	2250473
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2247962
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Nickel (Ni)	ug/L	ND	ND	ND	2	1	2247962
Total Nickel (Ni)	ug/L	1	2	1	3	1	2250473
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2247962
Dissolved Potassium (K)	ug/L	290	690	270	1100	200	2247962
Total Potassium (K)	ug/L	270	700	300	1200	200	2250473
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2247962
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2250473
Dissolved Silicon (Si)	ug/L	1900	6400	6400	4700	50	2247962
Total Silicon (Si)	ug/L	2000	6500	6100	5200	50	2250473
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2247962
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2250473
Dissolved Sodium (Na)	ug/L	650	1900	870	2900	100	2247962
Total Sodium (Na)	ug/L	630	1800	870	2900	100	2250473
Dissolved Strontium (Sr)	ug/L	25	76	36	66	1	2247962
Total Strontium (Sr)	ug/L	25	76	36	69	1	2250473
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2247962
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2247962
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2250473
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2247962
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2247962
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2247962

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1658	GY1659	GY1660	GY1661		
Sampling Date		2010/08/23 14:05	2010/08/23 12:45	2010/08/23 13:40	2010/08/23 08:10		
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW12A**	**SW13**	**SW14**	**SW15**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	8	ND	13	5	2250473
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2247962
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Uranium (U)	ug/L	ND	0.3	ND	0.4	0.1	2247962
Total Uranium (U)	ug/L	ND	0.3	ND	0.5	0.1	2250473
Dissolved Vanadium (V)	ug/L	ND	ND	ND	1	1	2247962
Total Vanadium (V)	ug/L	ND	1	ND	2	1	2250473
Dissolved Zinc (Zn)	ug/L	9	ND	ND	ND	5	2247962
Total Zinc (Zn)	ug/L	ND	ND	10	5	5	2250473
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2247962
Total Zirconium (Zr)	ug/L	ND	ND	ND	1	1	2250473

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1662	GY1663	GY1664	GY1747		
Sampling Date		2010/08/23 09:05	2010/08/23 07:35	2010/08/23 13:00			
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW16**	**SW17**	**SW18**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2248075
Dissolved Sulphur (S)	mg/L	2.0	1.7	ND	ND	0.5	2247922
Total Sulphur (S)	mg/L	2.3	1.9	ND	ND	0.5	2250488
Dissolved Aluminum (Al)	ug/L	22	25	9	ND	5	2247962
Total Aluminum (Al)	ug/L	120	110	26	ND	5	2250473
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2250473
Dissolved Arsenic (As)	ug/L	ND	ND	1	ND	1	2247962
Total Arsenic (As)	ug/L	ND	ND	2	ND	1	2250473
Dissolved Barium (Ba)	ug/L	9	10	20	ND	5	2247962
Total Barium (Ba)	ug/L	10	11	22	ND	5	2250473
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2250473
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2247962
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Boron (B)	ug/L	ND	ND	11	ND	10	2247962
Total Boron (B)	ug/L	ND	ND	15	ND	10	2250473
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2247962
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2250473
Dissolved Calcium (Ca)	ug/L	8400	10000	46000	ND	200	2247962
Total Calcium (Ca)	ug/L	8500	9800	45000	ND	200	2250473
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2247962
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2250473
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Cobalt (Co)	ug/L	ND	ND	1.2	ND	0.5	2250473
Dissolved Copper (Cu)	ug/L	ND	ND	ND	ND	1	2247962
Total Copper (Cu)	ug/L	2	2	ND	ND	1	2250473
Dissolved Iron (Fe)	ug/L	ND	130	210	ND	100	2247962
Total Iron (Fe)	ug/L	210	240	1000	ND	100	2250473
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2247962
Total Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2250473

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1662	GY1663	GY1664	GY1747		
Sampling Date		2010/08/23 09:05	2010/08/23 07:35	2010/08/23 13:00			
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW16**	**SW17**	**SW18**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	ND	ND	ND	5	2247962
Total Lithium (Li)	ug/L	ND	ND	ND	ND	5	2250473
Dissolved Magnesium (Mg)	ug/L	2700	3400	19000	ND	50	2247962
Total Magnesium (Mg)	ug/L	2700	3200	19000	ND	50	2250473
Dissolved Manganese (Mn)	ug/L	ND	ND	3	ND	2	2247962
Total Manganese (Mn)	ug/L	19	20	400	ND	2	2250473
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2247962
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Nickel (Ni)	ug/L	ND	ND	2	ND	1	2247962
Total Nickel (Ni)	ug/L	1	1	2	ND	1	2250473
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2247962
Dissolved Potassium (K)	ug/L	720	730	900	ND	200	2247962
Total Potassium (K)	ug/L	750	720	850	ND	200	2250473
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2247962
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2250473
Dissolved Silicon (Si)	ug/L	1800	2100	8800	ND	50	2247962
Total Silicon (Si)	ug/L	1800	2100	8600	ND	50	2250473
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2247962
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2250473
Dissolved Sodium (Na)	ug/L	5300	4600	2400	ND	100	2247962
Total Sodium (Na)	ug/L	5400	4400	2400	ND	100	2250473
Dissolved Strontium (Sr)	ug/L	24	26	89	ND	1	2247962
Total Strontium (Sr)	ug/L	24	26	91	ND	1	2250473
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2247962
Total Tellurium (Te)	ug/L	ND	ND	ND	1	1	2250473
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2247962
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2250473
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2247962
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2247962
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2247962

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GY1662	GY1663	GY1664	GY1747		
Sampling Date		2010/08/23 09:05	2010/08/23 07:35	2010/08/23 13:00			
COC Number		205315-0	205315-0	205315-0	205315-0		
	Units	**SW16**	**SW17**	**SW18**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	6	ND	ND	5	2250473
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2247962
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Uranium (U)	ug/L	ND	ND	ND	ND	0.1	2247962
Total Uranium (U)	ug/L	ND	ND	ND	ND	0.1	2250473
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	1	2247962
Total Vanadium (V)	ug/L	ND	ND	ND	ND	1	2250473
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	ND	5	2247962
Total Zinc (Zn)	ug/L	ND	ND	ND	ND	5	2250473
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2247962
Total Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2250473

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0B6463
Report Date: 2010/09/03

GENERAL COMMENTS

Sample GY1650-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1651-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1652-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1653-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1654-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1655-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion.

Sample GY1656-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1657-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1658-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1659-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Acidity (as CaCO3) = initial pH is 8.6 and therefore this method is not applicable.

Sample GY1660-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1661-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1662-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be viewed with discretion. Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1663-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1664-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample GY1747-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0B6463

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2246763	HAG	QC Standard	Total Dissolved Solids	2010/08/27		98	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/08/27	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/08/27	3.4		%	25
2247532	JKU	QC Standard	Total BOD	2010/08/31		101	%	85 - 115
		Method Blank	Total BOD	2010/08/31	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/08/31	NC		%	25
2247632	HAG	QC Standard	Total Dissolved Solids	2010/08/27		99	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/08/27	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/08/27	1.7		%	25
2247772	JDO	QC Standard	Total Suspended Solids	2010/08/26		98	%	85 - 115
		Method Blank	Total Suspended Solids	2010/08/26	ND, RDL=1		mg/L	
		RPD [GY1747-04]	Total Suspended Solids	2010/08/26	NC		%	25
2247784	AHA	Matrix Spike	Dissolved Organic Carbon	2010/08/27		96	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/27		95	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/27	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/27	3.5		%	20
2247789	AHA	Matrix Spike	Dissolved Organic Carbon	2010/08/27		95	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/27		95	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/27	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/27	0.2		%	20
2247842	FZH	QC Standard	Total BOD	2010/09/01		95	%	85 - 115
		Method Blank	Total BOD	2010/09/01	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/09/01	NC		%	25
2247867	FA	Spiked Blank	Total Oil & Grease	2010/08/27		96	%	85 - 115
		RPD	Total Oil & Grease	2010/08/27	3.3		%	25
		Method Blank	Total Oil & Grease	2010/08/27	ND, RDL=0.5		mg/L	
2247868	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/08/27		93	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/08/27	2.7		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/08/27	ND, RDL=0.5		mg/L	
2247922	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/08/27		NC	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/08/27		97	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/08/27	ND, RDL=0.5		mg/L	
2247935	CAT	Method Blank	Carbon Dioxide	2010/08/27	ND, RDL=0.6		L/m3	
		RPD [GY1664-12]	Carbon Dioxide	2010/08/27	4.0		%	25
2247944	CP	Matrix Spike	Total Cyanide (CN)	2010/08/27		98	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/08/27		104	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/08/27	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/08/27	NC		%	25
2247955	SAU	Matrix Spike [GY1653-08]	Sulphide	2010/08/30		99	%	75 - 125
		Spiked Blank	Sulphide	2010/08/30		103	%	85 - 115
		Method Blank	Sulphide	2010/08/30	ND, RDL=0.02		mg/L	
		RPD [GY1653-08]	Sulphide	2010/08/30	NC		%	25
2247962	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/08/30		110	%	80 - 120
			Dissolved Antimony (Sb)	2010/08/30		116	%	80 - 120
			Dissolved Arsenic (As)	2010/08/30		107	%	80 - 120
			Dissolved Barium (Ba)	2010/08/30		107	%	80 - 120
			Dissolved Beryllium (Be)	2010/08/30		106	%	80 - 120
			Dissolved Bismuth (Bi)	2010/08/30		102	%	80 - 120
			Dissolved Boron (B)	2010/08/30		110	%	80 - 120
			Dissolved Cadmium (Cd)	2010/08/30		115	%	80 - 120
			Dissolved Calcium (Ca)	2010/08/30		105	%	80 - 120
			Dissolved Chromium (Cr)	2010/08/30		109	%	80 - 120
			Dissolved Cobalt (Co)	2010/08/30		104	%	80 - 120
			Dissolved Copper (Cu)	2010/08/30		105	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B6463

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2247962	JBW	Matrix Spike	Dissolved Iron (Fe)	2010/08/30		110	%	80 - 120
			Dissolved Lead (Pb)	2010/08/30		103	%	80 - 120
			Dissolved Lithium (Li)	2010/08/30		103	%	80 - 120
			Dissolved Magnesium (Mg)	2010/08/30		109	%	80 - 120
			Dissolved Manganese (Mn)	2010/08/30		108	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/08/30		111	%	80 - 120
			Dissolved Nickel (Ni)	2010/08/30		105	%	80 - 120
			Dissolved Phosphorus (P)	2010/08/30		103	%	80 - 120
			Dissolved Potassium (K)	2010/08/30		103	%	80 - 120
			Dissolved Selenium (Se)	2010/08/30		109	%	80 - 120
			Dissolved Silicon (Si)	2010/08/30		107	%	80 - 120
			Dissolved Silver (Ag)	2010/08/30		109	%	80 - 120
			Dissolved Sodium (Na)	2010/08/30		113	%	80 - 120
			Dissolved Strontium (Sr)	2010/08/30		104	%	80 - 120
			Dissolved Tellurium (Te)	2010/08/30		110	%	80 - 120
			Dissolved Thallium (Tl)	2010/08/30		104	%	80 - 120
			Dissolved Thorium (Th)	2010/08/30		101	%	80 - 120
			Dissolved Tin (Sn)	2010/08/30		114	%	80 - 120
			Dissolved Titanium (Ti)	2010/08/30		105	%	80 - 120
			Dissolved Tungsten (W)	2010/08/30		108	%	80 - 120
			Dissolved Uranium (U)	2010/08/30		103	%	80 - 120
			Dissolved Vanadium (V)	2010/08/30		108	%	80 - 120
			Dissolved Zinc (Zn)	2010/08/30		107	%	80 - 120
			Dissolved Zirconium (Zr)	2010/08/30		109	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/08/30		107	%	90 - 110
			Dissolved Antimony (Sb)	2010/08/30		102	%	90 - 110
			Dissolved Arsenic (As)	2010/08/30		98	%	90 - 110
			Dissolved Barium (Ba)	2010/08/30		98	%	90 - 110
			Dissolved Beryllium (Be)	2010/08/30		99	%	90 - 110
			Dissolved Bismuth (Bi)	2010/08/30		98	%	90 - 110
			Dissolved Boron (B)	2010/08/30		103	%	90 - 110
			Dissolved Cadmium (Cd)	2010/08/30		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/08/30		101	%	90 - 110
			Dissolved Chromium (Cr)	2010/08/30		103	%	90 - 110
			Dissolved Cobalt (Co)	2010/08/30		97	%	90 - 110
			Dissolved Copper (Cu)	2010/08/30		96	%	90 - 110
			Dissolved Iron (Fe)	2010/08/30		101	%	90 - 110
			Dissolved Lead (Pb)	2010/08/30		99	%	90 - 110
			Dissolved Lithium (Li)	2010/08/30		95	%	90 - 110
			Dissolved Magnesium (Mg)	2010/08/30		102	%	90 - 110
			Dissolved Manganese (Mn)	2010/08/30		100	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/08/30		101	%	90 - 110
			Dissolved Nickel (Ni)	2010/08/30		97	%	90 - 110
			Dissolved Phosphorus (P)	2010/08/30		102	%	90 - 110
			Dissolved Potassium (K)	2010/08/30		99	%	90 - 110
			Dissolved Selenium (Se)	2010/08/30		101	%	90 - 110
			Dissolved Silicon (Si)	2010/08/30		107	%	90 - 110
			Dissolved Silver (Ag)	2010/08/30		99	%	90 - 110
			Dissolved Sodium (Na)	2010/08/30		105	%	90 - 110
			Dissolved Strontium (Sr)	2010/08/30		100	%	90 - 110
			Dissolved Tellurium (Te)	2010/08/30		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/08/30		98	%	90 - 110
			Dissolved Thorium (Th)	2010/08/30		96	%	90 - 110
			Dissolved Tin (Sn)	2010/08/30		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/08/30		102	%	90 - 110

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2247962	JBW	Spiked Blank	Dissolved Tungsten (W)	2010/08/30		102	%	90 - 110
			Dissolved Uranium (U)	2010/08/30		97	%	90 - 110
			Dissolved Vanadium (V)	2010/08/30		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/08/30		98	%	90 - 110
			Dissolved Zirconium (Zr)	2010/08/30		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/08/30	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/08/30	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/08/30	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/08/30	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/08/30	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/08/30	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/08/30	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/08/30	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/08/30	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/08/30	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/08/30	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/08/30	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/08/30	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/08/30	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/08/30	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/08/30	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/08/30	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/08/30	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/08/30	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/08/30	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/08/30	ND, RDL=1		ug/L	
		RPD	Dissolved Arsenic (As)	2010/08/30	NC		%	25
			Dissolved Cadmium (Cd)	2010/08/30	NC		%	25
			Dissolved Chromium (Cr)	2010/08/30	NC		%	25
			Dissolved Copper (Cu)	2010/08/30	NC		%	25
			Dissolved Iron (Fe)	2010/08/30	NC		%	25
			Dissolved Lead (Pb)	2010/08/30	NC		%	25
			Dissolved Manganese (Mn)	2010/08/30	NC		%	25
			Dissolved Potassium (K)	2010/08/30	NC		%	25
			Dissolved Zinc (Zn)	2010/08/30	NC		%	25
2247988	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/08/30		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/08/30		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/08/30	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/08/30	0.04		%	20
2247993	DRM	Matrix Spike	Orthophosphate (P)	2010/08/30		103	%	75 - 125

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2247993	DRM	Spiked Blank	Orthophosphate (P)	2010/08/30		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/08/30	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/08/30	NC		%	25
2247996	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/08/30		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/08/30		101	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/08/30	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/08/30	0.6		%	25
2248006	MC	Matrix Spike	Mercury (Hg)	2010/08/27		109	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/08/27		104	%	80 - 120
		Method Blank	Mercury (Hg)	2010/08/27	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/08/27	NC		%	25
2248029	C_N	Matrix Spike	Nitrite (N)	2010/08/27		106	%	80 - 120
			Nitrate (N)	2010/08/27		103	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/08/27		108	%	85 - 115
			Nitrate (N)	2010/08/27		109	%	85 - 115
		Method Blank	Nitrite (N)	2010/08/27	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/08/27	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/08/27	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/08/27	NC		%	25
			Nitrate (N)	2010/08/27	0.3		%	25
			Nitrate + Nitrite	2010/08/27	0.3		%	25
2248075	MC	Matrix Spike						
		[GY1653-11]	Mercury (Hg)	2010/08/27		109	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/08/27		109	%	80 - 120
		Method Blank	Mercury (Hg)	2010/08/27	ND, RDL=0.0001		mg/L	
		RPD [GY1653-11]	Mercury (Hg)	2010/08/27	NC		%	25
2248137	MC	Matrix Spike	Mercury (Hg)	2010/08/27		110	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/08/27		110	%	80 - 120
		Method Blank	Mercury (Hg)	2010/08/27	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/08/27	NC		%	25
2248232	KTH	Spiked Blank	Colour	2010/08/27		98	%	85 - 115
		Method Blank	Colour	2010/08/27	ND, RDL=2		TCU	
		RPD [GY1653-02]	Colour	2010/08/27	0.2		%	25
2248237	VSA	QC Standard	Redox Potential	2010/09/01		+241	%	N/A
		Method Blank	Redox Potential	2010/09/01	+262		mV	
		RPD [GY1659-02]	Redox Potential	2010/09/01	1.0		%	10
2248242	PAL	QC Standard	Alkalinity (Total as CaCO3)	2010/08/27		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/08/27	ND, RDL=1		mg/L	
		RPD [GY1657-02]	Alkalinity (Total as CaCO3)	2010/08/27	0.1		%	25
2248243	DRM	Matrix Spike						
		[GY1663-02]	Dissolved Chloride (Cl)	2010/08/30		104	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/08/30		104	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/08/30	ND, RDL=1		mg/L	
		RPD [GY1663-02]	Dissolved Chloride (Cl)	2010/08/30	NC		%	20
2248247	PAL	QC Standard	Conductivity	2010/08/27		103	%	85 - 115
		Method Blank	Conductivity	2010/08/27	ND, RDL=1		umho/cm	
		RPD [GY1657-02]	Conductivity	2010/08/27	0		%	25
2248249	PAL	Matrix Spike						
		[GY1657-02]	Fluoride (F-)	2010/08/27		98	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/08/27		99	%	85 - 115
		Method Blank	Fluoride (F-)	2010/08/27	ND, RDL=0.1		mg/L	
		RPD [GY1657-02]	Fluoride (F-)	2010/08/27	NC		%	25
2248250	RSR	Method Blank	Acidity as CaC03	2010/09/01	ND, RDL=10		mg/L	
		RPD [GY1664-05]	Acidity as CaC03	2010/09/01	NC		%	25
2248251	DRM	Matrix Spike						
		[GY1663-02]	Orthophosphate (P)	2010/08/30		103	%	75 - 125

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2248251	DRM	Spiked Blank	Orthophosphate (P)	2010/08/30		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/08/30	0.01, RDL=0.01		mg/L	
		RPD [GY1663-02]	Orthophosphate (P)	2010/08/30	NC		%	25
2248253	DRM	Matrix Spike						
		[GY1663-02]	Dissolved Sulphate (SO4)	2010/08/30		138 (1)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/08/30		101	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/08/30	ND, RDL=1		mg/L	
		RPD [GY1663-02]	Dissolved Sulphate (SO4)	2010/08/30	NC		%	25
2248307	KTH	QC Standard	Turbidity	2010/08/27		99	%	85 - 115
		Method Blank	Turbidity	2010/08/27	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/08/27	2.6		%	25
2248313	KTH	QC Standard	Turbidity	2010/08/27		99	%	85 - 115
		Method Blank	Turbidity	2010/08/27	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/08/27	3.1		%	25
2248578	AHA	Matrix Spike	Dissolved Organic Carbon	2010/08/27		96	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/27		99	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/27	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/27	NC		%	20
2248707	AHA	Matrix Spike	Dissolved Organic Carbon	2010/08/27		100	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/27		105	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/27	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/27	1.7		%	20
2248714	AHA	Matrix Spike	Dissolved Organic Carbon	2010/08/28		97	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/08/28		94	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/08/27	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/08/28	NC		%	20
2248750	AHA	Matrix Spike						
		[GY1660-07]	Total Organic Carbon (TOC)	2010/08/28		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/08/28		93	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/08/28	ND, RDL=0.2		mg/L	
		RPD [GY1660-07]	Total Organic Carbon (TOC)	2010/08/28	0.5		%	20
2249714	ADB	Matrix Spike						
		[GY1652-07]	Total Ammonia-N	2010/08/30		104	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/08/30		101	%	85 - 115
		Method Blank	Total Ammonia-N	2010/08/30	ND, RDL=0.05		mg/L	
		RPD [GY1652-07]	Total Ammonia-N	2010/08/30	NC		%	25
2249796	CP	Matrix Spike						
		[GY1651-07]	Total Chemical Oxygen Demand (COD)	2010/08/30		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/08/30		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/08/30	ND, RDL=4		mg/L	
		RPD [GY1651-07]	Total Chemical Oxygen Demand (COD)	2010/08/30	4.4		%	25
2249886	VRO	Matrix Spike						
		[GY1662-07]	Total Phosphorus	2010/08/30		92	%	80 - 120
		QC Standard	Total Phosphorus	2010/08/30		95	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/08/30		94	%	85 - 115
		Method Blank	Total Phosphorus	2010/08/30	ND, RDL=0.002		mg/L	
		RPD [GY1662-07]	Total Phosphorus	2010/08/30	1		%	20
2249889	JDE	Matrix Spike						
		[GY1661-07]	Total Kjeldahl Nitrogen (TKN)	2010/08/31		NC	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/08/31		110	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/08/31		104	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/08/31	0.2, RDL=0.1		mg/L	
		RPD [GY1661-07]	Total Kjeldahl Nitrogen (TKN)	2010/08/31	2.3		%	20
2249972	DLB	Matrix Spike						
		[GY1747-02]	Reactive Silica (SiO2)	2010/08/31		101	%	80 - 120

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2249972	DLB	QC Standard	Reactive Silica (SiO2)	2010/08/31		99	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/08/31		102	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/08/31	ND, RDL=0.5		mg/L	
		RPD [GY1747-02]	Reactive Silica (SiO2)	2010/08/31	NC		%	25
2250012	VRO	Matrix Spike [GY1651-02]	Dissolved Phosphorus	2010/08/31		99	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/08/31		105	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/08/31		101	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/08/31	ND, RDL=0.002		mg/L	
		RPD [GY1651-02]	Dissolved Phosphorus	2010/08/31	2.2		%	20
2250473	JBW	Matrix Spike [GY1650-06]	Total Aluminum (Al)	2010/08/31		NC	%	80 - 120
			Total Antimony (Sb)	2010/08/31		116	%	80 - 120
			Total Arsenic (As)	2010/08/31		102	%	80 - 120
			Total Barium (Ba)	2010/08/31		100	%	80 - 120
			Total Beryllium (Be)	2010/08/31		101	%	80 - 120
			Total Bismuth (Bi)	2010/08/31		97	%	80 - 120
			Total Boron (B)	2010/08/31		98	%	80 - 120
			Total Cadmium (Cd)	2010/08/31		106	%	80 - 120
			Total Calcium (Ca)	2010/08/31		NC	%	80 - 120
			Total Chromium (Cr)	2010/08/31		107	%	80 - 120
			Total Cobalt (Co)	2010/08/31		102	%	80 - 120
			Total Copper (Cu)	2010/08/31		100	%	80 - 120
			Total Iron (Fe)	2010/08/31		102	%	80 - 120
			Total Lead (Pb)	2010/08/31		98	%	80 - 120
			Total Lithium (Li)	2010/08/31		99	%	80 - 120
			Total Magnesium (Mg)	2010/08/31		NC	%	80 - 120
			Total Manganese (Mn)	2010/08/31		103	%	80 - 120
			Total Molybdenum (Mo)	2010/08/31		107	%	80 - 120
			Total Nickel (Ni)	2010/08/31		102	%	80 - 120
			Total Potassium (K)	2010/08/31		102	%	80 - 120
			Total Selenium (Se)	2010/08/31		107	%	80 - 120
			Total Silicon (Si)	2010/08/31		94	%	80 - 120
			Total Silver (Ag)	2010/08/31		100	%	80 - 120
			Total Sodium (Na)	2010/08/31		104	%	80 - 120
			Total Strontium (Sr)	2010/08/31		104	%	80 - 120
			Total Tellurium (Te)	2010/08/31		104	%	80 - 120
			Total Thallium (Tl)	2010/08/31		97	%	80 - 120
			Total Thorium (Th)	2010/08/31		99	%	80 - 120
			Total Tin (Sn)	2010/08/31		106	%	80 - 120
			Total Titanium (Ti)	2010/08/31		103	%	80 - 120
			Total Tungsten (W)	2010/08/31		103	%	80 - 120
			Total Uranium (U)	2010/08/31		98	%	80 - 120
			Total Vanadium (V)	2010/08/31		104	%	80 - 120
			Total Zinc (Zn)	2010/08/31		103	%	80 - 120
			Total Zirconium (Zr)	2010/08/31		104	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/08/31		109	%	85 - 115
			Total Antimony (Sb)	2010/08/31		115	%	85 - 115
			Total Arsenic (As)	2010/08/31		104	%	85 - 115
			Total Barium (Ba)	2010/08/31		104	%	85 - 115
			Total Beryllium (Be)	2010/08/31		103	%	85 - 115
			Total Bismuth (Bi)	2010/08/31		99	%	85 - 115
			Total Boron (B)	2010/08/31		99	%	85 - 115
			Total Cadmium (Cd)	2010/08/31		107	%	85 - 116
			Total Calcium (Ca)	2010/08/31		104	%	85 - 115

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2250473	JBW	Spiked Blank	Total Chromium (Cr)	2010/08/31		108	%	85 - 115
			Total Cobalt (Co)	2010/08/31		103	%	85 - 115
			Total Copper (Cu)	2010/08/31		102	%	85 - 115
			Total Iron (Fe)	2010/08/31		103	%	85 - 115
			Total Lead (Pb)	2010/08/31		103	%	85 - 115
			Total Lithium (Li)	2010/08/31		100	%	85 - 115
			Total Magnesium (Mg)	2010/08/31		106	%	85 - 115
			Total Manganese (Mn)	2010/08/31		106	%	85 - 115
			Total Molybdenum (Mo)	2010/08/31		108	%	85 - 115
			Total Nickel (Ni)	2010/08/31		103	%	85 - 115
			Total Potassium (K)	2010/08/31		101	%	85 - 115
			Total Selenium (Se)	2010/08/31		108	%	85 - 115
			Total Silicon (Si)	2010/08/31		95	%	85 - 115
			Total Silver (Ag)	2010/08/31		102	%	85 - 115
			Total Sodium (Na)	2010/08/31		105	%	85 - 115
			Total Strontium (Sr)	2010/08/31		106	%	85 - 115
			Total Tellurium (Te)	2010/08/31		101	%	85 - 115
			Total Thallium (Tl)	2010/08/31		102	%	85 - 115
			Total Thorium (Th)	2010/08/31		102	%	85 - 115
			Total Tin (Sn)	2010/08/31		106	%	85 - 115
			Total Titanium (Ti)	2010/08/31		105	%	85 - 115
			Total Tungsten (W)	2010/08/31		106	%	85 - 115
			Total Uranium (U)	2010/08/31		102	%	85 - 115
			Total Vanadium (V)	2010/08/31		107	%	85 - 115
			Total Zinc (Zn)	2010/08/31		105	%	85 - 115
			Total Zirconium (Zr)	2010/08/31		105	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/08/31	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/08/31	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/08/31	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/08/31	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/08/31	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/08/31	ND, RDL=1		ug/L	
			Total Boron (B)	2010/08/31	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/08/31	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/08/31	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/08/31	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/08/31	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/08/31	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/08/31	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/08/31	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/08/31	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/08/31	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/08/31	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/08/31	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/08/31	2, RDL=1		ug/L	
			Total Potassium (K)	2010/08/31	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/08/31	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/08/31	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/08/31	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/08/31	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/08/31	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/08/31	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/08/31	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/08/31	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/08/31	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B6463

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2250473	JBW	Method Blank	Total Titanium (Ti)	2010/08/31	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/08/31	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/08/31	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/08/31	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/08/31	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/08/31	ND, RDL=1		ug/L	
		RPD [GY1650-06]	Total Aluminum (Al)	2010/08/31	14.9		%	25
			Total Antimony (Sb)	2010/08/31	NC		%	25
			Total Arsenic (As)	2010/08/31	NC		%	25
			Total Barium (Ba)	2010/08/31	NC		%	25
			Total Beryllium (Be)	2010/08/31	NC		%	25
			Total Bismuth (Bi)	2010/08/31	NC		%	25
			Total Boron (B)	2010/08/31	NC		%	25
			Total Cadmium (Cd)	2010/08/31	NC		%	25
			Total Calcium (Ca)	2010/08/31	3.2		%	25
			Total Chromium (Cr)	2010/08/31	NC		%	25
			Total Cobalt (Co)	2010/08/31	NC		%	25
			Total Copper (Cu)	2010/08/31	NC		%	25
			Total Iron (Fe)	2010/08/31	10.4		%	25
			Total Lead (Pb)	2010/08/31	NC		%	25
			Total Lithium (Li)	2010/08/31	NC		%	25
			Total Magnesium (Mg)	2010/08/31	0.5		%	25
			Total Manganese (Mn)	2010/08/31	1.5		%	25
			Total Molybdenum (Mo)	2010/08/31	NC		%	25
			Total Nickel (Ni)	2010/08/31	NC		%	25
			Total Potassium (K)	2010/08/31	2.4		%	25
			Total Selenium (Se)	2010/08/31	NC		%	25
			Total Silicon (Si)	2010/08/31	0.08		%	25
			Total Silver (Ag)	2010/08/31	NC		%	25
			Total Sodium (Na)	2010/08/31	0.09		%	25
			Total Strontium (Sr)	2010/08/31	3.8		%	25
			Total Tellurium (Te)	2010/08/31	NC		%	25
			Total Thallium (Tl)	2010/08/31	NC		%	25
			Total Thorium (Th)	2010/08/31	NC		%	25
			Total Tin (Sn)	2010/08/31	NC		%	25
			Total Titanium (Ti)	2010/08/31	NC		%	25
			Total Tungsten (W)	2010/08/31	NC		%	25
			Total Uranium (U)	2010/08/31	0		%	25
			Total Vanadium (V)	2010/08/31	NC		%	25
			Total Zinc (Zn)	2010/08/31	NC		%	25
			Total Zirconium (Zr)	2010/08/31	NC		%	25
2250488	JOH	Matrix Spike						
		[GY1650-06]	Total Sulphur (S)	2010/08/31		102	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/08/31		104	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/08/31	ND, RDL=0.5		mg/L	
		RPD [GY1650-06]	Total Sulphur (S)	2010/08/31	NC		%	25
2254024	VRO	Matrix Spike	Total Phosphorus	2010/09/03		96	%	80 - 120
		QC Standard	Total Phosphorus	2010/09/03		101	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/09/03		103	%	85 - 115
		Method Blank	Total Phosphorus	2010/09/03	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/09/03	NC		%	20
2254398	VRO	Matrix Spike						
		[GY1653-02]	Dissolved Phosphorus	2010/09/03		105	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/09/03		99	%	N/A
		Spiked Blank	Dissolved Phosphorus	2010/09/03		103	%	85 - 115

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0B6463

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2254398	VRO	Method Blank	Dissolved Phosphorus	2010/09/03	ND, RDL=0.002		mg/L	
		RPD [GY1653-02]	Dissolved Phosphorus	2010/09/03	3.9		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

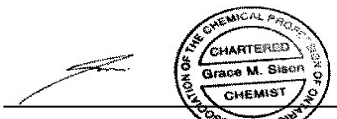
Validation Signature Page

Maxxam Job #: B0B6463

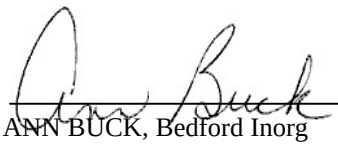
The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



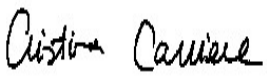
TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section



GRACE SISON, Technical and Customer Service Coordinator



ANN BUCK, Bedford Inorg



CRISTINA CARRIERE, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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IMMEDIATE TEST

25-Aug-10 09:49
ANTONELLA BRASIL
B0B6463
HSO ENV-779

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CHAIN OF CUST

Page 1 of 6

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:	
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:	
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:	
				Sampled By:	

Lab Use Only:
BOTTLE ORDER #: 205315
CHAIN OF CUSTODY #: C#205315-01-01
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW1A	Aug 23/10	11:30 Am			✓	—	~	~	~	~	—	~	—	~	—	16	
2		SW 2	Aug 23/10	11:55 Am			✓	~	~	—	—	~	—	~	~	—	—	16	
3		SW3	Aug 23/10	12:25 pm			✓	—	~	~	—	~	—	~	~	—	~	16	
4		SW4	Aug 23/10	10:05 Am			✓	~	—	~	—	~	—	—	—	—	—	16	
5		SW6	Aug 23/10	10:45 Am			✓	—	~	~	—	—	—	—	—	~	—	16	
6		SW7A	Aug 23/10	1:20 pm			✓	~	—	~	—	~	—	~	~	—	~	16	
7		SW 10	Aug 23/10	11:10Am			✓	~	—	—	—	—	—	—	—	—	—	16	
8		SW 11	Aug 23/10	10:45 Am			✓	~	—	—	—	—	—	—	~	—	—	16	
9		SW 12A	Aug 23/10	2:05 pm			✓	—	~	~	~	—	~	~	~	~	—	16	REC'D IN WINNIPEG
10		SW 13	Aug 23/10	12:45 pm			✓	—	—	—	~	—	—	—	—	—	—	16	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bruce Burnett	2010/08 23	8:10pm	HSO	Aug 24/10 10/08/25	8:49 Am	

Laboratory Use Only
Time Sensitive: X
Temperature (ºC) on Receipt: 12.0, 13.1 / 12.8
Custody Seal Intact on Cooler? ☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

14/14/14C 13/13/12C 15/14/15C 13/14/15C Melted 7C
13/14/15C 14/13/14C 13/12/13C 15/14/16C

White: Maxxam Yellow: Client

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOB6463
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:		BOTTLE ORDER #:	205315
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #:	C#205315-02-01
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		PROJECT MANAGER:	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW14	Aug 23/10	1:40 pm			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16	
2		SW15	Aug 23/10	8:10 Am			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16	
3		SW16	Aug 23/10	9:05 Am			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16	
4		SW17	Aug 23/10	7:35 Am			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16	
5		SW18	Aug 23/10	1:00 pm			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	16	
6																			
7																			
8																			
9																			
10																			REC'D IN WINNIPEG

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
	2010/08/23	8:10 pm	ABO	10/08/25	09:49	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	12.0, 13.1, 12.8	☐ Yes ☐ No

14/14/14C 13/13/14C 15/14/15C 13/14/15C
melted ice 13/14/15C 14/13/14C 13/12/15C 15/14/16C

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

CHAIN OF CUSTODY RECORD

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

INVOICE INFORMATION:

Company Name: #23433 Rainy River Resources Ltd
Contact Name: Evelyn Funk
Address: 303 - 1620 W 8th Ave, Vancouver BC V6J 1V4
Phone: (604)639-4491 Fax: (604)639-4492
Email: etf@rainyriverresources.com

REPORT INFORMATION (if differs from invoice):

Company Name: #10142 Klohn Crippen Berger Ltd
Contact Name: Leann Graham
Address: 500 - -2955 Virtual Way, Vancouver BC V5M 4X6
Phone: (604)251-8441 Fax: (604)251-8510
Email: lgraham@klohn.com;lhollingsworth@klohn.com

PROJECT INFORMATION:

Quotation #: B03165
P.O. #:
Project #:
Project Name:
Site #:
Sampled By:

Laboratory Use Only:

MAXXAM JOB #: B0B6463
BOTTLE ORDER #: 205315
CHAIN OF CUSTODY #: C#205315-02-02
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA ☐ Reg. 153/04 Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Reg. 558
☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
Municipality: _____
Other (specify): _____ Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ (call lab for #)

ANALYSIS REQUESTED (Please be specific):

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Dr? (Y/N)	Metals Field Filtered? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 1A	Aug 23/10	11:30 Am			✓	✓	✓	✓	—	✓	—	✓	✓	—	—	16	
2		SW 2	Aug 23/10	11:55 Am			✓	—	—	—	—	—	—	✓	—	—	—	16	
3		SW3	Aug 23/10	12:25 pm			✓	—	✓	—	—	—	—	—	—	✓	—	16	
4		SW4	Aug 23/10	10:05 Am			✓	—	✓	✓	—	—	✓	—	—	—	—	16	
5		SW6	Aug 23/10	10:45 Am			✓	✓	✓	✓	—	—	✓	—	—	✓	—	16	
6		SW 7A	Aug 23/10	1:20 pm			✓	✓	✓	✓	—	—	✓	—	—	—	—	16	
7		SW 10	Aug 23/10	11:10 Am			✓	—	✓	—	✓	—	✓	—	—	—	—	16	
8		SW 11	Aug 23/10	10:45			✓	✓	✓	✓	—	—	—	—	✓	—	—	16	
9		SW 12A	Aug 23/10	2:05 pm			✓	—	✓	—	—	—	—	—	—	—	—	16	
10		SW 13	Aug 23/10	12:45 pm			✓	—	✓	—	—	✓	✓	—	✓	✓	—	16	

REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bevan Burnell	2010/08/23	8:10 pm	KBO HIR Rashid	AUG 24/10	8:45 07:49	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	12.0 / 13.1 / 12.8	☐ Yes ☐ No

14/14/14C 13/14/14C 15/14/15C 13/14/15C ICE
13/14/14C 14/13/14C 13/12/13C 15/14/14C ICE

White: Maxxam Yellow: Client

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:		B036463	205315
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		C#205315-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
- ☐ PWQO — ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 — ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
- ☐ Reg. 558 — Municipality
- Other (specify) — Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 14	Aug 23/10	1:40 pm			✓	✓	✓	—	✓	—	—	—	—	—	—	16	
2		SW 15	Aug 23/10	8:40 Am			✓	—	—	✓	—	—	✓	—	—	—	—	16	
3		SW 16	Aug 23/10	9:05 Am			✓	✓	—	—	—	—	—	✓	—	✓	—	16	
4		SW 17	Aug 23/10	7:35 Am			✓	✓	—	✓	—	—	—	✓	—	—	—	16	
5		SW 18	Aug 23/10	1:00 pm			✓	✓	—	✓	—	—	✓	—	—	—	—	16	
6																			
7																			
8																			
9																			
10																			REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
[signature]	2010/08/23	8:10 pm	[signature] YBO HLKRSVHI	Aug 24/10 10:00:15	8am 09:49	
Bevan Buzwell						

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	12.0, 13.1, 12.8	☐ Yes ☐ No

White: Maxxam Yellow: Client

14/14/14C 13/13/14C 15/14/15C 13/14/15C
13/14/15C 14/13/14C 13/12/15C 15/14/16C Metaltex

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOB6463
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:		BOTTLE ORDER #:	205315
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #:	C#205315-01-03
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		PROJECT MANAGER:	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1A	Aug 23/10	11:30 Am			✓	✓	16	
2		SW 2	Aug 23/10	11:55 Am			✓	✓	16	
3		SW 3	Aug 23/10	12:25 pm			✓	✓	16	
4		SW 4	Aug 23/10	10:05 Am			✓	✓	16	
5		SW 6	Aug 23/10	10:45 Am			✓	✓	16	
6		SW 7A	Aug 23/10	1:20 pm			✓	✓	16	
7		SW 10	Aug 23/10	11:10 Am			✓	✓	16	
8		SW 11	Aug 23/10	10:45 Am			✓	✓	16	
9		SW 12A	Aug 23/10	2:05 pm			✓	✓	16	
10		SW 13	Aug 23/10	12:45 pm			✓	✓	16	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
	2010/09/23	8:10 pm		10/08/25	09:49		X	14/14/14C 13/13/13C 13/14/15C 13/14/15C	☐ Yes ☐ No
Bevan Bulnell								14/14/15C 14/13/14C 13/12/13C 13/14/15C	

White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOB6463
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:		BOTTLE ORDER #:	205315
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #:	C#205315-02-03
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		PROJECT MANAGER:	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☒ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Residential/Parkland
☐ Table 2 ☐ Industrial/Commercial
☐ Reg. 558 ☐ Table 3 ☐ Medium/Fine Municipality
☐ Table 6 ☐ Coarse
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

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(will be applied if Rush TAT is not specified):
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Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 14	Aug 23/10	1:40 pm			✓	✓	16	
2		SW 15	Aug 23/10	8:10 Am			✓	✓	16	
3		SW 16	Aug 23/10	9:05 Am			✓	✓	16	
4		SW 17	Aug 23/10	7:35 Am			✓	✓	16	
5		SW 18	Aug 23/10	1:00 pm			✓	✓	16	
6										
7										
8										
9										
10										

REC'D IN WINNIPEG

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (ºC) on Receipt	Custody Seal Intact on Cooler?
	2010/08/23	8:10pm		Aug 24/10	8 Am		[X]	12.0 13.1 12.5	☐ Yes ☐ No
Brenda Buttrell			ADO HIBASOHI	10/08/25	09:49				

10/14/14C 13/13/14C 10/14/15C (3)10/14/15C
no ltr Ltr 10/14/15C

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White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Your Project #: MB0B6463
Your C.O.C. #: 08321697, 08321698

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/09/02

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B078030
Received: 2010/08/30, 10:30

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/09/01	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: Arshdeep.Khalsa@MaxxamAnalytics.com
Phone# (604) 734 7276

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: B078030
Client Project #: MB0B6463
Report Date: 2010/09/02

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W58137	W58138	W58139	W58140	W58141		
Sampling Date		2010/08/23	2010/08/23	2010/08/23	2010/08/23	2010/08/23		
COC Number		08321697	08321697	08321697	08321697	08321697		
	Units	**SW1A (GY1650-09R)**	**SW2 (GY1651-09R)**	**SW3 (GY1652-09R)**	**SW4(GY1653-09R)**	**SW6 (GY1654-09R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0020	0.0008	0.0010	<0.0005	<0.0005	0.0005	4226031

RDL = Reportable Detection Limit

Maxxam ID		W58142	W58143	W58144	W58145	W58146		
Sampling Date		2010/08/23	2010/08/23	2010/08/23	2010/08/23	2010/08/23		
COC Number		08321697	08321697	08321697	08321697	08321697		
	Units	**SW7A (GY1655-09R)**	**SW10 (GY1656-09R)**	**SW11 (GY1657-09R)**	**SW12A (GY1658-09R)**	**SW13 (GY1659-09R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	4226031

RDL = Reportable Detection Limit

Maxxam ID		W58147	W58182	W58183	W58184	W58185		
Sampling Date		2010/08/23	2010/08/23	2010/08/23	2010/08/23	2010/08/23		
COC Number		08321697	08321698	08321698	08321698	08321698		
	Units	**SW14 (GY1660-09R)**	**SW15 (GY1661-09R)**	**SW16 (GY1662-09R)**	**SW17 (GY1663-09R)**	**SW18 (GY1664-09R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	0.0005	4226031

RDL = Reportable Detection Limit

Maxxam ID		W58186		
Sampling Date				
COC Number		08321698		
	Units	**TRIP BLANK (GY1747-09R)**	**RDL**	**QC Batch**
Misc. Inorganics				
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	4226031

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B078030
Report Date: 2010/09/02

Client Project #: MB0B6463

Package 1	12.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB0B6463
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB078030

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4226031	VT1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/09/01		105	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/09/01		107	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/09/01	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/09/01	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B078030

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Data Validation Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
September 2010

Your C.O.C. #: 21485702, 214857-02-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/10/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0D8865
Received: 2010/10/01, 10:20

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1)	16	2010/10/05	2010/10/06	SLA SOP-00100	APHA SM2310B
Alkalinity	16	N/A	2010/10/05	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/10/06	CAM SOP-00102	APHA 4500-CO2 D
Biological Oxygen Demand (BOD)	16	N/A	2010/10/09	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	13	N/A	2010/10/05	CAM SOP-00463	SM 4500 Cl E
Chloride by Automated Colourimetry	3	N/A	2010/10/06	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/10/04	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/10/07	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/10/05	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/10/05	CAM SOP-00448	SM 2510
Total Cyanide	15	2010/10/04	2010/10/05	CAM SOP-00457	EPA 335.3
Total Cyanide	1	2010/10/05	2010/10/06	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	15	N/A	2010/10/04	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	1	N/A	2010/10/05	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/10/04	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/10/04	2010/10/05	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/10/04		
Hardness (calculated as CaCO3)	13	N/A	2010/10/05	CAM SOP 00102	SM 2340 B
Hardness (calculated as CaCO3)	3	N/A	2010/10/06	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	1	2010/10/04	2010/10/05	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	6	2010/10/05	2010/10/05	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	9	2010/10/06	2010/10/07	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	14	2010/10/04	2010/10/05	CAM SOP-00408	EPA 6010
Lab Filtered Metals Analysis by ICP	2	2010/10/05	2010/10/05	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	11	2010/10/04	2010/10/04	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	1	2010/10/04	2010/10/05	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	3	2010/10/05	2010/10/05	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	1	2010/10/13	2010/10/13	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/10/06	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/10/06	2010/10/07	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/10/08	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	11	N/A	2010/10/05	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (1)	5	N/A	2010/10/06	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2010/10/04	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/10/04	2010/10/04	CAM SOP-00326	EPA 1664A
pH	16	N/A	2010/10/05	CAM SOP-00448	SM 4500H
Orthophosphate	13	N/A	2010/10/05	CAM SOP-00461	SM 4500 P-F
Orthophosphate	3	N/A	2010/10/06	CAM SOP-00461	SM 4500 P-F

../2

Your C.O.C. #: 21485702, 214857-02-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/10/14

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Reactive Silica (2)	16	N/A	2010/10/05	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	13	N/A	2010/10/05	CAM SOP-00464	EPA 375.4
Sulphate by Automated Colourimetry	3	N/A	2010/10/06	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/10/05	2010/10/07	SM 2580 B & ASTM DI 498-76	
Sulphide	15	N/A	2010/10/04	CAM SOP-00455	SM 4500-S G
Sulphide	1	N/A	2010/10/05	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	16	N/A	2010/10/06	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/10/06	2010/10/07	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2010/10/07	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	15	2010/10/07	2010/10/08	CAM SOP-00407	APHA 4500 P,B,F
Dissolved Phosphorus	1	2010/10/13	2010/10/14	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	15	2010/10/07	2010/10/08	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	1	2010/10/13	2010/10/14	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/10/04	2010/10/04	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	16	N/A	2010/10/05	CAM SOP-00428	SM 2540D
Turbidity	1	N/A	2010/10/04	CAM SOP-00417	APHA 2130B
Turbidity	15	N/A	2010/10/05	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

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Your C.O.C. #: 21485702, 214857-02-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
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CANADA V5M 4X6

Report Date: 2010/10/14

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: ABrasil@maxxam.ca
Phone# (905) 817-5817

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 3

Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2226	HJ2226			HJ2227		
Sampling Date		2010/09/30 13:35	2010/09/30 13:35			2010/09/30 15:35		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2285991	ND	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	85	N/A	1	2286462	69	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	100	N/A	1	2286452	79	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2288189	ND	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	ND	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	92	N/A	4	2289481	79	4	2289481
Colour	TCU	210	N/A	8	2287032	180	4	2287032
Conductivity	umho/cm	196	N/A	1	2286786	136	1	2286786
Total Dissolved Solids	mg/L	118	N/A	10	2286617	84	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.3	N/A	0.2	2290450	1.0	0.2	2290450
Dissolved Organic Carbon	mg/L	35.6	N/A	0.2	2287275	28.4	0.2	2287275
Total Organic Carbon (TOC)	mg/L	31.2	31.5	0.2	2289523	25.3	0.2	2289523
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2286723	ND	0.01	2286723
Dissolved Oxygen	mg/L	8.76	N/A	N/A	2287305	9.75	N/A	2287305
pH	pH	7.5	N/A	N/A	2286787	7.4	N/A	2286787
Dissolved Phosphorus	mg/L	0.037	0.042	0.002	2290818	0.021	0.002	2290818
Total Phosphorus	mg/L	0.054	0.056	0.002	2290815	0.018	0.002	2290815
Reactive Silica (SiO2)	mg/L	9.5	9.5	0.5	2288198	7.8	0.5	2288198
Total Suspended Solids	mg/L	17	N/A	1	2286707	8	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2286725	ND	1	2286725
Sulphide	mg/L	ND	N/A	0.02	2286582	ND	0.02	2286578
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286560	ND	0.005	2286556
Turbidity	NTU	13	N/A	0.1	2288171	3.2	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	86	N/A	1	2286784	69	1	2286784
Dissolved Chloride (Cl)	mg/L	7	N/A	1	2286706	ND	1	2286706

ND = Not detected
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QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2226	HJ2226			HJ2227		
Sampling Date		2010/09/30 13:35	2010/09/30 13:35			2010/09/30 15:35		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW1A**	**SW1A Lab-Dup**	**RDL**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2287341	ND	0.01	2287341
Nitrate (N)	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287341
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+194	N/A	N/A	2288183	+180	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2287480	ND	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2228			HJ2229	HJ2229		
Sampling Date		2010/09/30 14:25			2010/09/30 12:30	2010/09/30 12:30		
COC Number		214857-02-02			214857-02-02	214857-02-02		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**SW4 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2285991	0.8	N/A	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	93	1	2286462	43	N/A	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2286462	ND	N/A	1	2286462
Hardness (CaCO3)	mg/L	110	1	2286452	53	N/A	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2286462	ND	N/A	1	2286462
Inorganics								
Acidity as CaC03	mg/L	ND	10	2288189	ND	N/A	10	2288189
Total Ammonia-N	mg/L	ND	0.05	2289405	0.05	ND	0.05	2289405
Total BOD	mg/L	ND	2	2287184	ND	N/A	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	80	4	2289481	75	N/A	4	2289481
Colour	TCU	160	4	2287032	140	N/A	4	2287032
Conductivity	umho/cm	197	1	2286786	109	N/A	1	2286786
Total Dissolved Solids	mg/L	120	10	2286617	66	N/A	10	2286617
Fluoride (F-)	mg/L	ND	0.1	2286781	ND	N/A	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	0.1	2290450	1.0	N/A	0.2	2290450
Dissolved Organic Carbon	mg/L	31.5	0.2	2287090	27.3	N/A	0.2	2287275
Total Organic Carbon (TOC)	mg/L	28.1	0.2	2289523	24.9	N/A	0.2	2289523
Orthophosphate (P)	mg/L	0.02	0.01	2286723	ND	N/A	0.01	2286723
Dissolved Oxygen	mg/L	8.45	N/A	2287305	8.32	N/A	N/A	2287305
pH	pH	7.4	N/A	2286787	6.9	N/A	N/A	2286787
Dissolved Phosphorus	mg/L	0.045	0.002	2290818	0.015	N/A	0.002	2290818
Total Phosphorus	mg/L	0.057	0.002	2290815	0.015	N/A	0.002	2290815
Reactive Silica (SiO2)	mg/L	9.8	0.5	2288198	9.2	N/A	0.5	2288198
Total Suspended Solids	mg/L	4	1	2286707	1	N/A	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	1	2286725	ND	N/A	1	2286725
Sulphide	mg/L	ND	0.02	2286578	ND	N/A	0.02	2286578
Total Cyanide (CN)	mg/L	ND	0.005	2286556	ND	N/A	0.005	2286560
Turbidity	NTU	4.3	0.1	2288171	0.9	N/A	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	94	1	2286784	43	N/A	1	2286784
Dissolved Chloride (Cl)	mg/L	4	1	2286706	6	N/A	1	2286706

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2228			HJ2229	HJ2229		
Sampling Date		2010/09/30 14:25			2010/09/30 12:30	2010/09/30 12:30		
COC Number		214857-02-02			214857-02-02	214857-02-02		
	Units	**SW3**	**RDL**	**QC Batch**	**SW4**	**SW4 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2287341	ND	N/A	0.01	2287341
Nitrate (N)	mg/L	ND	0.1	2287341	ND	N/A	0.1	2287341
Nitrate + Nitrite	mg/L	ND	0.1	2287341	ND	N/A	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+178	N/A	2288183	+200	N/A	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2287480	0.8	N/A	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2287488	ND	N/A	0.5	2287488

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2230	HJ2230			HJ2231		
Sampling Date		2010/09/30 14:46	2010/09/30 14:46			2010/09/30 15:15		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**	**SW7A**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	0.8	N/A	0.5	2285991	0.9	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	109	N/A	1	2286462	110	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	120	N/A	1	2286452	130	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	10	N/A	10	2288189	ND	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	N/A	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	63	N/A	4	2289481	61	4	2289481
Colour	TCU	97	N/A	2	2287032	150	4	2287032
Conductivity	umho/cm	214	N/A	1	2286786	220	1	2286786
Total Dissolved Solids	mg/L	132	N/A	10	2286617	134	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	N/A	0.1	2290450	0.9	0.1	2290450
Dissolved Organic Carbon	mg/L	22.3	N/A	0.2	2287275	23.3	0.2	2287275
Total Organic Carbon (TOC)	mg/L	20.4	N/A	0.2	2289523	21.6	0.2	2289523
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2289116	0.01	0.01	2286723
Dissolved Oxygen	mg/L	8.40	N/A	N/A	2287305	9.99	N/A	2287305
pH	pH	7.5	N/A	N/A	2286787	7.7	N/A	2286787
Dissolved Phosphorus	mg/L	0.025	N/A	0.002	2290818	0.028	0.002	2290818
Total Phosphorus	mg/L	0.024	N/A	0.002	2290815	0.036	0.002	2290815
Reactive Silica (SiO2)	mg/L	7.8	N/A	0.5	2288198	8.9	0.5	2288198
Total Suspended Solids	mg/L	ND	N/A	1	2286707	8	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2289117	ND	1	2286725
Sulphide	mg/L	ND	N/A	0.02	2286578	ND	0.02	2286578
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286560	ND	0.005	2286556
Turbidity	NTU	0.9	N/A	0.1	2288171	7.2	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	109	N/A	1	2286784	111	1	2286784
Dissolved Chloride (Cl)	mg/L	1	N/A	1	2289115	2	1	2286706

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2230	HJ2230			HJ2231		
Sampling Date		2010/09/30 14:46	2010/09/30 14:46			2010/09/30 15:15		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**	**SW7A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2287340	ND	0.01	2287341
Nitrate (N)	mg/L	ND	N/A	0.1	2287340	ND	0.1	2287341
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2287340	ND	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+186	+190	N/A	2288183	+175	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.8	N/A	0.5	2287480	0.9	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2232	HJ2232			HJ2233		
Sampling Date		2010/09/30 13:18	2010/09/30 13:18			2010/09/30 12:50		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW10**	**SW10 Lab-Dup**	**RDL**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	0.9	N/A	0.5	2285991	ND	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	80	N/A	1	2286462	62	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	99	N/A	1	2286452	71	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2288189	12	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	N/A	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	92	N/A	4	2289481	90	4	2289481
Colour	TCU	210	N/A	8	2287032	190	6	2287032
Conductivity	umho/cm	186	N/A	1	2286786	126	1	2286786
Total Dissolved Solids	mg/L	114	N/A	10	2286617	80	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.4	N/A	0.2	2290450	1.3	0.2	2290450
Dissolved Organic Carbon	mg/L	37.0	N/A	0.2	2287090	32.6	0.2	2287439
Total Organic Carbon (TOC)	mg/L	31.5	N/A	0.2	2289523	31.7	0.2	2289523
Orthophosphate (P)	mg/L	0.06	0.05	0.05	2287700	ND	0.01	2286723
Dissolved Oxygen	mg/L	9.19	N/A	N/A	2287305	7.72	N/A	2287305
pH	pH	7.4	N/A	N/A	2286787	7.1	N/A	2286787
Dissolved Phosphorus	mg/L	0.038	N/A	0.002	2290818	0.021	0.002	2290818
Total Phosphorus	mg/L	0.038	N/A	0.002	2290815	0.026	0.002	2290815
Reactive Silica (SiO2)	mg/L	9.2	N/A	0.5	2288198	9.3	0.5	2288198
Total Suspended Solids	mg/L	4	N/A	1	2286707	1	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND (1)	ND	20	2287701	ND	1	2286725
Sulphide	mg/L	ND	N/A	0.02	2286582	ND	0.02	2286578
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286556	ND	0.005	2286556
Turbidity	NTU	4.8	N/A	0.1	2288171	2.0	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	81	N/A	1	2286784	62	1	2286784

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QC Batch = Quality Control Batch
(1) Due to the colour interferences, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2232	HJ2232			HJ2233		
Sampling Date		2010/09/30 13:18	2010/09/30 13:18			2010/09/30 12:50		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW10**	**SW10 Lab-Dup**	**RDL**	**QC Batch**	**SW11**	**RDL**	**QC Batch**
Dissolved Chloride (Cl)	mg/L	7	8	5	2287699	1	1	2286706
Nitrite (N)	mg/L	ND	ND	0.01	2287340	ND	0.01	2287341
Nitrate (N)	mg/L	ND	ND	0.1	2287340	ND	0.1	2287341
Nitrate + Nitrite	mg/L	ND	ND	0.1	2287340	ND	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+188	N/A	N/A	2288183	+207	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.9	N/A	0.5	2287480	ND	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2234			HJ2235	HJ2235		
Sampling Date		2010/09/30 16:10			2010/09/30 14:46	2010/09/30 14:46		
COC Number		214857-02-02			214857-02-02	214857-02-02		
	Units	**SW12A**	**RDL**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2285991	ND	N/A	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	25	1	2286462	108	N/A	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2286462	ND	N/A	1	2286462
Hardness (CaCO3)	mg/L	33	1	2286452	120	N/A	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2286462	ND	N/A	1	2286462
Inorganics								
Acidity as CaC03	mg/L	10	10	2288189	10	10	10	2288189
Total Ammonia-N	mg/L	ND	0.05	2289405	ND	N/A	0.05	2289405
Total BOD	mg/L	ND	2	2287184	ND	N/A	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	66	4	2289481	60	N/A	4	2289481
Colour	TCU	130	4	2287032	98	N/A	2	2287032
Conductivity	umho/cm	58	1	2286786	215	N/A	1	2286786
Total Dissolved Solids	mg/L	36	10	2286617	132	N/A	10	2286617
Fluoride (F-)	mg/L	ND	0.1	2286781	ND	N/A	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	0.2	2290450	0.8	N/A	0.1	2290450
Dissolved Organic Carbon	mg/L	23.1	0.2	2287090	21.8	N/A	0.2	2287090
Total Organic Carbon (TOC)	mg/L	21.2	0.2	2289523	20.2	N/A	0.2	2289523
Orthophosphate (P)	mg/L	ND	0.01	2286723	ND	N/A	0.01	2286723
Dissolved Oxygen	mg/L	8.27	N/A	2287305	9.06	N/A	N/A	2287305
pH	pH	6.7	N/A	2286787	7.5	N/A	N/A	2286787
Dissolved Phosphorus	mg/L	0.014	0.002	2290818	0.019	N/A	0.002	2290818
Total Phosphorus	mg/L	0.033	0.002	2290815	0.020	N/A	0.002	2290815
Reactive Silica (SiO2)	mg/L	4.2	0.5	2288198	7.9	N/A	0.5	2288198
Total Suspended Solids	mg/L	23	1	2286707	ND	N/A	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	1	2286725	ND	N/A	1	2286725
Sulphide	mg/L	ND	0.02	2286578	ND	N/A	0.02	2286582
Total Cyanide (CN)	mg/L	ND	0.005	2286556	ND	N/A	0.005	2286556
Turbidity	NTU	6.7	0.1	2288171	1.1	N/A	0.1	2286967
Alkalinity (Total as CaCO3)	mg/L	25	1	2286784	108	N/A	1	2286784
Dissolved Chloride (Cl)	mg/L	ND	1	2286706	ND	N/A	1	2286706

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2234			HJ2235	HJ2235		
Sampling Date		2010/09/30 16:10			2010/09/30 14:46	2010/09/30 14:46		
COC Number		214857-02-02			214857-02-02	214857-02-02		
	Units	**SW12A**	**RDL**	**QC Batch**	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2287341	ND	N/A	0.01	2287341
Nitrate (N)	mg/L	ND	0.1	2287341	ND	N/A	0.1	2287341
Nitrate + Nitrite	mg/L	ND	0.1	2287341	ND	N/A	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+244	N/A	2288183	+198	+193	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2287480	ND	N/A	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2287488	ND	N/A	0.5	2287488

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2236	HJ2236			HJ2237		
Sampling Date		2010/09/30 13:50	2010/09/30 13:50			2010/09/30 10:50		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW14**	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2285991	ND	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	46	N/A	1	2286462	71	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	56	N/A	1	2286452	91	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2288189	ND	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	N/A	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	83	83	4	2289481	100	4	2289481
Colour	TCU	200	N/A	4	2287032	270	6	2287032
Conductivity	umho/cm	95	N/A	1	2286786	154	1	2286786
Total Dissolved Solids	mg/L	60	N/A	10	2286617	100	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.2	2290450	1.3	0.2	2290450
Dissolved Organic Carbon	mg/L	32.7	N/A	0.2	2287275	42.6	0.2	2287090
Total Organic Carbon (TOC)	mg/L	28.7	N/A	0.2	2289523	37.3	0.2	2289523
Orthophosphate (P)	mg/L	ND	N/A	0.01	2286723	0.01	0.01	2286723
Dissolved Oxygen	mg/L	8.16	N/A	N/A	2287305	9.21	N/A	2287305
pH	pH	7.0	N/A	N/A	2286787	7.4	N/A	2286787
Dissolved Phosphorus	mg/L	0.015	N/A	0.002	2290818	0.036	0.002	2290818
Total Phosphorus	mg/L	0.019	N/A	0.002	2290815	0.051	0.002	2290815
Reactive Silica (SiO2)	mg/L	7.1	N/A	0.5	2288198	9.1	0.5	2288198
Total Suspended Solids	mg/L	8	N/A	1	2286707	16	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2286725	ND	1	2286725
Sulphide	mg/L	ND	N/A	0.02	2286582	ND	0.02	2286578
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286556	ND	0.005	2286556
Turbidity	NTU	2.2	N/A	0.1	2288171	16	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	46	N/A	1	2286784	71	1	2286784
Dissolved Chloride (Cl)	mg/L	1	N/A	1	2286706	3	1	2286706

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2236	HJ2236			HJ2237		
Sampling Date		2010/09/30 13:50	2010/09/30 13:50			2010/09/30 10:50		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW14**	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2287341	ND	0.01	2287340
Nitrate (N)	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287340
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287340
Subcontracted Analysis								
Redox Potential	mV	+183	N/A	N/A	2288183	+188	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2287480	ND	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
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RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2238	HJ2238			HJ2239		
Sampling Date		2010/09/30 11:45	2010/09/30 11:45			2010/09/30 10:10		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW16**	**SW16 Lab-Dup**	**RDL**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	0.7	N/A	0.5	2285991	ND	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	39	N/A	1	2286462	37	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	42	N/A	1	2286452	45	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2288189	ND	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	N/A	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	47	N/A	4	2289481	55	4	2289481
Colour	TCU	60	N/A	2	2287032	130	4	2287032
Conductivity	umho/cm	97	N/A	1	2286786	91	1	2286786
Total Dissolved Solids	mg/L	62	N/A	10	2286617	58	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	0.7	0.7	0.1	2290450	1.0	0.2	2290450
Dissolved Organic Carbon	mg/L	14.4	N/A	0.2	2287090	23.0	0.2	2287090
Total Organic Carbon (TOC)	mg/L	12.6	N/A	0.2	2289523	20.1	0.2	2289523
Orthophosphate (P)	mg/L	ND	N/A	0.01	2286723	0.01	0.01	2287700
Dissolved Oxygen	mg/L	8.93	N/A	N/A	2287305	9.51	N/A	2287305
pH	pH	7.0	N/A	N/A	2286787	7.1	N/A	2286787
Dissolved Phosphorus	mg/L	0.016	N/A	0.002	2290818	0.018	0.002	2290818
Total Phosphorus	mg/L	0.033	N/A	0.002	2290815	0.045	0.002	2290815
Reactive Silica (SiO2)	mg/L	4.2	N/A	0.5	2288198	5.1	0.5	2288198
Total Suspended Solids	mg/L	6	N/A	1	2286707	16	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2286725	ND	1	2287701
Sulphide	mg/L	ND	ND	0.02	2286578	ND	0.02	2286578
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286556	ND	0.005	2286556
Turbidity	NTU	3.6	N/A	0.1	2288171	12	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	39	N/A	1	2286784	37	1	2286784
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2286706	3	1	2287699

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2238	HJ2238			HJ2239		
Sampling Date		2010/09/30 11:45	2010/09/30 11:45			2010/09/30 10:10		
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW16**	**SW16 Lab-Dup**	**RDL**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2287341	ND	0.01	2287340
Nitrate (N)	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287340
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2287341	ND	0.1	2287340
Subcontracted Analysis								
Redox Potential	mV	+196	N/A	N/A	2288183	+200	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.7	N/A	0.5	2287480	ND	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2240	HJ2240			HJ2241		
Sampling Date		2010/09/30 15:00	2010/09/30 15:00					
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	0.6	N/A	0.5	2285991	ND	0.5	2285991
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	97	N/A	1	2286462	ND	1	2286462
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Hardness (CaCO3)	mg/L	110	N/A	1	2286452	ND	1	2286452
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2286462	ND	1	2286462
Inorganics								
Acidity as CaC03	mg/L	12	N/A	10	2288189	ND	10	2288189
Total Ammonia-N	mg/L	ND	N/A	0.05	2289405	ND	0.05	2289405
Total BOD	mg/L	ND	N/A	2	2287184	ND	2	2287184
Total Chemical Oxygen Demand (COD)	mg/L	78	N/A	4	2289481	4	4	2289481
Colour	TCU	150	N/A	4	2287032	ND	2	2287032
Conductivity	umho/cm	197	N/A	1	2286786	1	1	2286786
Total Dissolved Solids	mg/L	120	N/A	10	2286617	ND	10	2286617
Fluoride (F-)	mg/L	ND	N/A	0.1	2286781	ND	0.1	2286781
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	N/A	0.2	2290450	ND	0.1	2290450
Dissolved Organic Carbon	mg/L	31.4	N/A	0.2	2287090	0.5	0.2	2287090
Total Organic Carbon (TOC)	mg/L	27.1	N/A	0.2	2289523	0.5	0.2	2289523
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2286723	ND	0.01	2286723
Dissolved Oxygen	mg/L	7.18	N/A	N/A	2287305	10.3	N/A	2287305
pH	pH	7.4	N/A	N/A	2286787	6.3	N/A	2286787
Dissolved Phosphorus	mg/L	0.035	N/A	0.002	2290818	0.002	0.002	2295778
Total Phosphorus	mg/L	0.030	N/A	0.002	2290815	ND	0.002	2295771
Reactive Silica (SiO2)	mg/L	11	N/A	0.5	2288198	ND	0.5	2288198
Total Suspended Solids	mg/L	ND	N/A	1	2286707	ND	1	2286707
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2286725	ND	1	2286725
Sulphide	mg/L	ND	N/A	0.02	2286578	ND	0.02	2288231
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2286560	ND	0.005	2287843
Turbidity	NTU	1.6	N/A	0.1	2288171	0.1	0.1	2288171
Alkalinity (Total as CaCO3)	mg/L	98	N/A	1	2286784	ND	1	2286784
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2286706	ND	1	2286706

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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		HJ2240	HJ2240			HJ2241		
Sampling Date		2010/09/30 15:00	2010/09/30 15:00					
COC Number		214857-02-02	214857-02-02			214857-02-02		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2287340	ND	0.01	2287341
Nitrate (N)	mg/L	ND	N/A	0.1	2287340	ND	0.1	2287341
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2287340	ND	0.1	2287341
Subcontracted Analysis								
Redox Potential	mV	+189	+193	N/A	2288183	+282	N/A	2288183
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.6	N/A	0.5	2287480	ND	0.5	2287480
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2287488	ND	0.5	2287488

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

PERMANENT GASES (WATER)

Maxxam ID		HJ2226	HJ2227	HJ2228	HJ2229		
Sampling Date		2010/09/30 13:35	2010/09/30 15:35	2010/09/30 14:25	2010/09/30 12:30		
COC Number		214857-02-02	214857-02-02	214857-02-02	214857-02-02		
	Units	**SW1A**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.2	1.8	3.3	6.1	0.6	2286525
Calculated Carbon Dioxide	mg/L	6	3	6	11	1	2286133

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HJ2229	HJ2230	HJ2231	HJ2232		
Sampling Date		2010/09/30 12:30	2010/09/30 14:46	2010/09/30 15:15	2010/09/30 13:18		
COC Number		214857-02-02	214857-02-02	214857-02-02	214857-02-02		
	Units	**SW4 Lab-Dup**	**SW6**	**SW7A**	**SW10**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	5.8	4.0	2.0	3.3	0.6	2286525
Calculated Carbon Dioxide	mg/L	N/A	7	4	6	1	2286133

N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam ID		HJ2233	HJ2234	HJ2235	HJ2236		
Sampling Date		2010/09/30 12:50	2010/09/30 16:10	2010/09/30 14:46	2010/09/30 13:50		
COC Number		214857-02-02	214857-02-02	214857-02-02	214857-02-02		
	Units	**SW11**	**SW12A**	**SW13**	**SW14**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	6.2	4.7	3.8	4.1	0.6	2286525
Calculated Carbon Dioxide	mg/L	11	8	7	7	1	2286133

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

PERMANENT GASES (WATER)

Maxxam ID		HJ2237	HJ2238	HJ2239	HJ2239		
Sampling Date		2010/09/30 10:50	2010/09/30 11:45	2010/09/30 10:10	2010/09/30 10:10		
COC Number		214857-02-02	214857-02-02	214857-02-02	214857-02-02		
	Units	**SW15**	**SW16**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	2.4	0.8	1.1	1.0	0.6	2286525
Calculated Carbon Dioxide	mg/L	4	1	2	N/A	1	2286133

N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam ID		HJ2240	HJ2241	HJ2241		
Sampling Date		2010/09/30 15:00				
COC Number		214857-02-02	214857-02-02	214857-02-02		
	Units	**SW18**	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases						
Carbon Dioxide	L/m3	5.5	11	12	0.6	2286525
Calculated Carbon Dioxide	mg/L	10	20	N/A	1	2286133

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2226	HJ2226		HJ2227		
Sampling Date		2010/09/30 13:35	2010/09/30 13:35		2010/09/30 15:35		
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	N/A	2287854	ND	0.0001	2287854
Dissolved Sulphur (S)	mg/L	1.3	N/A	2287059	ND	0.5	2287059
Total Sulphur (S)	mg/L	1.5	1.5	2289399	ND	0.5	2289399
Dissolved Aluminum (Al)	ug/L	33	N/A	2295701	29	5	2287846
Total Aluminum (Al)	ug/L	390	390	2289394	170	5	2289394
Dissolved Antimony (Sb)	ug/L	0.9	N/A	2295701	ND	0.5	2287846
Total Antimony (Sb)	ug/L	ND	ND	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Arsenic (As)	ug/L	1	1	2289394	ND	1	2289394
Dissolved Barium (Ba)	ug/L	14	N/A	2295701	10	5	2287846
Total Barium (Ba)	ug/L	18	18	2289394	12	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	N/A	2295701	ND	0.5	2287846
Total Beryllium (Be)	ug/L	ND	ND	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Bismuth (Bi)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	16	N/A	2295701	10	10	2287846
Total Boron (B)	ug/L	19	18	2289394	11	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2295701	ND	0.1	2287846
Total Cadmium (Cd)	ug/L	ND	ND	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	24000	N/A	2295701	19000	200	2287846
Total Calcium (Ca)	ug/L	26000	26000	2289394	20000	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	N/A	2295701	ND	5	2287846
Total Chromium (Cr)	ug/L	ND	ND	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	N/A	2295701	ND	0.5	2287846
Total Cobalt (Co)	ug/L	ND	ND	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	2	N/A	2295701	ND	1	2287846
Total Copper (Cu)	ug/L	2	2	2289394	ND	1	2289394
Dissolved Iron (Fe)	ug/L	310	N/A	2295701	250	100	2287846
Total Iron (Fe)	ug/L	730	740	2289394	470	100	2289394
Dissolved Lead (Pb)	ug/L	ND	N/A	2295701	ND	0.5	2287846

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2226	HJ2226		HJ2227		
Sampling Date		2010/09/30 13:35	2010/09/30 13:35		2010/09/30 15:35		
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	2289394	ND	0.5	2289394
Dissolved Lithium (Li)	ug/L	ND	N/A	2295701	ND	5	2287846
Total Lithium (Li)	ug/L	ND	ND	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	10000	N/A	2295701	7600	50	2287846
Total Magnesium (Mg)	ug/L	11000	11000	2289394	8000	50	2289394
Dissolved Manganese (Mn)	ug/L	ND	N/A	2295701	7	2	2287846
Total Manganese (Mn)	ug/L	36	36	2289394	23	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Molybdenum (Mo)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	1	N/A	2295701	ND	1	2287846
Total Nickel (Ni)	ug/L	2	2	2289394	1	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	N/A	2295701	ND	100	2287846
Dissolved Potassium (K)	ug/L	1500	N/A	2295701	530	200	2287846
Total Potassium (K)	ug/L	1700	1700	2289394	590	200	2289394
Dissolved Selenium (Se)	ug/L	ND	N/A	2295701	ND	2	2287846
Total Selenium (Se)	ug/L	ND	ND	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	4300	N/A	2295701	3500	50	2287846
Total Silicon (Si)	ug/L	5300	5200	2289394	3900	50	2289394
Dissolved Silver (Ag)	ug/L	ND	N/A	2295701	ND	0.1	2287846
Total Silver (Ag)	ug/L	ND	ND	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	4100	N/A	2295701	1000	100	2287846
Total Sodium (Na)	ug/L	4100	4100	2289394	970	100	2289394
Dissolved Strontium (Sr)	ug/L	56	N/A	2295701	31	1	2287846
Total Strontium (Sr)	ug/L	56	56	2289394	30	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Tellurium (Te)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	N/A	2295701	ND	0.05	2287846
Total Thallium (Tl)	ug/L	ND	ND	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Thorium (Th)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	N/A	2295701	ND	1	2287846

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2226	HJ2226		HJ2227		
Sampling Date		2010/09/30 13:35	2010/09/30 13:35		2010/09/30 15:35		
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW1A**	**SW1A Lab-Dup**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	N/A	2295701	ND	5	2287846
Total Titanium (Ti)	ug/L	17	16	2289394	6	5	2289394
Dissolved Tungsten (W)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Tungsten (W)	ug/L	ND	ND	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	0.3	N/A	2295701	0.1	0.1	2287846
Total Uranium (U)	ug/L	0.3	0.3	2289394	0.1	0.1	2289394
Dissolved Vanadium (V)	ug/L	ND	N/A	2295701	2	1	2287846
Total Vanadium (V)	ug/L	2	2	2289394	1	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	N/A	2295701	ND	5	2287846
Total Zinc (Zn)	ug/L	7	6	2289394	6	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2295701	ND	1	2287846
Total Zirconium (Zr)	ug/L	ND	ND	2289394	ND	1	2289394

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2228		HJ2229		HJ2230		
Sampling Date		2010/09/30 14:25		2010/09/30 12:30		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW3**	**QC Batch**	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2289994	ND	2287854	ND	0.0001	2287446
Dissolved Sulphur (S)	mg/L	1.1	2287059	ND	2287059	0.7	0.5	2287059
Total Sulphur (S)	mg/L	1.2	2289399	ND	2289399	0.6	0.5	2289399
Dissolved Aluminum (Al)	ug/L	25	2286766	16	2286766	7	5	2286766
Total Aluminum (Al)	ug/L	120	2289394	31	2289394	25	5	2289394
Dissolved Antimony (Sb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Antimony (Sb)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Arsenic (As)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Barium (Ba)	ug/L	15	2286766	8	2286766	12	5	2286766
Total Barium (Ba)	ug/L	15	2289394	9	2289394	12	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Beryllium (Be)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Bismuth (Bi)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	15	2286766	ND	2286766	16	10	2286766
Total Boron (B)	ug/L	17	2289394	ND	2289394	13	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Cadmium (Cd)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	26000	2286766	12000	2286766	27000	200	2286766
Total Calcium (Ca)	ug/L	27000	2289394	13000	2289394	30000	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Chromium (Cr)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Cobalt (Co)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Copper (Cu)	ug/L	1	2289394	ND	2289394	ND	1	2289394
Dissolved Iron (Fe)	ug/L	200	2286766	140	2286766	130	100	2286766
Total Iron (Fe)	ug/L	350	2289394	180	2289394	130	100	2289394
Dissolved Lead (Pb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Lead (Pb)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2228		HJ2229		HJ2230		
Sampling Date		2010/09/30 14:25		2010/09/30 12:30		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW3**	**QC Batch**	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Lithium (Li)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	11000	2286766	5400	2286766	12000	50	2286766
Total Magnesium (Mg)	ug/L	11000	2289394	5600	2289394	12000	50	2289394
Dissolved Manganese (Mn)	ug/L	6	2286766	13	2286766	5	2	2286766
Total Manganese (Mn)	ug/L	30	2289394	23	2289394	16	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Molybdenum (Mo)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	2	2286766	4	2286766	ND	1	2286766
Total Nickel (Ni)	ug/L	1	2289394	92	2289394	ND	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	2286766	ND	2286766	ND	100	2286766
Dissolved Potassium (K)	ug/L	1400	2286766	850	2286766	920	200	2286766
Total Potassium (K)	ug/L	1400	2289394	850	2289394	930	200	2289394
Dissolved Selenium (Se)	ug/L	ND	2286766	ND	2286766	ND	2	2286766
Total Selenium (Se)	ug/L	ND	2289394	ND	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	4500	2286766	4200	2286766	3700	50	2286766
Total Silicon (Si)	ug/L	4700	2289394	4300	2289394	3800	50	2289394
Dissolved Silver (Ag)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Silver (Ag)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	2800	2286766	3500	2286766	1700	100	2286766
Total Sodium (Na)	ug/L	2700	2289394	3700	2289394	1700	100	2289394
Dissolved Strontium (Sr)	ug/L	53	2286766	26	2286766	53	1	2286766
Total Strontium (Sr)	ug/L	52	2289394	27	2289394	54	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tellurium (Te)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	2286766	ND	2286766	ND	0.05	2286766
Total Thallium (Tl)	ug/L	ND	2289394	ND	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Thorium (Th)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tin (Sn)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	2286766	ND	2286766	ND	5	2286766

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2228		HJ2229		HJ2230		
Sampling Date		2010/09/30 14:25		2010/09/30 12:30		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW3**	**QC Batch**	**SW4**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	7	2289394	ND	2289394	ND	5	2289394
Dissolved Tungsten (W)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tungsten (W)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	0.2	2286766	ND	2286766	0.2	0.1	2286766
Total Uranium (U)	ug/L	0.3	2289394	ND	2289394	0.2	0.1	2289394
Dissolved Vanadium (V)	ug/L	1	2286766	ND	2286766	2	1	2286766
Total Vanadium (V)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Zinc (Zn)	ug/L	12	2289394	8	2289394	ND	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Zirconium (Zr)	ug/L	2	2289394	ND	2289394	ND	1	2289394

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2230		HJ2231		HJ2232		
Sampling Date		2010/09/30 14:46		2010/09/30 15:15		2010/09/30 13:18		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW6 Lab-Dup**	**QC Batch**	**SW7A**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	N/A	2287446	ND	2289994	ND	0.0001	2289994
Dissolved Sulphur (S)	mg/L	N/A	2287059	0.6	2287059	1.4	0.5	2287898
Total Sulphur (S)	mg/L	N/A	2289399	0.8	2289399	1.5	0.5	2289399
Dissolved Aluminum (Al)	ug/L	7	2286766	17	2286766	41	5	2287846
Total Aluminum (Al)	ug/L	N/A	2289394	330	2289394	160	5	2289394
Dissolved Antimony (Sb)	ug/L	1.0	2286766	ND	2286766	ND	0.5	2287846
Total Antimony (Sb)	ug/L	N/A	2289394	ND	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Arsenic (As)	ug/L	N/A	2289394	ND	2289394	1	1	2289394
Dissolved Barium (Ba)	ug/L	12	2286766	16	2286766	15	5	2287846
Total Barium (Ba)	ug/L	N/A	2289394	20	2289394	16	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	2286766	ND	2286766	ND	0.5	2287846
Total Beryllium (Be)	ug/L	N/A	2289394	ND	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Bismuth (Bi)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	14	2286766	11	2286766	15	10	2287846
Total Boron (B)	ug/L	N/A	2289394	14	2289394	16	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	2286766	ND	2286766	ND	0.1	2287846
Total Cadmium (Cd)	ug/L	N/A	2289394	ND	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	29000	2286766	31000	2286766	24000	200	2287846
Total Calcium (Ca)	ug/L	N/A	2289394	33000	2289394	25000	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	2286766	ND	2286766	ND	5	2287846
Total Chromium (Cr)	ug/L	N/A	2289394	ND	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	2286766	ND	2286766	ND	0.5	2287846
Total Cobalt (Co)	ug/L	N/A	2289394	ND	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	ND	2286766	3	2286766	1	1	2287846
Total Copper (Cu)	ug/L	N/A	2289394	1	2289394	1	1	2289394
Dissolved Iron (Fe)	ug/L	ND	2286766	200	2286766	270	100	2287846
Total Iron (Fe)	ug/L	N/A	2289394	580	2289394	430	100	2289394
Dissolved Lead (Pb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2287846

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2230		HJ2231		HJ2232		
Sampling Date		2010/09/30 14:46		2010/09/30 15:15		2010/09/30 13:18		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW6 Lab-Dup**	**QC Batch**	**SW7A**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	N/A	2289394	ND	2289394	ND	0.5	2289394
Dissolved Lithium (Li)	ug/L	ND	2286766	ND	2286766	ND	5	2287846
Total Lithium (Li)	ug/L	N/A	2289394	ND	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	12000	2286766	12000	2286766	9600	50	2287846
Total Magnesium (Mg)	ug/L	N/A	2289394	12000	2289394	10000	50	2289394
Dissolved Manganese (Mn)	ug/L	5	2286766	19	2286766	4	2	2287846
Total Manganese (Mn)	ug/L	N/A	2289394	38	2289394	18	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Molybdenum (Mo)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	ND	2286766	1	2286766	1	1	2287846
Total Nickel (Ni)	ug/L	N/A	2289394	1	2289394	1	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	2286766	ND	2286766	ND	100	2287846
Dissolved Potassium (K)	ug/L	960	2286766	1000	2286766	1400	200	2287846
Total Potassium (K)	ug/L	N/A	2289394	1100	2289394	1500	200	2289394
Dissolved Selenium (Se)	ug/L	ND	2286766	ND	2286766	ND	2	2287846
Total Selenium (Se)	ug/L	N/A	2289394	ND	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	3800	2286766	4100	2286766	4200	50	2287846
Total Silicon (Si)	ug/L	N/A	2289394	5100	2289394	4700	50	2289394
Dissolved Silver (Ag)	ug/L	ND	2286766	ND	2286766	ND	0.1	2287846
Total Silver (Ag)	ug/L	N/A	2289394	ND	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	1700	2286766	1800	2286766	4000	100	2287846
Total Sodium (Na)	ug/L	N/A	2289394	1800	2289394	4100	100	2289394
Dissolved Strontium (Sr)	ug/L	57	2286766	51	2286766	56	1	2287846
Total Strontium (Sr)	ug/L	N/A	2289394	53	2289394	55	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Tellurium (Te)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	2286766	ND	2286766	ND	0.05	2287846
Total Thallium (Tl)	ug/L	N/A	2289394	ND	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Thorium (Th)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	2286766	ND	2286766	ND	1	2287846

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2230		HJ2231		HJ2232		
Sampling Date		2010/09/30 14:46		2010/09/30 15:15		2010/09/30 13:18		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW6 Lab-Dup**	**QC Batch**	**SW7A**	**QC Batch**	**SW10**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	2286766	ND	2286766	ND	5	2287846
Total Titanium (Ti)	ug/L	N/A	2289394	12	2289394	7	5	2289394
Dissolved Tungsten (W)	ug/L	ND	2286766	2	2286766	ND	1	2287846
Total Tungsten (W)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	0.2	2286766	0.3	2286766	0.2	0.1	2287846
Total Uranium (U)	ug/L	N/A	2289394	0.4	2289394	0.3	0.1	2289394
Dissolved Vanadium (V)	ug/L	1	2286766	1	2286766	2	1	2287846
Total Vanadium (V)	ug/L	N/A	2289394	1	2289394	ND	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	2286766	ND	2286766	ND	5	2287846
Total Zinc (Zn)	ug/L	N/A	2289394	8	2289394	5	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	2286766	ND	2286766	ND	1	2287846
Total Zirconium (Zr)	ug/L	N/A	2289394	ND	2289394	ND	1	2289394

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2233		HJ2234		HJ2235		
Sampling Date		2010/09/30 12:50		2010/09/30 16:10		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW11**	**QC Batch**	**SW12A**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2289994	ND	2287854	ND	0.0001	2289994
Dissolved Sulphur (S)	mg/L	ND	2287059	ND	2287898	0.7	0.5	2287059
Total Sulphur (S)	mg/L	ND	2289399	ND	2289399	0.6	0.5	2289399
Dissolved Aluminum (Al)	ug/L	28	2286766	120	2286766	7	5	2286766
Total Aluminum (Al)	ug/L	100	2289394	380	2289394	23	5	2289394
Dissolved Antimony (Sb)	ug/L	1.0	2286766	ND	2286766	ND	0.5	2286766
Total Antimony (Sb)	ug/L	ND	2289394	0.8	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Arsenic (As)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Barium (Ba)	ug/L	8	2286766	6	2286766	12	5	2286766
Total Barium (Ba)	ug/L	9	2289394	9	2289394	12	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Beryllium (Be)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Bismuth (Bi)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	ND	2286766	ND	2286766	11	10	2286766
Total Boron (B)	ug/L	10	2289394	ND	2289394	12	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Cadmium (Cd)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	16000	2286766	8400	2286766	28000	200	2286766
Total Calcium (Ca)	ug/L	18000	2289394	8200	2289394	29000	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Chromium (Cr)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Cobalt (Co)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	ND	2286766	2	2286766	ND	1	2286766
Total Copper (Cu)	ug/L	ND	2289394	2	2289394	ND	1	2289394
Dissolved Iron (Fe)	ug/L	220	2286766	240	2286766	ND	100	2286766
Total Iron (Fe)	ug/L	360	2289394	490	2289394	120	100	2289394
Dissolved Lead (Pb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Lead (Pb)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2233		HJ2234		HJ2235		
Sampling Date		2010/09/30 12:50		2010/09/30 16:10		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW11**	**QC Batch**	**SW12A**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Lithium (Li)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	7600	2286766	2800	2286766	12000	50	2286766
Total Magnesium (Mg)	ug/L	8500	2289394	2800	2289394	12000	50	2289394
Dissolved Manganese (Mn)	ug/L	ND	2286766	5	2286766	6	2	2286766
Total Manganese (Mn)	ug/L	12	2289394	21	2289394	16	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Molybdenum (Mo)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Nickel (Ni)	ug/L	ND	2289394	1	2289394	ND	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	2286766	ND	2286766	ND	100	2286766
Dissolved Potassium (K)	ug/L	560	2286766	500	2286766	890	200	2286766
Total Potassium (K)	ug/L	620	2289394	500	2289394	890	200	2289394
Dissolved Selenium (Se)	ug/L	ND	2286766	ND	2286766	ND	2	2286766
Total Selenium (Se)	ug/L	ND	2289394	ND	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	4100	2286766	2000	2286766	3500	50	2286766
Total Silicon (Si)	ug/L	4600	2289394	2300	2289394	3600	50	2289394
Dissolved Silver (Ag)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Silver (Ag)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	940	2286766	690	2286766	1600	100	2286766
Total Sodium (Na)	ug/L	980	2289394	650	2289394	1600	100	2289394
Dissolved Strontium (Sr)	ug/L	29	2286766	13	2286766	53	1	2286766
Total Strontium (Sr)	ug/L	32	2289394	13	2289394	53	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tellurium (Te)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	2286766	ND	2286766	ND	0.05	2286766
Total Thallium (Tl)	ug/L	ND	2289394	ND	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Thorium (Th)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tin (Sn)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	2286766	ND	2286766	ND	5	2286766

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2233		HJ2234		HJ2235		
Sampling Date		2010/09/30 12:50		2010/09/30 16:10		2010/09/30 14:46		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW11**	**QC Batch**	**SW12A**	**QC Batch**	**SW13**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2289394	10	2289394	ND	5	2289394
Dissolved Tungsten (W)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tungsten (W)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	ND	2286766	ND	2286766	0.2	0.1	2286766
Total Uranium (U)	ug/L	ND	2289394	0.2	2289394	0.2	0.1	2289394
Dissolved Vanadium (V)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Vanadium (V)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	2286766	6	2286766	ND	5	2286766
Total Zinc (Zn)	ug/L	5	2289394	7	2289394	ND	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Zirconium (Zr)	ug/L	ND	2289394	ND	2289394	ND	1	2289394

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2236		HJ2237		HJ2238		
Sampling Date		2010/09/30 13:50		2010/09/30 10:50		2010/09/30 11:45		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW14**	**QC Batch**	**SW15**	**QC Batch**	**SW16**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2289941	ND	2289994	ND	0.0001	2289994
Dissolved Sulphur (S)	mg/L	ND	2287059	1.3	2287059	1.5	0.5	2287059
Total Sulphur (S)	mg/L	ND	2289399	1.4	2289399	1.5	0.5	2289399
Dissolved Aluminum (Al)	ug/L	40	2286766	90	2286766	25	5	2286766
Total Aluminum (Al)	ug/L	81	2289394	810	2289394	170	5	2289394
Dissolved Antimony (Sb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Antimony (Sb)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	2286766	1	2286766	ND	1	2286766
Total Arsenic (As)	ug/L	ND	2289394	1	2289394	ND	1	2289394
Dissolved Barium (Ba)	ug/L	8	2286766	15	2286766	11	5	2286766
Total Barium (Ba)	ug/L	8	2289394	20	2289394	10	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Beryllium (Be)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Bismuth (Bi)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	ND	2286766	ND	2286766	ND	10	2286766
Total Boron (B)	ug/L	ND	2289394	13	2289394	ND	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Cadmium (Cd)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	13000	2286766	21000	2286766	11000	200	2286766
Total Calcium (Ca)	ug/L	14000	2289394	22000	2289394	9300	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Chromium (Cr)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Cobalt (Co)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	ND	2286766	2	2286766	2	1	2286766
Total Copper (Cu)	ug/L	ND	2289394	2	2289394	1	1	2289394
Dissolved Iron (Fe)	ug/L	190	2286766	310	2286766	ND	100	2286766
Total Iron (Fe)	ug/L	260	2289394	970	2289394	250	100	2289394
Dissolved Lead (Pb)	ug/L	ND	2286766	ND	2286766	ND	0.5	2286766
Total Lead (Pb)	ug/L	ND	2289394	ND	2289394	ND	0.5	2289394

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2236		HJ2237		HJ2238		
Sampling Date		2010/09/30 13:50		2010/09/30 10:50		2010/09/30 11:45		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW14**	**QC Batch**	**SW15**	**QC Batch**	**SW16**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Lithium (Li)	ug/L	ND	2289394	ND	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	5500	2286766	9100	2286766	3600	50	2286766
Total Magnesium (Mg)	ug/L	5600	2289394	9800	2289394	3100	50	2289394
Dissolved Manganese (Mn)	ug/L	3	2286766	6	2286766	2	2	2286766
Total Manganese (Mn)	ug/L	24	2289394	29	2289394	17	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	2286766	2	2286766	ND	1	2286766
Total Molybdenum (Mo)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	ND	2286766	2	2286766	ND	1	2286766
Total Nickel (Ni)	ug/L	ND	2289394	2	2289394	ND	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	2286766	ND	2286766	ND	100	2286766
Dissolved Potassium (K)	ug/L	360	2286766	1100	2286766	1100	200	2295701
Total Potassium (K)	ug/L	370	2289394	1300	2289394	870	200	2296952
Dissolved Selenium (Se)	ug/L	ND	2286766	ND	2286766	ND	2	2286766
Total Selenium (Se)	ug/L	ND	2289394	ND	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	3200	2286766	4200	2286766	1900	50	2286766
Total Silicon (Si)	ug/L	3200	2289394	5800	2289394	2000	50	2289394
Dissolved Silver (Ag)	ug/L	ND	2286766	ND	2286766	ND	0.1	2286766
Total Silver (Ag)	ug/L	ND	2289394	ND	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	810	2286766	1900	2286766	3000	100	2286766
Total Sodium (Na)	ug/L	780	2289394	2000	2289394	3000	100	2289394
Dissolved Strontium (Sr)	ug/L	21	2286766	40	2286766	27	1	2286766
Total Strontium (Sr)	ug/L	21	2289394	41	2289394	23	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tellurium (Te)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	2286766	ND	2286766	ND	0.05	2286766
Total Thallium (Tl)	ug/L	ND	2289394	ND	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Thorium (Th)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tin (Sn)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	2286766	ND	2286766	ND	5	2286766

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2236		HJ2237		HJ2238		
Sampling Date		2010/09/30 13:50		2010/09/30 10:50		2010/09/30 11:45		
COC Number		214857-02-02		214857-02-02		214857-02-02		
	Units	**SW14**	**QC Batch**	**SW15**	**QC Batch**	**SW16**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2289394	34	2289394	6	5	2289394
Dissolved Tungsten (W)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Tungsten (W)	ug/L	ND	2289394	ND	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	ND	2286766	0.3	2286766	ND	0.1	2286766
Total Uranium (U)	ug/L	ND	2289394	0.4	2289394	0.1	0.1	2289394
Dissolved Vanadium (V)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Vanadium (V)	ug/L	ND	2289394	3	2289394	ND	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	2286766	ND	2286766	ND	5	2286766
Total Zinc (Zn)	ug/L	ND	2289394	9	2289394	ND	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	2286766	ND	2286766	ND	1	2286766
Total Zirconium (Zr)	ug/L	ND	2289394	1	2289394	ND	1	2289394

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Maxxam Job #: B0D8865
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2238		HJ2239	HJ2239		
Sampling Date		2010/09/30 11:45		2010/09/30 10:10	2010/09/30 10:10		
COC Number		214857-02-02		214857-02-02	214857-02-02		
	Units	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	N/A	2289994	ND	N/A	0.0001	2287854
Dissolved Sulphur (S)	mg/L	N/A	2287059	1.3	1.4	0.5	2287898
Total Sulphur (S)	mg/L	N/A	2289399	1.5	N/A	0.5	2289399
Dissolved Aluminum (Al)	ug/L	N/A	2286766	50	N/A	5	2287846
Total Aluminum (Al)	ug/L	N/A	2289394	320	N/A	5	2289394
Dissolved Antimony (Sb)	ug/L	N/A	2286766	ND	N/A	0.5	2287846
Total Antimony (Sb)	ug/L	N/A	2289394	ND	N/A	0.5	2289394
Dissolved Arsenic (As)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Arsenic (As)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Barium (Ba)	ug/L	N/A	2286766	12	N/A	5	2287846
Total Barium (Ba)	ug/L	N/A	2289394	15	N/A	5	2289394
Dissolved Beryllium (Be)	ug/L	N/A	2286766	ND	N/A	0.5	2287846
Total Beryllium (Be)	ug/L	N/A	2289394	ND	N/A	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Bismuth (Bi)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Boron (B)	ug/L	N/A	2286766	ND	N/A	10	2287846
Total Boron (B)	ug/L	N/A	2289394	ND	N/A	10	2289394
Dissolved Cadmium (Cd)	ug/L	N/A	2286766	ND	N/A	0.1	2287846
Total Cadmium (Cd)	ug/L	N/A	2289394	ND	N/A	0.1	2289394
Dissolved Calcium (Ca)	ug/L	N/A	2286766	11000	N/A	200	2287846
Total Calcium (Ca)	ug/L	N/A	2289394	13000	N/A	200	2289394
Dissolved Chromium (Cr)	ug/L	N/A	2286766	ND	N/A	5	2287846
Total Chromium (Cr)	ug/L	N/A	2289394	ND	N/A	5	2289394
Dissolved Cobalt (Co)	ug/L	N/A	2286766	ND	N/A	0.5	2287846
Total Cobalt (Co)	ug/L	N/A	2289394	ND	N/A	0.5	2289394
Dissolved Copper (Cu)	ug/L	N/A	2286766	1	N/A	1	2287846
Total Copper (Cu)	ug/L	N/A	2289394	1	N/A	1	2289394
Dissolved Iron (Fe)	ug/L	N/A	2286766	140	N/A	100	2287846
Total Iron (Fe)	ug/L	N/A	2289394	530	N/A	100	2289394
Dissolved Lead (Pb)	ug/L	N/A	2286766	ND	N/A	0.5	2287846

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2238		HJ2239	HJ2239		
Sampling Date		2010/09/30 11:45		2010/09/30 10:10	2010/09/30 10:10		
COC Number		214857-02-02		214857-02-02	214857-02-02		
	Units	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	N/A	2289394	ND	N/A	0.5	2289394
Dissolved Lithium (Li)	ug/L	N/A	2286766	ND	N/A	5	2287846
Total Lithium (Li)	ug/L	N/A	2289394	ND	N/A	5	2289394
Dissolved Magnesium (Mg)	ug/L	N/A	2286766	3900	N/A	50	2287846
Total Magnesium (Mg)	ug/L	N/A	2289394	4500	N/A	50	2289394
Dissolved Manganese (Mn)	ug/L	N/A	2286766	ND	N/A	2	2287846
Total Manganese (Mn)	ug/L	N/A	2289394	46	N/A	2	2289394
Dissolved Molybdenum (Mo)	ug/L	N/A	2286766	1	N/A	1	2287846
Total Molybdenum (Mo)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Nickel (Ni)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Nickel (Ni)	ug/L	N/A	2289394	1	N/A	1	2289394
Dissolved Phosphorus (P)	ug/L	N/A	2286766	ND	N/A	100	2287846
Dissolved Potassium (K)	ug/L	1100	2295701	830	N/A	200	2287846
Total Potassium (K)	ug/L	N/A	2296952	1000	N/A	200	2289394
Dissolved Selenium (Se)	ug/L	N/A	2286766	ND	N/A	2	2287846
Total Selenium (Se)	ug/L	N/A	2289394	ND	N/A	2	2289394
Dissolved Silicon (Si)	ug/L	N/A	2286766	2400	N/A	50	2287846
Total Silicon (Si)	ug/L	N/A	2289394	3100	N/A	50	2289394
Dissolved Silver (Ag)	ug/L	N/A	2286766	ND	N/A	0.1	2287846
Total Silver (Ag)	ug/L	N/A	2289394	ND	N/A	0.1	2289394
Dissolved Sodium (Na)	ug/L	N/A	2286766	2600	N/A	100	2287846
Total Sodium (Na)	ug/L	N/A	2289394	2900	N/A	100	2289394
Dissolved Strontium (Sr)	ug/L	N/A	2286766	26	N/A	1	2287846
Total Strontium (Sr)	ug/L	N/A	2289394	28	N/A	1	2289394
Dissolved Tellurium (Te)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Tellurium (Te)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Thallium (Tl)	ug/L	N/A	2286766	ND	N/A	0.05	2287846
Total Thallium (Tl)	ug/L	N/A	2289394	ND	N/A	0.05	2289394
Dissolved Thorium (Th)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Thorium (Th)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Tin (Sn)	ug/L	N/A	2286766	ND	N/A	1	2287846

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2238		HJ2239	HJ2239		
Sampling Date		2010/09/30 11:45		2010/09/30 10:10	2010/09/30 10:10		
COC Number		214857-02-02		214857-02-02	214857-02-02		
	Units	**SW16 Lab-Dup**	**QC Batch**	**SW17**	**SW17 Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Titanium (Ti)	ug/L	N/A	2286766	ND	N/A	5	2287846
Total Titanium (Ti)	ug/L	N/A	2289394	16	N/A	5	2289394
Dissolved Tungsten (W)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Tungsten (W)	ug/L	N/A	2289394	ND	N/A	1	2289394
Dissolved Uranium (U)	ug/L	N/A	2286766	ND	N/A	0.1	2287846
Total Uranium (U)	ug/L	N/A	2289394	0.1	N/A	0.1	2289394
Dissolved Vanadium (V)	ug/L	N/A	2286766	1	N/A	1	2287846
Total Vanadium (V)	ug/L	N/A	2289394	1	N/A	1	2289394
Dissolved Zinc (Zn)	ug/L	N/A	2286766	ND	N/A	5	2287846
Total Zinc (Zn)	ug/L	N/A	2289394	7	N/A	5	2289394
Dissolved Zirconium (Zr)	ug/L	N/A	2286766	ND	N/A	1	2287846
Total Zirconium (Zr)	ug/L	N/A	2289394	ND	N/A	1	2289394

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2240	HJ2240		HJ2241		
Sampling Date		2010/09/30 15:00	2010/09/30 15:00				
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW18**	**SW18 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	2287854	ND	0.0001	2289994
Dissolved Sulphur (S)	mg/L	0.9	N/A	2287059	ND	0.5	2287059
Total Sulphur (S)	mg/L	0.9	N/A	2289399	ND	0.5	2289399
Dissolved Aluminum (Al)	ug/L	21	N/A	2286766	ND	5	2286766
Total Aluminum (Al)	ug/L	73	N/A	2289394	ND	5	2289394
Dissolved Antimony (Sb)	ug/L	ND	N/A	2286766	ND	0.5	2286766
Total Antimony (Sb)	ug/L	ND	N/A	2289394	ND	0.5	2289394
Dissolved Arsenic (As)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Arsenic (As)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Barium (Ba)	ug/L	15	N/A	2286766	ND	5	2286766
Total Barium (Ba)	ug/L	15	N/A	2289394	ND	5	2289394
Dissolved Beryllium (Be)	ug/L	ND	N/A	2286766	ND	0.5	2286766
Total Beryllium (Be)	ug/L	ND	N/A	2289394	ND	0.5	2289394
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Bismuth (Bi)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Boron (B)	ug/L	15	N/A	2286766	ND	10	2286766
Total Boron (B)	ug/L	16	N/A	2289394	ND	10	2289394
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2286766	ND	0.1	2286766
Total Cadmium (Cd)	ug/L	ND	N/A	2289394	ND	0.1	2289394
Dissolved Calcium (Ca)	ug/L	25000	N/A	2286766	ND	200	2286766
Total Calcium (Ca)	ug/L	26000	N/A	2289394	ND	200	2289394
Dissolved Chromium (Cr)	ug/L	ND	N/A	2286766	ND	5	2286766
Total Chromium (Cr)	ug/L	ND	N/A	2289394	ND	5	2289394
Dissolved Cobalt (Co)	ug/L	ND	N/A	2286766	ND	0.5	2286766
Total Cobalt (Co)	ug/L	ND	N/A	2289394	ND	0.5	2289394
Dissolved Copper (Cu)	ug/L	1	N/A	2286766	ND	1	2286766
Total Copper (Cu)	ug/L	1	N/A	2289394	ND	1	2289394
Dissolved Iron (Fe)	ug/L	130	N/A	2286766	ND	100	2286766
Total Iron (Fe)	ug/L	150	N/A	2289394	ND	100	2289394
Dissolved Lead (Pb)	ug/L	ND	N/A	2286766	ND	0.5	2286766

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2240	HJ2240		HJ2241		
Sampling Date		2010/09/30 15:00	2010/09/30 15:00				
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW18**	**SW18 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2289394	ND	0.5	2289394
Dissolved Lithium (Li)	ug/L	ND	N/A	2286766	ND	5	2286766
Total Lithium (Li)	ug/L	ND	N/A	2289394	ND	5	2289394
Dissolved Magnesium (Mg)	ug/L	10000	N/A	2286766	ND	50	2286766
Total Magnesium (Mg)	ug/L	11000	N/A	2289394	ND	50	2289394
Dissolved Manganese (Mn)	ug/L	ND	N/A	2286766	ND	2	2286766
Total Manganese (Mn)	ug/L	2	N/A	2289394	ND	2	2289394
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Molybdenum (Mo)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Nickel (Ni)	ug/L	1	N/A	2286766	ND	1	2286766
Total Nickel (Ni)	ug/L	1	N/A	2289394	ND	1	2289394
Dissolved Phosphorus (P)	ug/L	ND	N/A	2286766	ND	100	2286766
Dissolved Potassium (K)	ug/L	1500	N/A	2286766	ND	200	2286766
Total Potassium (K)	ug/L	1500	N/A	2289394	ND	200	2289394
Dissolved Selenium (Se)	ug/L	ND	N/A	2286766	ND	2	2286766
Total Selenium (Se)	ug/L	ND	N/A	2289394	ND	2	2289394
Dissolved Silicon (Si)	ug/L	4900	N/A	2286766	ND	50	2286766
Total Silicon (Si)	ug/L	4900	N/A	2289394	ND	50	2289394
Dissolved Silver (Ag)	ug/L	ND	N/A	2286766	ND	0.1	2286766
Total Silver (Ag)	ug/L	ND	N/A	2289394	ND	0.1	2289394
Dissolved Sodium (Na)	ug/L	1500	N/A	2286766	ND	100	2286766
Total Sodium (Na)	ug/L	1500	N/A	2289394	ND	100	2289394
Dissolved Strontium (Sr)	ug/L	47	N/A	2286766	ND	1	2286766
Total Strontium (Sr)	ug/L	46	N/A	2289394	ND	1	2289394
Dissolved Tellurium (Te)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Tellurium (Te)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Thallium (Tl)	ug/L	ND	N/A	2286766	ND	0.05	2286766
Total Thallium (Tl)	ug/L	ND	N/A	2289394	ND	0.05	2289394
Dissolved Thorium (Th)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Thorium (Th)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Tin (Sn)	ug/L	ND	N/A	2286766	ND	1	2286766

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Maxxam Job #: B0D8865
Report Date: 2010/10/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HJ2240	HJ2240		HJ2241		
Sampling Date		2010/09/30 15:00	2010/09/30 15:00				
COC Number		214857-02-02	214857-02-02		214857-02-02		
	Units	**SW18**	**SW18 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Titanium (Ti)	ug/L	ND	N/A	2286766	ND	5	2286766
Total Titanium (Ti)	ug/L	ND	N/A	2289394	ND	5	2289394
Dissolved Tungsten (W)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Tungsten (W)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Uranium (U)	ug/L	0.2	N/A	2286766	ND	0.1	2286766
Total Uranium (U)	ug/L	0.2	N/A	2289394	ND	0.1	2289394
Dissolved Vanadium (V)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Vanadium (V)	ug/L	ND	N/A	2289394	ND	1	2289394
Dissolved Zinc (Zn)	ug/L	ND	N/A	2286766	ND	5	2286766
Total Zinc (Zn)	ug/L	11	N/A	2289394	ND	5	2289394
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2286766	ND	1	2286766
Total Zirconium (Zr)	ug/L	ND	N/A	2289394	ND	1	2289394

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0D8865
Report Date: 2010/10/14

GENERAL COMMENTS

DO Analysis:
Due to the nature of DO, results from a sample past the recommended hold time are likely biased. Analysis performed on the submitted samples will only accurately represent the values within the container at the time of testing. These values will not represent the actual concentrations within the sample source at the time of collection.

Sample HJ2226-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2227-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2228-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2229-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2230-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2231-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2232-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent. Total Phosphorus < Orthophosphate: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2233-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2234-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2235-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2236-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2237-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2238-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

The result for dissolved potassium was confirmed by re-analysis to be higher than the result for total potassium.

Sample HJ2239-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2240-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HJ2238, Lab Filtered Metals by ICPMS: Test repeated.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: MB0D8865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2286525	EAY	Method Blank	Carbon Dioxide	2010/10/04	ND, RDL=0.6		L/m3	
		RPD [HJ2229-12]	Carbon Dioxide	2010/10/04	5.5		%	25
		RPD [HJ2239-12]	Carbon Dioxide	2010/10/04	NC		%	25
		RPD [HJ2241-11]	Carbon Dioxide	2010/10/04	5.9		%	25
2286556	LHA	Matrix Spike	Total Cyanide (CN)	2010/10/05		104	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/10/05		96	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/10/05	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/10/05	NC		%	25
2286560	LHA	Matrix Spike	Total Cyanide (CN)	2010/10/05		111	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/10/05		97	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/10/05	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/10/05	NC		%	25
2286578	SAU	Matrix Spike						
		[HJ2238-09]	Sulphide	2010/10/04		93	%	75 - 125
		Spiked Blank	Sulphide	2010/10/04		96	%	85 - 115
		Method Blank	Sulphide	2010/10/04	ND, RDL=0.02		mg/L	
		RPD [HJ2238-09]	Sulphide	2010/10/04	NC		%	25
2286582	SAU	Matrix Spike	Sulphide	2010/10/04		91	%	75 - 125
		Spiked Blank	Sulphide	2010/10/04		93	%	85 - 115
		Method Blank	Sulphide	2010/10/04	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/10/04	3.6		%	25
2286617	JDO	QC Standard	Total Dissolved Solids	2010/10/06		97	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/10/06	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/10/06	2.5		%	25
2286706	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/10/05		106	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/10/05		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/10/05	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/10/05	NC		%	20
2286707	RAY	QC Standard	Total Suspended Solids	2010/10/05		98	%	85 - 115
		Method Blank	Total Suspended Solids	2010/10/05	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/10/05	NC		%	25
2286723	DRM	Matrix Spike	Orthophosphate (P)	2010/10/05		108	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/10/05		101	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/10/05	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/10/05	NC		%	25
2286725	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/10/05		115	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/10/05		99	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/10/05	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/10/05	NC		%	25
2286766	HRE	Matrix Spike						
		[HJ2230-02]	Dissolved Aluminum (Al)	2010/10/04		96	%	80 - 120
			Dissolved Antimony (Sb)	2010/10/04		100	%	80 - 120
			Dissolved Arsenic (As)	2010/10/04		98	%	80 - 120
			Dissolved Barium (Ba)	2010/10/04		99	%	80 - 120
			Dissolved Beryllium (Be)	2010/10/04		100	%	80 - 120
			Dissolved Bismuth (Bi)	2010/10/04		95	%	80 - 120
			Dissolved Boron (B)	2010/10/04		103	%	80 - 120
			Dissolved Cadmium (Cd)	2010/10/04		99	%	80 - 120
			Dissolved Calcium (Ca)	2010/10/04		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/10/04		98	%	80 - 120
			Dissolved Cobalt (Co)	2010/10/04		96	%	80 - 120
			Dissolved Copper (Cu)	2010/10/04		95	%	80 - 120
			Dissolved Iron (Fe)	2010/10/04		97	%	80 - 120
			Dissolved Lead (Pb)	2010/10/04		96	%	80 - 120
			Dissolved Lithium (Li)	2010/10/04		96	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0D8865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2286766	HRE	Matrix Spike [HJ2230-02]	Dissolved Magnesium (Mg)	2010/10/04		95	%	80 - 120
			Dissolved Manganese (Mn)	2010/10/04		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/10/04		98	%	80 - 120
			Dissolved Nickel (Ni)	2010/10/04		95	%	80 - 120
			Dissolved Phosphorus (P)	2010/10/04		99	%	80 - 120
			Dissolved Potassium (K)	2010/10/04		99	%	80 - 120
			Dissolved Selenium (Se)	2010/10/04		96	%	80 - 120
			Dissolved Silicon (Si)	2010/10/04		98	%	80 - 120
			Dissolved Silver (Ag)	2010/10/04		94	%	80 - 120
			Dissolved Sodium (Na)	2010/10/04		98	%	80 - 120
			Dissolved Strontium (Sr)	2010/10/04		97	%	80 - 120
			Dissolved Tellurium (Te)	2010/10/04		97	%	80 - 120
			Dissolved Thallium (Tl)	2010/10/04		97	%	80 - 120
			Dissolved Thorium (Th)	2010/10/04		95	%	80 - 120
			Dissolved Tin (Sn)	2010/10/04		98	%	80 - 120
			Dissolved Titanium (Ti)	2010/10/04		99	%	80 - 120
			Dissolved Tungsten (W)	2010/10/04		99	%	80 - 120
			Dissolved Uranium (U)	2010/10/04		98	%	80 - 120
			Dissolved Vanadium (V)	2010/10/04		97	%	80 - 120
			Dissolved Zinc (Zn)	2010/10/04		95	%	80 - 120
			Dissolved Zirconium (Zr)	2010/10/04		99	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/10/04		98	%	90 - 110
			Dissolved Antimony (Sb)	2010/10/04		100	%	90 - 110
			Dissolved Arsenic (As)	2010/10/04		99	%	90 - 110
			Dissolved Barium (Ba)	2010/10/04		101	%	90 - 110
			Dissolved Beryllium (Be)	2010/10/04		102	%	90 - 110
			Dissolved Bismuth (Bi)	2010/10/04		99	%	90 - 110
			Dissolved Boron (B)	2010/10/04		104	%	90 - 110
			Dissolved Cadmium (Cd)	2010/10/04		100	%	90 - 110
			Dissolved Calcium (Ca)	2010/10/04		100	%	90 - 110
			Dissolved Chromium (Cr)	2010/10/04		98	%	90 - 110
			Dissolved Cobalt (Co)	2010/10/04		97	%	90 - 110
			Dissolved Copper (Cu)	2010/10/04		96	%	90 - 110
			Dissolved Iron (Fe)	2010/10/04		99	%	90 - 110
			Dissolved Lead (Pb)	2010/10/04		99	%	90 - 110
			Dissolved Lithium (Li)	2010/10/04		98	%	90 - 110
			Dissolved Magnesium (Mg)	2010/10/04		101	%	90 - 110
			Dissolved Manganese (Mn)	2010/10/04		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/10/04		100	%	90 - 110
			Dissolved Nickel (Ni)	2010/10/04		95	%	90 - 110
			Dissolved Phosphorus (P)	2010/10/04		97	%	90 - 110
			Dissolved Potassium (K)	2010/10/04		101	%	90 - 110
			Dissolved Selenium (Se)	2010/10/04		97	%	90 - 110
			Dissolved Silicon (Si)	2010/10/04		100	%	90 - 110
			Dissolved Silver (Ag)	2010/10/04		96	%	90 - 110
			Dissolved Sodium (Na)	2010/10/04		101	%	90 - 110
			Dissolved Strontium (Sr)	2010/10/04		96	%	90 - 110
			Dissolved Tellurium (Te)	2010/10/04		98	%	90 - 110
			Dissolved Thallium (Tl)	2010/10/04		98	%	90 - 110
			Dissolved Thorium (Th)	2010/10/04		98	%	90 - 110
			Dissolved Tin (Sn)	2010/10/04		100	%	90 - 110
			Dissolved Titanium (Ti)	2010/10/04		99	%	90 - 110
			Dissolved Tungsten (W)	2010/10/04		102	%	90 - 110
			Dissolved Uranium (U)	2010/10/04		102	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0D8865

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2286766	HRE	Spiked Blank	Dissolved Vanadium (V)	2010/10/04		98	%	90 - 110
			Dissolved Zinc (Zn)	2010/10/04		96	%	90 - 110
			Dissolved Zirconium (Zr)	2010/10/04		101	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/10/04	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/10/04	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/10/04	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/10/04	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/10/04	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/10/04	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/10/04	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/10/04	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/10/04	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/10/04	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/10/04	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/10/04	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/10/04	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/10/04	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/10/04	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/10/04	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/10/04	1, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/10/04	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/10/04	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/10/04	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/10/04	2, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/10/04	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/10/04	ND, RDL=1		ug/L	
		RPD [HJ2230-02]	Dissolved Aluminum (Al)	2010/10/04	NC		%	25
			Dissolved Antimony (Sb)	2010/10/04	NC		%	25
			Dissolved Arsenic (As)	2010/10/04	NC		%	25
			Dissolved Barium (Ba)	2010/10/04	NC		%	25
			Dissolved Beryllium (Be)	2010/10/04	NC		%	25
			Dissolved Bismuth (Bi)	2010/10/04	NC		%	25
			Dissolved Boron (B)	2010/10/04	NC		%	25
			Dissolved Cadmium (Cd)	2010/10/04	NC		%	25
			Dissolved Calcium (Ca)	2010/10/04	5.1		%	25
			Dissolved Chromium (Cr)	2010/10/04	NC		%	25
			Dissolved Cobalt (Co)	2010/10/04	NC		%	25
			Dissolved Copper (Cu)	2010/10/04	NC		%	25
			Dissolved Iron (Fe)	2010/10/04	NC		%	25
			Dissolved Lead (Pb)	2010/10/04	NC		%	25
			Dissolved Lithium (Li)	2010/10/04	NC		%	25
			Dissolved Magnesium (Mg)	2010/10/04	4.2		%	25

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2286766	HRE	RPD [HJ2230-02]	Dissolved Manganese (Mn)	2010/10/04	NC		%	25
			Dissolved Molybdenum (Mo)	2010/10/04	NC		%	25
			Dissolved Nickel (Ni)	2010/10/04	NC		%	25
			Dissolved Phosphorus (P)	2010/10/04	NC		%	25
			Dissolved Potassium (K)	2010/10/04	NC		%	25
			Dissolved Selenium (Se)	2010/10/04	NC		%	25
			Dissolved Silicon (Si)	2010/10/04	0.6		%	25
			Dissolved Silver (Ag)	2010/10/04	NC		%	25
			Dissolved Sodium (Na)	2010/10/04	4.6		%	25
			Dissolved Strontium (Sr)	2010/10/04	6.7		%	25
			Dissolved Tellurium (Te)	2010/10/04	NC		%	25
			Dissolved Thallium (Tl)	2010/10/04	NC		%	25
			Dissolved Thorium (Th)	2010/10/04	NC		%	25
			Dissolved Tin (Sn)	2010/10/04	NC		%	25
			Dissolved Titanium (Ti)	2010/10/04	NC		%	25
			Dissolved Tungsten (W)	2010/10/04	NC		%	25
			Dissolved Uranium (U)	2010/10/04	NC		%	25
			Dissolved Vanadium (V)	2010/10/04	NC		%	25
			Dissolved Zinc (Zn)	2010/10/04	NC		%	25
			Dissolved Zirconium (Zr)	2010/10/04	NC		%	25
2286781	YPA	Matrix Spike	Fluoride (F-)	2010/10/05		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/10/05		97	%	85 - 115
		Method Blank	Fluoride (F-)	2010/10/05	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/10/05	NC		%	25
2286784	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/10/05		100	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/10/05	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/10/05	1.2		%	25
2286786	YPA	QC Standard	Conductivity	2010/10/05		100	%	85 - 115
		Method Blank	Conductivity	2010/10/05	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/10/05	0.06		%	25
2286967	KTH	QC Standard	Turbidity	2010/10/04		99	%	85 - 115
		Method Blank	Turbidity	2010/10/04	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/10/04	2.9		%	25
2287032	CP	Spiked Blank	Colour	2010/10/05		96	%	85 - 115
		Method Blank	Colour	2010/10/05	ND, RDL=2		TCU	
		RPD	Colour	2010/10/05	NC		%	25
2287059	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/10/05		95	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/10/05		96	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/10/05	ND, RDL=0.5		mg/L	
2287090	AHA	Matrix Spike	Dissolved Organic Carbon	2010/10/04		100	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/10/04		100	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/10/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/10/04	2.7		%	20
2287184	JKU	QC Standard	Total BOD	2010/10/09		109	%	85 - 115
		Method Blank	Total BOD	2010/10/09	ND, RDL=2		mg/L	
		RPD [HJ2226-03]	Total BOD	2010/10/09	NC		%	25
2287275	AHA	Matrix Spike	Dissolved Organic Carbon	2010/10/04		94	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/10/04		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/10/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/10/04	1.3		%	20
2287340	C_N	Matrix Spike						
		[HJ2232-02]	Nitrite (N)	2010/10/06		105	%	80 - 120
			Nitrate (N)	2010/10/06		106	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/10/06		105	%	85 - 115
			Nitrate (N)	2010/10/06		104	%	85 - 115

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2287340	C_N	Method Blank	Nitrite (N)	2010/10/06	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/10/06	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/10/06	ND, RDL=0.1		mg/L	
		RPD [HJ2232-02]	Nitrite (N)	2010/10/06	NC		%	25
			Nitrate (N)	2010/10/06	NC		%	25
			Nitrate + Nitrite	2010/10/06	NC		%	25
2287341	C_N	Matrix Spike	Nitrite (N)	2010/10/05		102	%	80 - 120
			Nitrate (N)	2010/10/05		113	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/10/05		105	%	85 - 115
			Nitrate (N)	2010/10/05		112	%	85 - 115
		Method Blank	Nitrite (N)	2010/10/05	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/10/05	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/10/05	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/10/05	NC		%	25
			Nitrate (N)	2010/10/05	NC		%	25
2287439	AHA	Matrix Spike	Dissolved Organic Carbon	2010/10/04		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/10/04		96	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/10/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/10/04	0.6		%	20
2287446	MC	Matrix Spike	Mercury (Hg)	2010/10/05		103	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/10/05		102	%	80 - 120
		Method Blank	Mercury (Hg)	2010/10/05	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/10/05	NC		%	25
2287480	FA	Spiked Blank	Total Oil & Grease	2010/10/04		98	%	85 - 115
		RPD	Total Oil & Grease	2010/10/04	0.3		%	25
		Method Blank	Total Oil & Grease	2010/10/04	ND, RDL=0.5		mg/L	
2287488	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/10/04		94	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/10/04	2.6		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/10/04	ND, RDL=0.5		mg/L	
2287699	DRM	Matrix Spike [HJ2232-02]	Dissolved Chloride (Cl)	2010/10/06		102	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/10/06		104	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/10/06	ND, RDL=1		mg/L	
		RPD [HJ2232-02]	Dissolved Chloride (Cl)	2010/10/06	NC		%	20
2287700	DRM	Matrix Spike [HJ2232-02]	Orthophosphate (P)	2010/10/06		92	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/10/06		103	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/10/06	0.01, RDL=0.01		mg/L	
		RPD [HJ2232-02]	Orthophosphate (P)	2010/10/06	NC		%	25
2287701	DRM	Matrix Spike [HJ2232-02]	Dissolved Sulphate (SO4)	2010/10/06		98	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/10/06		99	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/10/06	ND, RDL=1		mg/L	
		RPD [HJ2232-02]	Dissolved Sulphate (SO4)	2010/10/06	NC		%	25
2287843	LHA	Matrix Spike	Total Cyanide (CN)	2010/10/06		NC	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/10/06		104	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/10/06	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/10/06	0.2		%	25
2287846	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/10/05		100	%	80 - 120
			Dissolved Antimony (Sb)	2010/10/05		105	%	80 - 120
			Dissolved Arsenic (As)	2010/10/05		102	%	80 - 120
			Dissolved Barium (Ba)	2010/10/05		NC	%	80 - 120
			Dissolved Beryllium (Be)	2010/10/05		99	%	80 - 120
			Dissolved Bismuth (Bi)	2010/10/05		89	%	80 - 120
			Dissolved Boron (B)	2010/10/05		NC	%	80 - 120

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2287846	JBW	Matrix Spike	Dissolved Cadmium (Cd)	2010/10/05		99	%	80 - 120
			Dissolved Calcium (Ca)	2010/10/05		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/10/05		103	%	80 - 120
			Dissolved Cobalt (Co)	2010/10/05		100	%	80 - 120
			Dissolved Copper (Cu)	2010/10/05		94	%	80 - 120
			Dissolved Iron (Fe)	2010/10/05		100	%	80 - 120
			Dissolved Lead (Pb)	2010/10/05		94	%	80 - 120
			Dissolved Lithium (Li)	2010/10/05		97	%	80 - 120
			Dissolved Magnesium (Mg)	2010/10/05		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/10/05		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/10/05		111	%	80 - 120
			Dissolved Nickel (Ni)	2010/10/05		95	%	80 - 120
			Dissolved Phosphorus (P)	2010/10/05		103	%	80 - 120
			Dissolved Potassium (K)	2010/10/05		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/10/05		99	%	80 - 120
			Dissolved Silicon (Si)	2010/10/05		106	%	80 - 120
			Dissolved Silver (Ag)	2010/10/05		83	%	80 - 120
			Dissolved Sodium (Na)	2010/10/05		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/10/05		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/10/05		90	%	80 - 120
			Dissolved Thallium (Tl)	2010/10/05		95	%	80 - 120
			Dissolved Thorium (Th)	2010/10/05		97	%	80 - 120
			Dissolved Tin (Sn)	2010/10/05		102	%	80 - 120
			Dissolved Titanium (Ti)	2010/10/05		106	%	80 - 120
			Dissolved Tungsten (W)	2010/10/05		103	%	80 - 120
			Dissolved Uranium (U)	2010/10/05		97	%	80 - 120
			Dissolved Vanadium (V)	2010/10/05		106	%	80 - 120
			Dissolved Zinc (Zn)	2010/10/05		92	%	80 - 120
			Dissolved Zirconium (Zr)	2010/10/05		109	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/10/05		105	%	90 - 110
			Dissolved Antimony (Sb)	2010/10/05		105	%	90 - 110
			Dissolved Arsenic (As)	2010/10/05		101	%	90 - 110
			Dissolved Barium (Ba)	2010/10/05		100	%	90 - 110
			Dissolved Beryllium (Be)	2010/10/05		102	%	90 - 110
			Dissolved Bismuth (Bi)	2010/10/05		99	%	90 - 110
			Dissolved Boron (B)	2010/10/05		102	%	90 - 110
			Dissolved Cadmium (Cd)	2010/10/05		103	%	90 - 110
			Dissolved Calcium (Ca)	2010/10/05		106	%	90 - 110
			Dissolved Chromium (Cr)	2010/10/05		103	%	90 - 110
			Dissolved Cobalt (Co)	2010/10/05		102	%	90 - 110
			Dissolved Copper (Cu)	2010/10/05		98	%	90 - 110
			Dissolved Iron (Fe)	2010/10/05		103	%	90 - 110
			Dissolved Lead (Pb)	2010/10/05		101	%	90 - 110
			Dissolved Lithium (Li)	2010/10/05		96	%	90 - 110
			Dissolved Magnesium (Mg)	2010/10/05		100	%	90 - 110
			Dissolved Manganese (Mn)	2010/10/05		104	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/10/05		104	%	90 - 110
			Dissolved Nickel (Ni)	2010/10/05		100	%	90 - 110
			Dissolved Phosphorus (P)	2010/10/05		107	%	90 - 110
			Dissolved Potassium (K)	2010/10/05		107	%	90 - 110
			Dissolved Selenium (Se)	2010/10/05		102	%	90 - 110
			Dissolved Silicon (Si)	2010/10/05		105	%	90 - 110
			Dissolved Silver (Ag)	2010/10/05		101	%	90 - 110
			Dissolved Sodium (Na)	2010/10/05		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/10/05		100	%	90 - 110

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2287846	JBW	Spiked Blank	Dissolved Tellurium (Te)	2010/10/05		99	%	90 - 110
			Dissolved Thallium (Tl)	2010/10/05		101	%	90 - 110
			Dissolved Thorium (Th)	2010/10/05		99	%	90 - 110
			Dissolved Tin (Sn)	2010/10/05		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/10/05		105	%	90 - 110
			Dissolved Tungsten (W)	2010/10/05		102	%	90 - 110
			Dissolved Uranium (U)	2010/10/05		100	%	90 - 110
			Dissolved Vanadium (V)	2010/10/05		102	%	90 - 110
			Dissolved Zinc (Zn)	2010/10/05		100	%	90 - 110
			Dissolved Zirconium (Zr)	2010/10/05		105	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/10/05	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/10/05	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/10/05	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/10/05	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/10/05	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/10/05	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/10/05	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/10/05	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/10/05	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/10/05	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/10/05	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/10/05	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/10/05	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/10/05	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/10/05	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/10/05	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/10/05	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/10/05	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/10/05	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/10/05	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/10/05	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2010/10/05	NC		%	25
			Dissolved Arsenic (As)	2010/10/05	NC		%	25
			Dissolved Barium (Ba)	2010/10/05	0.07		%	25
			Dissolved Beryllium (Be)	2010/10/05	NC		%	25
			Dissolved Boron (B)	2010/10/05	1.9		%	25
			Dissolved Cadmium (Cd)	2010/10/05	NC		%	25
			Dissolved Chromium (Cr)	2010/10/05	NC		%	25
			Dissolved Cobalt (Co)	2010/10/05	NC		%	25
			Dissolved Copper (Cu)	2010/10/05	NC		%	25

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2287846	JBW	RPD	Dissolved Lead (Pb)	2010/10/05	NC		%	25
			Dissolved Molybdenum (Mo)	2010/10/05	0.9		%	25
			Dissolved Nickel (Ni)	2010/10/05	NC		%	25
			Dissolved Selenium (Se)	2010/10/05	NC		%	25
			Dissolved Silver (Ag)	2010/10/05	NC		%	25
			Dissolved Thallium (Tl)	2010/10/05	NC		%	25
			Dissolved Vanadium (V)	2010/10/05	NC		%	25
			Dissolved Zinc (Zn)	2010/10/05	NC		%	25
2287854	MC	Matrix Spike						
		[HJ2240-11]	Mercury (Hg)	2010/10/05		88	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/10/05		94	%	80 - 120
		Method Blank	Mercury (Hg)	2010/10/05	ND, RDL=0.0001		mg/L	
		RPD [HJ2240-11]	Mercury (Hg)	2010/10/05	NC		%	25
2287898	JOH	Matrix Spike						
		[HJ2239-02]	Dissolved Sulphur (S)	2010/10/05		94	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/10/05		95	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/10/05	ND, RDL=0.5		mg/L	
		RPD [HJ2239-02]	Dissolved Sulphur (S)	2010/10/05	NC		%	25
2288171	KTH	QC Standard	Turbidity	2010/10/05		99	%	85 - 115
		Method Blank	Turbidity	2010/10/05	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/10/05	6.3		%	25
2288183	VSA	QC Standard	Redox Potential	2010/10/07		+238	%	N/A
		Method Blank	Redox Potential	2010/10/07	+170		mV	
		RPD [HJ2230-05]	Redox Potential	2010/10/07	2.1		%	10
		RPD [HJ2235-05]	Redox Potential	2010/10/07	2.6		%	10
		RPD [HJ2240-05]	Redox Potential	2010/10/07	2.1		%	10
2288189	RSR	RPD [HJ2235-05]	Acidity as CaC03	2010/10/06	NC		%	25
2288198	DLB	Matrix Spike						
		[HJ2226-05]	Reactive Silica (SiO2)	2010/10/05		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/10/05		101	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/10/05		99	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/10/05	ND, RDL=0.5		mg/L	
		RPD [HJ2226-05]	Reactive Silica (SiO2)	2010/10/05	0.02		%	25
2288231	SAU	Matrix Spike	Sulphide	2010/10/05		86	%	75 - 125
		Spiked Blank	Sulphide	2010/10/05		100	%	85 - 115
		Method Blank	Sulphide	2010/10/05	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/10/05	NC		%	25
2289115	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/10/06		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/10/06		104	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/10/06	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/10/06	0.7		%	20
2289116	DRM	Matrix Spike	Orthophosphate (P)	2010/10/06		110	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/10/06		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/10/06	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/10/06	NC		%	25
2289117	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/10/06		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/10/06		100	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/10/06	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/10/06	0.5		%	25
2289394	VIV	Matrix Spike						
		[HJ2226-06]	Total Aluminum (Al)	2010/10/06		NC	%	80 - 120
			Total Antimony (Sb)	2010/10/06		107	%	80 - 120
			Total Arsenic (As)	2010/10/06		103	%	80 - 120
			Total Barium (Ba)	2010/10/06		101	%	80 - 120
			Total Beryllium (Be)	2010/10/06		103	%	80 - 120

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2289394	VIV	Matrix Spike [HJ2226-06]	Total Bismuth (Bi)	2010/10/06		102	%	80 - 120
			Total Boron (B)	2010/10/06		101	%	80 - 120
			Total Cadmium (Cd)	2010/10/06		103	%	80 - 120
			Total Calcium (Ca)	2010/10/06		NC	%	80 - 120
			Total Chromium (Cr)	2010/10/06		101	%	80 - 120
			Total Cobalt (Co)	2010/10/06		99	%	80 - 120
			Total Copper (Cu)	2010/10/06		99	%	80 - 120
			Total Iron (Fe)	2010/10/06		104	%	80 - 120
			Total Lead (Pb)	2010/10/06		100	%	80 - 120
			Total Lithium (Li)	2010/10/06		102	%	80 - 120
			Total Magnesium (Mg)	2010/10/06		106	%	80 - 120
			Total Manganese (Mn)	2010/10/06		103	%	80 - 120
			Total Molybdenum (Mo)	2010/10/06		104	%	80 - 120
			Total Nickel (Ni)	2010/10/06		101	%	80 - 120
			Total Potassium (K)	2010/10/06		105	%	80 - 120
			Total Selenium (Se)	2010/10/06		101	%	80 - 120
			Total Silicon (Si)	2010/10/06		102	%	80 - 120
			Total Silver (Ag)	2010/10/06		97	%	80 - 120
			Total Sodium (Na)	2010/10/06		110	%	80 - 120
			Total Strontium (Sr)	2010/10/06		102	%	80 - 120
			Total Tellurium (Te)	2010/10/06		100	%	80 - 120
			Total Thallium (Tl)	2010/10/06		98	%	80 - 120
			Total Thorium (Th)	2010/10/06		101	%	80 - 120
			Total Tin (Sn)	2010/10/06		101	%	80 - 120
			Total Titanium (Ti)	2010/10/06		107	%	80 - 120
			Total Tungsten (W)	2010/10/06		102	%	80 - 120
			Total Uranium (U)	2010/10/06		102	%	80 - 120
			Total Vanadium (V)	2010/10/06		101	%	80 - 120
			Total Zinc (Zn)	2010/10/06		100	%	80 - 120
			Total Zirconium (Zr)	2010/10/06		104	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/10/06		103	%	85 - 115
			Total Antimony (Sb)	2010/10/06		107	%	85 - 115
			Total Arsenic (As)	2010/10/06		103	%	85 - 115
			Total Barium (Ba)	2010/10/06		101	%	85 - 115
			Total Beryllium (Be)	2010/10/06		102	%	85 - 115
			Total Bismuth (Bi)	2010/10/06		99	%	85 - 115
			Total Boron (B)	2010/10/06		101	%	85 - 115
			Total Cadmium (Cd)	2010/10/06		102	%	85 - 116
			Total Calcium (Ca)	2010/10/06		107	%	85 - 115
			Total Chromium (Cr)	2010/10/06		100	%	85 - 115
			Total Cobalt (Co)	2010/10/06		100	%	85 - 115
			Total Copper (Cu)	2010/10/06		98	%	85 - 115
			Total Iron (Fe)	2010/10/06		103	%	85 - 115
			Total Lead (Pb)	2010/10/06		100	%	85 - 115
			Total Lithium (Li)	2010/10/06		102	%	85 - 115
			Total Magnesium (Mg)	2010/10/06		107	%	85 - 115
			Total Manganese (Mn)	2010/10/06		102	%	85 - 115
			Total Molybdenum (Mo)	2010/10/06		103	%	85 - 115
			Total Nickel (Ni)	2010/10/06		100	%	85 - 115
			Total Potassium (K)	2010/10/06		105	%	85 - 115
			Total Selenium (Se)	2010/10/06		103	%	85 - 115
			Total Silicon (Si)	2010/10/06		98	%	85 - 115
			Total Silver (Ag)	2010/10/06		98	%	85 - 115
			Total Sodium (Na)	2010/10/06		105	%	85 - 115

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QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2289394 VIV	Spiked Blank	Total Strontium (Sr)	2010/10/06		98	%	85 - 115
		Total Tellurium (Te)	2010/10/06		99	%	85 - 115
		Total Thallium (Tl)	2010/10/06		98	%	85 - 115
		Total Thorium (Th)	2010/10/06		98	%	85 - 115
		Total Tin (Sn)	2010/10/06		100	%	85 - 115
		Total Titanium (Ti)	2010/10/06		102	%	85 - 115
		Total Tungsten (W)	2010/10/06		101	%	85 - 115
		Total Uranium (U)	2010/10/06		100	%	85 - 115
		Total Vanadium (V)	2010/10/06		100	%	85 - 115
		Total Zinc (Zn)	2010/10/06		100	%	85 - 115
		Total Zirconium (Zr)	2010/10/06		103	%	85 - 115
	Method Blank	Total Aluminum (Al)	2010/10/06	ND, RDL=5		ug/L	
		Total Antimony (Sb)	2010/10/06	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2010/10/06	ND, RDL=1		ug/L	
		Total Barium (Ba)	2010/10/06	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2010/10/06	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2010/10/06	ND, RDL=1		ug/L	
		Total Boron (B)	2010/10/06	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2010/10/06	ND, RDL=0.1		ug/L	
		Total Calcium (Ca)	2010/10/06	ND, RDL=200		ug/L	
		Total Chromium (Cr)	2010/10/06	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2010/10/06	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2010/10/06	ND, RDL=1		ug/L	
		Total Iron (Fe)	2010/10/06	ND, RDL=100		ug/L	
		Total Lead (Pb)	2010/10/06	ND, RDL=0.5		ug/L	
		Total Lithium (Li)	2010/10/06	ND, RDL=5		ug/L	
		Total Magnesium (Mg)	2010/10/06	ND, RDL=50		ug/L	
		Total Manganese (Mn)	2010/10/06	ND, RDL=2		ug/L	
		Total Molybdenum (Mo)	2010/10/06	ND, RDL=1		ug/L	
		Total Nickel (Ni)	2010/10/06	ND, RDL=1		ug/L	
		Total Potassium (K)	2010/10/06	ND, RDL=200		ug/L	
		Total Selenium (Se)	2010/10/06	ND, RDL=2		ug/L	
		Total Silicon (Si)	2010/10/06	ND, RDL=50		ug/L	
		Total Silver (Ag)	2010/10/06	ND, RDL=0.1		ug/L	
		Total Sodium (Na)	2010/10/06	ND, RDL=100		ug/L	
		Total Strontium (Sr)	2010/10/06	ND, RDL=1		ug/L	
		Total Tellurium (Te)	2010/10/06	ND, RDL=1		ug/L	
		Total Thallium (Tl)	2010/10/06	ND, RDL=0.05		ug/L	
		Total Thorium (Th)	2010/10/06	ND, RDL=1		ug/L	
		Total Tin (Sn)	2010/10/06	ND, RDL=1		ug/L	
		Total Titanium (Ti)	2010/10/06	ND, RDL=5		ug/L	
		Total Tungsten (W)	2010/10/06	ND, RDL=1		ug/L	
		Total Uranium (U)	2010/10/06	ND, RDL=0.1		ug/L	
		Total Vanadium (V)	2010/10/06	ND, RDL=1		ug/L	
		Total Zinc (Zn)	2010/10/06	ND, RDL=5		ug/L	
		Total Zirconium (Zr)	2010/10/06	ND, RDL=1		ug/L	
	RPD [HJ2226-06]	Total Aluminum (Al)	2010/10/06	0.7		%	25
		Total Antimony (Sb)	2010/10/06	NC		%	25
		Total Arsenic (As)	2010/10/06	NC		%	25
		Total Barium (Ba)	2010/10/06	NC		%	25
		Total Beryllium (Be)	2010/10/06	NC		%	25
		Total Bismuth (Bi)	2010/10/06	NC		%	25
		Total Boron (B)	2010/10/06	NC		%	25
		Total Cadmium (Cd)	2010/10/06	NC		%	25
		Total Calcium (Ca)	2010/10/06	1.7		%	25

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2289394	VIV	RPD [HJ2226-06]	Total Chromium (Cr)	2010/10/06	NC		%	25
			Total Cobalt (Co)	2010/10/06	NC		%	25
			Total Copper (Cu)	2010/10/06	NC		%	25
			Total Iron (Fe)	2010/10/06	2.2		%	25
			Total Lead (Pb)	2010/10/06	NC		%	25
			Total Lithium (Li)	2010/10/06	NC		%	25
			Total Magnesium (Mg)	2010/10/06	1.1		%	25
			Total Manganese (Mn)	2010/10/06	1.2		%	25
			Total Molybdenum (Mo)	2010/10/06	NC		%	25
			Total Nickel (Ni)	2010/10/06	NC		%	25
			Total Potassium (K)	2010/10/06	0.4		%	25
			Total Selenium (Se)	2010/10/06	NC		%	25
			Total Silicon (Si)	2010/10/06	0.5		%	25
			Total Silver (Ag)	2010/10/06	NC		%	25
			Total Sodium (Na)	2010/10/06	0.4		%	25
			Total Strontium (Sr)	2010/10/06	0.6		%	25
			Total Tellurium (Te)	2010/10/06	NC		%	25
			Total Thallium (Tl)	2010/10/06	NC		%	25
			Total Thorium (Th)	2010/10/06	NC		%	25
			Total Tin (Sn)	2010/10/06	NC		%	25
			Total Titanium (Ti)	2010/10/06	NC		%	25
			Total Tungsten (W)	2010/10/06	NC		%	25
			Total Uranium (U)	2010/10/06	NC		%	25
			Total Vanadium (V)	2010/10/06	NC		%	25
			Total Zinc (Zn)	2010/10/06	NC		%	25
			Total Zirconium (Zr)	2010/10/06	NC		%	25
2289399	JOH	Matrix Spike [HJ2226-06]	Total Sulphur (S)	2010/10/07		105	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/10/07		97	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/10/07	ND, RDL=0.5		mg/L	
		RPD [HJ2226-06]	Total Sulphur (S)	2010/10/07	NC		%	25
2289405	ADB	Matrix Spike [HJ2229-07]	Total Ammonia-N	2010/10/08		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/10/08		99	%	85 - 115
		Method Blank	Total Ammonia-N	2010/10/08	ND, RDL=0.05		mg/L	
		RPD [HJ2229-07]	Total Ammonia-N	2010/10/08	NC		%	25
2289481	CP	Matrix Spike [HJ2236-07]	Total Chemical Oxygen Demand (COD)	2010/10/07		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/10/07		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/10/07	ND, RDL=4		mg/L	
		RPD [HJ2236-07]	Total Chemical Oxygen Demand (COD)	2010/10/07	0.4		%	25
2289523	AHA	Matrix Spike [HJ2226-07]	Total Organic Carbon (TOC)	2010/10/07		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/10/07		95	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/10/07	0.2, RDL=0.2		mg/L	
		RPD [HJ2226-07]	Total Organic Carbon (TOC)	2010/10/07	0.7		%	20
2289941	MC	Matrix Spike	Mercury (Hg)	2010/10/07		109	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/10/07		99	%	80 - 120
		Method Blank	Mercury (Hg)	2010/10/07	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/10/07	NC		%	25
2289994	MC	Matrix Spike	Mercury (Hg)	2010/10/07		115	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/10/07		109	%	80 - 120
		Method Blank	Mercury (Hg)	2010/10/07	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/10/07	NC		%	25
2290450	JDE	Matrix Spike [HJ2238-07]	Total Kjeldahl Nitrogen (TKN)	2010/10/07		97	%	80 - 120

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2290450	JDE	QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/10/07		102	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/10/07		101	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/10/07	ND, RDL=0.1		mg/L	
		RPD [HJ2238-07]	Total Kjeldahl Nitrogen (TKN)	2010/10/07	0.7		%	20
2290815	PAL	Matrix Spike [HJ2226-07]	Total Phosphorus	2010/10/08		NC	%	80 - 120
		QC Standard	Total Phosphorus	2010/10/08		100	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/10/08		100	%	85 - 115
		Method Blank	Total Phosphorus	2010/10/08	ND, RDL=0.002		mg/L	
		RPD [HJ2226-07]	Total Phosphorus	2010/10/08	5.1		%	20
2290818	PAL	Matrix Spike [HJ2226-02]	Dissolved Phosphorus	2010/10/08		100	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/10/08		99	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/10/08		106	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/10/08	ND, RDL=0.002		mg/L	
		RPD [HJ2226-02]	Dissolved Phosphorus	2010/10/08	11.5		%	20
2295701	JBW	Matrix Spike [HJ2238-02]	Dissolved Aluminum (Al)	2010/10/13		104	%	80 - 120
			Dissolved Antimony (Sb)	2010/10/13		100	%	80 - 120
			Dissolved Arsenic (As)	2010/10/13		95	%	80 - 120
			Dissolved Barium (Ba)	2010/10/13		95	%	80 - 120
			Dissolved Beryllium (Be)	2010/10/13		98	%	80 - 120
			Dissolved Bismuth (Bi)	2010/10/13		93	%	80 - 120
			Dissolved Boron (B)	2010/10/13		99	%	80 - 120
			Dissolved Cadmium (Cd)	2010/10/13		101	%	80 - 120
			Dissolved Calcium (Ca)	2010/10/13		104	%	80 - 120
			Dissolved Chromium (Cr)	2010/10/13		99	%	80 - 120
			Dissolved Cobalt (Co)	2010/10/13		98	%	80 - 120
			Dissolved Copper (Cu)	2010/10/13		97	%	80 - 120
			Dissolved Iron (Fe)	2010/10/13		100	%	80 - 120
			Dissolved Lead (Pb)	2010/10/13		94	%	80 - 120
			Dissolved Lithium (Li)	2010/10/13		92	%	80 - 120
			Dissolved Magnesium (Mg)	2010/10/13		104	%	80 - 120
			Dissolved Manganese (Mn)	2010/10/13		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/10/13		100	%	80 - 120
			Dissolved Nickel (Ni)	2010/10/13		96	%	80 - 120
			Dissolved Phosphorus (P)	2010/10/13		107	%	80 - 120
			Dissolved Potassium (K)	2010/10/13		100	%	80 - 120
			Dissolved Selenium (Se)	2010/10/13		102	%	80 - 120
			Dissolved Silicon (Si)	2010/10/13		104	%	80 - 120
			Dissolved Silver (Ag)	2010/10/13		93	%	80 - 120
			Dissolved Sodium (Na)	2010/10/13		104	%	80 - 120
			Dissolved Strontium (Sr)	2010/10/13		97	%	80 - 120
			Dissolved Tellurium (Te)	2010/10/13		98	%	80 - 120
			Dissolved Thallium (Tl)	2010/10/13		95	%	80 - 120
			Dissolved Thorium (Th)	2010/10/13		91	%	80 - 120
			Dissolved Tin (Sn)	2010/10/13		100	%	80 - 120
			Dissolved Titanium (Ti)	2010/10/13		102	%	80 - 120
			Dissolved Tungsten (W)	2010/10/13		98	%	80 - 120
			Dissolved Uranium (U)	2010/10/13		96	%	80 - 120
			Dissolved Vanadium (V)	2010/10/13		102	%	80 - 120
			Dissolved Zinc (Zn)	2010/10/13		98	%	80 - 120
			Dissolved Zirconium (Zr)	2010/10/13		99	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/10/13		106	%	90 - 110
			Dissolved Antimony (Sb)	2010/10/13		100	%	90 - 110

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2295701	JBW	Spiked Blank	Dissolved Arsenic (As)	2010/10/13		97	%	90 - 110
			Dissolved Barium (Ba)	2010/10/13		98	%	90 - 110
			Dissolved Beryllium (Be)	2010/10/13		98	%	90 - 110
			Dissolved Bismuth (Bi)	2010/10/13		93	%	90 - 110
			Dissolved Boron (B)	2010/10/13		99	%	90 - 110
			Dissolved Cadmium (Cd)	2010/10/13		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/10/13		104	%	90 - 110
			Dissolved Chromium (Cr)	2010/10/13		99	%	90 - 110
			Dissolved Cobalt (Co)	2010/10/13		98	%	90 - 110
			Dissolved Copper (Cu)	2010/10/13		98	%	90 - 110
			Dissolved Iron (Fe)	2010/10/13		101	%	90 - 110
			Dissolved Lead (Pb)	2010/10/13		96	%	90 - 110
			Dissolved Lithium (Li)	2010/10/13		93	%	90 - 110
			Dissolved Magnesium (Mg)	2010/10/13		102	%	90 - 110
			Dissolved Manganese (Mn)	2010/10/13		103	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/10/13		101	%	90 - 110
			Dissolved Nickel (Ni)	2010/10/13		97	%	90 - 110
			Dissolved Phosphorus (P)	2010/10/13		105	%	90 - 110
			Dissolved Potassium (K)	2010/10/13		102	%	90 - 110
			Dissolved Selenium (Se)	2010/10/13		104	%	90 - 110
			Dissolved Silicon (Si)	2010/10/13		107	%	90 - 110
			Dissolved Silver (Ag)	2010/10/13		98	%	90 - 110
			Dissolved Sodium (Na)	2010/10/13		104	%	90 - 110
			Dissolved Strontium (Sr)	2010/10/13		98	%	90 - 110
			Dissolved Tellurium (Te)	2010/10/13		98	%	90 - 110
			Dissolved Thallium (Tl)	2010/10/13		97	%	90 - 110
			Dissolved Thorium (Th)	2010/10/13		92	%	90 - 110
			Dissolved Tin (Sn)	2010/10/13		101	%	90 - 110
			Dissolved Titanium (Ti)	2010/10/13		103	%	90 - 110
			Dissolved Tungsten (W)	2010/10/13		99	%	90 - 110
			Dissolved Uranium (U)	2010/10/13		97	%	90 - 110
			Dissolved Vanadium (V)	2010/10/13		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/10/13		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/10/13		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/10/13	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/10/13	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/10/13	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/10/13	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/10/13	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/10/13	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/10/13	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/10/13	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/10/13	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/10/13	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/10/13	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/10/13	ND, RDL=200		ug/L	

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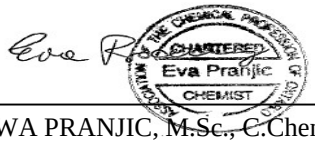
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2295701	JBW	Method Blank	Dissolved Selenium (Se)	2010/10/13	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/10/13	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/10/13	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/10/13	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/10/13	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/10/13	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/10/13	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/10/13	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/10/13	ND, RDL=1		ug/L	
		RPD [HJ2238-02]	Dissolved Potassium (K)	2010/10/13	2.0		%	25
2295771	VRO	Matrix Spike	Total Phosphorus	2010/10/14		93	%	80 - 120
		QC Standard	Total Phosphorus	2010/10/14		98	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/10/14		99	%	85 - 115
		Method Blank	Total Phosphorus	2010/10/14	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/10/14	NC		%	20
2295778	VRO	Matrix Spike	Dissolved Phosphorus	2010/10/14		98	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/10/14		95	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/10/14		99	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/10/14	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/10/14	NC		%	20
2296952	JBW	Matrix Spike	Total Potassium (K)	2010/10/14		101	%	80 - 120
		Spiked Blank	Total Potassium (K)	2010/10/14		102	%	85 - 115
		Method Blank	Total Potassium (K)	2010/10/14	ND, RDL=200		ug/L	
		RPD	Total Potassium (K)	2010/10/14	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0D8865

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist

TOM MITCHELL, B.Sc, Team Leader, Compressed Gas Section



GRACE SISON, Technical and Customer Service Coordinator

ANN BUCK, Bedford Inorg

CRISTINA CARRIERE, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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1-Oct-10 10:20
ANTONELLA BRASIL
B0D8865
FW ENV-607

CHAIN

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFOR	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:	

atory Use Only:

BOTTLE ORDER #: 214857

CHAIN OF CUSTODY #: C#214857-02-02

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
- MISA — Reg. 153/04 — Sewer Use: Sanitary / Storm / Combined
- PWQO — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse — Municipality
- Reg. 558
- Other (specify) — Report Criteria on C of A ?

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 1A	Sept 30/10	1:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 2	Sept 30/10	3:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
3		SW 3	Sept 30/10	2:25 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW 4	Sept 30/10	12:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW 6	Sept 30/10	2:46 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6		SW 7A	Sept 30/10	3:15 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
7		SW 10	Sept 30/10	1:18 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
8		SW 11	Sept 30/10	12:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	5/5/6°C 2/3/5°C 4/4/7°C
9		SW 12A	Sept 30/10	4:10 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	5/5/6°C 4/5/6°C 4/5/7°C
10		SW 13	Sept 30/10	2:46 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1/5°C 3/4/4°C 2/3/3°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bev Burnell	Oct 1/10		Amanda	Oct 1/10	1020	
			FANG WANG	2010/10/02	11:10	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	7.6, 6.8, 6.7	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 214857
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#214857-01-02	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 14	Sept 30/10	1:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 15	Sept 30/10	10:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
3		SW 16	Sept 30/10	11:45 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW 17	Sept 30/10	10:10 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW 18	Sept 30/10	3:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6																			
7																			
8																			5/5/6°C 2/3/5°C 4/4/7°C
9																			5/5/6°C 4/5/6°C 4/5/7°C
10																			1/2/5°C 3/4/4°C 2/3/3°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Burnett	oct 1/10		Amanda	Oct 1/10	1020		X	7.6, 6.8, 6.7	☐ Yes ☐ No
			FAN, Wang	2010/10/02	1:10				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 214857
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#214857-02-03	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA ☐ Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ?

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1A	Sept 30/10	1:35pm	WT			✓	18	
2		SW 2	Sept 30/10	3:35pm	WT			✓	18	
3		SW 3	Sept 30/10	2:25pm	WT			✓	18	
4		SW 4	Sept 30/10	12:30pm	WT			✓	18	
5		SW 6	Sept 30/10	2:46pm	WT			✓	18	
6		SW 7A	Sept 30/10	3:15pm	WT			✓	18	
7		SW 10	Sept 30/10	1:18pm	WT			✓	18	
8		SW 11	Sept 30/10	12:50pm	WT			✓	18	5/5/6°c 2/3/5°c 4/4/7°c
9		SW 12A	Sept 30/10	4:10pm	WT			✓	18	5/5/6°c 4/5/6°c 4/5/7°c
10		SW 13	Sept 30/10	2:46pm	WT			✓	18	1/2/5°c 3/4/4°c 2/3/3°c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Beverly Burnell	oct 1/10		Amanda	Oct 1/10	1020		X	7.6, 8.6, 6.7	☐ Yes ☐ No
			FARQUHARSON	2010/10/02	1:10				

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 214857
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#214857-01-03	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 14	Sept 30/10	1:50 pm	WT			✓	18	
2		SW 15	Sept 30/10	10:50 pm	WT			✓	18	
3		SW 16	Sept 30/10	11:45 Am	WT			✓	18	
4		SW 17	Sept 30/10	10:10 Am	WT			✓	18	
5		SW 18	Sept 30/10	3:00 pm	WT			✓	18	
6										
7										
8										5/5/6°C 2/3/5°C 4/4/7°C
9										5/5/6°C 4/1/6°C 4/5/7°C
10										1/2/5°C 3/4/4°C 2/3/3°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bowen Bertrand	oct 1/10		Amender.	Oct 1/10.	1020am		X	7.6,6.8,6.7	☐ Yes ☐ No
			FAM via Fax	2010/10/02	11:10				

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Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 214857
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#214857-02-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
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☐ PWQO ☐ Table 1 ☐ Residential/Parkland
☐ Table 2 ☐ Industrial/Commercial
☐ Reg. 558 ☐ Table 3 ☐ Medium/Fine Municipality
☐ Table 6 ☐ Coarse
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 14	Sept 30/10	1:50 pm	WT			✓	✓	✓	✓	—	—	—	—	—	—	18	
2		SW 15	Sept 30/10	10:50 Am	WT			—	—	✓	—	✓	✓	✓	—	—	—	18	
3		SW 16	Sept 30/10	11:45 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
4		SW 17	Sept 30/10	10:10 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
5		SW 18	Sept 30/10	3:00 pm	WT			—	—	—	—	—	—	—	—	—	—	18	
6																			
7																			
8																			5/5/6°C 2/3/5°C 4/4/7°C
9																			5/5/6°C 4/5/6°C 4/5/7°C
10																			1/2/5°C 3/4/4°C 2/3/3°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Melissa Brown Bidwell	oct 1/10		Amanda 235 Fortune Ave	Oct 1/10. 2010/10/02	10:20. 11:10		X	7.6, 6.8, 6.7	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 214857
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#214857-01-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW1A	Sept 30/10	1:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 2	Sept 30/10	3:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
3		SW3	Sept 30/10	2:25 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW 4	Sept 30/10	12:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW 6	Sept 30/10	2:46 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6		SW 7A	Sept 30/10	3:15 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
7		SW 10	Sept 30/10	1:18 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
8		SW 11	Sept 30/10	12:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	5/5/6°c 2/3/5°c 4/4/7°c
9		SW 12A	Sept 30/10	4:10 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	5/5/6°c 4/5/6°c 4/5/7°c
10		SW 13	Sept 30/10	2:46 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1/2/5°c 3/4/4°c 2/3/3°c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Brenda Brunelli	Oct 1/10		Amanda. FAMANDA	8 Oct 1/10 AM 20/10/10/02	10:20am 11:10		X	7.6, 6.8, 6.7	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Your Project #: B0D8865
Your C.O.C. #: 08323464, 08323463

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/10/07

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B095270
Received: 2010/10/05, 08:50

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/10/06	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: Arshdeep.Khalsa@MaxxamAnalytics.com
Phone# (604) 734 7276

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B095270
Report Date: 2010/10/07

Client Project #: B0D8865

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		X44021	X44022	X44023	X44024	X44025		
Sampling Date		2010/09/30	2010/09/30	2010/09/30	2010/09/30	2010/09/30		
COC Number		08323464	08323464	08323464	08323464	08323464		
	Units	**SW1A (HJ2226)**	**SW2 (HJ2227)**	**SW3 (HJ2228)**	**SW4 (HJ2229)**	**SW6 (HJ2230)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0015	0.0014	0.0015	0.0013	0.0012	0.0005	4318088

RDL = Reportable Detection Limit

Maxxam ID		X44026	X44027	X44028	X44029	X44030		
Sampling Date		2010/09/30	2010/09/30	2010/09/30	2010/09/30	2010/09/30		
COC Number		08323464	08323464	08323464	08323464	08323464		
	Units	**SW7A (HJ2231)**	**SW10 (HJ2232)**	**SW11 (HJ2233)**	**SW12A (HJ2234)**	**SW13 (HJ2235)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0014	0.0016	0.0014	0.0015	0.0013	0.0005	4318088

RDL = Reportable Detection Limit

Maxxam ID		X44031	X44036	X44037	X44038	X44039		
Sampling Date		2010/09/30	2010/09/30	2010/09/30	2010/09/30	2010/09/30		
COC Number		08323464	08323463	08323463	08323463	08323463		
	Units	**SW14 (HJ2236)**	**SW 15 (HJ2237)**	**SW 16 (HJ2238)**	**SW 17 (HJ2239)**	**SW 18 (HJ2240)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0013	0.0016	0.0009	0.0011	0.0015	0.0005	4318088

RDL = Reportable Detection Limit

Maxxam ID		X44040	X44040		
Sampling Date		2010/09/30	2010/09/30		
COC Number		08323463	08323463		
	Units	**TRIP BLANK (HJ2241)**	**TRIP BLANK (HJ2241) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0005	4318088

RDL = Reportable Detection Limit

Maxxam Job #: B095270
Report Date: 2010/10/07

MAXXAM ANALYTICS INC.
Client Project #: B0D8865

Package 1	0.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: B0D8865
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB095270

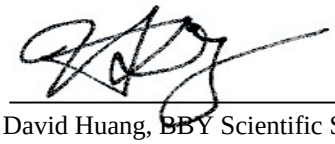
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4318088	TS1	Matrix Spike [X44040-01]	Weak Acid Dissoc. Cyanide (CN)	2010/10/06		105	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/10/06		103	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/10/06	<0.0005		mg/L	
		RPD [X44040-01]	Weak Acid Dissoc. Cyanide (CN)	2010/10/06	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B095270

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



David Huang, BBY Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
October 2010

Your C.O.C. #: 21947301, 219473-01-01

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/11/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0F9474
Received: 2010/11/05, 11:00

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/11/09	2010/11/11	SLA SOP-00100	APHA SM2310B (Mod)
Alkalinity	16	N/A	2010/11/09	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/11/10	CAM SOP-00102	APHA 4500-CO2 D
Biological Oxygen Demand (BOD)	16	N/A	2010/11/13	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	1	N/A	2010/11/11	CAM SOP-00463	SM 4500 Cl E
Chloride by Automated Colourimetry	15	N/A	2010/11/12	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/11/08	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/11/11	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/11/09	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/11/09	CAM SOP-00448	SM 2510
Total Cyanide	16	2010/11/08	2010/11/09	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	16	N/A	2010/11/09	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/11/08	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/11/08	2010/11/09	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/11/08		
Hardness (calculated as CaCO3)	9	N/A	2010/11/09	CAM SOP 00102	SM 2340 B
Hardness (calculated as CaCO3)	7	N/A	2010/11/10	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	16	2010/11/08	2010/11/09	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	11	2010/11/09	2010/11/09	CAM SOP-00408	EPA 6010
Lab Filtered Metals Analysis by ICP	5	2010/11/09	2010/11/10	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	15	2010/11/09	2010/11/09	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	1	2010/11/09	2010/11/10	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/11/11	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/11/10	2010/11/11	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/11/11	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (6)	5	N/A	2010/11/08	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (6)	11	N/A	2010/11/09	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2010/11/09	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/11/08	2010/11/09	CAM SOP-00326	EPA 1664A
pH	16	N/A	2010/11/09	CAM SOP-00448	SM 4500H
Orthophosphate	1	N/A	2010/11/11	CAM SOP-00461	SM 4500 P-F
Orthophosphate	15	N/A	2010/11/12	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	16	N/A	2010/11/15	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	1	N/A	2010/11/11	CAM SOP-00464	EPA 375.4
Sulphate by Automated Colourimetry	15	N/A	2010/11/12	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/11/09	2010/11/09	APHA-SM 2580 B Mod. & ASTM D1498-76 Mod.	
Sulphide	16	N/A	2010/11/09	CAM SOP-00455	SM 4500-S G

../2

Your C.O.C. #: 21947301, 219473-01-01

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/11/16

CERTIFICATE OF ANALYSIS

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Total Dissolved Solids	16	N/A	2010/11/10	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2010/11/10	2010/11/11	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2010/11/10	CAM SOP-00446	SM 5310B
Dissolved Phosphorus	14	2010/11/10	2010/11/11	CAM SOP-00407	APHA 4500 P,B,F
Dissolved Phosphorus	2	2010/11/15	2010/11/16	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	14	2010/11/10	2010/11/11	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	2	2010/11/15	2010/11/16	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/11/08	2010/11/09	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	16	N/A	2010/11/09	CAM SOP-00428	SM 2540D
Turbidity	16	N/A	2010/11/09	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: ABrasil@maxxam.ca
Phone# (905) 817-5817

==========

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Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8489	HT8489		HT8490		
Sampling Date		2010/11/04 12:13	2010/11/04 12:13		2010/11/04 12:28		
COC Number		219473-01-01	219473-01-01		219473-01-01		
	Units	**SW1**	**SW1 Lab-Dup**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	N/A	2322849	76	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	130	N/A	2322852	88	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2322849	ND	1	2322849
Inorganics							
Acidity as CaC03	mg/L	13	N/A	2324208	ND	10	2324208
Total Ammonia-N	mg/L	ND	N/A	2324816	ND	0.05	2324816
Total BOD	mg/L	ND	ND	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	73	N/A	2325384	64	4	2325384
Colour	TCU	160	N/A	2323628	140	4	2323628
Conductivity	umho/cm	248	N/A	2323619	149	1	2323619
Total Dissolved Solids	mg/L	160	N/A	2324499	92	10	2324499
Fluoride (F-)	mg/L	ND	N/A	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	N/A	2325815	0.8	0.1	2325815
Dissolved Organic Carbon	mg/L	26.3	N/A	2324219	23.1	0.2	2324219
Total Organic Carbon (TOC)	mg/L	26.5	N/A	2324791	23.2	0.2	2324791
Orthophosphate (P)	mg/L	ND	N/A	2323859	ND	0.01	2323859
Dissolved Oxygen	mg/L	10.4	N/A	2323106	11.3	N/A	2323106
pH	pH	7.92	N/A	2323620	7.83	N/A	2323620
Dissolved Phosphorus	mg/L	0.027	N/A	2325650	0.017	0.002	2329534
Total Phosphorus	mg/L	0.026	N/A	2325671	0.010	0.002	2329556
Reactive Silica (SiO2)	mg/L	9.6	N/A	2328220	7.8	0.5	2328220
Total Suspended Solids	mg/L	9	N/A	2323973	3	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	N/A	2323860	ND	1	2323860
Sulphide	mg/L	ND	N/A	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	ND	N/A	2323650	ND	0.005	2323650
Turbidity	NTU	6.0	N/A	2324085	3.8	0.1	2324088
Alkalinity (Total as CaCO3)	mg/L	111	N/A	2323617	76	1	2323617
Dissolved Chloride (Cl)	mg/L	10	N/A	2323855	2	1	2323855

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8489	HT8489		HT8490		
Sampling Date		2010/11/04 12:13	2010/11/04 12:13		2010/11/04 12:28		
COC Number		219473-01-01	219473-01-01		219473-01-01		
	Units	**SW1**	**SW1 Lab-Dup**	**QC Batch**	**SW2**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	2324098	ND	0.01	2324098
Nitrate (N)	mg/L	ND	N/A	2324098	ND	0.1	2324098
Nitrate + Nitrite	mg/L	ND	N/A	2324098	ND	0.1	2324098
Subcontracted Analysis							
Redox Potential	mV	+260	N/A	2324262	+256	N/A	2324262
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	N/A	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	2323404	ND	0.5	2323404

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8490		HT8491	HT8491		
Sampling Date		2010/11/04 12:28		2010/11/04 14:08	2010/11/04 14:08		
COC Number		219473-01-01		219473-01-01	219473-01-01		
	Units	**SW2 Lab-Dup**	**QC Batch**	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	2322039	ND	N/A	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2322849	110	N/A	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2322849	ND	N/A	1	2322849
Hardness (CaCO3)	mg/L	N/A	2322852	130	N/A	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	2322849	ND	N/A	1	2322849
Inorganics							
Acidity as CaC03	mg/L	N/A	2324208	11	N/A	10	2324208
Total Ammonia-N	mg/L	N/A	2324816	ND	N/A	0.05	2324816
Total BOD	mg/L	N/A	2323213	ND	N/A	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2325384	70	N/A	4	2325384
Colour	TCU	N/A	2323628	130	N/A	4	2323628
Conductivity	umho/cm	N/A	2323619	228	N/A	1	2323619
Total Dissolved Solids	mg/L	N/A	2324499	144	N/A	10	2324499
Fluoride (F-)	mg/L	N/A	2323622	ND	N/A	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	2325815	1.0	N/A	0.1	2325815
Dissolved Organic Carbon	mg/L	N/A	2324219	25.6	N/A	0.2	2324095
Total Organic Carbon (TOC)	mg/L	N/A	2324791	26.9	26.3	0.2	2324791
Orthophosphate (P)	mg/L	N/A	2323859	0.01	N/A	0.01	2323859
Dissolved Oxygen	mg/L	N/A	2323106	10.6	N/A	N/A	2323106
pH	pH	N/A	2323620	7.90	N/A	N/A	2323620
Dissolved Phosphorus	mg/L	N/A	2329534	0.022	N/A	0.002	2325650
Total Phosphorus	mg/L	N/A	2329556	0.028	N/A	0.002	2325671
Reactive Silica (SiO2)	mg/L	N/A	2328220	9.8	N/A	0.5	2328220
Total Suspended Solids	mg/L	N/A	2323973	13	N/A	1	2323973
Dissolved Sulphate (SO4)	mg/L	N/A	2323860	ND	N/A	1	2323860
Sulphide	mg/L	N/A	2323475	ND	N/A	0.02	2323475
Total Cyanide (CN)	mg/L	N/A	2323650	ND	N/A	0.005	2323650
Turbidity	NTU	N/A	2324088	6.1	N/A	0.1	2324088
Alkalinity (Total as CaCO3)	mg/L	N/A	2323617	111	N/A	1	2323617
Dissolved Chloride (Cl)	mg/L	N/A	2323855	5	N/A	1	2323855

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8490		HT8491	HT8491		
Sampling Date		2010/11/04 12:28		2010/11/04 14:08	2010/11/04 14:08		
COC Number		219473-01-01		219473-01-01	219473-01-01		
	Units	**SW2 Lab-Dup**	**QC Batch**	**SW3**	**SW3 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	2324098	ND	N/A	0.01	2323639
Nitrate (N)	mg/L	ND	2324098	ND	N/A	0.1	2323639
Nitrate + Nitrite	mg/L	ND	2324098	ND	N/A	0.1	2323639
Subcontracted Analysis							
Redox Potential	mV	N/A	2324262	+260	N/A	N/A	2324262
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	2323398	ND	N/A	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	2323404	ND	N/A	0.5	2323404

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8492		HT8493	HT8493		
Sampling Date		2010/11/04 11:05		2010/11/04 13:45	2010/11/04 13:45		
COC Number		219473-01-01		219473-01-01	219473-01-01		
	Units	**SW4**	**QC Batch**	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	2322039	ND	N/A	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	41	2322849	31	N/A	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2322849	ND	N/A	1	2322849
Hardness (CaCO3)	mg/L	54	2322852	35	N/A	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2322849	ND	N/A	1	2322849
Inorganics							
Acidity as CaC03	mg/L	ND	2324208	16	N/A	10	2324208
Total Ammonia-N	mg/L	ND	2324816	ND	N/A	0.05	2324816
Total BOD	mg/L	ND	2323213	ND	N/A	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	74	2325384	54	N/A	4	2325384
Colour	TCU	140	2323628	100	N/A	4	2323628
Conductivity	umho/cm	99	2323619	64	N/A	1	2323619
Total Dissolved Solids	mg/L	62	2324499	40	N/A	10	2324499
Fluoride (F-)	mg/L	ND	2323622	ND	N/A	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	2325815	1.0	N/A	0.1	2325815
Dissolved Organic Carbon	mg/L	25.9	2324219	19.5	N/A	0.2	2324095
Total Organic Carbon (TOC)	mg/L	26.2	2324791	19.3	N/A	0.2	2324791
Orthophosphate (P)	mg/L	ND	2323859	ND	N/A	0.01	2323859
Dissolved Oxygen	mg/L	10.0	2323106	8.61	N/A	N/A	2323106
pH	pH	7.38	2323620	7.17	N/A	N/A	2323620
Dissolved Phosphorus	mg/L	0.007	2325650	0.011	N/A	0.002	2325650
Total Phosphorus	mg/L	0.011	2325671	0.025	N/A	0.002	2325671
Reactive Silica (SiO2)	mg/L	9.0	2328220	3.6	N/A	0.5	2328220
Total Suspended Solids	mg/L	7	2323973	5	N/A	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	2323860	ND	N/A	1	2323860
Sulphide	mg/L	ND	2323475	ND	N/A	0.02	2323475
Total Cyanide (CN)	mg/L	ND	2323650	ND	N/A	0.005	2323650
Turbidity	NTU	3.6	2324085	4.2	N/A	0.1	2324088
Alkalinity (Total as CaCO3)	mg/L	41	2323617	32	N/A	1	2323617
Dissolved Chloride (Cl)	mg/L	5	2323855	1	N/A	1	2323855

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8492		HT8493	HT8493		
Sampling Date		2010/11/04 11:05		2010/11/04 13:45	2010/11/04 13:45		
COC Number		219473-01-01		219473-01-01	219473-01-01		
	Units	**SW4**	**QC Batch**	**SW6**	**SW6 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	2324098	ND	N/A	0.01	2323639
Nitrate (N)	mg/L	ND	2324098	ND	N/A	0.1	2323639
Nitrate + Nitrite	mg/L	ND	2324098	ND	N/A	0.1	2323639
Subcontracted Analysis							
Redox Potential	mV	+272	2324262	+293	+294	N/A	2324262
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	2323398	ND	N/A	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2323404	ND	N/A	0.5	2323404

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8494			HT8495	HT8495		
Sampling Date		2010/11/04 15:00			2010/11/04 11:50	2010/11/04 11:50		
COC Number		219473-01-01			219473-01-01	219473-01-01		
	Units	**SW7A**	**RDL**	**QC Batch**	**SW10**	**SW10 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2322039	ND	N/A	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	127	1	2322849	102	N/A	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	1	2322849	ND	N/A	1	2322849
Hardness (CaCO3)	mg/L	150	1	2322852	120	N/A	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2322849	ND	N/A	1	2322849
Inorganics								
Acidity as CaC03	mg/L	ND	10	2324208	ND	N/A	10	2324208
Total Ammonia-N	mg/L	ND	0.05	2324816	ND	N/A	0.05	2324816
Total BOD	mg/L	ND	2	2323213	ND	N/A	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	48	4	2325384	74	76	4	2325384
Colour	TCU	95	2	2323628	160	N/A	4	2323628
Conductivity	umho/cm	253	1	2323619	233	N/A	1	2323619
Total Dissolved Solids	mg/L	160	10	2324499	148	N/A	10	2324499
Fluoride (F-)	mg/L	ND	0.1	2323622	ND	N/A	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	0.8	0.1	2325815	1.1	N/A	0.1	2325815
Dissolved Organic Carbon	mg/L	18.5	0.2	2324219	27.8	N/A	0.2	2324095
Total Organic Carbon (TOC)	mg/L	18.8	0.2	2324791	28.0	N/A	0.2	2324791
Orthophosphate (P)	mg/L	ND	0.01	2323859	ND	N/A	0.01	2323859
Dissolved Oxygen	mg/L	11.9	N/A	2323106	11.0	N/A	N/A	2323106
pH	pH	7.98	N/A	2323620	7.83	N/A	N/A	2323620
Dissolved Phosphorus	mg/L	0.013	0.002	2325650	0.025	N/A	0.002	2325650
Total Phosphorus	mg/L	0.020	0.002	2325671	0.025	N/A	0.002	2325671
Reactive Silica (SiO2)	mg/L	9.1	0.5	2328220	9.4	N/A	0.5	2328220
Total Suspended Solids	mg/L	3	1	2323973	23	N/A	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	1	2323860	ND	N/A	1	2323860
Sulphide	mg/L	ND	0.02	2323475	ND	N/A	0.02	2323475
Total Cyanide (CN)	mg/L	ND	0.005	2323650	ND	N/A	0.005	2323650
Turbidity	NTU	3.1	0.1	2324088	4.8	N/A	0.1	2324085
Alkalinity (Total as CaCO3)	mg/L	128	1	2323617	103	N/A	1	2323617
Dissolved Chloride (Cl)	mg/L	3	1	2323855	10	N/A	1	2323855

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8494			HT8495	HT8495		
Sampling Date		2010/11/04 15:00			2010/11/04 11:50	2010/11/04 11:50		
COC Number		219473-01-01			219473-01-01	219473-01-01		
	Units	**SW7A**	**RDL**	**QC Batch**	**SW10**	**SW10 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2324098	ND	N/A	0.01	2324098
Nitrate (N)	mg/L	ND	0.1	2324098	ND	N/A	0.1	2324098
Nitrate + Nitrite	mg/L	ND	0.1	2324098	ND	N/A	0.1	2324098
Subcontracted Analysis								
Redox Potential	mV	+247	N/A	2324262	+251	N/A	N/A	2324262
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2323398	ND	N/A	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2323404	ND	N/A	0.5	2323404

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8496		HT8497		
Sampling Date		2010/11/04 11:31		2010/11/04 11:35		
COC Number		219473-01-01		219473-01-01		
	Units	**SW11**	**QC Batch**	**SW12A**	**RDL**	**QC Batch**
Calculated Parameters						
Total Animal/Vegetable Oil and Grease	mg/L	ND	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	66	2322849	31	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	81	2322852	36	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2322849	ND	1	2322849
Inorganics						
Acidity as CaC03	mg/L	15	2324208	11	10	2324208
Total Ammonia-N	mg/L	ND	2324816	ND	0.05	2324816
Total BOD	mg/L	ND	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	93	2325384	55	4	2325384
Colour	TCU	190	2323628	100	4	2323628
Conductivity	umho/cm	130	2323619	65	1	2323619
Total Dissolved Solids	mg/L	82	2324499	40	10	2324499
Fluoride (F-)	mg/L	ND	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	1.2	2325815	1.0	0.1	2325815
Dissolved Organic Carbon	mg/L	32.3	2324219	19.4	0.2	2324219
Total Organic Carbon (TOC)	mg/L	32.8	2324791	19.7	0.2	2324791
Orthophosphate (P)	mg/L	ND	2323859	ND	0.01	2323859
Dissolved Oxygen	mg/L	8.19	2323106	8.79	N/A	2323106
pH	pH	7.51	2323620	7.21	N/A	2323620
Dissolved Phosphorus	mg/L	0.016	2325650	0.012	0.002	2325650
Total Phosphorus	mg/L	0.015	2325671	0.017	0.002	2325671
Reactive Silica (SiO2)	mg/L	9.5	2328220	3.6	0.5	2328220
Total Suspended Solids	mg/L	1	2323973	6	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	2323860	ND	1	2323860
Sulphide	mg/L	ND	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	ND	2323650	ND	0.005	2323650
Turbidity	NTU	2.0	2324088	5.1	0.1	2324085
Alkalinity (Total as CaCO3)	mg/L	66	2323617	31	1	2323617
Dissolved Chloride (Cl)	mg/L	2	2323855	ND	1	2323855

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8496		HT8497		
Sampling Date		2010/11/04 11:31		2010/11/04 11:35		
COC Number		219473-01-01		219473-01-01		
	Units	**SW11**	**QC Batch**	**SW12A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	2323639	ND	0.01	2324098
Nitrate (N)	mg/L	ND	2323639	ND	0.1	2324098
Nitrate + Nitrite	mg/L	ND	2323639	ND	0.1	2324098
Subcontracted Analysis						
Redox Potential	mV	+255	2324262	+282	N/A	2324262
Petroleum Hydrocarbons						
Total Oil & Grease	mg/L	ND	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2323404	ND	0.5	2323404

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Klohn Crippen Berger Ltd

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RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8498	HT8498			HT8499		
Sampling Date		2010/11/04 14:27	2010/11/04 14:27			2010/11/04 12:48		
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	115	N/A	1	2322849	46	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	130	N/A	1	2322852	56	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Inorganics								
Acidity as CaC03	mg/L	ND	ND	10	2324208	11	10	2324208
Total Ammonia-N	mg/L	ND	N/A	0.05	2324816	ND	0.05	2324816
Total BOD	mg/L	ND	N/A	2	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	56	N/A	4	2325384	74	4	2325384
Colour	TCU	82	82	2	2323628	170	4	2323628
Conductivity	umho/cm	225	N/A	1	2323619	93	1	2323619
Total Dissolved Solids	mg/L	144	N/A	10	2324499	58	10	2324499
Fluoride (F-)	mg/L	ND	N/A	0.1	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	N/A	0.1	2325815	0.8	0.1	2325815
Dissolved Organic Carbon	mg/L	21.4	N/A	0.2	2324095	27.1	0.2	2324095
Total Organic Carbon (TOC)	mg/L	21.3	N/A	0.2	2324791	26.6	0.2	2324791
Orthophosphate (P)	mg/L	ND	N/A	0.01	2323653	ND	0.01	2323859
Dissolved Oxygen	mg/L	11.0	N/A	N/A	2323106	8.31	N/A	2323106
pH	pH	7.90	N/A	N/A	2323620	7.42	N/A	2323620
Dissolved Phosphorus	mg/L	0.015	N/A	0.002	2325650	0.010	0.002	2325650
Total Phosphorus	mg/L	0.015	N/A	0.002	2325671	0.008	0.002	2325671
Reactive Silica (SiO2)	mg/L	7.1	N/A	0.5	2328220	7.3	0.5	2328220
Total Suspended Solids	mg/L	2	N/A	1	2323973	2	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2323654	ND	1	2323860
Sulphide	mg/L	ND	N/A	0.02	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	ND	ND	0.005	2323650	ND	0.005	2323650
Turbidity	NTU	7.0	N/A	0.1	2324088	0.8	0.1	2324085
Alkalinity (Total as CaCO3)	mg/L	116	N/A	1	2323617	46	1	2323617
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2323651	2	1	2323855

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8498	HT8498			HT8499		
Sampling Date		2010/11/04 14:27	2010/11/04 14:27			2010/11/04 12:48		
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW13**	**SW13 Lab-Dup**	**RDL**	**QC Batch**	**SW14**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2323639	ND	0.01	2324098
Nitrate (N)	mg/L	ND	N/A	0.1	2323639	ND	0.1	2324098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2323639	ND	0.1	2324098
Subcontracted Analysis								
Redox Potential	mV	+257	+256	N/A	2324262	+282	N/A	2324262
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2323404	ND	0.5	2323404

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N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8499			HT8500		
Sampling Date		2010/11/04 12:48			2010/11/04 07:43		
COC Number		219473-01-01			219473-01-01		
	Units	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2322849	88	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	N/A	1	2322852	110	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2322849	ND	1	2322849
Inorganics							
Acidity as CaC03	mg/L	N/A	10	2324208	ND	10	2324208
Total Ammonia-N	mg/L	ND	0.05	2324816	ND	0.05	2324816
Total BOD	mg/L	N/A	2	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2325384	99	4	2325384
Colour	TCU	N/A	4	2323628	240	6	2323628
Conductivity	umho/cm	N/A	1	2323619	188	1	2323619
Total Dissolved Solids	mg/L	N/A	10	2324499	118	10	2324499
Fluoride (F-)	mg/L	N/A	0.1	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.1	2325815	1.2	0.1	2325815
Dissolved Organic Carbon	mg/L	N/A	0.2	2324095	34.1	0.2	2324219
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2324791	36.1	0.2	2324791
Orthophosphate (P)	mg/L	N/A	0.01	2323859	ND	0.01	2323859
Dissolved Oxygen	mg/L	N/A	N/A	2323106	11.4	N/A	2323106
pH	pH	N/A	N/A	2323620	7.84	N/A	2323620
Dissolved Phosphorus	mg/L	N/A	0.002	2325650	0.016	0.002	2325650
Total Phosphorus	mg/L	N/A	0.002	2325671	0.028	0.002	2325671
Reactive Silica (SiO2)	mg/L	N/A	0.5	2328220	9.6	0.5	2328220
Total Suspended Solids	mg/L	N/A	1	2323973	8	1	2323973
Dissolved Sulphate (SO4)	mg/L	N/A	1	2323860	ND	1	2323860
Sulphide	mg/L	N/A	0.02	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	N/A	0.005	2323650	ND	0.005	2323650
Turbidity	NTU	N/A	0.1	2324085	12	0.1	2324085
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2323617	89	1	2323617
Dissolved Chloride (Cl)	mg/L	N/A	1	2323855	4	1	2323855

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8499			HT8500		
Sampling Date		2010/11/04 12:48			2010/11/04 07:43		
COC Number		219473-01-01			219473-01-01		
	Units	**SW14 Lab-Dup**	**RDL**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	0.01	2324098	ND	0.01	2324098
Nitrate (N)	mg/L	N/A	0.1	2324098	ND	0.1	2324098
Nitrate + Nitrite	mg/L	N/A	0.1	2324098	ND	0.1	2324098
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	2324262	+259	N/A	2324262
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2323404	ND	0.5	2323404

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8501	HT8501			HT8502		
Sampling Date		2010/11/04 10:00	2010/11/04 10:00			2010/11/04 08:40		
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW16**	**SW16 Lab-Dup**	**RDL**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	30	N/A	1	2322849	42	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	34	N/A	1	2322852	49	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Inorganics								
Acidity as CaC03	mg/L	ND	N/A	10	2324208	ND	10	2324208
Total Ammonia-N	mg/L	ND	N/A	0.05	2324816	ND	0.05	2324816
Total BOD	mg/L	ND	N/A	2	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	40	N/A	4	2325384	58	4	2325384
Colour	TCU	77	N/A	2	2323628	140	4	2323628
Conductivity	umho/cm	83	N/A	1	2323619	101	1	2323619
Total Dissolved Solids	mg/L	54	N/A	10	2324499	60	10	2324499
Fluoride (F-)	mg/L	ND	N/A	0.1	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	0.7	N/A	0.1	2325815	1.0	0.1	2325815
Dissolved Organic Carbon	mg/L	14.8	N/A	0.2	2324219	21.6	0.2	2324219
Total Organic Carbon (TOC)	mg/L	14.2	N/A	0.2	2324791	21.3	0.2	2324791
Orthophosphate (P)	mg/L	ND	N/A	0.01	2323859	ND	0.01	2323859
Dissolved Oxygen	mg/L	11.4	N/A	N/A	2323106	11.2	N/A	2323106
pH	pH	7.46	N/A	N/A	2323620	7.58	N/A	2323620
Dissolved Phosphorus	mg/L	0.011	N/A	0.002	2325650	0.017	0.002	2329534
Total Phosphorus	mg/L	0.019	N/A	0.002	2325671	0.032	0.002	2329556
Reactive Silica (SiO2)	mg/L	4.3	4.4	0.5	2328220	6.3	0.5	2328220
Total Suspended Solids	mg/L	8	N/A	1	2323973	12	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2323860	ND	1	2323860
Sulphide	mg/L	ND	N/A	0.02	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2323650	ND	0.005	2323650
Turbidity	NTU	6.9	N/A	0.1	2324088	9.2	0.1	2324085
Alkalinity (Total as CaCO3)	mg/L	30	N/A	1	2323617	42	1	2323617
Dissolved Chloride (Cl)	mg/L	3	N/A	1	2323855	3	1	2323855

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8501	HT8501			HT8502		
Sampling Date		2010/11/04 10:00	2010/11/04 10:00			2010/11/04 08:40		
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW16**	**SW16 Lab-Dup**	**RDL**	**QC Batch**	**SW17**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2323639	ND	0.01	2324098
Nitrate (N)	mg/L	ND	N/A	0.1	2323639	ND	0.1	2324098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2323639	ND	0.1	2324098
Subcontracted Analysis								
Redox Potential	mV	+252	N/A	N/A	2324262	+253	N/A	2324262
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2323404	ND	0.5	2323404

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8503	HT8503			HT8504		
Sampling Date		2010/11/04 14:41	2010/11/04 14:41					
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2322039	ND	0.5	2322039
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	115	N/A	1	2322849	ND	1	2322849
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Hardness (CaCO3)	mg/L	130	N/A	1	2322852	ND	1	2322852
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2322849	ND	1	2322849
Inorganics								
Acidity as CaC03	mg/L	13	N/A	10	2324208	ND	10	2324208
Total Ammonia-N	mg/L	ND	N/A	0.05	2324816	ND	0.05	2324816
Total BOD	mg/L	ND	N/A	2	2323213	ND	2	2323213
Total Chemical Oxygen Demand (COD)	mg/L	66	N/A	4	2325384	ND	4	2325384
Colour	TCU	120	N/A	4	2323628	ND	2	2323628
Conductivity	umho/cm	231	N/A	1	2323619	1	1	2323619
Total Dissolved Solids	mg/L	146	N/A	10	2324499	ND	10	2324499
Fluoride (F-)	mg/L	ND	N/A	0.1	2323622	ND	0.1	2323622
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	N/A	0.1	2325815	0.2	0.1	2325815
Dissolved Organic Carbon	mg/L	24.2	N/A	0.2	2324219	0.4	0.2	2324219
Total Organic Carbon (TOC)	mg/L	26.1	N/A	0.2	2324791	0.2	0.2	2324791
Orthophosphate (P)	mg/L	ND	N/A	0.01	2323859	ND	0.01	2323859
Dissolved Oxygen	mg/L	9.97	N/A	N/A	2323106	11.5	N/A	2323106
pH	pH	7.85	N/A	N/A	2323620	6.24	N/A	2323620
Dissolved Phosphorus	mg/L	0.016	N/A	0.002	2325650	0.004	0.002	2325650
Total Phosphorus	mg/L	0.018	N/A	0.002	2325671	ND	0.002	2325671
Reactive Silica (SiO2)	mg/L	13	N/A	0.5	2328220	ND	0.5	2328220
Total Suspended Solids	mg/L	ND	N/A	1	2323973	ND	1	2323973
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2323860	ND	1	2323860
Sulphide	mg/L	ND	N/A	0.02	2323475	ND	0.02	2323475
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2323650	ND	0.005	2323650
Turbidity	NTU	1.2	N/A	0.1	2324085	0.1	0.1	2324088
Alkalinity (Total as CaCO3)	mg/L	116	N/A	1	2323617	ND	1	2323617
Dissolved Chloride (Cl)	mg/L	3	N/A	1	2323855	ND	1	2323855

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

RESULTS OF ANALYSES OF WATER

Maxxam ID		HT8503	HT8503			HT8504		
Sampling Date		2010/11/04 14:41	2010/11/04 14:41					
COC Number		219473-01-01	219473-01-01			219473-01-01		
	Units	**SW18**	**SW18 Lab-Dup**	**RDL**	**QC Batch**	**TRIP BLANK**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2324098	ND	0.01	2324098
Nitrate (N)	mg/L	ND	N/A	0.1	2324098	ND	0.1	2324098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2324098	ND	0.1	2324098
Subcontracted Analysis								
Redox Potential	mV	+267	+265	N/A	2324262	+300	N/A	2324262
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2323398	ND	0.5	2323398
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2323404	ND	0.5	2323404

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

PERMANENT GASES (WATER)

Maxxam ID		HT8489	HT8490	HT8491	HT8492		
Sampling Date		2010/11/04 12:13	2010/11/04 12:28	2010/11/04 14:08	2010/11/04 11:05		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW1**	**SW2**	**SW3**	**SW4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	3.6	1.7	3.1	2.9	0.6	2323221
Calculated Carbon Dioxide	mg/L	7	3	5	5	1	2322129

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HT8493	HT8494	HT8495	HT8496		
Sampling Date		2010/11/04 13:45	2010/11/04 15:00	2010/11/04 11:50	2010/11/04 11:31		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW6**	**SW7A**	**SW10**	**SW11**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	4.9	1.9	2.8	6.0	0.6	2323221
Calculated Carbon Dioxide	mg/L	9	3	5	11	1	2322129

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HT8497	HT8497	HT8498	HT8499		
Sampling Date		2010/11/04 11:35	2010/11/04 11:35	2010/11/04 14:27	2010/11/04 12:48		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW12A**	**SW12A Lab-Dup**	**SW13**	**SW14**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	5.4	5.5	3.2	4.9	0.6	2323221
Calculated Carbon Dioxide	mg/L	10	N/A	6	9	1	2322129

N/A = Not Applicable
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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

PERMANENT GASES (WATER)

Maxxam ID		HT8500	HT8501	HT8502		HT8503		
Sampling Date		2010/11/04 07:43	2010/11/04 10:00	2010/11/04 08:40		2010/11/04 14:41		
COC Number		219473-01-01	219473-01-01	219473-01-01		219473-01-01		
	Units	**SW15**	**SW16**	**SW17**	**QC Batch**	**SW18**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	1.8	0.9	1.1	2323221	4.9	0.6	2323221
Calculated Carbon Dioxide	mg/L	3	2	2	2322129	9	1	2322851

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		HT8504	HT8504		
Sampling Date					
COC Number		219473-01-01	219473-01-01		
	Units	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Fixed Gases					
Carbon Dioxide	L/m3	1.1	1.1	0.6	2323221
Calculated Carbon Dioxide	mg/L	2	N/A	1	2322851

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8489	HT8489		HT8490	HT8491		
Sampling Date		2010/11/04 12:13	2010/11/04 12:13		2010/11/04 12:28	2010/11/04 14:08		
COC Number		219473-01-01	219473-01-01		219473-01-01	219473-01-01		
	Units	**SW1**	**SW1 Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	2323229	ND	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	1.8	N/A	2324076	ND	1.3	0.5	2323978
Total Sulphur (S)	mg/L	1.9	2.0	2326123	ND	1.1	0.5	2326123
Dissolved Aluminum (Al)	ug/L	21	N/A	2323820	23	21	5	2324142
Total Aluminum (Al)	ug/L	160	140	2326119	110	170	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	N/A	2323820	ND	ND	0.5	2324142
Total Antimony (Sb)	ug/L	ND	ND	2326119	ND	ND	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Arsenic (As)	ug/L	ND	ND	2326119	ND	1	1	2326119
Dissolved Barium (Ba)	ug/L	14	N/A	2323820	9	13	5	2324142
Total Barium (Ba)	ug/L	15	15	2326119	10	14	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	N/A	2323820	ND	ND	0.5	2324142
Total Beryllium (Be)	ug/L	ND	ND	2326119	ND	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Bismuth (Bi)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Boron (B)	ug/L	16	N/A	2323820	24	19	10	2324142
Total Boron (B)	ug/L	14	12	2326119	ND	10	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2323820	ND	ND	0.1	2324142
Total Cadmium (Cd)	ug/L	ND	ND	2326119	ND	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	31000	N/A	2323820	21000	30000	200	2324142
Total Calcium (Ca)	ug/L	31000	30000	2326119	19000	30000	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	N/A	2323820	ND	ND	5	2324142
Total Chromium (Cr)	ug/L	ND	ND	2326119	ND	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	N/A	2323820	ND	ND	0.5	2324142
Total Cobalt (Co)	ug/L	ND	ND	2326119	ND	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Copper (Cu)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Iron (Fe)	ug/L	150	N/A	2323820	200	160	100	2324142
Total Iron (Fe)	ug/L	410	400	2326119	370	410	100	2326119
Dissolved Lead (Pb)	ug/L	ND	N/A	2323820	4.4	ND	0.5	2324142

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8489	HT8489		HT8490	HT8491		
Sampling Date		2010/11/04 12:13	2010/11/04 12:13		2010/11/04 12:28	2010/11/04 14:08		
COC Number		219473-01-01	219473-01-01		219473-01-01	219473-01-01		
	Units	**SW1**	**SW1 Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	2326119	ND	ND	0.5	2326119
Dissolved Lithium (Li)	ug/L	ND	N/A	2323820	ND	ND	5	2324142
Total Lithium (Li)	ug/L	ND	ND	2326119	ND	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	14000	N/A	2323820	8600	13000	50	2324142
Total Magnesium (Mg)	ug/L	13000	13000	2326119	8000	13000	50	2326119
Dissolved Manganese (Mn)	ug/L	12	N/A	2323820	18	14	2	2324142
Total Manganese (Mn)	ug/L	21	20	2326119	23	22	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Molybdenum (Mo)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	1	N/A	2323820	ND	ND	1	2324142
Total Nickel (Ni)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	N/A	2323820	ND	ND	100	2324142
Dissolved Potassium (K)	ug/L	2100	N/A	2323820	710	1500	200	2324142
Total Potassium (K)	ug/L	2100	2000	2326119	650	1500	200	2326119
Dissolved Selenium (Se)	ug/L	ND	N/A	2323820	ND	ND	2	2324142
Total Selenium (Se)	ug/L	ND	ND	2326119	ND	ND	2	2326119
Dissolved Silicon (Si)	ug/L	4700	N/A	2323820	3700	4700	50	2324142
Total Silicon (Si)	ug/L	5000	4600	2326119	3600	5000	50	2326119
Dissolved Silver (Ag)	ug/L	ND	N/A	2323820	ND	ND	0.1	2324142
Total Silver (Ag)	ug/L	ND	ND	2326119	ND	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	5300	N/A	2323820	1200	3300	100	2324142
Total Sodium (Na)	ug/L	5100	4900	2326119	1100	3100	100	2326119
Dissolved Strontium (Sr)	ug/L	73	N/A	2323820	35	63	1	2324142
Total Strontium (Sr)	ug/L	72	69	2326119	30	60	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Tellurium (Te)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	N/A	2323820	ND	ND	0.05	2324142
Total Thallium (Tl)	ug/L	ND	ND	2326119	ND	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Thorium (Th)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	N/A	2323820	ND	ND	1	2324142

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8489	HT8489		HT8490	HT8491		
Sampling Date		2010/11/04 12:13	2010/11/04 12:13		2010/11/04 12:28	2010/11/04 14:08		
COC Number		219473-01-01	219473-01-01		219473-01-01	219473-01-01		
	Units	**SW1**	**SW1 Lab-Dup**	**QC Batch**	**SW2**	**SW3**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	N/A	2323820	ND	ND	5	2324142
Total Titanium (Ti)	ug/L	7	7	2326119	ND	8	5	2326119
Dissolved Tungsten (W)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Tungsten (W)	ug/L	ND	ND	2326119	ND	ND	1	2326119
Dissolved Uranium (U)	ug/L	0.5	N/A	2323820	0.1	0.5	0.1	2324142
Total Uranium (U)	ug/L	0.6	0.6	2326119	0.2	0.5	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	N/A	2323820	1	1	1	2324142
Total Vanadium (V)	ug/L	1	ND	2326119	ND	ND	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	N/A	2323820	ND	ND	5	2324142
Total Zinc (Zn)	ug/L	ND	8	2326119	ND	ND	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2323820	ND	ND	1	2324142
Total Zirconium (Zr)	ug/L	ND	ND	2326119	ND	ND	1	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8492	HT8492		HT8493		
Sampling Date		2010/11/04 11:05	2010/11/04 11:05		2010/11/04 13:45		
COC Number		219473-01-01	219473-01-01		219473-01-01		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	N/A	2323229	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	ND	N/A	2324076	ND	0.5	2323978
Total Sulphur (S)	mg/L	ND	N/A	2326123	ND	0.5	2326123
Dissolved Aluminum (Al)	ug/L	16	15	2323820	65	5	2323820
Total Aluminum (Al)	ug/L	31	N/A	2326119	210	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	ND	2323820	ND	0.5	2323820
Total Antimony (Sb)	ug/L	ND	N/A	2326119	ND	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	ND	2323820	ND	1	2323820
Total Arsenic (As)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Barium (Ba)	ug/L	7	7	2323820	7	5	2323820
Total Barium (Ba)	ug/L	7	N/A	2326119	8	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	ND	2323820	ND	0.5	2323820
Total Beryllium (Be)	ug/L	ND	N/A	2326119	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	ND	2323820	ND	1	2323820
Total Bismuth (Bi)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Boron (B)	ug/L	ND	ND	2323820	ND	10	2323820
Total Boron (B)	ug/L	ND	N/A	2326119	ND	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	ND	2323820	ND	0.1	2323820
Total Cadmium (Cd)	ug/L	ND	N/A	2326119	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	12000	11000	2323820	8900	200	2323820
Total Calcium (Ca)	ug/L	13000	N/A	2326119	9400	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	ND	2323820	ND	5	2323820
Total Chromium (Cr)	ug/L	ND	N/A	2326119	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	ND	2323820	ND	0.5	2323820
Total Cobalt (Co)	ug/L	ND	N/A	2326119	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	ND	2323820	ND	1	2323820
Total Copper (Cu)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Iron (Fe)	ug/L	ND	ND	2323820	110	100	2323820
Total Iron (Fe)	ug/L	140	N/A	2326119	580	100	2326119
Dissolved Lead (Pb)	ug/L	ND	ND	2323820	ND	0.5	2323820

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8492	HT8492		HT8493		
Sampling Date		2010/11/04 11:05	2010/11/04 11:05		2010/11/04 13:45		
COC Number		219473-01-01	219473-01-01		219473-01-01		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2326119	ND	0.5	2326119
Dissolved Lithium (Li)	ug/L	ND	ND	2323820	ND	5	2323820
Total Lithium (Li)	ug/L	ND	N/A	2326119	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	5600	5500	2323820	3200	50	2323820
Total Magnesium (Mg)	ug/L	5700	N/A	2326119	3100	50	2326119
Dissolved Manganese (Mn)	ug/L	7	6	2323820	9	2	2323820
Total Manganese (Mn)	ug/L	14	N/A	2326119	15	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	ND	2323820	ND	1	2323820
Total Molybdenum (Mo)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	ND	ND	2323820	ND	1	2323820
Total Nickel (Ni)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	ND	2323820	ND	100	2323820
Dissolved Potassium (K)	ug/L	890	800	2323820	750	200	2323820
Total Potassium (K)	ug/L	870	N/A	2326119	770	200	2326119
Dissolved Selenium (Se)	ug/L	ND	ND	2323820	ND	2	2323820
Total Selenium (Se)	ug/L	ND	N/A	2326119	ND	2	2326119
Dissolved Silicon (Si)	ug/L	4300	4100	2323820	1700	50	2323820
Total Silicon (Si)	ug/L	4300	N/A	2326119	1900	50	2326119
Dissolved Silver (Ag)	ug/L	ND	ND	2323820	ND	0.1	2323820
Total Silver (Ag)	ug/L	ND	N/A	2326119	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	3000	2900	2323820	1000	100	2323820
Total Sodium (Na)	ug/L	3100	N/A	2326119	940	100	2326119
Dissolved Strontium (Sr)	ug/L	26	25	2323820	15	1	2323820
Total Strontium (Sr)	ug/L	25	N/A	2326119	15	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	ND	2323820	ND	1	2323820
Total Tellurium (Te)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	ND	2323820	ND	0.05	2323820
Total Thallium (Tl)	ug/L	ND	N/A	2326119	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	ND	2323820	ND	1	2323820
Total Thorium (Th)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	ND	2323820	ND	1	2323820

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8492	HT8492		HT8493		
Sampling Date		2010/11/04 11:05	2010/11/04 11:05		2010/11/04 13:45		
COC Number		219473-01-01	219473-01-01		219473-01-01		
	Units	**SW4**	**SW4 Lab-Dup**	**QC Batch**	**SW6**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	ND	2323820	ND	5	2323820
Total Titanium (Ti)	ug/L	ND	N/A	2326119	ND	5	2326119
Dissolved Tungsten (W)	ug/L	ND	ND	2323820	ND	1	2323820
Total Tungsten (W)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Uranium (U)	ug/L	ND	ND	2323820	ND	0.1	2323820
Total Uranium (U)	ug/L	ND	N/A	2326119	ND	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	ND	2323820	ND	1	2323820
Total Vanadium (V)	ug/L	ND	N/A	2326119	ND	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	ND	2323820	ND	5	2323820
Total Zinc (Zn)	ug/L	5	N/A	2326119	ND	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	ND	2323820	ND	1	2323820
Total Zirconium (Zr)	ug/L	ND	N/A	2326119	ND	1	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8494	HT8495	HT8496	HT8497		
Sampling Date		2010/11/04 15:00	2010/11/04 11:50	2010/11/04 11:31	2010/11/04 11:35		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW7A**	**SW10**	**SW11**	**SW12A**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	1.0	1.9	ND	ND	0.5	2323978
Total Sulphur (S)	mg/L	0.9	2.1	0.5	ND	0.5	2326123
Dissolved Aluminum (Al)	ug/L	17	25	35	67	5	2324142
Total Aluminum (Al)	ug/L	250	150	100	200	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2324142
Total Antimony (Sb)	ug/L	ND	ND	ND	0.5	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	1	2324142
Total Arsenic (As)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Barium (Ba)	ug/L	16	14	9	8	5	2324142
Total Barium (Ba)	ug/L	17	15	10	9	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2324142
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2324142
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Boron (B)	ug/L	17	19	13	11	10	2324142
Total Boron (B)	ug/L	ND	11	ND	ND	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2324142
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	37000	28000	18000	9200	200	2324142
Total Calcium (Ca)	ug/L	35000	31000	19000	9600	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2324142
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2324142
Total Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	ND	ND	1	1	2324142
Total Copper (Cu)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Iron (Fe)	ug/L	160	160	190	150	100	2324142
Total Iron (Fe)	ug/L	550	400	340	410	100	2326119
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2324142
Total Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8494	HT8495	HT8496	HT8497		
Sampling Date		2010/11/04 15:00	2010/11/04 11:50	2010/11/04 11:31	2010/11/04 11:35		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW7A**	**SW10**	**SW11**	**SW12A**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	5	ND	ND	5	2324142
Total Lithium (Li)	ug/L	ND	ND	ND	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	15000	13000	8900	3200	50	2324142
Total Magnesium (Mg)	ug/L	14000	13000	9100	3200	50	2326119
Dissolved Manganese (Mn)	ug/L	32	9	8	9	2	2324142
Total Manganese (Mn)	ug/L	60	17	14	15	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2324142
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	1	1	ND	ND	1	2324142
Total Nickel (Ni)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2324142
Dissolved Potassium (K)	ug/L	1200	1800	990	770	200	2324142
Total Potassium (K)	ug/L	1100	2000	1000	790	200	2326119
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2324142
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2326119
Dissolved Silicon (Si)	ug/L	4400	4500	4600	1800	50	2324142
Total Silicon (Si)	ug/L	4700	5000	4700	2100	50	2326119
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2324142
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	2400	5100	1200	1000	100	2324142
Total Sodium (Na)	ug/L	2200	5400	1200	960	100	2326119
Dissolved Strontium (Sr)	ug/L	63	70	34	16	1	2324142
Total Strontium (Sr)	ug/L	56	71	33	16	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2324142
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2324142
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2324142
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2324142
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2324142

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8494	HT8495	HT8496	HT8497		
Sampling Date		2010/11/04 15:00	2010/11/04 11:50	2010/11/04 11:31	2010/11/04 11:35		
COC Number		219473-01-01	219473-01-01	219473-01-01	219473-01-01		
	Units	**SW7A**	**SW10**	**SW11**	**SW12A**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	13	8	ND	6	5	2326119
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2324142
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Uranium (U)	ug/L	0.4	0.5	ND	ND	0.1	2324142
Total Uranium (U)	ug/L	0.4	0.5	ND	0.1	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	1	ND	ND	1	2324142
Total Vanadium (V)	ug/L	ND	ND	ND	ND	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	ND	5	2324142
Total Zinc (Zn)	ug/L	ND	ND	ND	5	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2324142
Total Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2326119

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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8498		HT8499		HT8500		
Sampling Date		2010/11/04 14:27		2010/11/04 12:48		2010/11/04 07:43		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW13**	**QC Batch**	**SW14**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2323229	ND	2323229	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	0.6	2323978	ND	2324076	2.0	0.5	2323978
Total Sulphur (S)	mg/L	0.6	2326123	ND	2326123	1.9	0.5	2326123
Dissolved Aluminum (Al)	ug/L	6	2324142	35	2323820	73	5	2323820
Total Aluminum (Al)	ug/L	31	2326119	68	2326119	360	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	2324142	ND	2323820	ND	0.5	2323820
Total Antimony (Sb)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Arsenic (As)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Barium (Ba)	ug/L	11	2324142	6	2323820	14	5	2323820
Total Barium (Ba)	ug/L	11	2326119	7	2326119	16	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	2324142	ND	2323820	ND	0.5	2323820
Total Beryllium (Be)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Bismuth (Bi)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Boron (B)	ug/L	13	2324142	ND	2323820	10	10	2323820
Total Boron (B)	ug/L	ND	2326119	ND	2326119	ND	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	2324142	ND	2323820	ND	0.1	2323820
Total Cadmium (Cd)	ug/L	ND	2326119	ND	2326119	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	30000	2324142	13000	2323820	25000	200	2323820
Total Calcium (Ca)	ug/L	31000	2326119	14000	2326119	26000	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	2324142	ND	2323820	ND	5	2323820
Total Chromium (Cr)	ug/L	ND	2326119	ND	2326119	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	2324142	ND	2323820	ND	0.5	2323820
Total Cobalt (Co)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Copper (Cu)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Iron (Fe)	ug/L	ND	2324142	ND	2323820	240	100	2323820
Total Iron (Fe)	ug/L	160	2326119	180	2326119	670	100	2326119
Dissolved Lead (Pb)	ug/L	ND	2324142	ND	2323820	ND	0.5	2323820
Total Lead (Pb)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8498		HT8499		HT8500		
Sampling Date		2010/11/04 14:27		2010/11/04 12:48		2010/11/04 07:43		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW13**	**QC Batch**	**SW14**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2324142	ND	2323820	ND	5	2323820
Total Lithium (Li)	ug/L	ND	2326119	ND	2326119	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	14000	2324142	5800	2323820	11000	50	2323820
Total Magnesium (Mg)	ug/L	13000	2326119	5800	2326119	12000	50	2326119
Dissolved Manganese (Mn)	ug/L	13	2324142	2	2323820	19	2	2323820
Total Manganese (Mn)	ug/L	23	2326119	5	2326119	32	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Molybdenum (Mo)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Nickel (Ni)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	2324142	ND	2323820	ND	100	2323820
Dissolved Potassium (K)	ug/L	1000	2324142	400	2323820	1200	200	2323820
Total Potassium (K)	ug/L	1100	2326119	410	2326119	1400	200	2326119
Dissolved Selenium (Se)	ug/L	ND	2324142	ND	2323820	ND	2	2323820
Total Selenium (Se)	ug/L	ND	2326119	ND	2326119	ND	2	2326119
Dissolved Silicon (Si)	ug/L	3300	2324142	3400	2323820	4500	50	2323820
Total Silicon (Si)	ug/L	3400	2326119	3400	2326119	5200	50	2326119
Dissolved Silver (Ag)	ug/L	ND	2324142	ND	2323820	ND	0.1	2323820
Total Silver (Ag)	ug/L	ND	2326119	ND	2326119	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	2000	2324142	910	2323820	2600	100	2323820
Total Sodium (Na)	ug/L	2000	2326119	900	2326119	2600	100	2326119
Dissolved Strontium (Sr)	ug/L	60	2324142	20	2323820	50	1	2323820
Total Strontium (Sr)	ug/L	57	2326119	21	2326119	50	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Tellurium (Te)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	2324142	ND	2323820	ND	0.05	2323820
Total Thallium (Tl)	ug/L	ND	2326119	ND	2326119	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Thorium (Th)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Tin (Sn)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	2324142	ND	2323820	ND	5	2323820

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8498		HT8499		HT8500		
Sampling Date		2010/11/04 14:27		2010/11/04 12:48		2010/11/04 07:43		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW13**	**QC Batch**	**SW14**	**QC Batch**	**SW15**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2326119	ND	2326119	14	5	2326119
Dissolved Tungsten (W)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Tungsten (W)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Uranium (U)	ug/L	0.3	2324142	ND	2323820	0.6	0.1	2323820
Total Uranium (U)	ug/L	0.3	2326119	ND	2326119	0.6	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Vanadium (V)	ug/L	ND	2326119	ND	2326119	1	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	2324142	ND	2323820	ND	5	2323820
Total Zinc (Zn)	ug/L	ND	2326119	ND	2326119	8	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	2324142	ND	2323820	ND	1	2323820
Total Zirconium (Zr)	ug/L	ND	2326119	ND	2326119	ND	1	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8501		HT8502		HT8503		
Sampling Date		2010/11/04 10:00		2010/11/04 08:40		2010/11/04 14:41		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW16**	**QC Batch**	**SW17**	**QC Batch**	**SW18**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2323229	ND	2323229	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	1.9	2324076	1.9	2323978	1.2	0.5	2324076
Total Sulphur (S)	mg/L	2.3	2326123	1.9	2326123	1.2	0.5	2326123
Dissolved Aluminum (Al)	ug/L	36	2323820	58	2323820	17	5	2323820
Total Aluminum (Al)	ug/L	250	2326119	360	2326119	40	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	2323820	ND	2323820	ND	0.5	2323820
Total Antimony (Sb)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Arsenic (As)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Barium (Ba)	ug/L	9	2323820	12	2323820	13	5	2323820
Total Barium (Ba)	ug/L	12	2326119	15	2326119	14	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	2323820	ND	2323820	ND	0.5	2323820
Total Beryllium (Be)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Bismuth (Bi)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Boron (B)	ug/L	ND	2323820	ND	2323820	10	10	2323820
Total Boron (B)	ug/L	ND	2326119	ND	2326119	ND	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	2323820	ND	2323820	ND	0.1	2323820
Total Cadmium (Cd)	ug/L	ND	2326119	ND	2326119	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	8700	2323820	12000	2323820	31000	200	2323820
Total Calcium (Ca)	ug/L	9500	2326119	13000	2326119	32000	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	2323820	ND	2323820	ND	5	2323820
Total Chromium (Cr)	ug/L	ND	2326119	ND	2326119	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	2323820	ND	2323820	ND	0.5	2323820
Total Cobalt (Co)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Copper (Cu)	ug/L	ND	2326119	1	2326119	ND	1	2326119
Dissolved Iron (Fe)	ug/L	ND	2323820	110	2323820	ND	100	2323820
Total Iron (Fe)	ug/L	400	2326119	570	2326119	150	100	2326119
Dissolved Lead (Pb)	ug/L	ND	2323820	ND	2323820	ND	0.5	2323820
Total Lead (Pb)	ug/L	ND	2326119	ND	2326119	ND	0.5	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8501		HT8502		HT8503		
Sampling Date		2010/11/04 10:00		2010/11/04 08:40		2010/11/04 14:41		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW16**	**QC Batch**	**SW17**	**QC Batch**	**SW18**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2323820	ND	2323820	ND	5	2323820
Total Lithium (Li)	ug/L	ND	2326119	ND	2326119	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	3100	2323820	4400	2323820	14000	50	2323820
Total Magnesium (Mg)	ug/L	3400	2326119	4700	2326119	14000	50	2326119
Dissolved Manganese (Mn)	ug/L	ND	2323820	5	2323820	4	2	2323820
Total Manganese (Mn)	ug/L	22	2326119	29	2326119	7	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Molybdenum (Mo)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	ND	2323820	ND	2323820	1	1	2323820
Total Nickel (Ni)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	2323820	ND	2323820	ND	100	2323820
Dissolved Potassium (K)	ug/L	820	2323820	960	2323820	1600	200	2323820
Total Potassium (K)	ug/L	950	2326119	1100	2326119	1600	200	2326119
Dissolved Selenium (Se)	ug/L	ND	2323820	ND	2323820	ND	2	2323820
Total Selenium (Se)	ug/L	ND	2326119	ND	2326119	ND	2	2326119
Dissolved Silicon (Si)	ug/L	2000	2323820	3000	2323820	6100	50	2323820
Total Silicon (Si)	ug/L	2500	2326119	3700	2326119	6000	50	2326119
Dissolved Silver (Ag)	ug/L	ND	2323820	ND	2323820	ND	0.1	2323820
Total Silver (Ag)	ug/L	ND	2326119	ND	2326119	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	4400	2323820	3500	2323820	2100	100	2323820
Total Sodium (Na)	ug/L	4400	2326119	3700	2326119	2100	100	2326119
Dissolved Strontium (Sr)	ug/L	24	2323820	29	2323820	58	1	2323820
Total Strontium (Sr)	ug/L	25	2326119	29	2326119	57	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Tellurium (Te)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	2323820	ND	2323820	ND	0.05	2323820
Total Thallium (Tl)	ug/L	ND	2326119	ND	2326119	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Thorium (Th)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Tin (Sn)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	2323820	ND	2323820	ND	5	2323820

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8501		HT8502		HT8503		
Sampling Date		2010/11/04 10:00		2010/11/04 08:40		2010/11/04 14:41		
COC Number		219473-01-01		219473-01-01		219473-01-01		
	Units	**SW16**	**QC Batch**	**SW17**	**QC Batch**	**SW18**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	17	2326119	15	2326119	ND	5	2326119
Dissolved Tungsten (W)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Tungsten (W)	ug/L	ND	2326119	ND	2326119	ND	1	2326119
Dissolved Uranium (U)	ug/L	ND	2323820	0.1	2323820	0.4	0.1	2323820
Total Uranium (U)	ug/L	0.1	2326119	0.2	2326119	0.4	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Vanadium (V)	ug/L	ND	2326119	1	2326119	ND	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	2323820	ND	2323820	ND	5	2323820
Total Zinc (Zn)	ug/L	ND	2326119	8	2326119	ND	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	2323820	ND	2323820	ND	1	2323820
Total Zirconium (Zr)	ug/L	ND	2326119	ND	2326119	ND	1	2326119

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8504		
Sampling Date				
COC Number		219473-01-01		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2323229
Dissolved Sulphur (S)	mg/L	ND	0.5	2323978
Total Sulphur (S)	mg/L	ND	0.5	2326123
Dissolved Aluminum (Al)	ug/L	ND	5	2323820
Total Aluminum (Al)	ug/L	6	5	2326119
Dissolved Antimony (Sb)	ug/L	ND	0.5	2323820
Total Antimony (Sb)	ug/L	ND	0.5	2326119
Dissolved Arsenic (As)	ug/L	ND	1	2323820
Total Arsenic (As)	ug/L	ND	1	2326119
Dissolved Barium (Ba)	ug/L	ND	5	2323820
Total Barium (Ba)	ug/L	ND	5	2326119
Dissolved Beryllium (Be)	ug/L	ND	0.5	2323820
Total Beryllium (Be)	ug/L	ND	0.5	2326119
Dissolved Bismuth (Bi)	ug/L	ND	1	2323820
Total Bismuth (Bi)	ug/L	ND	1	2326119
Dissolved Boron (B)	ug/L	ND	10	2323820
Total Boron (B)	ug/L	ND	10	2326119
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2323820
Total Cadmium (Cd)	ug/L	ND	0.1	2326119
Dissolved Calcium (Ca)	ug/L	ND	200	2323820
Total Calcium (Ca)	ug/L	ND	200	2326119
Dissolved Chromium (Cr)	ug/L	ND	5	2323820
Total Chromium (Cr)	ug/L	ND	5	2326119
Dissolved Cobalt (Co)	ug/L	ND	0.5	2323820
Total Cobalt (Co)	ug/L	ND	0.5	2326119
Dissolved Copper (Cu)	ug/L	ND	1	2323820
Total Copper (Cu)	ug/L	ND	1	2326119
Dissolved Iron (Fe)	ug/L	ND	100	2323820
Total Iron (Fe)	ug/L	ND	100	2326119
Dissolved Lead (Pb)	ug/L	ND	0.5	2323820
Total Lead (Pb)	ug/L	ND	0.5	2326119
Dissolved Lithium (Li)	ug/L	ND	5	2323820

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8504		
Sampling Date				
COC Number		219473-01-01		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	5	2326119
Dissolved Magnesium (Mg)	ug/L	ND	50	2323820
Total Magnesium (Mg)	ug/L	ND	50	2326119
Dissolved Manganese (Mn)	ug/L	ND	2	2323820
Total Manganese (Mn)	ug/L	ND	2	2326119
Dissolved Molybdenum (Mo)	ug/L	ND	1	2323820
Total Molybdenum (Mo)	ug/L	ND	1	2326119
Dissolved Nickel (Ni)	ug/L	ND	1	2323820
Total Nickel (Ni)	ug/L	ND	1	2326119
Dissolved Phosphorus (P)	ug/L	ND	100	2323820
Dissolved Potassium (K)	ug/L	ND	200	2323820
Total Potassium (K)	ug/L	ND	200	2326119
Dissolved Selenium (Se)	ug/L	ND	2	2323820
Total Selenium (Se)	ug/L	ND	2	2326119
Dissolved Silicon (Si)	ug/L	ND	50	2323820
Total Silicon (Si)	ug/L	ND	50	2326119
Dissolved Silver (Ag)	ug/L	ND	0.1	2323820
Total Silver (Ag)	ug/L	ND	0.1	2326119
Dissolved Sodium (Na)	ug/L	ND	100	2323820
Total Sodium (Na)	ug/L	ND	100	2326119
Dissolved Strontium (Sr)	ug/L	ND	1	2323820
Total Strontium (Sr)	ug/L	ND	1	2326119
Dissolved Tellurium (Te)	ug/L	ND	1	2323820
Total Tellurium (Te)	ug/L	ND	1	2326119
Dissolved Thallium (Tl)	ug/L	ND	0.05	2323820
Total Thallium (Tl)	ug/L	ND	0.05	2326119
Dissolved Thorium (Th)	ug/L	ND	1	2323820
Total Thorium (Th)	ug/L	ND	1	2326119
Dissolved Tin (Sn)	ug/L	ND	1	2323820
Total Tin (Sn)	ug/L	ND	1	2326119
Dissolved Titanium (Ti)	ug/L	ND	5	2323820
Total Titanium (Ti)	ug/L	ND	5	2326119
Dissolved Tungsten (W)	ug/L	ND	1	2323820

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HT8504		
Sampling Date				
COC Number		219473-01-01		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1	2326119
Dissolved Uranium (U)	ug/L	ND	0.1	2323820
Total Uranium (U)	ug/L	ND	0.1	2326119
Dissolved Vanadium (V)	ug/L	ND	1	2323820
Total Vanadium (V)	ug/L	ND	1	2326119
Dissolved Zinc (Zn)	ug/L	ND	5	2323820
Total Zinc (Zn)	ug/L	ND	5	2326119
Dissolved Zirconium (Zr)	ug/L	ND	1	2323820
Total Zirconium (Zr)	ug/L	ND	1	2326119

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0F9474
Report Date: 2010/11/16

GENERAL COMMENTS

Sample HT8490-01: Total phosphorus < dissolved phosphorus. Results were confirmed by re-analysis of each originally submitted container.

Sample HT8493-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HT8498-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HT8499-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HT8501-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HT8502-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample HT8504-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Attention: Leann Graham
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Quality Assurance Report

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2323213	FZH	QC Standard	Total BOD	2010/11/13		111	%	85 - 115
		Method Blank	Total BOD	2010/11/13	ND, RDL=2		mg/L	
		RPD [HT8489-05]	Total BOD	2010/11/13	NC		%	25
2323221	EAY	Method Blank	Carbon Dioxide	2010/11/08	ND, RDL=0.6		L/m3	
		RPD [HT8497-16]	Carbon Dioxide	2010/11/08	1.7		%	25
		RPD [HT8504-16]	Carbon Dioxide	2010/11/08	NC		%	25
2323229	MC	Matrix Spike	Mercury (Hg)	2010/11/09		102	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/11/09		101	%	80 - 120
		Method Blank	Mercury (Hg)	2010/11/09	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/11/09	NC		%	25
2323398	AMJ	Spiked Blank	Total Oil & Grease	2010/11/09		98	%	85 - 115
		RPD	Total Oil & Grease	2010/11/09	1.2		%	25
		Method Blank	Total Oil & Grease	2010/11/09	ND, RDL=0.5		mg/L	
2323404	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/11/09		96	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/11/09	3.2		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/11/09	ND, RDL=0.5		mg/L	
2323475	SAU	Matrix Spike	Sulphide	2010/11/09		NC (1)	%	80 - 120
		Spiked Blank	Sulphide	2010/11/09		97	%	85 - 115
		Method Blank	Sulphide	2010/11/09	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/11/09	18.3		%	25
2323617	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/11/09		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/11/09	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/11/09	0.1		%	25
2323619	YPA	QC Standard	Conductivity	2010/11/09		101	%	85 - 115
		Method Blank	Conductivity	2010/11/09	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/11/09	0.2		%	25
2323622	YPA	Matrix Spike	Fluoride (F-)	2010/11/09		98	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/11/09		100	%	85 - 115
		Method Blank	Fluoride (F-)	2010/11/09	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/11/09	NC		%	25
2323628	CP	Spiked Blank	Colour	2010/11/09		99	%	85 - 115
		Method Blank	Colour	2010/11/09	ND, RDL=2		TCU	
		RPD [HT8498-02]	Colour	2010/11/09	0.3		%	25
2323639	C_N	Matrix Spike	Nitrite (N)	2010/11/08		105	%	80 - 120
			Nitrate (N)	2010/11/08		102	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/11/08		107	%	85 - 115
			Nitrate (N)	2010/11/08		105	%	85 - 115
		Method Blank	Nitrite (N)	2010/11/08	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/11/08	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/11/08	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/11/08	NC		%	25
			Nitrate (N)	2010/11/08	NC		%	25
			Nitrate + Nitrite	2010/11/08	NC		%	25
2323650	LHA	Matrix Spike [HT8498-11]	Total Cyanide (CN)	2010/11/09		113	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/11/09		104	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/11/09	ND, RDL=0.005		mg/L	
		RPD [HT8498-11]	Total Cyanide (CN)	2010/11/09	NC		%	25
2323651	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/11/11		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/11/11		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/11/11	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/11/11	0.7		%	20
2323653	DRM	Matrix Spike	Orthophosphate (P)	2010/11/11		118	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/11/11		96	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/11/11	ND, RDL=0.01		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2323653	DRM	RPD	Orthophosphate (P)	2010/11/11	0.3		%	25
2323654	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/11/11		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/11/11		100	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/11/11	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/11/11	0.5		%	25
2323820	JBW	Matrix Spike [HT8492-06]	Dissolved Aluminum (Al)	2010/11/09		102	%	80 - 120
			Dissolved Antimony (Sb)	2010/11/09		105	%	80 - 120
			Dissolved Arsenic (As)	2010/11/09		100	%	80 - 120
			Dissolved Barium (Ba)	2010/11/09		97	%	80 - 120
			Dissolved Beryllium (Be)	2010/11/09		93	%	80 - 120
			Dissolved Bismuth (Bi)	2010/11/09		95	%	80 - 120
			Dissolved Boron (B)	2010/11/09		96	%	80 - 120
			Dissolved Cadmium (Cd)	2010/11/09		102	%	80 - 120
			Dissolved Calcium (Ca)	2010/11/09		97	%	80 - 120
			Dissolved Chromium (Cr)	2010/11/09		98	%	80 - 120
			Dissolved Cobalt (Co)	2010/11/09		96	%	80 - 120
			Dissolved Copper (Cu)	2010/11/09		98	%	80 - 120
			Dissolved Iron (Fe)	2010/11/09		96	%	80 - 120
			Dissolved Lead (Pb)	2010/11/09		97	%	80 - 120
			Dissolved Lithium (Li)	2010/11/09		92	%	80 - 120
			Dissolved Magnesium (Mg)	2010/11/09		101	%	80 - 120
			Dissolved Manganese (Mn)	2010/11/09		98	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/11/09		101	%	80 - 120
			Dissolved Nickel (Ni)	2010/11/09		96	%	80 - 120
			Dissolved Phosphorus (P)	2010/11/09		106	%	80 - 120
			Dissolved Potassium (K)	2010/11/09		99	%	80 - 120
			Dissolved Selenium (Se)	2010/11/09		98	%	80 - 120
			Dissolved Silicon (Si)	2010/11/09		101	%	80 - 120
			Dissolved Silver (Ag)	2010/11/09		98	%	80 - 120
			Dissolved Sodium (Na)	2010/11/09		103	%	80 - 120
			Dissolved Strontium (Sr)	2010/11/09		99	%	80 - 120
			Dissolved Tellurium (Te)	2010/11/09		103	%	80 - 120
			Dissolved Thallium (Tl)	2010/11/09		98	%	80 - 120
			Dissolved Thorium (Th)	2010/11/09		91	%	80 - 120
			Dissolved Tin (Sn)	2010/11/09		102	%	80 - 120
			Dissolved Titanium (Ti)	2010/11/09		95	%	80 - 120
			Dissolved Tungsten (W)	2010/11/09		100	%	80 - 120
			Dissolved Uranium (U)	2010/11/09		98	%	80 - 120
			Dissolved Vanadium (V)	2010/11/09		97	%	80 - 120
			Dissolved Zinc (Zn)	2010/11/09		99	%	80 - 120
			Dissolved Zirconium (Zr)	2010/11/09		104	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/11/09		103	%	90 - 110
			Dissolved Antimony (Sb)	2010/11/09		101	%	90 - 110
			Dissolved Arsenic (As)	2010/11/09		98	%	90 - 110
			Dissolved Barium (Ba)	2010/11/09		97	%	90 - 110
			Dissolved Beryllium (Be)	2010/11/09		98	%	90 - 110
			Dissolved Bismuth (Bi)	2010/11/09		96	%	90 - 110
			Dissolved Boron (B)	2010/11/09		101	%	90 - 110
			Dissolved Cadmium (Cd)	2010/11/09		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/11/09		102	%	90 - 110
			Dissolved Chromium (Cr)	2010/11/09		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/11/09		96	%	90 - 110
			Dissolved Copper (Cu)	2010/11/09		95	%	90 - 110
			Dissolved Iron (Fe)	2010/11/09		97	%	90 - 110

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2323820	JBW	Spiked Blank	Dissolved Lead (Pb)	2010/11/09		98	%	90 - 110
			Dissolved Lithium (Li)	2010/11/09		93	%	90 - 110
			Dissolved Magnesium (Mg)	2010/11/09		104	%	90 - 110
			Dissolved Manganese (Mn)	2010/11/09		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/11/09		100	%	90 - 110
			Dissolved Nickel (Ni)	2010/11/09		95	%	90 - 110
			Dissolved Phosphorus (P)	2010/11/09		101	%	90 - 110
			Dissolved Potassium (K)	2010/11/09		102	%	90 - 110
			Dissolved Selenium (Se)	2010/11/09		100	%	90 - 110
			Dissolved Silicon (Si)	2010/11/09		104	%	90 - 110
			Dissolved Silver (Ag)	2010/11/09		100	%	90 - 110
			Dissolved Sodium (Na)	2010/11/09		105	%	90 - 110
			Dissolved Strontium (Sr)	2010/11/09		100	%	90 - 110
			Dissolved Tellurium (Te)	2010/11/09		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/11/09		98	%	90 - 110
			Dissolved Thorium (Th)	2010/11/09		95	%	90 - 110
			Dissolved Tin (Sn)	2010/11/09		100	%	90 - 110
			Dissolved Titanium (Ti)	2010/11/09		98	%	90 - 110
			Dissolved Tungsten (W)	2010/11/09		99	%	90 - 110
			Dissolved Uranium (U)	2010/11/09		100	%	90 - 110
			Dissolved Vanadium (V)	2010/11/09		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/11/09		96	%	90 - 110
			Dissolved Zirconium (Zr)	2010/11/09		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/11/09	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/11/09	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/11/09	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/11/09	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/11/09	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/11/09	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/11/09	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/11/09	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/11/09	ND, RDL=1		ug/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2323820	JBW	Method Blank	Dissolved Uranium (U)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/11/09	ND, RDL=1		ug/L	
		RPD [HT8492-06]	Dissolved Aluminum (Al)	2010/11/09	NC		%	25
			Dissolved Antimony (Sb)	2010/11/09	NC		%	25
			Dissolved Arsenic (As)	2010/11/09	NC		%	25
			Dissolved Barium (Ba)	2010/11/09	NC		%	25
			Dissolved Beryllium (Be)	2010/11/09	NC		%	25
			Dissolved Bismuth (Bi)	2010/11/09	NC		%	25
			Dissolved Boron (B)	2010/11/09	NC		%	25
			Dissolved Cadmium (Cd)	2010/11/09	NC		%	25
			Dissolved Calcium (Ca)	2010/11/09	7.7		%	25
			Dissolved Chromium (Cr)	2010/11/09	NC		%	25
			Dissolved Cobalt (Co)	2010/11/09	NC		%	25
			Dissolved Copper (Cu)	2010/11/09	NC		%	25
			Dissolved Iron (Fe)	2010/11/09	NC		%	25
			Dissolved Lead (Pb)	2010/11/09	NC		%	25
			Dissolved Lithium (Li)	2010/11/09	NC		%	25
			Dissolved Magnesium (Mg)	2010/11/09	2.3		%	25
			Dissolved Manganese (Mn)	2010/11/09	NC		%	25
			Dissolved Molybdenum (Mo)	2010/11/09	NC		%	25
			Dissolved Nickel (Ni)	2010/11/09	NC		%	25
			Dissolved Phosphorus (P)	2010/11/09	NC		%	25
			Dissolved Potassium (K)	2010/11/09	NC		%	25
			Dissolved Selenium (Se)	2010/11/09	NC		%	25
			Dissolved Silicon (Si)	2010/11/09	4.2		%	25
			Dissolved Silver (Ag)	2010/11/09	NC		%	25
			Dissolved Sodium (Na)	2010/11/09	2.6		%	25
			Dissolved Strontium (Sr)	2010/11/09	2.5		%	25
			Dissolved Tellurium (Te)	2010/11/09	NC		%	25
			Dissolved Thallium (Tl)	2010/11/09	NC		%	25
			Dissolved Thorium (Th)	2010/11/09	NC		%	25
			Dissolved Tin (Sn)	2010/11/09	NC		%	25
			Dissolved Titanium (Ti)	2010/11/09	NC		%	25
			Dissolved Tungsten (W)	2010/11/09	NC		%	25
			Dissolved Uranium (U)	2010/11/09	NC		%	25
			Dissolved Vanadium (V)	2010/11/09	NC		%	25
			Dissolved Zinc (Zn)	2010/11/09	NC		%	25
			Dissolved Zirconium (Zr)	2010/11/09	NC		%	25
2323855	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/11/12		105	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/11/12		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/11/12	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/11/12	1.2		%	20
2323859	DRM	Matrix Spike	Orthophosphate (P)	2010/11/12		104	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/11/12		103	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/11/12	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/11/12	NC		%	25
2323860	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/11/12		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/11/12		99	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/11/12	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/11/12	2.6		%	25
2323973	JDO	QC Standard	Total Suspended Solids	2010/11/09		95	%	85 - 115
		Method Blank	Total Suspended Solids	2010/11/09	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/11/09	0		%	25

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2323978	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/11/09		114	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/11/09		102	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/11/09	ND, RDL=0.5		mg/L	
		RPD	Dissolved Sulphur (S)	2010/11/09	1.7		%	25
2324076	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/11/10		NC	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/11/10		97	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/11/10	ND, RDL=0.5		mg/L	
2324085	KTH	QC Standard	Turbidity	2010/11/09		101	%	85 - 115
		Method Blank	Turbidity	2010/11/09	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/11/09	1.7		%	25
2324088	KTH	QC Standard	Turbidity	2010/11/09		101	%	85 - 115
		Method Blank	Turbidity	2010/11/09	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/11/09	NC		%	25
2324095	AHA	Matrix Spike	Dissolved Organic Carbon	2010/11/09		96	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/11/09		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/11/09	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/11/09	3.1		%	20
2324098	C_N	Matrix Spike						
		[HT8490-02]	Nitrite (N)	2010/11/09		104	%	80 - 120
			Nitrate (N)	2010/11/09		106	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/11/09		104	%	85 - 115
			Nitrate (N)	2010/11/09		108	%	85 - 115
		Method Blank	Nitrite (N)	2010/11/09	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/11/09	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/11/09	ND, RDL=0.1		mg/L	
		RPD [HT8490-02]	Nitrite (N)	2010/11/09	NC		%	25
			Nitrate (N)	2010/11/09	NC		%	25
			Nitrate + Nitrite	2010/11/09	NC		%	25
2324142	JBW	Matrix Spike	Dissolved Aluminum (Al)	2010/11/09		107	%	80 - 120
			Dissolved Antimony (Sb)	2010/11/09		106	%	80 - 120
			Dissolved Arsenic (As)	2010/11/09		108	%	80 - 120
			Dissolved Barium (Ba)	2010/11/09		103	%	80 - 120
			Dissolved Beryllium (Be)	2010/11/09		109	%	80 - 120
			Dissolved Bismuth (Bi)	2010/11/09		105	%	80 - 120
			Dissolved Boron (B)	2010/11/09		113	%	80 - 120
			Dissolved Cadmium (Cd)	2010/11/09		107	%	80 - 120
			Dissolved Calcium (Ca)	2010/11/09		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/11/09		107	%	80 - 120
			Dissolved Cobalt (Co)	2010/11/09		103	%	80 - 120
			Dissolved Copper (Cu)	2010/11/09		101	%	80 - 120
			Dissolved Iron (Fe)	2010/11/09		104	%	80 - 120
			Dissolved Lead (Pb)	2010/11/09		105	%	80 - 120
			Dissolved Lithium (Li)	2010/11/09		100	%	80 - 120
			Dissolved Magnesium (Mg)	2010/11/09		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/11/09		105	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/11/09		109	%	80 - 120
			Dissolved Nickel (Ni)	2010/11/09		102	%	80 - 120
			Dissolved Phosphorus (P)	2010/11/09		111	%	80 - 120
			Dissolved Potassium (K)	2010/11/09		104	%	80 - 120
			Dissolved Selenium (Se)	2010/11/09		105	%	80 - 120
			Dissolved Silicon (Si)	2010/11/09		106	%	80 - 120
			Dissolved Silver (Ag)	2010/11/09		106	%	80 - 120
			Dissolved Sodium (Na)	2010/11/09		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/11/09		108	%	80 - 120
			Dissolved Tellurium (Te)	2010/11/09		102	%	80 - 120

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2324142	JBW	Matrix Spike	Dissolved Thallium (Tl)	2010/11/09		106	%	80 - 120
			Dissolved Thorium (Th)	2010/11/09		97	%	80 - 120
			Dissolved Tin (Sn)	2010/11/09		107	%	80 - 120
			Dissolved Titanium (Ti)	2010/11/09		103	%	80 - 120
			Dissolved Tungsten (W)	2010/11/09		108	%	80 - 120
			Dissolved Uranium (U)	2010/11/09		108	%	80 - 120
			Dissolved Vanadium (V)	2010/11/09		108	%	80 - 120
			Dissolved Zinc (Zn)	2010/11/09		102	%	80 - 120
			Dissolved Zirconium (Zr)	2010/11/09		111	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/11/09		103	%	90 - 110
			Dissolved Antimony (Sb)	2010/11/09		102	%	90 - 110
			Dissolved Arsenic (As)	2010/11/09		100	%	90 - 110
			Dissolved Barium (Ba)	2010/11/09		98	%	90 - 110
			Dissolved Beryllium (Be)	2010/11/09		108	%	90 - 110
			Dissolved Bismuth (Bi)	2010/11/09		99	%	90 - 110
			Dissolved Boron (B)	2010/11/09		113 (2)	%	90 - 110
			Dissolved Cadmium (Cd)	2010/11/09		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/11/09		100	%	90 - 110
			Dissolved Chromium (Cr)	2010/11/09		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/11/09		97	%	90 - 110
			Dissolved Copper (Cu)	2010/11/09		96	%	90 - 110
			Dissolved Iron (Fe)	2010/11/09		98	%	90 - 110
			Dissolved Lead (Pb)	2010/11/09		99	%	90 - 110
			Dissolved Lithium (Li)	2010/11/09		97	%	90 - 110
			Dissolved Magnesium (Mg)	2010/11/09		103	%	90 - 110
			Dissolved Manganese (Mn)	2010/11/09		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/11/09		102	%	90 - 110
			Dissolved Nickel (Ni)	2010/11/09		97	%	90 - 110
			Dissolved Phosphorus (P)	2010/11/09		104	%	90 - 110
			Dissolved Potassium (K)	2010/11/09		98	%	90 - 110
			Dissolved Selenium (Se)	2010/11/09		100	%	90 - 110
			Dissolved Silicon (Si)	2010/11/09		103	%	90 - 110
			Dissolved Silver (Ag)	2010/11/09		100	%	90 - 110
			Dissolved Sodium (Na)	2010/11/09		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/11/09		101	%	90 - 110
			Dissolved Tellurium (Te)	2010/11/09		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/11/09		101	%	90 - 110
			Dissolved Thorium (Th)	2010/11/09		95	%	90 - 110
			Dissolved Tin (Sn)	2010/11/09		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/11/09		98	%	90 - 110
			Dissolved Tungsten (W)	2010/11/09		103	%	90 - 110
			Dissolved Uranium (U)	2010/11/09		103	%	90 - 110
			Dissolved Vanadium (V)	2010/11/09		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/11/09		98	%	90 - 110
			Dissolved Zirconium (Zr)	2010/11/09		104	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/11/09	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/11/09	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/11/09	ND, RDL=5		ug/L	

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2324142	JBW	Method Blank	Dissolved Cobalt (Co)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/11/09	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/11/09	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/11/09	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/11/09	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/11/09	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/11/09	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/11/09	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/11/09	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/11/09	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/11/09	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/11/09	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/11/09	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/11/09	NC		%	25
			Dissolved Antimony (Sb)	2010/11/09	NC		%	25
			Dissolved Arsenic (As)	2010/11/09	NC		%	25
			Dissolved Barium (Ba)	2010/11/09	0.6		%	25
			Dissolved Beryllium (Be)	2010/11/09	NC		%	25
			Dissolved Bismuth (Bi)	2010/11/09	NC		%	25
			Dissolved Boron (B)	2010/11/09	NC		%	25
			Dissolved Cadmium (Cd)	2010/11/09	NC		%	25
			Dissolved Calcium (Ca)	2010/11/09	2.4		%	25
			Dissolved Chromium (Cr)	2010/11/09	NC		%	25
			Dissolved Cobalt (Co)	2010/11/09	NC		%	25
			Dissolved Copper (Cu)	2010/11/09	NC		%	25
			Dissolved Iron (Fe)	2010/11/09	NC		%	25
			Dissolved Lead (Pb)	2010/11/09	NC		%	25
			Dissolved Lithium (Li)	2010/11/09	NC		%	25
			Dissolved Magnesium (Mg)	2010/11/09	0.06		%	25
			Dissolved Manganese (Mn)	2010/11/09	NC		%	25
			Dissolved Molybdenum (Mo)	2010/11/09	NC		%	25
			Dissolved Nickel (Ni)	2010/11/09	NC		%	25
			Dissolved Phosphorus (P)	2010/11/09	NC		%	25
			Dissolved Potassium (K)	2010/11/09	4.5		%	25
			Dissolved Selenium (Se)	2010/11/09	NC		%	25
			Dissolved Silicon (Si)	2010/11/09	0.6		%	25
			Dissolved Silver (Ag)	2010/11/09	NC		%	25
			Dissolved Sodium (Na)	2010/11/09	1.3		%	25
			Dissolved Strontium (Sr)	2010/11/09	0.3		%	25
			Dissolved Tellurium (Te)	2010/11/09	NC		%	25
			Dissolved Thallium (Tl)	2010/11/09	NC		%	25
			Dissolved Thorium (Th)	2010/11/09	NC		%	25

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2324142	JBW	RPD	Dissolved Tin (Sn)	2010/11/09	NC		%	25
			Dissolved Titanium (Ti)	2010/11/09	NC		%	25
			Dissolved Tungsten (W)	2010/11/09	NC		%	25
			Dissolved Uranium (U)	2010/11/09	5.6		%	25
			Dissolved Vanadium (V)	2010/11/09	NC		%	25
			Dissolved Zinc (Zn)	2010/11/09	NC		%	25
			Dissolved Zirconium (Zr)	2010/11/09	NC		%	25
2324208	RSR	Method Blank	Acidity as CaC03	2010/11/11	ND, RDL=10		mg/L	
		RPD [HT8498-07]	Acidity as CaC03	2010/11/11	NC		%	25
2324219	AHA	Matrix Spike	Dissolved Organic Carbon	2010/11/09		87	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/11/09		100	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/11/09	0.3, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/11/09	6.0		%	20
2324262	RSR	QC Standard	Redox Potential	2010/11/09		+243	%	N/A
		Method Blank	Redox Potential	2010/11/09	+134		mV	
		RPD [HT8493-03]	Redox Potential	2010/11/09	0.3		%	10
		RPD [HT8498-03]	Redox Potential	2010/11/09	0.4		%	10
		RPD [HT8503-03]	Redox Potential	2010/11/09	0.8		%	10
2324499	JDO	QC Standard	Total Dissolved Solids	2010/11/10		98	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/11/10	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/11/10	0.6		%	25
2324791	AHA	Matrix Spike						
		[HT8491-10]	Total Organic Carbon (TOC)	2010/11/10		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/11/10		101	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/11/10	ND, RDL=0.2		mg/L	
		RPD [HT8491-10]	Total Organic Carbon (TOC)	2010/11/10	2.2		%	20
2324816	ADB	Matrix Spike						
		[HT8499-10]	Total Ammonia-N	2010/11/11		101	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/11/11		99	%	85 - 115
		Method Blank	Total Ammonia-N	2010/11/11	ND, RDL=0.05		mg/L	
		RPD [HT8499-10]	Total Ammonia-N	2010/11/11	NC		%	25
2325384	CP	Matrix Spike						
		[HT8495-10]	Total Chemical Oxygen Demand (COD)	2010/11/11		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/11/11		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/11/11	ND, RDL=4		mg/L	
		RPD [HT8495-10]	Total Chemical Oxygen Demand (COD)	2010/11/11	2.6		%	25
2325650	VRO	Matrix Spike	Dissolved Phosphorus	2010/11/11		NC	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/11/11		99	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/11/11		98	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/11/11	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/11/11	10.0		%	20
2325671	VRO	Matrix Spike	Total Phosphorus	2010/11/11		NC	%	80 - 120
		QC Standard	Total Phosphorus	2010/11/11		91	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/11/11		99	%	85 - 115
		Method Blank	Total Phosphorus	2010/11/11	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/11/11	5.5		%	20
2325815	JDE	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2010/11/11		NC (1)	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/11/11		97	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/11/11		89	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/11/11	0.1, RDL=0.1		mg/L	
		RPD	Total Kjeldahl Nitrogen (TKN)	2010/11/11	3.2		%	20
2326119	HRE	Matrix Spike						
		[HT8489-09]	Total Aluminum (Al)	2010/11/11		126 (2)	%	80 - 120
			Total Antimony (Sb)	2010/11/11		106	%	80 - 120
			Total Arsenic (As)	2010/11/11		102	%	80 - 120

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2326119	HRE	Matrix Spike [HT8489-09]	Total Barium (Ba)	2010/11/11		99	%	80 - 120
			Total Beryllium (Be)	2010/11/11		103	%	80 - 120
			Total Bismuth (Bi)	2010/11/11		100	%	80 - 120
			Total Boron (B)	2010/11/11		98	%	80 - 120
			Total Cadmium (Cd)	2010/11/11		105	%	80 - 120
			Total Calcium (Ca)	2010/11/11		NC	%	80 - 120
			Total Chromium (Cr)	2010/11/11		99	%	80 - 120
			Total Cobalt (Co)	2010/11/11		98	%	80 - 120
			Total Copper (Cu)	2010/11/11		97	%	80 - 120
			Total Iron (Fe)	2010/11/11		102	%	80 - 120
			Total Lead (Pb)	2010/11/11		99	%	80 - 120
			Total Lithium (Li)	2010/11/11		98	%	80 - 120
			Total Magnesium (Mg)	2010/11/11		99	%	80 - 120
			Total Manganese (Mn)	2010/11/11		99	%	80 - 120
			Total Molybdenum (Mo)	2010/11/11		102	%	80 - 120
			Total Nickel (Ni)	2010/11/11		97	%	80 - 120
			Total Potassium (K)	2010/11/11		101	%	80 - 120
			Total Selenium (Se)	2010/11/11		101	%	80 - 120
			Total Silicon (Si)	2010/11/11		97	%	80 - 120
			Total Silver (Ag)	2010/11/11		98	%	80 - 120
			Total Sodium (Na)	2010/11/11		101	%	80 - 120
			Total Strontium (Sr)	2010/11/11		97	%	80 - 120
			Total Tellurium (Te)	2010/11/11		103	%	80 - 120
			Total Thallium (Tl)	2010/11/11		99	%	80 - 120
			Total Thorium (Th)	2010/11/11		101	%	80 - 120
			Total Tin (Sn)	2010/11/11		102	%	80 - 120
			Total Titanium (Ti)	2010/11/11		98	%	80 - 120
			Total Tungsten (W)	2010/11/11		100	%	80 - 120
			Total Uranium (U)	2010/11/11		101	%	80 - 120
			Total Vanadium (V)	2010/11/11		100	%	80 - 120
			Total Zinc (Zn)	2010/11/11		98	%	80 - 120
			Total Zirconium (Zr)	2010/11/11		103	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/11/11		101	%	85 - 115
			Total Antimony (Sb)	2010/11/11		106	%	85 - 115
			Total Arsenic (As)	2010/11/11		104	%	85 - 115
			Total Barium (Ba)	2010/11/11		101	%	85 - 115
			Total Beryllium (Be)	2010/11/11		105	%	85 - 115
			Total Bismuth (Bi)	2010/11/11		102	%	85 - 115
			Total Boron (B)	2010/11/11		101	%	85 - 115
			Total Cadmium (Cd)	2010/11/11		106	%	85 - 116
			Total Calcium (Ca)	2010/11/11		103	%	85 - 115
			Total Chromium (Cr)	2010/11/11		102	%	85 - 115
			Total Cobalt (Co)	2010/11/11		102	%	85 - 115
			Total Copper (Cu)	2010/11/11		101	%	85 - 115
			Total Iron (Fe)	2010/11/11		104	%	85 - 115
			Total Lead (Pb)	2010/11/11		102	%	85 - 115
			Total Lithium (Li)	2010/11/11		101	%	85 - 115
			Total Magnesium (Mg)	2010/11/11		105	%	85 - 115
			Total Manganese (Mn)	2010/11/11		102	%	85 - 115
			Total Molybdenum (Mo)	2010/11/11		103	%	85 - 115
			Total Nickel (Ni)	2010/11/11		101	%	85 - 115
			Total Potassium (K)	2010/11/11		102	%	85 - 115
			Total Selenium (Se)	2010/11/11		103	%	85 - 115
			Total Silicon (Si)	2010/11/11		98	%	85 - 115

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2326119	HRE	Spiked Blank	Total Silver (Ag)	2010/11/11		100	%	85 - 115
			Total Sodium (Na)	2010/11/11		104	%	85 - 115
			Total Strontium (Sr)	2010/11/11		101	%	85 - 115
			Total Tellurium (Te)	2010/11/11		103	%	85 - 115
			Total Thallium (Tl)	2010/11/11		102	%	85 - 115
			Total Thorium (Th)	2010/11/11		103	%	85 - 115
			Total Tin (Sn)	2010/11/11		103	%	85 - 115
			Total Titanium (Ti)	2010/11/11		101	%	85 - 115
			Total Tungsten (W)	2010/11/11		103	%	85 - 115
			Total Uranium (U)	2010/11/11		104	%	85 - 115
			Total Vanadium (V)	2010/11/11		104	%	85 - 115
			Total Zinc (Zn)	2010/11/11		102	%	85 - 115
			Total Zirconium (Zr)	2010/11/11		103	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/11/11	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/11/11	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/11/11	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/11/11	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/11/11	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/11/11	ND, RDL=1		ug/L	
			Total Boron (B)	2010/11/11	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/11/11	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/11/11	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/11/11	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/11/11	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/11/11	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/11/11	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/11/11	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/11/11	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/11/11	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/11/11	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/11/11	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/11/11	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/11/11	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/11/11	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/11/11	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/11/11	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/11/11	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/11/11	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/11/11	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/11/11	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/11/11	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/11/11	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/11/11	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/11/11	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/11/11	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/11/11	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/11/11	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/11/11	ND, RDL=1		ug/L	
		RPD [HT8489-09]	Total Aluminum (Al)	2010/11/11	14.8		%	25
			Total Antimony (Sb)	2010/11/11	NC		%	25
			Total Arsenic (As)	2010/11/11	NC		%	25
			Total Barium (Ba)	2010/11/11	NC		%	25
			Total Beryllium (Be)	2010/11/11	NC		%	25
			Total Bismuth (Bi)	2010/11/11	NC		%	25
			Total Boron (B)	2010/11/11	NC		%	25

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2326119	HRE	RPD [HT8489-09]	Total Cadmium (Cd)	2010/11/11	NC		%	25
			Total Calcium (Ca)	2010/11/11	2.9		%	25
			Total Chromium (Cr)	2010/11/11	NC		%	25
			Total Cobalt (Co)	2010/11/11	NC		%	25
			Total Copper (Cu)	2010/11/11	NC		%	25
			Total Iron (Fe)	2010/11/11	NC		%	25
			Total Lead (Pb)	2010/11/11	NC		%	25
			Total Lithium (Li)	2010/11/11	NC		%	25
			Total Magnesium (Mg)	2010/11/11	2.9		%	25
			Total Manganese (Mn)	2010/11/11	3.6		%	25
			Total Molybdenum (Mo)	2010/11/11	NC		%	25
			Total Nickel (Ni)	2010/11/11	NC		%	25
			Total Potassium (K)	2010/11/11	4.2		%	25
			Total Selenium (Se)	2010/11/11	NC		%	25
			Total Silicon (Si)	2010/11/11	8.2		%	25
			Total Silver (Ag)	2010/11/11	NC		%	25
			Total Sodium (Na)	2010/11/11	3.7		%	25
			Total Strontium (Sr)	2010/11/11	4.2		%	25
			Total Tellurium (Te)	2010/11/11	NC		%	25
			Total Thallium (Tl)	2010/11/11	NC		%	25
			Total Thorium (Th)	2010/11/11	NC		%	25
			Total Tin (Sn)	2010/11/11	NC		%	25
			Total Titanium (Ti)	2010/11/11	NC		%	25
			Total Tungsten (W)	2010/11/11	NC		%	25
			Total Uranium (U)	2010/11/11	3.4		%	25
			Total Vanadium (V)	2010/11/11	NC		%	25
			Total Zinc (Zn)	2010/11/11	NC		%	25
			Total Zirconium (Zr)	2010/11/11	NC		%	25
2326123	JOH	Matrix Spike [HT8489-09]	Total Sulphur (S)	2010/11/11		106	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/11/11		103	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/11/11	ND, RDL=0.5		mg/L	
		RPD [HT8489-09]	Total Sulphur (S)	2010/11/11	NC		%	25
2328220	SMT	Matrix Spike [HT8501-08]	Reactive Silica (SiO2)	2010/11/15		102	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/11/15		102	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/11/15		102	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/11/15	ND, RDL=0.5		mg/L	
		RPD [HT8501-08]	Reactive Silica (SiO2)	2010/11/15	0.4		%	25
2329534	VRO	Matrix Spike	Dissolved Phosphorus	2010/11/16		89	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/11/16		99	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/11/16		101	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/11/16	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/11/16	7.3		%	20
2329556	VRO	Matrix Spike	Total Phosphorus	2010/11/16		82	%	80 - 120
		QC Standard	Total Phosphorus	2010/11/16		99	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/11/16		95	%	85 - 115
		Method Blank	Total Phosphorus	2010/11/16	ND, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/11/16	16.5		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0F9474

spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) The recovery in the matrix spike was not calculated (NC). Spiked concentration was less than 2x that native to the sample.
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Validation Signature Page

Maxxam Job #: B0F9474

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

JERRY ARENOVICH, Inorganics Manager

TOM MITCHELL, B.Sc, Team Leader, Compressed Gases

BRAD NEWMAN, Scientific Specialist

GRACE SISON, Technical and Customer Service Coordinator

CRISTINA CARRIERE, Scientific Services

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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IMMEDIATE TEST

BOD

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5-Nov-10 11:00
ANTONELLA BRASIL
B0F9474
DTS ENV-823

CHAIN OF CUST

Page 1 of 6

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:	

Lab Use Only:

BOTTLE ORDER #: 219473

CHAIN OF CUSTODY #: C#219473-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined

☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse

☐ Reg. 558 Municipality

Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: Time Required:

Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 1	Nov 4/10	12:13 pm	WT			✓	✓	—	—	✓	—	—	—	—	—	18	0/1/1°C
2		SW 2	Nov 4/10	12:28 pm	WT			✓	✓	✓	—	✓	✓	✓	✓	✓	—	18	1/3/3°C
3		SW 3	Nov 4/10	2:08 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/1/0°C
4		SW 4	Nov 4/10	11:05 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1/1/1°C
5		SW 6	Nov 4/10	1:45 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	—	18	4/4/4°C
6		SW 7A	Nov 4/10	3:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1/1/1°C
7		SW 10	Nov 4/10	11:50 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2/1/1°C
8		SW 11	Nov 4/10	11:31 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	3/2/3°C
9		SW 12A	Nov 4/10	1:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/0/1°C
10		SW 13	Nov 4/10	2:27 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Nina Beaven Burnett	2010/10/04	9:45pm	Mark / Melissa	10/11/05	11:00	
			Daisy Tsang	2010/11/06	10:57	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[X]	8.1, 7.7, 8.9	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 219473
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#219473-02-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA ☐ Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 14	NOV 4/10	12:48 pm	WT			—	—	—	—	—	—	—	—	—	—	18	
2		SW 15	NOV 4/10	7:43 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
3		SW 16	NOV 4/10	10:00 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
4		SW 17	NOV 4/10	8:40 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
5		SW 18	NOV 4/10	2:41 pm	WT			—	—	—	—	—	—	—	—	—	—	18	
6																			
7																			
8																			
9																			
10																			

0/1/1°C
1/3/3°C
0/0/0°C
1/1/1°C
4/4/4°C
1/1/1°C
2/3/1°C
3/2/3°C
0/0/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Kirsten Brownbridge	10/10/04	9:45pm	Daisy Tang	2010/11/06	10:57	

Laboratory Use Only		
Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X		☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 219473
Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
s:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:			
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		CHAIN OF CUSTODY #: C#219473-02-02	PROJECT MANAGER: ANTONELLA BRASIL
e:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:			
:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

EGULATORY CRITERIA:
MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
Reg. 558 Municipality
her (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

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(will be applied if Rush TAT is not specified):
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Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
	SW 1	Nov 4/10	12:13 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
	SW 2	Nov 4/10	12:28 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
	SW 3	Nov 4/10	2:08 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
	SW 4	Nov 4/10	11:05 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
	SW 6	Nov 4/10	1:45 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/1/1°C 1/3/3°C
	SW 7A	Nov 4/10	3:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/0/0°C 1/1/1°C
	SW 10	Nov 4/10	11:50 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	4/4/4°C 1/1/1°C
	SW 11	Nov 4/10	11:31 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2/3/1°C 3/2/3°C
	SW 12A	Nov 4/10	1:35 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/0/1°C
	SW 13	Nov 4/10	2:27 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Mr Bean Burnell	2010/10/04	9:45pm	Daisy Tang	2010/10/06	10:57		X		☐ Yes ☐ No

IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

CHAIN OF CUSTODY RECORD

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxam.ca

INVOICE INFORMATION:

Company Name: #23433 Rainy River Resources Ltd
Contact Name: Evelyn Funk
Address: 303 - 1620 W 8th Ave, Vancouver BC V6J 1V4
Phone: (604)639-4491 Fax: (604)639-4492
Email: etf@rainyriverresources.com

REPORT INFORMATION (if differs from invoice):

Company Name: #10142 Klohn Crippen Berger Ltd
Contact Name: Leann Graham
Address: 500 - -2955 Virtual Way, Vancouver BC V5M 4X6
Phone: (604)251-8441 Fax: (604)251-8510
Email: lgraham@klohn.com;lhollingsworth@klohn.com

PROJECT INFORMATION:

Quotation #: B03165
P.O. #:
Project #:
Project Name:
Site #:
Sampled By:

Laboratory Use Only:

MAXXAM JOB #:
BOTTLE ORDER #: 219473
CHAIN OF CUSTODY #: C#219473-01-02
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 14	Nov 4/10	12:48 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 15	Nov 4/10	7:43 Am	WT			✓	✓	✓	✓	✓	✓	–	✓	✓	✓	18	
3		SW16	Nov 4/10	10:00 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW17	Nov 4/10	8:40 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW18	Nov 4/10	2:41 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6																			
7																			
8																			
9																			
10																			

0/11°C
11.3/3°C
0/0/0°C
1/1/1°C
4/4/4°C
81 ~~11111°C~~ 1111°C
2/3/1°C
3/2/3°C
0/0/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Barbara Beven Burnell	2010/10/04	9:45pm	Daisy Tang	2010/11/06	10:57	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X		☐ Yes ☐ No

White: Maxxam Yellow: Client

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 219473
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#219473-01-03	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

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SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

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Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1	NOV 4/10	12:13 pm	WT			✓	18	
2		SW 2	NOV 4/10	12:28 pm	WT			✓	18	
3		SW 3	NOV 4/10	208 pm	WT			✓	18	
4		SW 4	NOV 4/10	11:05 Am	WT			✓	18	
5		SW 8	NOV 4/10	1:45 pm	WT			✓	18	
6		SW7A	NOV 4/10	3:00 pm	WT			✓	18	0|1|1°C 1|3|3°C
7		SW 10	NOV 4/10	11:50 Am	WT			✓	18	0|0|0°C 1|1|1°C
8		SW 11	NOV 4/10	11:31 Am	WT			✓	18	4|4|4°C 1|1|1°C
9		SW 12	NOV 4/10	1:35 pm	WT			✓	18	2|3|1°C 3|2|3°C
10		SW 13	NOV 4/10	2:27 pm	WT			✓	18	0|0|1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Mr Kurt Bevan Burnell	2010/10/04	9:45pm	Daisy Tsang	2010/11/06	10:57		X		☐ Yes ☐ No

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PROJECT INFORMATION:

Quotation #: B03165
P.O. #:
Project #:
Project Name:
Site #:
Sampled By:

Laboratory Use Only:

MAXXAM JOB #:
BOTTLE ORDER #: 219473
CHAIN OF CUSTODY #: C#219473-02-03
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

☐ MISA ☐ Reg. 153/04 ☐ PWQO ☐ Reg. 558
Table 1 / Table 2 / Table 3 / Table 6
Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse
Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
Municipality:
Report Criteria on C of A? ☐
Other (specify):

Reg. 153 ☐ 2004 ☐ 2011

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3		SW16	Nov 4/10	10:00 Am	WT			✓	18	0|0|0°C
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5		SW18	Nov 4/10	2:41 pm	WT			✓	18	4|4|4°C
6										1|1|1°C
7										2|3|1°C
8										3|2|3°C
9										0|0|1°C
10										

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*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Melissa Bevan Burnell	10/10/04	9:45 am	Darcy Tang	2010/11/01	10:57	

Laboratory Use Only		
Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X		☐ Yes ☐ No

White: Maxxam Yellow: Client

*IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Your Project #: MB0F9474
Your C.O.C. #: 08325062

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/11/10

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0A9354
Received: 2010/11/09, 08:45

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/11/10	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: AKhalsa@maxxam.ca
Phone# (604) 639-8432

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B0A9354
Report Date: 2010/11/10

MAXXAM ANALYTICS INC.
Client Project #: MB0F9474

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Y31421	Y31422	Y31423	Y31424	Y31425		
Sampling Date		2010/11/04	2010/11/04	2010/11/04	2010/11/04	2010/11/04		
COC Number		08325062	08325062	08325062	08325062	08325062		
	Units	**SW1 (HT8489-12R)**	**SW2 (HT8490-12R)**	**SW3 (HT8491-12R)**	**SW4 (HT8492-12R)**	**SW6 (HT8493-12R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0011	0.0009	0.0010	0.0010	0.0009	0.0005	4416928

RDL = Reportable Detection Limit

Maxxam ID		Y31426	Y31427	Y31428	Y31429	Y31430		
Sampling Date		2010/11/04	2010/11/04	2010/11/04	2010/11/04	2010/11/04		
COC Number		08325062	08325062	08325062	08325062	08325062		
	Units	**SW7A (HT8494-12R)**	**SW10 (HT8495-12R)**	**SW11 (HT8496-12R)**	**SW112A (HT8497-12R)**	**SW13 (HT8498-12R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0010	0.0011	0.0011	0.0009	0.0009	0.0005	4416928

RDL = Reportable Detection Limit

Maxxam ID		Y31431	Y31432	Y31433	Y31434	Y31435		
Sampling Date		2010/11/04	2010/11/04	2010/11/04	2010/11/04	2010/11/04		
COC Number		08325062	08325062	08325062	08325062	08325062		
	Units	**SW14 (HT8499-12R)**	**SW15 (HT8500-12R)**	**SW16 (HT8501-12R)**	**SW17 (HT8502-12R)**	**SW18 (HT8503-12R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0009	0.0011	0.0007	0.0009	0.0010	0.0005	4416928

RDL = Reportable Detection Limit

Maxxam ID		Y31436	Y31436		
Sampling Date					
COC Number		08325062	08325062		
	Units	**TRIP BLANK (HT8504-12R)**	**TRIP BLANK (HT8504-12R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0005	4416928

RDL = Reportable Detection Limit

Maxxam Job #: B0A9354
Report Date: 2010/11/10

MAXXAM ANALYTICS INC.
Client Project #: MB0F9474

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB0F9474
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB0A9354

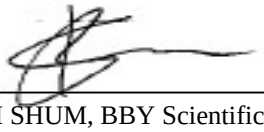
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4416928	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/11/10		102	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/11/10		102	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/11/10	<0.0005		mg/L	
		RPD [Y31436-01]	Weak Acid Dissoc. Cyanide (CN)	2010/11/10	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0A9354

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



TOM SHUM, BBY Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
November 2010

Your C.O.C. #: 22666601, 226666-01-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/12/20

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0H6949
Received: 2010/12/08, 10:15

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/12/10	2010/12/20	SLA SOP-00100	APHA SM2310B (Mod)
Alkalinity	16	N/A	2010/12/10	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2010/12/13	CAM SOP-00102	APHA 4500-CO2 D
Biological Oxygen Demand (BOD)	16	N/A	2010/12/15	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	16	N/A	2010/12/13	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2010/12/10	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2010/12/14	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2010/12/10	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2010/12/10	CAM SOP-00448	SM 2510
Total Cyanide	15	2010/12/10	2010/12/10	CAM SOP-00457	EPA 335.3
Total Cyanide	1	2010/12/13	2010/12/14	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	1	N/A	2010/12/10	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	15	N/A	2010/12/13	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/12/09	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2010/12/10	2010/12/10	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/12/09		
Hardness (calculated as CaCO3)	16	N/A	2010/12/14	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	16	2010/12/10	2010/12/10	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	16	2010/12/14	2010/12/14	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	16	2010/12/13	2010/12/13	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	16	N/A	2010/12/14	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2010/12/13	2010/12/14	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2010/12/14	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (9)	9	N/A	2010/12/13	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (9)	7	N/A	2010/12/14	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2010/12/10	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2010/12/09	2010/12/10	CAM SOP-00326	EPA 1664A
pH	16	N/A	2010/12/10	CAM SOP-00448	SM 4500H
Orthophosphate	16	N/A	2010/12/13	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	14	N/A	2010/12/13	ATL SOP 00022 R3	Based on EPA 366.0
Reactive Silica (2)	2	N/A	2010/12/14	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	16	N/A	2010/12/13	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2010/12/10	2010/12/15	APHA-SM 2580 B Mod. & ASTM D1498-76 Mod.	
Sulphide	8	N/A	2010/12/10	CAM SOP-00455	SM 4500-S G
Sulphide	7	N/A	2010/12/14	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	3	N/A	2010/12/11	CAM SOP-00428	APHA 2540C
Total Dissolved Solids	13	N/A	2010/12/13	CAM SOP-00428	APHA 2540C

../2

Your C.O.C. #: 22666601, 226666-01-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/12/20

CERTIFICATE OF ANALYSIS

-2-

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Total Kjeldahl Nitrogen in Water	16	2010/12/13	2010/12/15	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2010/12/10	CAM SOP-00446	SM 5310B
Dissolved Phosphorus	15	2010/12/13	2010/12/14	CAM SOP-00407	APHA 4500 P,B,F
Dissolved Phosphorus	1	2010/12/15	2010/12/16	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	15	2010/12/13	2010/12/14	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	1	2010/12/15	2010/12/16	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2010/12/09	2010/12/10	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	12	N/A	2010/12/10	CAM SOP-00428	SM 2540D
Low Level Total Suspended Solids	4	N/A	2010/12/13	CAM SOP-00428	SM 2540D
Turbidity	6	N/A	2010/12/10	CAM SOP-00417	APHA 2130B
Turbidity	10	N/A	2010/12/13	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: ABrasil@maxxam.ca
Phone# (905) 817-5817

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2291	IC2291			IC2292		
Sampling Date		2010/12/06 12:01	2010/12/06 12:01			2010/12/06 14:30		
COC Number		226666-01-02	226666-01-02			226666-01-02		
	Units	**SW 1A**	**SW 1A Lab-Dup**	**RDL**	**QC Batch**	**SW 2**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2352892	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	114	N/A	1	2353242	107	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2353242	ND	1	2353242
Hardness (CaCO3)	mg/L	130	N/A	1	2354227	120	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2353242	ND	1	2353242
Inorganics								
Acidity as CaC03	mg/L	17	N/A	10	2355628	ND	10	2355628
Total Ammonia-N	mg/L	ND	N/A	0.05	2355646	ND	0.05	2355646
Total BOD	mg/L	ND	ND	2	2355168	ND	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	75	N/A	4	2356076	62	4	2356076
Colour	TCU	140	N/A	4	2356015	99	2	2356015
Conductivity	umho/cm	245	N/A	1	2356037	206	1	2356037
Total Dissolved Solids	mg/L	156	N/A	10	2355649	148	10	2356574
Fluoride (F-)	mg/L	ND	N/A	0.1	2356038	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.2	2357171	0.8	0.2	2357171
Dissolved Organic Carbon	mg/L	24.7	N/A	0.2	2357382	20.0	0.2	2357221
Total Organic Carbon (TOC)	mg/L	25.1	N/A	0.2	2355701	20.7	0.2	2355701
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2356177	ND	0.01	2356177
Dissolved Oxygen	mg/L	10.6	N/A	N/A	2354738	12.4	N/A	2354738
pH	pH	7.55	N/A	N/A	2356039	7.76	N/A	2356039
Dissolved Phosphorus	mg/L	0.031	N/A	0.002	2357104	0.021	0.002	2357104
Total Phosphorus	mg/L	0.036	N/A	0.002	2357105	0.021	0.002	2357105
Reactive Silica (SiO2)	mg/L	11	N/A	0.5	2355871	9.5	0.5	2355871
Total Suspended Solids	mg/L	6	N/A	1	2355710	3	1	2355721
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2356176	ND	1	2356176
Sulphide	mg/L	ND	N/A	0.02	2355405	ND	0.02	2355405
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2355272	ND	0.005	2355272
Turbidity	NTU	3.9	3.9	0.1	2357084	3.3	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	114	N/A	1	2356035	108	1	2356035
Dissolved Chloride (Cl)	mg/L	7	N/A	1	2356174	1	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2291	IC2291			IC2292		
Sampling Date		2010/12/06 12:01	2010/12/06 12:01			2010/12/06 14:30		
COC Number		226666-01-02	226666-01-02			226666-01-02		
	Units	**SW 1A**	**SW 1A Lab-Dup**	**RDL**	**QC Batch**	**SW 2**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2356094	ND	0.01	2356094
Nitrate (N)	mg/L	ND	N/A	0.1	2356094	ND	0.1	2356094
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2356094	ND	0.1	2356094
Subcontracted Analysis								
Redox Potential	mV	+244	N/A	N/A	2355627	+231	N/A	2355627
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2354704	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2354783	ND	0.5	2354783

ND = Not detected
N/A = Not Applicable
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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2293			IC2294	IC2294		
Sampling Date		2010/12/06 14:50			2010/12/06 10:40	2010/12/06 10:40		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 3**	**RDL**	**QC Batch**	**SW 4**	**SW 4 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2352892	ND	N/A	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	140	1	2353242	44	N/A	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Hardness (CaCO3)	mg/L	150	1	2354227	53	N/A	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Inorganics								
Acidity as CaC03	mg/L	19	10	2355628	15	N/A	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646	ND	N/A	0.05	2355646
Total BOD	mg/L	ND	2	2355168	ND	N/A	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	65	4	2356076	80	81	4	2356076
Colour	TCU	89	2	2356015	140	N/A	4	2356015
Conductivity	umho/cm	283	1	2356037	106	N/A	1	2356037
Total Dissolved Solids	mg/L	188	10	2355649	64	N/A	10	2355649
Fluoride (F-)	mg/L	ND	0.1	2356038	ND	N/A	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	0.1	2357171	1.0	N/A	0.2	2357171
Dissolved Organic Carbon	mg/L	22.1	0.2	2357221	27.6	N/A	0.2	2357221
Total Organic Carbon (TOC)	mg/L	23.3	0.2	2355701	28.5	N/A	0.2	2355701
Orthophosphate (P)	mg/L	0.01	0.01	2356177	ND	N/A	0.01	2356177
Dissolved Oxygen	mg/L	10.8	N/A	2354738	9.63	N/A	N/A	2354738
pH	pH	7.63	N/A	2356039	7.26	N/A	N/A	2356039
Dissolved Phosphorus	mg/L	0.032	0.002	2357104	0.018	N/A	0.002	2357104
Total Phosphorus	mg/L	0.036	0.002	2357105	0.016	N/A	0.002	2357105
Reactive Silica (SiO2)	mg/L	11	0.5	2355871	9.8	N/A	0.5	2355871
Total Suspended Solids	mg/L	4	1	2355721	12	N/A	1	2355179
Dissolved Sulphate (SO4)	mg/L	ND	1	2356176	ND	N/A	1	2356176
Sulphide	mg/L	ND	0.02	2355405	ND	N/A	0.02	2357068
Total Cyanide (CN)	mg/L	ND	0.005	2355272	ND	N/A	0.005	2355272
Turbidity	NTU	3.2	0.1	2357084	1.5	N/A	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	140	1	2356035	44	N/A	1	2356035
Dissolved Chloride (Cl)	mg/L	5	1	2356174	5	N/A	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2293			IC2294	IC2294		
Sampling Date		2010/12/06 14:50			2010/12/06 10:40	2010/12/06 10:40		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 3**	**RDL**	**QC Batch**	**SW 4**	**SW 4 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2356094	ND	N/A	0.01	2356097
Nitrate (N)	mg/L	ND	0.1	2356094	ND	N/A	0.1	2356097
Nitrate + Nitrite	mg/L	ND	0.1	2356094	ND	N/A	0.1	2356097
Subcontracted Analysis								
Redox Potential	mV	+237	N/A	2355627	+253	N/A	N/A	2355627
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2354704	ND	N/A	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2354783	ND	N/A	0.5	2354783

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2295	IC2295		IC2296		
Sampling Date		2010/12/06 09:30	2010/12/06 09:30		2010/12/06 14:00		
COC Number		226666-01-02	226666-01-02		226666-01-02		
	Units	**SW 6**	**SW 6 Lab-Dup**	**QC Batch**	**SW 7A**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	2352892	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	25	N/A	2353242	159	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2353242	1	1	2353242
Hardness (CaCO3)	mg/L	28	N/A	2354227	170	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2353242	ND	1	2353242
Inorganics							
Acidity as CaC03	mg/L	ND	N/A	2355628	13	10	2355628
Total Ammonia-N	mg/L	ND	N/A	2355646	ND	0.05	2355646
Total BOD	mg/L	ND	N/A	2355168	ND	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	36	N/A	2356076	49	4	2356076
Colour	TCU	45	N/A	2356015	66	2	2356015
Conductivity	umho/cm	70	N/A	2356037	308	1	2356037
Total Dissolved Solids	mg/L	48	N/A	2355649	212	10	2355649
Fluoride (F-)	mg/L	ND	N/A	2356038	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	0.5	N/A	2357171	0.7	0.1	2357171
Dissolved Organic Carbon	mg/L	10.8	N/A	2357221	15.7	0.2	2357382
Total Organic Carbon (TOC)	mg/L	11.0	N/A	2355701	16.8	0.2	2355701
Orthophosphate (P)	mg/L	ND	N/A	2356177	0.01	0.01	2356177
Dissolved Oxygen	mg/L	11.5	N/A	2354738	11.0	N/A	2354738
pH	pH	7.29	N/A	2356039	7.86	N/A	2356039
Dissolved Phosphorus	mg/L	0.017	N/A	2357104	0.025	0.002	2357104
Total Phosphorus	mg/L	0.024	N/A	2357105	0.031	0.002	2357105
Reactive Silica (SiO2)	mg/L	3.2	N/A	2355871	11	0.5	2355871
Total Suspended Solids	mg/L	2	N/A	2355179	6	1	2355179
Dissolved Sulphate (SO4)	mg/L	3	N/A	2356176	ND	1	2356176
Sulphide	mg/L	ND	N/A	2355405	ND	0.02	2355405
Total Cyanide (CN)	mg/L	ND	N/A	2355272	ND	0.005	2355272
Turbidity	NTU	1.7	N/A	2357084	32	0.1	2354598
Alkalinity (Total as CaCO3)	mg/L	25	N/A	2356035	160	1	2356035
Dissolved Chloride (Cl)	mg/L	3	N/A	2356174	3	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2295	IC2295		IC2296		
Sampling Date		2010/12/06 09:30	2010/12/06 09:30		2010/12/06 14:00		
COC Number		226666-01-02	226666-01-02		226666-01-02		
	Units	**SW 6**	**SW 6 Lab-Dup**	**QC Batch**	**SW 7A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	2356094	ND	0.01	2355784
Nitrate (N)	mg/L	ND	N/A	2356094	ND	0.1	2355784
Nitrate + Nitrite	mg/L	ND	N/A	2356094	ND	0.1	2355784
Subcontracted Analysis							
Redox Potential	mV	+244	+248	2355627	+234	N/A	2355627
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	N/A	2354704	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	2354783	ND	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2296			IC2297		
Sampling Date		2010/12/06 14:00			2010/12/06 11:35		
COC Number		226666-01-02			226666-01-02		
	Units	**SW 7A Lab-Dup**	**RDL**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	0.5	2352892	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2353242	116	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2353242	ND	1	2353242
Hardness (CaCO3)	mg/L	N/A	1	2354227	130	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	2353242	ND	1	2353242
Inorganics							
Acidity as CaC03	mg/L	N/A	10	2355628	18	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646	ND	0.05	2355646
Total BOD	mg/L	N/A	2	2355168	ND	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	2356076	70	4	2356076
Colour	TCU	N/A	2	2356015	120	4	2356015
Conductivity	umho/cm	N/A	1	2356037	246	1	2356037
Total Dissolved Solids	mg/L	N/A	10	2355649	166	10	2355649
Fluoride (F-)	mg/L	N/A	0.1	2356038	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.1	2357171	1.0	0.2	2357171
Dissolved Organic Carbon	mg/L	N/A	0.2	2357382	24.9	0.2	2357221
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2355701	25.1	0.2	2355701
Orthophosphate (P)	mg/L	0.01	0.01	2356177	0.01	0.01	2356177
Dissolved Oxygen	mg/L	N/A	N/A	2354738	10.2	N/A	2354738
pH	pH	N/A	N/A	2356039	7.61	N/A	2356039
Dissolved Phosphorus	mg/L	N/A	0.002	2357104	0.031	0.002	2357104
Total Phosphorus	mg/L	N/A	0.002	2357105	0.030	0.002	2357105
Reactive Silica (SiO2)	mg/L	N/A	0.5	2355871	11	0.5	2355871
Total Suspended Solids	mg/L	N/A	1	2355179	4	1	2355179
Dissolved Sulphate (SO4)	mg/L	ND	1	2356176	ND	1	2356176
Sulphide	mg/L	N/A	0.02	2355405	ND	0.02	2355405
Total Cyanide (CN)	mg/L	N/A	0.005	2355272	ND	0.005	2355272
Turbidity	NTU	N/A	0.1	2354598	4.0	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	N/A	1	2356035	116	1	2356035
Dissolved Chloride (Cl)	mg/L	3	1	2356174	7	1	2356174

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2296			IC2297		
Sampling Date		2010/12/06 14:00			2010/12/06 11:35		
COC Number		226666-01-02			226666-01-02		
	Units	**SW 7A Lab-Dup**	**RDL**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	0.01	2355784	ND	0.01	2356097
Nitrate (N)	mg/L	N/A	0.1	2355784	ND	0.1	2356097
Nitrate + Nitrite	mg/L	N/A	0.1	2355784	ND	0.1	2356097
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	2355627	+232	N/A	2355627
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	0.5	2354704	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	0.5	2354783	ND	0.5	2354783

ND = Not detected
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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2298			IC2299		
Sampling Date		2010/12/06 11:05			2010/12/06 15:30		
COC Number		226666-01-02			226666-01-02		
	Units	**SW 11**	**RDL**	**QC Batch**	**SW 12A**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2352892	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	80	1	2353242	43	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	1	2353242
Hardness (CaCO3)	mg/L	92	1	2354227	47	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	1	2353242
Inorganics							
Acidity as CaC03	mg/L	20	10	2355628	27	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646	0.11	0.05	2355646
Total BOD	mg/L	ND	2	2355168	3	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	83	4	2356076	73	4	2356076
Colour	TCU	160	4	2356015	150	4	2356015
Conductivity	umho/cm	156	1	2356037	89	1	2356037
Total Dissolved Solids	mg/L	96	10	2355649	58	10	2355649
Fluoride (F-)	mg/L	ND	0.1	2356038	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	1.6	0.5	2357171	1.3	0.2	2357171
Dissolved Organic Carbon	mg/L	31.8	0.2	2357221	22.1	0.2	2357382
Total Organic Carbon (TOC)	mg/L	32.5	0.2	2355701	24.4	0.2	2355701
Orthophosphate (P)	mg/L	ND	0.01	2355768	ND	0.01	2356177
Dissolved Oxygen	mg/L	8.04	N/A	2354738	3.76	N/A	2354738
pH	pH	7.40	N/A	2356039	6.94	N/A	2356039
Dissolved Phosphorus	mg/L	0.020	0.002	2357104	0.018	0.002	2357104
Total Phosphorus	mg/L	0.053	0.002	2357105	0.073	0.002	2357105
Reactive Silica (SiO2)	mg/L	11	0.5	2355871	4.2	0.5	2355871
Total Suspended Solids	mg/L	2	1	2355179	8	1	2355179
Dissolved Sulphate (SO4)	mg/L	ND	1	2355769	ND	1	2356176
Sulphide	mg/L	N/A	N/A	N/A	ND	0.02	2357068
Total Cyanide (CN)	mg/L	ND	0.005	2356989	ND	0.005	2355272
Turbidity	NTU	6.4	0.1	2355608	8.3	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	80	1	2356035	43	1	2356035
Dissolved Chloride (Cl)	mg/L	2	1	2355756	1	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2298			IC2299		
Sampling Date		2010/12/06 11:05			2010/12/06 15:30		
COC Number		226666-01-02			226666-01-02		
	Units	**SW 11**	**RDL**	**QC Batch**	**SW 12A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2355784	ND	0.01	2356094
Nitrate (N)	mg/L	ND	0.1	2355784	ND	0.1	2356094
Nitrate + Nitrite	mg/L	ND	0.1	2355784	ND	0.1	2356094
Subcontracted Analysis							
Redox Potential	mV	+238	N/A	2355627	+252	N/A	2355627
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	0.5	2354704	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2354783	ND	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2300	IC2300			IC2301		
Sampling Date		2010/12/06 13:11	2010/12/06 13:11			2010/12/06 14:55		
COC Number		226666-01-02	226666-01-02			226666-01-02		
	Units	**SW 13**	**SW 13 Lab-Dup**	**RDL**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2352892	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	141	N/A	1	2353242	57	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2353242	ND	1	2353242
Hardness (CaCO3)	mg/L	150	N/A	1	2354227	64	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2353242	ND	1	2353242
Inorganics								
Acidity as CaC03	mg/L	17	18	10	2355628	20	10	2355628
Total Ammonia-N	mg/L	ND	N/A	0.05	2355646	ND	0.05	2355646
Total BOD	mg/L	ND	N/A	2	2355168	ND	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	55	N/A	4	2356076	69	4	2356076
Colour	TCU	57	N/A	2	2356015	140	4	2356015
Conductivity	umho/cm	269	N/A	1	2356037	111	1	2356037
Total Dissolved Solids	mg/L	168	N/A	10	2355649	84	10	2355649
Fluoride (F-)	mg/L	ND	N/A	0.1	2356038	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	0.7	N/A	0.1	2357171	0.8	0.2	2357171
Dissolved Organic Carbon	mg/L	18.4	N/A	0.2	2357382	25.5	0.2	2357221
Total Organic Carbon (TOC)	mg/L	18.7	N/A	0.2	2355701	25.6	0.2	2355701
Orthophosphate (P)	mg/L	ND	N/A	0.01	2356177	ND	0.01	2355768
Dissolved Oxygen	mg/L	9.78	N/A	N/A	2354738	7.28	N/A	2354738
pH	pH	7.68	N/A	N/A	2356039	7.14	N/A	2356039
Dissolved Phosphorus	mg/L	0.020	N/A	0.002	2357104	0.015	0.002	2359833
Total Phosphorus	mg/L	0.021	N/A	0.002	2357105	0.012	0.002	2359825
Reactive Silica (SiO2)	mg/L	9.7	N/A	0.5	2355871	9.2	0.5	2355871
Total Suspended Solids	mg/L	4	N/A	1	2355179	ND	1	2355179
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2356176	ND	1	2355769
Sulphide	mg/L	ND	N/A	0.02	2355405	ND	0.02	2357068
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2355272	ND	0.005	2355272
Turbidity	NTU	3.0	N/A	0.1	2357084	0.6	0.1	2355608
Alkalinity (Total as CaCO3)	mg/L	142	N/A	1	2356035	57	1	2356035
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2356174	2	1	2355756

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2300	IC2300			IC2301		
Sampling Date		2010/12/06 13:11	2010/12/06 13:11			2010/12/06 14:55		
COC Number		226666-01-02	226666-01-02			226666-01-02		
	Units	**SW 13**	**SW 13 Lab-Dup**	**RDL**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2356094	ND	0.01	2355784
Nitrate (N)	mg/L	ND	N/A	0.1	2356094	ND	0.1	2355784
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2356094	ND	0.1	2355784
Subcontracted Analysis								
Redox Potential	mV	+222	+232	N/A	2355627	+249	N/A	2355627
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2354704	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2354783	ND	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2302			IC2303	IC2303		
Sampling Date		2010/12/06 20:30			2010/12/06 09:45	2010/12/06 09:45		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 15**	**RDL**	**QC Batch**	**SW 16**	**SW 16 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2352892	ND	N/A	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	99	1	2353242	27	N/A	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Hardness (CaCO3)	mg/L	120	1	2354227	29	N/A	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Inorganics								
Acidity as CaC03	mg/L	19	10	2355628	ND	N/A	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646	ND	N/A	0.05	2355646
Total BOD	mg/L	ND	2	2355168	ND	N/A	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	83	4	2356076	35	N/A	4	2356076
Colour	TCU	160	4	2356015	42	N/A	2	2356015
Conductivity	umho/cm	209	1	2356037	71	71	1	2356037
Total Dissolved Solids	mg/L	144	10	2355649	46	N/A	10	2355649
Fluoride (F-)	mg/L	ND	0.1	2356038	ND	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	0.2	2357171	0.5	N/A	0.1	2357171
Dissolved Organic Carbon	mg/L	30.5	0.2	2357221	10.8	N/A	0.2	2357382
Total Organic Carbon (TOC)	mg/L	32.1	0.2	2355701	11.2	N/A	0.2	2355701
Orthophosphate (P)	mg/L	ND	0.01	2355768	ND	N/A	0.01	2356177
Dissolved Oxygen	mg/L	9.32	N/A	2354738	11.2	N/A	N/A	2354738
pH	pH	7.46	N/A	2356039	7.25	7.26	N/A	2356039
Dissolved Phosphorus	mg/L	0.029	0.002	2357104	0.015	0.013	0.002	2357104
Total Phosphorus	mg/L	0.037	0.002	2357105	0.021	0.021	0.002	2357105
Reactive Silica (SiO2)	mg/L	11	0.5	2355871	3.1	N/A	0.5	2355871
Total Suspended Solids	mg/L	33	1	2357088	3	N/A	1	2355179
Dissolved Sulphate (SO4)	mg/L	ND	1	2355769	3	N/A	1	2356176
Sulphide	mg/L	ND	0.02	2357068	ND	ND	0.02	2357068
Total Cyanide (CN)	mg/L	ND	0.005	2355272	ND	ND	0.005	2355272
Turbidity	NTU	12	0.1	2355608	2.0	N/A	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	100	1	2356035	27	24	1	2356035
Dissolved Chloride (Cl)	mg/L	4	1	2355756	2	N/A	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2302			IC2303	IC2303		
Sampling Date		2010/12/06 20:30			2010/12/06 09:45	2010/12/06 09:45		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 15**	**RDL**	**QC Batch**	**SW 16**	**SW 16 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2355784	ND	N/A	0.01	2356094
Nitrate (N)	mg/L	ND	0.1	2355784	ND	N/A	0.1	2356094
Nitrate + Nitrite	mg/L	ND	0.1	2355784	ND	N/A	0.1	2356094
Subcontracted Analysis								
Redox Potential	mV	+240	N/A	2355627	+237	N/A	N/A	2355627
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2354704	ND	N/A	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2354783	ND	N/A	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2304			IC2305	IC2305		
Sampling Date		2010/12/06 07:45			2010/12/06 13:30	2010/12/06 13:30		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 17**	**RDL**	**QC Batch**	**SW 18**	**SW 18 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2352892	ND	N/A	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	39	1	2353242	145	N/A	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Hardness (CaCO3)	mg/L	43	1	2354227	160	N/A	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242	ND	N/A	1	2353242
Inorganics								
Acidity as CaC03	mg/L	ND	10	2355628	26	N/A	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646	ND	N/A	0.05	2355646
Total BOD	mg/L	ND	2	2355168	ND	N/A	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	43	4	2356076	62	N/A	4	2356076
Colour	TCU	62	2	2356015	91	N/A	2	2356015
Conductivity	umho/cm	95	1	2356037	281	N/A	1	2356037
Total Dissolved Solids	mg/L	62	10	2355649	174	N/A	10	2356574
Fluoride (F-)	mg/L	ND	0.1	2356038	ND	N/A	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	0.6	0.1	2357171	1.0	1.0	0.2	2357171
Dissolved Organic Carbon	mg/L	14.2	0.2	2357221	23.2	N/A	0.2	2357382
Total Organic Carbon (TOC)	mg/L	14.7	0.2	2355701	23.2	N/A	0.2	2355701
Orthophosphate (P)	mg/L	ND	0.01	2355768	0.01	N/A	0.01	2356177
Dissolved Oxygen	mg/L	12.1	N/A	2354738	6.98	N/A	N/A	2354738
pH	pH	7.44	N/A	2356039	7.47	N/A	N/A	2356039
Dissolved Phosphorus	mg/L	0.020	0.002	2357104	0.037	N/A	0.002	2357104
Total Phosphorus	mg/L	0.024	0.002	2357105	0.034	N/A	0.002	2357105
Reactive Silica (SiO2)	mg/L	4.3	0.5	2355871	14	N/A	0.5	2355871
Total Suspended Solids	mg/L	2	1	2355710	ND	N/A	1	2355710
Dissolved Sulphate (SO4)	mg/L	ND	1	2355769	ND	N/A	1	2356176
Sulphide	mg/L	ND	0.02	2355405	ND	N/A	0.02	2357068
Total Cyanide (CN)	mg/L	ND	0.005	2355272	ND	N/A	0.005	2355272
Turbidity	NTU	3.5	0.1	2355608	2.0	N/A	0.1	2357084
Alkalinity (Total as CaCO3)	mg/L	39	1	2356035	145	N/A	1	2356035
Dissolved Chloride (Cl)	mg/L	3	1	2355756	3	N/A	1	2356174

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2304			IC2305	IC2305		
Sampling Date		2010/12/06 07:45			2010/12/06 13:30	2010/12/06 13:30		
COC Number		226666-01-02			226666-01-02	226666-01-02		
	Units	**SW 17**	**RDL**	**QC Batch**	**SW 18**	**SW 18 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	0.01	2355784	ND	ND	0.01	2356097
Nitrate (N)	mg/L	ND	0.1	2355784	ND	ND	0.1	2356097
Nitrate + Nitrite	mg/L	ND	0.1	2355784	ND	ND	0.1	2356097
Subcontracted Analysis								
Redox Potential	mV	+228	N/A	2355627	+230	+226	N/A	2355627
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	0.5	2354704	ND	N/A	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2354783	ND	N/A	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2306		
Sampling Date				
COC Number		226666-01-02		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.5	2352892
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242
Hardness (CaCO3)	mg/L	ND	1	2354227
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2353242
Inorganics				
Acidity as CaC03	mg/L	ND	10	2355628
Total Ammonia-N	mg/L	ND	0.05	2355646
Total BOD	mg/L	ND	2	2355168
Total Chemical Oxygen Demand (COD)	mg/L	12	4	2356076
Colour	TCU	ND	2	2356015
Conductivity	umho/cm	2	1	2356037
Total Dissolved Solids	mg/L	ND	10	2356574
Fluoride (F-)	mg/L	ND	0.1	2356038
Total Kjeldahl Nitrogen (TKN)	mg/L	ND	0.1	2357171
Dissolved Organic Carbon	mg/L	0.2	0.2	2355606
Total Organic Carbon (TOC)	mg/L	0.2	0.2	2355701
Orthophosphate (P)	mg/L	ND	0.01	2355768
Dissolved Oxygen	mg/L	12.1	N/A	2354738
pH	pH	6.12	N/A	2356039
Dissolved Phosphorus	mg/L	0.007	0.002	2357104
Total Phosphorus	mg/L	0.004	0.002	2357105
Reactive Silica (SiO2)	mg/L	ND	0.5	2355871
Total Suspended Solids	mg/L	ND	1	2355721
Dissolved Sulphate (SO4)	mg/L	ND	1	2355769
Sulphide	mg/L	ND	0.02	2357068
Total Cyanide (CN)	mg/L	ND	0.005	2355272
Turbidity	NTU	0.2	0.1	2355608
Alkalinity (Total as CaCO3)	mg/L	ND	1	2356035
Dissolved Chloride (Cl)	mg/L	ND	1	2355756
Nitrite (N)	mg/L	ND	0.01	2355792

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

RESULTS OF ANALYSES OF WATER

Maxxam ID		IC2306		
Sampling Date				
COC Number		226666-01-02		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	0.1	2355792
Nitrate + Nitrite	mg/L	ND	0.1	2355792
Subcontracted Analysis				
Redox Potential	mV	+281	N/A	2355627
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	ND	0.5	2354704
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.5	2354783

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

PERMANENT GASES (WATER)

Maxxam ID		IC2291	IC2292	IC2293	IC2294		
Sampling Date		2010/12/06 12:01	2010/12/06 14:30	2010/12/06 14:50	2010/12/06 10:40		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**SW 4**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	7.2	2.8	9.1	3.3	0.6	2355413
Calculated Carbon Dioxide	mg/L	13	5	16	6	1	2353538

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		IC2295	IC2296	IC2297	IC2298		
Sampling Date		2010/12/06 09:30	2010/12/06 14:00	2010/12/06 11:35	2010/12/06 11:05		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 6**	**SW 7A**	**SW 10**	**SW 11**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	0.9	4.7	6.2	8.9	0.6	2355413
Calculated Carbon Dioxide	mg/L	2	9	11	16	1	2353538

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		IC2299	IC2300	IC2301	IC2302		
Sampling Date		2010/12/06 15:30	2010/12/06 13:11	2010/12/06 14:55	2010/12/06 20:30		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 12A**	**SW 13**	**SW 14**	**SW 15**	**RDL**	**QC Batch**
Fixed Gases							
Carbon Dioxide	L/m3	13	7.6	10	7.3	0.6	2355413
Calculated Carbon Dioxide	mg/L	23	14	19	13	1	2353538

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

PERMANENT GASES (WATER)

Maxxam ID		IC2303	IC2304	IC2305	IC2305	IC2306		
Sampling Date		2010/12/06 09:45	2010/12/06 07:45	2010/12/06 13:30	2010/12/06 13:30			
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 16**	**SW 17**	**SW 18**	**SW 18 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	0.8	1.3	14	13	1.1	0.6	2355413
Calculated Carbon Dioxide	mg/L	1	2	25	N/A	2	1	2353538

N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2291	IC2292	IC2293		IC2294		
Sampling Date		2010/12/06 12:01	2010/12/06 14:30	2010/12/06 14:50		2010/12/06 10:40		
COC Number		226666-01-02	226666-01-02	226666-01-02		226666-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	ND	2355164	ND	0.0001	2355149
Dissolved Sulphur (S)	mg/L	1.4	ND	1.3	2358290	ND	0.5	2358290
Total Sulphur (S)	mg/L	1.6	0.5	1.6	2357536	ND	0.5	2357536
Dissolved Aluminum (Al)	ug/L	19	17	11	2357626	15	5	2357626
Total Aluminum (Al)	ug/L	160	100	180	2357528	80	5	2357528
Dissolved Antimony (Sb)	ug/L	ND	0.9	ND	2357626	ND	0.5	2357626
Total Antimony (Sb)	ug/L	ND	ND	ND	2357528	ND	0.5	2357528
Dissolved Arsenic (As)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Arsenic (As)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Barium (Ba)	ug/L	13	10	13	2357626	7	5	2357626
Total Barium (Ba)	ug/L	15	11	19	2357528	8	5	2357528
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	2357626	ND	0.5	2357626
Total Beryllium (Be)	ug/L	ND	ND	ND	2357528	ND	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	ND	1	ND	2357626	ND	1	2357626
Total Bismuth (Bi)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Boron (B)	ug/L	ND	ND	ND	2357626	ND	10	2357626
Total Boron (B)	ug/L	12	ND	13	2357528	ND	10	2357528
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	2357626	ND	0.1	2357626
Total Cadmium (Cd)	ug/L	ND	ND	ND	2357528	ND	0.1	2357528
Dissolved Calcium (Ca)	ug/L	30000	29000	36000	2357626	12000	200	2357626
Total Calcium (Ca)	ug/L	31000	28000	45000	2357528	13000	200	2357528
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	2357626	ND	5	2357626
Total Chromium (Cr)	ug/L	ND	ND	ND	2357528	ND	5	2357528
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	2357626	ND	0.5	2357626
Total Cobalt (Co)	ug/L	ND	ND	ND	2357528	ND	0.5	2357528
Dissolved Copper (Cu)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Copper (Cu)	ug/L	2	1	2	2357528	ND	1	2357528
Dissolved Iron (Fe)	ug/L	250	300	180	2357626	120	100	2357626
Total Iron (Fe)	ug/L	570	530	590	2357528	210	100	2357528
Dissolved Lead (Pb)	ug/L	ND	ND	ND	2357626	ND	0.5	2357626
Total Lead (Pb)	ug/L	ND	ND	ND	2357528	ND	0.5	2357528

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2291	IC2292	IC2293		IC2294		
Sampling Date		2010/12/06 12:01	2010/12/06 14:30	2010/12/06 14:50		2010/12/06 10:40		
COC Number		226666-01-02	226666-01-02	226666-01-02		226666-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	ND	ND	2357626	ND	5	2357626
Total Lithium (Li)	ug/L	ND	ND	ND	2357528	ND	5	2357528
Dissolved Magnesium (Mg)	ug/L	13000	11000	15000	2357626	5500	50	2357626
Total Magnesium (Mg)	ug/L	14000	12000	19000	2357528	5900	50	2357528
Dissolved Manganese (Mn)	ug/L	20	35	13	2357626	10	2	2357626
Total Manganese (Mn)	ug/L	47	61	60	2357528	25	2	2357528
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Molybdenum (Mo)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Nickel (Ni)	ug/L	1	ND	ND	2357626	ND	1	2357626
Total Nickel (Ni)	ug/L	1	ND	2	2357528	ND	1	2357528
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	2357626	ND	100	2357626
Dissolved Potassium (K)	ug/L	1300	550	1100	2357626	800	200	2357626
Total Potassium (K)	ug/L	1400	600	1500	2357528	880	200	2357528
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2357626	ND	2	2357626
Dissolved Silicon (Si)	ug/L	4700	4300	4900	2357626	4300	50	2357626
Total Silicon (Si)	ug/L	5300	4600	6500	2357528	4700	50	2357528
Total Selenium (Se)	ug/L	ND	ND	ND	2357528	ND	2	2357528
Dissolved Silver (Ag)	ug/L	ND	ND	ND	2357626	ND	0.1	2357626
Total Silver (Ag)	ug/L	ND	ND	ND	2357528	ND	0.1	2357528
Dissolved Sodium (Na)	ug/L	4500	1400	3600	2357626	3300	100	2357626
Total Sodium (Na)	ug/L	4400	1400	4400	2357528	3900	100	2357528
Dissolved Strontium (Sr)	ug/L	66	41	67	2357626	24	1	2357626
Total Strontium (Sr)	ug/L	75	45	93	2357528	28	1	2357528
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Tellurium (Te)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	2357626	ND	0.05	2357626
Total Thallium (Tl)	ug/L	ND	ND	ND	2357528	ND	0.05	2357528
Dissolved Thorium (Th)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Thorium (Th)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Tin (Sn)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Tin (Sn)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	2357626	ND	5	2357626

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2291	IC2292	IC2293		IC2294		
Sampling Date		2010/12/06 12:01	2010/12/06 14:30	2010/12/06 14:50		2010/12/06 10:40		
COC Number		226666-01-02	226666-01-02	226666-01-02		226666-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	7	ND	11	2357528	ND	5	2357528
Dissolved Tungsten (W)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Tungsten (W)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Uranium (U)	ug/L	0.5	0.4	0.6	2357626	ND	0.1	2357626
Total Uranium (U)	ug/L	0.6	0.3	0.7	2357528	ND	0.1	2357528
Dissolved Vanadium (V)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Vanadium (V)	ug/L	ND	ND	ND	2357528	ND	1	2357528
Dissolved Zinc (Zn)	ug/L	ND	ND	5	2357626	ND	5	2357626
Total Zinc (Zn)	ug/L	8	ND	ND	2357528	ND	5	2357528
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	2357626	ND	1	2357626
Total Zirconium (Zr)	ug/L	ND	ND	ND	2357528	ND	1	2357528

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2295	IC2296	IC2296	IC2297		
Sampling Date		2010/12/06 09:30	2010/12/06 14:00	2010/12/06 14:00	2010/12/06 11:35		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 6**	**SW 7A**	**SW 7A Lab-Dup**	**SW 10**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	N/A	ND	0.0001	2355164
Dissolved Sulphur (S)	mg/L	1.7	0.9	N/A	1.4	0.5	2358290
Total Sulphur (S)	mg/L	1.8	1.1	1.1	1.4	0.5	2357536
Dissolved Aluminum (Al)	ug/L	20	9	N/A	21	5	2357626
Total Aluminum (Al)	ug/L	73	870	N/A	110	5	2357528
Dissolved Antimony (Sb)	ug/L	ND	ND	N/A	ND	0.5	2357626
Total Antimony (Sb)	ug/L	ND	ND	N/A	0.7	0.5	2357528
Dissolved Arsenic (As)	ug/L	ND	ND	N/A	ND	1	2357626
Total Arsenic (As)	ug/L	ND	1	N/A	ND	1	2357528
Dissolved Barium (Ba)	ug/L	9	16	N/A	13	5	2357626
Total Barium (Ba)	ug/L	10	30	N/A	14	5	2357528
Dissolved Beryllium (Be)	ug/L	ND	ND	N/A	ND	0.5	2357626
Total Beryllium (Be)	ug/L	ND	ND	N/A	ND	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	ND	ND	N/A	ND	1	2357626
Total Bismuth (Bi)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Boron (B)	ug/L	ND	ND	N/A	ND	10	2357626
Total Boron (B)	ug/L	ND	11	N/A	12	10	2357528
Dissolved Cadmium (Cd)	ug/L	0.5	ND	N/A	ND	0.1	2357626
Total Cadmium (Cd)	ug/L	0.6	ND	N/A	ND	0.1	2357528
Dissolved Calcium (Ca)	ug/L	7500	42000	N/A	31000	200	2357626
Total Calcium (Ca)	ug/L	7600	42000	N/A	30000	200	2357528
Dissolved Chromium (Cr)	ug/L	ND	ND	N/A	ND	5	2357626
Total Chromium (Cr)	ug/L	ND	ND	N/A	ND	5	2357528
Dissolved Cobalt (Co)	ug/L	ND	ND	N/A	ND	0.5	2357626
Total Cobalt (Co)	ug/L	ND	0.9	N/A	ND	0.5	2357528
Dissolved Copper (Cu)	ug/L	1	ND	N/A	ND	1	2357626
Total Copper (Cu)	ug/L	2	3	N/A	1	1	2357528
Dissolved Iron (Fe)	ug/L	ND	160	N/A	220	100	2357626
Total Iron (Fe)	ug/L	140	1900	N/A	500	100	2357528
Dissolved Lead (Pb)	ug/L	ND	ND	N/A	ND	0.5	2357626

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2295	IC2296	IC2296	IC2297		
Sampling Date		2010/12/06 09:30	2010/12/06 14:00	2010/12/06 14:00	2010/12/06 11:35		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 6**	**SW 7A**	**SW 7A Lab-Dup**	**SW 10**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	0.9	N/A	ND	0.5	2357528
Dissolved Lithium (Li)	ug/L	ND	ND	N/A	ND	5	2357626
Total Lithium (Li)	ug/L	ND	ND	N/A	ND	5	2357528
Dissolved Magnesium (Mg)	ug/L	2300	16000	N/A	13000	50	2357626
Total Magnesium (Mg)	ug/L	2500	17000	N/A	14000	50	2357528
Dissolved Manganese (Mn)	ug/L	ND	4	N/A	10	2	2357626
Total Manganese (Mn)	ug/L	9	220	N/A	27	2	2357528
Dissolved Molybdenum (Mo)	ug/L	ND	ND	N/A	ND	1	2357626
Total Molybdenum (Mo)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Nickel (Ni)	ug/L	ND	1	N/A	1	1	2357626
Total Nickel (Ni)	ug/L	ND	2	N/A	1	1	2357528
Dissolved Phosphorus (P)	ug/L	ND	ND	N/A	ND	100	2357626
Dissolved Potassium (K)	ug/L	680	1000	N/A	1300	200	2357626
Total Potassium (K)	ug/L	750	1200	N/A	1300	200	2357528
Dissolved Selenium (Se)	ug/L	ND	ND	N/A	ND	2	2357626
Dissolved Silicon (Si)	ug/L	1400	4900	N/A	4900	50	2357626
Total Silicon (Si)	ug/L	1600	6500	N/A	5200	50	2357528
Total Selenium (Se)	ug/L	ND	ND	N/A	ND	2	2357528
Dissolved Silver (Ag)	ug/L	ND	ND	N/A	ND	0.1	2357626
Total Silver (Ag)	ug/L	ND	ND	N/A	ND	0.1	2357528
Dissolved Sodium (Na)	ug/L	3500	2600	N/A	4600	100	2357626
Total Sodium (Na)	ug/L	3500	2600	N/A	4400	100	2357528
Dissolved Strontium (Sr)	ug/L	20	66	N/A	67	1	2357626
Total Strontium (Sr)	ug/L	23	75	N/A	72	1	2357528
Dissolved Tellurium (Te)	ug/L	ND	ND	N/A	ND	1	2357626
Total Tellurium (Te)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Thallium (Tl)	ug/L	ND	ND	N/A	ND	0.05	2357626
Total Thallium (Tl)	ug/L	ND	ND	N/A	ND	0.05	2357528
Dissolved Thorium (Th)	ug/L	ND	ND	N/A	ND	1	2357626
Total Thorium (Th)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Tin (Sn)	ug/L	ND	ND	N/A	ND	1	2357626

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2295	IC2296	IC2296	IC2297		
Sampling Date		2010/12/06 09:30	2010/12/06 14:00	2010/12/06 14:00	2010/12/06 11:35		
COC Number		226666-01-02	226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 6**	**SW 7A**	**SW 7A Lab-Dup**	**SW 10**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Titanium (Ti)	ug/L	ND	ND	N/A	ND	5	2357626
Total Titanium (Ti)	ug/L	ND	36	N/A	5	5	2357528
Dissolved Tungsten (W)	ug/L	ND	ND	N/A	ND	1	2357626
Total Tungsten (W)	ug/L	ND	ND	N/A	ND	1	2357528
Dissolved Uranium (U)	ug/L	0.1	0.6	N/A	0.4	0.1	2357626
Total Uranium (U)	ug/L	ND	0.7	N/A	0.5	0.1	2357528
Dissolved Vanadium (V)	ug/L	ND	ND	N/A	ND	1	2357626
Total Vanadium (V)	ug/L	ND	3	N/A	ND	1	2357528
Dissolved Zinc (Zn)	ug/L	ND	ND	N/A	ND	5	2357626
Total Zinc (Zn)	ug/L	ND	11	N/A	ND	5	2357528
Dissolved Zirconium (Zr)	ug/L	ND	ND	N/A	ND	1	2357626
Total Zirconium (Zr)	ug/L	ND	ND	N/A	ND	1	2357528

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2298		IC2299		IC2300		
Sampling Date		2010/12/06 11:05		2010/12/06 15:30		2010/12/06 13:11		
COC Number		226666-01-02		226666-01-02		226666-01-02		
	Units	**SW 11**	**QC Batch**	**SW 12A**	**QC Batch**	**SW 13**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2355164	ND	2355216	ND	0.0001	2355164
Dissolved Sulphur (S)	mg/L	ND	2358290	ND	2358290	0.7	0.5	2358290
Total Sulphur (S)	mg/L	ND	2357536	ND	2357536	0.8	0.5	2357536
Dissolved Aluminum (Al)	ug/L	26	2357626	71	2357626	ND	5	2357626
Total Aluminum (Al)	ug/L	64	2357528	310	2357528	80	5	2357528
Dissolved Antimony (Sb)	ug/L	ND	2357626	ND	2357626	ND	0.5	2357626
Total Antimony (Sb)	ug/L	ND	2357528	ND	2357528	ND	0.5	2357528
Dissolved Arsenic (As)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Arsenic (As)	ug/L	ND	2357528	1	2357528	ND	1	2357528
Dissolved Barium (Ba)	ug/L	10	2357626	12	2357626	12	5	2357626
Total Barium (Ba)	ug/L	10	2357528	16	2357528	13	5	2357528
Dissolved Beryllium (Be)	ug/L	ND	2357626	ND	2357626	ND	0.5	2357626
Total Beryllium (Be)	ug/L	ND	2357528	ND	2357528	ND	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Bismuth (Bi)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Boron (B)	ug/L	ND	2357626	ND	2357626	ND	10	2357626
Total Boron (B)	ug/L	ND	2357528	ND	2357528	12	10	2357528
Dissolved Cadmium (Cd)	ug/L	ND	2357626	ND	2357626	ND	0.1	2357626
Total Cadmium (Cd)	ug/L	ND	2357528	ND	2357528	ND	0.1	2357528
Dissolved Calcium (Ca)	ug/L	21000	2357626	13000	2357626	36000	200	2357626
Total Calcium (Ca)	ug/L	21000	2357528	12000	2357528	36000	200	2357528
Dissolved Chromium (Cr)	ug/L	ND	2357626	ND	2357626	ND	5	2357626
Total Chromium (Cr)	ug/L	ND	2357528	ND	2357528	ND	5	2357528
Dissolved Cobalt (Co)	ug/L	ND	2357626	0.8	2357626	ND	0.5	2357626
Total Cobalt (Co)	ug/L	ND	2357528	2.8	2357528	ND	0.5	2357528
Dissolved Copper (Cu)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Copper (Cu)	ug/L	ND	2357528	3	2357528	ND	1	2357528
Dissolved Iron (Fe)	ug/L	270	2357626	970	2357626	110	100	2357626
Total Iron (Fe)	ug/L	550	2357528	2600	2357528	300	100	2357528
Dissolved Lead (Pb)	ug/L	ND	2357626	ND	2357626	ND	0.5	2357626
Total Lead (Pb)	ug/L	ND	2357528	ND	2357528	ND	0.5	2357528

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2298		IC2299		IC2300		
Sampling Date		2010/12/06 11:05		2010/12/06 15:30		2010/12/06 13:11		
COC Number		226666-01-02		226666-01-02		226666-01-02		
	Units	**SW 11**	**QC Batch**	**SW 12A**	**QC Batch**	**SW 13**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	2357626	ND	2357626	ND	5	2357626
Total Lithium (Li)	ug/L	ND	2357528	ND	2357528	ND	5	2357528
Dissolved Magnesium (Mg)	ug/L	9600	2357626	3700	2357626	15000	50	2357626
Total Magnesium (Mg)	ug/L	10000	2357528	4000	2357528	16000	50	2357528
Dissolved Manganese (Mn)	ug/L	8	2357626	180	2357626	20	2	2357626
Total Manganese (Mn)	ug/L	69	2357528	440	2357528	42	2	2357528
Dissolved Molybdenum (Mo)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Molybdenum (Mo)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Nickel (Ni)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Nickel (Ni)	ug/L	ND	2357528	1	2357528	1	1	2357528
Dissolved Phosphorus (P)	ug/L	ND	2357626	ND	2357626	ND	100	2357626
Dissolved Potassium (K)	ug/L	640	2357626	1100	2357626	850	200	2357626
Total Potassium (K)	ug/L	710	2357528	1300	2357528	950	200	2357528
Dissolved Selenium (Se)	ug/L	ND	2357626	ND	2357626	ND	2	2357626
Dissolved Silicon (Si)	ug/L	5000	2357626	1900	2357626	4400	50	2357626
Total Silicon (Si)	ug/L	5400	2357528	2500	2357528	4800	50	2357528
Total Selenium (Se)	ug/L	ND	2357528	ND	2357528	ND	2	2357528
Dissolved Silver (Ag)	ug/L	ND	2357626	ND	2357626	ND	0.1	2357626
Total Silver (Ag)	ug/L	ND	2357528	ND	2357528	ND	0.1	2357528
Dissolved Sodium (Na)	ug/L	1100	2357626	1200	2357626	2100	100	2357626
Total Sodium (Na)	ug/L	1200	2357528	1300	2357528	2200	100	2357528
Dissolved Strontium (Sr)	ug/L	36	2357626	20	2357626	64	1	2357626
Total Strontium (Sr)	ug/L	39	2357528	23	2357528	70	1	2357528
Dissolved Tellurium (Te)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Tellurium (Te)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Thallium (Tl)	ug/L	ND	2357626	ND	2357626	ND	0.05	2357626
Total Thallium (Tl)	ug/L	ND	2357528	ND	2357528	ND	0.05	2357528
Dissolved Thorium (Th)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Thorium (Th)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Tin (Sn)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Tin (Sn)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Titanium (Ti)	ug/L	ND	2357626	ND	2357626	ND	5	2357626

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2298		IC2299		IC2300		
Sampling Date		2010/12/06 11:05		2010/12/06 15:30		2010/12/06 13:11		
COC Number		226666-01-02		226666-01-02		226666-01-02		
	Units	**SW 11**	**QC Batch**	**SW 12A**	**QC Batch**	**SW 13**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	2357528	9	2357528	ND	5	2357528
Dissolved Tungsten (W)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Tungsten (W)	ug/L	ND	2357528	ND	2357528	ND	1	2357528
Dissolved Uranium (U)	ug/L	ND	2357626	ND	2357626	0.4	0.1	2357626
Total Uranium (U)	ug/L	ND	2357528	0.1	2357528	0.5	0.1	2357528
Dissolved Vanadium (V)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Vanadium (V)	ug/L	ND	2357528	1	2357528	ND	1	2357528
Dissolved Zinc (Zn)	ug/L	ND	2357626	5	2357626	ND	5	2357626
Total Zinc (Zn)	ug/L	ND	2357528	9	2357528	ND	5	2357528
Dissolved Zirconium (Zr)	ug/L	ND	2357626	ND	2357626	ND	1	2357626
Total Zirconium (Zr)	ug/L	ND	2357528	ND	2357528	ND	1	2357528

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2300		IC2301	IC2302	IC2303		
Sampling Date		2010/12/06 13:11		2010/12/06 14:55	2010/12/06 20:30	2010/12/06 09:45		
COC Number		226666-01-02		226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 13 Lab-Dup**	**QC Batch**	**SW 14**	**SW 15**	**SW 16**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2355164	ND	ND	ND	0.0001	2355149
Dissolved Sulphur (S)	mg/L	N/A	2358290	ND	1.7	1.6	0.5	2358290
Total Sulphur (S)	mg/L	N/A	2357536	ND	1.8	1.7	0.5	2357536
Dissolved Aluminum (Al)	ug/L	N/A	2357626	31	46	20	5	2357626
Total Aluminum (Al)	ug/L	89	2357528	54	400	91	5	2357528
Dissolved Antimony (Sb)	ug/L	N/A	2357626	ND	ND	ND	0.5	2357626
Total Antimony (Sb)	ug/L	ND	2357528	ND	ND	ND	0.5	2357528
Dissolved Arsenic (As)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Arsenic (As)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Barium (Ba)	ug/L	N/A	2357626	8	13	9	5	2357626
Total Barium (Ba)	ug/L	14	2357528	8	17	10	5	2357528
Dissolved Beryllium (Be)	ug/L	N/A	2357626	ND	ND	ND	0.5	2357626
Total Beryllium (Be)	ug/L	ND	2357528	ND	ND	ND	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Bismuth (Bi)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Boron (B)	ug/L	N/A	2357626	ND	ND	ND	10	2357626
Total Boron (B)	ug/L	13	2357528	ND	10	ND	10	2357528
Dissolved Cadmium (Cd)	ug/L	N/A	2357626	ND	ND	1.1	0.1	2357626
Total Cadmium (Cd)	ug/L	ND	2357528	ND	ND	1.0	0.1	2357528
Dissolved Calcium (Ca)	ug/L	N/A	2357626	15000	28000	7800	200	2357626
Total Calcium (Ca)	ug/L	39000	2357528	16000	30000	7400	200	2357528
Dissolved Chromium (Cr)	ug/L	N/A	2357626	ND	ND	ND	5	2357626
Total Chromium (Cr)	ug/L	ND	2357528	ND	ND	ND	5	2357528
Dissolved Cobalt (Co)	ug/L	N/A	2357626	ND	ND	ND	0.5	2357626
Total Cobalt (Co)	ug/L	ND	2357528	ND	ND	ND	0.5	2357528
Dissolved Copper (Cu)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Copper (Cu)	ug/L	1	2357528	ND	2	2	1	2357528
Dissolved Iron (Fe)	ug/L	N/A	2357626	210	300	ND	100	2357626
Total Iron (Fe)	ug/L	320	2357528	340	790	150	100	2357528
Dissolved Lead (Pb)	ug/L	N/A	2357626	ND	ND	ND	0.5	2357626

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2300		IC2301	IC2302	IC2303		
Sampling Date		2010/12/06 13:11		2010/12/06 14:55	2010/12/06 20:30	2010/12/06 09:45		
COC Number		226666-01-02		226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 13 Lab-Dup**	**QC Batch**	**SW 14**	**SW 15**	**SW 16**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	2357528	ND	ND	ND	0.5	2357528
Dissolved Lithium (Li)	ug/L	N/A	2357626	ND	ND	ND	5	2357626
Total Lithium (Li)	ug/L	ND	2357528	ND	ND	ND	5	2357528
Dissolved Magnesium (Mg)	ug/L	N/A	2357626	6300	12000	2300	50	2357626
Total Magnesium (Mg)	ug/L	17000	2357528	7200	13000	2500	50	2357528
Dissolved Manganese (Mn)	ug/L	N/A	2357626	38	18	ND	2	2357626
Total Manganese (Mn)	ug/L	46	2357528	70	54	9	2	2357528
Dissolved Molybdenum (Mo)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Molybdenum (Mo)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Nickel (Ni)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Nickel (Ni)	ug/L	1	2357528	ND	2	ND	1	2357528
Dissolved Phosphorus (P)	ug/L	N/A	2357626	ND	ND	ND	100	2357626
Dissolved Potassium (K)	ug/L	N/A	2357626	240	850	700	200	2357626
Total Potassium (K)	ug/L	1000	2357528	290	1100	750	200	2357528
Dissolved Selenium (Se)	ug/L	N/A	2357626	ND	ND	ND	2	2357626
Dissolved Silicon (Si)	ug/L	N/A	2357626	4100	5000	1400	50	2357626
Total Silicon (Si)	ug/L	5200	2357528	4600	6200	1600	50	2357528
Total Selenium (Se)	ug/L	ND	2357528	ND	ND	ND	2	2357528
Dissolved Silver (Ag)	ug/L	N/A	2357626	ND	ND	ND	0.1	2357626
Total Silver (Ag)	ug/L	ND	2357528	ND	ND	ND	0.1	2357528
Dissolved Sodium (Na)	ug/L	N/A	2357626	930	2600	3600	100	2357626
Total Sodium (Na)	ug/L	2300	2357528	1000	2800	3600	100	2357528
Dissolved Strontium (Sr)	ug/L	N/A	2357626	23	50	20	1	2357626
Total Strontium (Sr)	ug/L	75	2357528	27	59	22	1	2357528
Dissolved Tellurium (Te)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Tellurium (Te)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Thallium (Tl)	ug/L	N/A	2357626	ND	ND	ND	0.05	2357626
Total Thallium (Tl)	ug/L	ND	2357528	ND	ND	ND	0.05	2357528
Dissolved Thorium (Th)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Thorium (Th)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Tin (Sn)	ug/L	N/A	2357626	ND	ND	ND	1	2357626

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2300		IC2301	IC2302	IC2303		
Sampling Date		2010/12/06 13:11		2010/12/06 14:55	2010/12/06 20:30	2010/12/06 09:45		
COC Number		226666-01-02		226666-01-02	226666-01-02	226666-01-02		
	Units	**SW 13 Lab-Dup**	**QC Batch**	**SW 14**	**SW 15**	**SW 16**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Titanium (Ti)	ug/L	N/A	2357626	ND	ND	ND	5	2357626
Total Titanium (Ti)	ug/L	ND	2357528	ND	17	ND	5	2357528
Dissolved Tungsten (W)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Tungsten (W)	ug/L	ND	2357528	ND	ND	ND	1	2357528
Dissolved Uranium (U)	ug/L	N/A	2357626	ND	0.4	ND	0.1	2357626
Total Uranium (U)	ug/L	0.5	2357528	ND	0.5	ND	0.1	2357528
Dissolved Vanadium (V)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Vanadium (V)	ug/L	ND	2357528	ND	1	ND	1	2357528
Dissolved Zinc (Zn)	ug/L	N/A	2357626	ND	ND	ND	5	2357626
Total Zinc (Zn)	ug/L	ND	2357528	ND	5	ND	5	2357528
Dissolved Zirconium (Zr)	ug/L	N/A	2357626	ND	ND	ND	1	2357626
Total Zirconium (Zr)	ug/L	ND	2357528	ND	ND	ND	1	2357528

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2304	IC2304		IC2305	IC2305		
Sampling Date		2010/12/06 07:45	2010/12/06 07:45		2010/12/06 13:30	2010/12/06 13:30		
COC Number		226666-01-02	226666-01-02		226666-01-02	226666-01-02		
	Units	**SW 17**	**SW 17 Lab-Dup**	**QC Batch**	**SW 18**	**SW 18 Lab-Dup**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	2355149	ND	ND	0.0001	2355149
Dissolved Sulphur (S)	mg/L	1.8	N/A	2358290	1.0	N/A	0.5	2358290
Total Sulphur (S)	mg/L	2.0	N/A	2357536	1.2	N/A	0.5	2357536
Dissolved Aluminum (Al)	ug/L	27	26	2357628	12	N/A	5	2357626
Total Aluminum (Al)	ug/L	110	N/A	2357528	46	N/A	5	2357528
Dissolved Antimony (Sb)	ug/L	ND	ND	2357628	ND	N/A	0.5	2357626
Total Antimony (Sb)	ug/L	ND	N/A	2357528	ND	N/A	0.5	2357528
Dissolved Arsenic (As)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Arsenic (As)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Barium (Ba)	ug/L	10	10	2357628	14	N/A	5	2357626
Total Barium (Ba)	ug/L	12	N/A	2357528	16	N/A	5	2357528
Dissolved Beryllium (Be)	ug/L	ND	ND	2357628	ND	N/A	0.5	2357626
Total Beryllium (Be)	ug/L	ND	N/A	2357528	ND	N/A	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Bismuth (Bi)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Boron (B)	ug/L	ND	ND	2357628	ND	N/A	10	2357626
Total Boron (B)	ug/L	ND	N/A	2357528	11	N/A	10	2357528
Dissolved Cadmium (Cd)	ug/L	ND	ND	2357628	ND	N/A	0.1	2357626
Total Cadmium (Cd)	ug/L	ND	N/A	2357528	ND	N/A	0.1	2357528
Dissolved Calcium (Ca)	ug/L	11000	11000	2357628	37000	N/A	200	2357626
Total Calcium (Ca)	ug/L	12000	N/A	2357528	38000	N/A	200	2357528
Dissolved Chromium (Cr)	ug/L	ND	ND	2357628	ND	N/A	5	2357626
Total Chromium (Cr)	ug/L	ND	N/A	2357528	ND	N/A	5	2357528
Dissolved Cobalt (Co)	ug/L	ND	ND	2357628	ND	N/A	0.5	2357626
Total Cobalt (Co)	ug/L	ND	N/A	2357528	ND	N/A	0.5	2357528
Dissolved Copper (Cu)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Copper (Cu)	ug/L	2	N/A	2357528	ND	N/A	1	2357528
Dissolved Iron (Fe)	ug/L	110	100	2357628	200	N/A	100	2357626
Total Iron (Fe)	ug/L	250	N/A	2357528	360	N/A	100	2357528
Dissolved Lead (Pb)	ug/L	ND	ND	2357628	ND	N/A	0.5	2357626

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Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2304	IC2304		IC2305	IC2305		
Sampling Date		2010/12/06 07:45	2010/12/06 07:45		2010/12/06 13:30	2010/12/06 13:30		
COC Number		226666-01-02	226666-01-02		226666-01-02	226666-01-02		
	Units	**SW 17**	**SW 17 Lab-Dup**	**QC Batch**	**SW 18**	**SW 18 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2357528	ND	N/A	0.5	2357528
Dissolved Lithium (Li)	ug/L	ND	ND	2357628	ND	N/A	5	2357626
Total Lithium (Li)	ug/L	ND	N/A	2357528	ND	N/A	5	2357528
Dissolved Magnesium (Mg)	ug/L	3600	3600	2357628	16000	N/A	50	2357626
Total Magnesium (Mg)	ug/L	4300	N/A	2357528	17000	N/A	50	2357528
Dissolved Manganese (Mn)	ug/L	2	ND	2357628	5	N/A	2	2357626
Total Manganese (Mn)	ug/L	15	N/A	2357528	82	N/A	2	2357528
Dissolved Molybdenum (Mo)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Molybdenum (Mo)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Nickel (Ni)	ug/L	ND	ND	2357628	1	N/A	1	2357626
Total Nickel (Ni)	ug/L	ND	N/A	2357528	2	N/A	1	2357528
Dissolved Phosphorus (P)	ug/L	ND	ND	2357628	ND	N/A	100	2357626
Dissolved Potassium (K)	ug/L	750	730	2357628	1200	N/A	200	2357626
Total Potassium (K)	ug/L	900	N/A	2357528	1300	N/A	200	2357528
Dissolved Selenium (Se)	ug/L	ND	ND	2357628	ND	N/A	2	2357626
Dissolved Silicon (Si)	ug/L	1900	1900	2357628	6700	N/A	50	2357626
Total Silicon (Si)	ug/L	2400	N/A	2357528	6900	N/A	50	2357528
Total Selenium (Se)	ug/L	ND	N/A	2357528	ND	N/A	2	2357528
Dissolved Silver (Ag)	ug/L	ND	ND	2357628	ND	N/A	0.1	2357626
Total Silver (Ag)	ug/L	ND	N/A	2357528	ND	N/A	0.1	2357528
Dissolved Sodium (Na)	ug/L	3800	3800	2357628	2300	N/A	100	2357626
Total Sodium (Na)	ug/L	4100	N/A	2357528	2400	N/A	100	2357528
Dissolved Strontium (Sr)	ug/L	25	25	2357628	65	N/A	1	2357626
Total Strontium (Sr)	ug/L	31	N/A	2357528	75	N/A	1	2357528
Dissolved Tellurium (Te)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Tellurium (Te)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Thallium (Tl)	ug/L	ND	ND	2357628	ND	N/A	0.05	2357626
Total Thallium (Tl)	ug/L	ND	N/A	2357528	ND	N/A	0.05	2357528
Dissolved Thorium (Th)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Thorium (Th)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Tin (Sn)	ug/L	ND	ND	2357628	ND	N/A	1	2357626

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RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2304	IC2304		IC2305	IC2305		
Sampling Date		2010/12/06 07:45	2010/12/06 07:45		2010/12/06 13:30	2010/12/06 13:30		
COC Number		226666-01-02	226666-01-02		226666-01-02	226666-01-02		
	Units	**SW 17**	**SW 17 Lab-Dup**	**QC Batch**	**SW 18**	**SW 18 Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Titanium (Ti)	ug/L	ND	ND	2357628	ND	N/A	5	2357626
Total Titanium (Ti)	ug/L	ND	N/A	2357528	ND	N/A	5	2357528
Dissolved Tungsten (W)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Tungsten (W)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Uranium (U)	ug/L	0.1	0.1	2357628	0.5	N/A	0.1	2357626
Total Uranium (U)	ug/L	0.1	N/A	2357528	0.5	N/A	0.1	2357528
Dissolved Vanadium (V)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Vanadium (V)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528
Dissolved Zinc (Zn)	ug/L	ND	ND	2357628	ND	N/A	5	2357626
Total Zinc (Zn)	ug/L	ND	N/A	2357528	ND	N/A	5	2357528
Dissolved Zirconium (Zr)	ug/L	ND	ND	2357628	ND	N/A	1	2357626
Total Zirconium (Zr)	ug/L	ND	N/A	2357528	ND	N/A	1	2357528

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2306		
Sampling Date				
COC Number		226666-01-02		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2355164
Dissolved Sulphur (S)	mg/L	ND	0.5	2358290
Total Sulphur (S)	mg/L	ND	0.5	2357536
Dissolved Aluminum (Al)	ug/L	ND	5	2357626
Total Aluminum (Al)	ug/L	7	5	2357528
Dissolved Antimony (Sb)	ug/L	ND	0.5	2357626
Total Antimony (Sb)	ug/L	ND	0.5	2357528
Dissolved Arsenic (As)	ug/L	ND	1	2357626
Total Arsenic (As)	ug/L	ND	1	2357528
Dissolved Barium (Ba)	ug/L	ND	5	2357626
Total Barium (Ba)	ug/L	ND	5	2357528
Dissolved Beryllium (Be)	ug/L	ND	0.5	2357626
Total Beryllium (Be)	ug/L	ND	0.5	2357528
Dissolved Bismuth (Bi)	ug/L	ND	1	2357626
Total Bismuth (Bi)	ug/L	ND	1	2357528
Dissolved Boron (B)	ug/L	ND	10	2357626
Total Boron (B)	ug/L	ND	10	2357528
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2357626
Total Cadmium (Cd)	ug/L	ND	0.1	2357528
Dissolved Calcium (Ca)	ug/L	ND	200	2357626
Total Calcium (Ca)	ug/L	ND	200	2357528
Dissolved Chromium (Cr)	ug/L	ND	5	2357626
Total Chromium (Cr)	ug/L	ND	5	2357528
Dissolved Cobalt (Co)	ug/L	ND	0.5	2357626
Total Cobalt (Co)	ug/L	ND	0.5	2357528
Dissolved Copper (Cu)	ug/L	ND	1	2357626
Total Copper (Cu)	ug/L	ND	1	2357528
Dissolved Iron (Fe)	ug/L	ND	100	2357626
Total Iron (Fe)	ug/L	ND	100	2357528
Dissolved Lead (Pb)	ug/L	ND	0.5	2357626
Total Lead (Pb)	ug/L	ND	0.5	2357528
Dissolved Lithium (Li)	ug/L	ND	5	2357626

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2306		
Sampling Date				
COC Number		226666-01-02		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	5	2357528
Dissolved Magnesium (Mg)	ug/L	ND	50	2357626
Total Magnesium (Mg)	ug/L	ND	50	2357528
Dissolved Manganese (Mn)	ug/L	ND	2	2357626
Total Manganese (Mn)	ug/L	ND	2	2357528
Dissolved Molybdenum (Mo)	ug/L	ND	1	2357626
Total Molybdenum (Mo)	ug/L	ND	1	2357528
Dissolved Nickel (Ni)	ug/L	ND	1	2357626
Total Nickel (Ni)	ug/L	ND	1	2357528
Dissolved Phosphorus (P)	ug/L	ND	100	2357626
Dissolved Potassium (K)	ug/L	ND	200	2357626
Total Potassium (K)	ug/L	ND	200	2357528
Dissolved Selenium (Se)	ug/L	ND	2	2357626
Dissolved Silicon (Si)	ug/L	ND	50	2357626
Total Silicon (Si)	ug/L	ND	50	2357528
Total Selenium (Se)	ug/L	ND	2	2357528
Dissolved Silver (Ag)	ug/L	ND	0.1	2357626
Total Silver (Ag)	ug/L	ND	0.1	2357528
Dissolved Sodium (Na)	ug/L	ND	100	2357626
Total Sodium (Na)	ug/L	ND	100	2357528
Dissolved Strontium (Sr)	ug/L	ND	1	2357626
Total Strontium (Sr)	ug/L	ND	1	2357528
Dissolved Tellurium (Te)	ug/L	ND	1	2357626
Total Tellurium (Te)	ug/L	ND	1	2357528
Dissolved Thallium (Tl)	ug/L	ND	0.05	2357626
Total Thallium (Tl)	ug/L	ND	0.05	2357528
Dissolved Thorium (Th)	ug/L	ND	1	2357626
Total Thorium (Th)	ug/L	ND	1	2357528
Dissolved Tin (Sn)	ug/L	ND	1	2357626
Total Tin (Sn)	ug/L	ND	1	2357528
Dissolved Titanium (Ti)	ug/L	ND	5	2357626
Total Titanium (Ti)	ug/L	ND	5	2357528
Dissolved Tungsten (W)	ug/L	ND	1	2357626

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IC2306		
Sampling Date				
COC Number		226666-01-02		
	Units	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	1	2357528
Dissolved Uranium (U)	ug/L	ND	0.1	2357626
Total Uranium (U)	ug/L	ND	0.1	2357528
Dissolved Vanadium (V)	ug/L	ND	1	2357626
Total Vanadium (V)	ug/L	ND	1	2357528
Dissolved Zinc (Zn)	ug/L	ND	5	2357626
Total Zinc (Zn)	ug/L	ND	5	2357528
Dissolved Zirconium (Zr)	ug/L	ND	1	2357626
Total Zirconium (Zr)	ug/L	2	1	2357528

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0H6949
Report Date: 2010/12/20

GENERAL COMMENTS

Sample IC2303-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be used with discretion.

Sample IC2304-01: Dissolved Carbon Dioxide Analysis: The result reported is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be used with discretion.

Results relate only to the items tested.

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
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Quality Assurance Report

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2354598	KTH	QC Standard	Turbidity	2010/12/10		100	%	85 - 115
		Method Blank	Turbidity	2010/12/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/12/10	NC		%	25
2354704	AMJ	Spiked Blank	Total Oil & Grease	2010/12/10		101	%	85 - 115
		RPD	Total Oil & Grease	2010/12/10	3.7		%	25
		Method Blank	Total Oil & Grease	2010/12/10	ND, RDL=0.5		mg/L	
2354783	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2010/12/10		97	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2010/12/10	3.7		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2010/12/10	ND, RDL=0.5		mg/L	
2355149	MC	Matrix Spike						
		[IC2305-11]	Mercury (Hg)	2010/12/10		114	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/12/10		108	%	80 - 120
		Method Blank	Mercury (Hg)	2010/12/10	ND, RDL=0.0001		mg/L	
		RPD [IC2305-11]	Mercury (Hg)	2010/12/10	NC		%	25
2355164	MC	Matrix Spike						
		[IC2300-11]	Mercury (Hg)	2010/12/10		102	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/12/10		106	%	80 - 120
		Method Blank	Mercury (Hg)	2010/12/10	ND, RDL=0.0001		mg/L	
		RPD [IC2300-11]	Mercury (Hg)	2010/12/10	NC		%	25
2355168	FZH	QC Standard	Total BOD	2010/12/15		94	%	85 - 115
		Method Blank	Total BOD	2010/12/15	ND, RDL=2		mg/L	
		RPD [IC2291-04]	Total BOD	2010/12/15	NC		%	25
2355179	SUP	QC Standard	Total Suspended Solids	2010/12/10		97	%	85 - 115
		Method Blank	Total Suspended Solids	2010/12/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/12/10	NC		%	25
2355216	MC	Matrix Spike	Mercury (Hg)	2010/12/10		102	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/12/10		101	%	80 - 120
		Method Blank	Mercury (Hg)	2010/12/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/12/10	NC		%	25
2355272	LHA	Matrix Spike						
		[IC2303-09]	Total Cyanide (CN)	2010/12/10		103	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/12/10		102	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/12/10	ND, RDL=0.005		mg/L	
		RPD [IC2303-09]	Total Cyanide (CN)	2010/12/10	NC		%	25
2355405	SAU	Matrix Spike	Sulphide	2010/12/10		83	%	80 - 120
		Spiked Blank	Sulphide	2010/12/10		100	%	85 - 115
		Method Blank	Sulphide	2010/12/10	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2010/12/10	NC		%	25
2355413	CAT	Method Blank	Carbon Dioxide	2010/12/10	ND, RDL=0.6		L/m3	
		RPD [IC2305-13]	Carbon Dioxide	2010/12/10	4.5		%	25
2355606	AHA	Matrix Spike	Dissolved Organic Carbon	2010/12/10		97	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/12/10		96	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/12/10	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/12/10	5.2		%	20
2355608	COP	QC Standard	Turbidity	2010/12/10		101	%	85 - 115
		Method Blank	Turbidity	2010/12/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/12/10	0.6		%	25
2355627	R_M	QC Standard	Redox Potential	2010/12/15		+243	%	N/A
		Method Blank	Redox Potential	2010/12/15	+295		mV	
		RPD [IC2295-03]	Redox Potential	2010/12/15	1.6		%	10
		RPD [IC2300-03]	Redox Potential	2010/12/15	4.4		%	10
		RPD [IC2305-03]	Redox Potential	2010/12/15	1.8		%	10
2355628	RSR	Method Blank	Acidity as CaC03	2010/12/20	ND, RDL=10		mg/L	
		RPD [IC2300-06]	Acidity as CaC03	2010/12/20	NC		%	25
2355646	ADB	Matrix Spike						
		[IC2296-08]	Total Ammonia-N	2010/12/14		102	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2355646	ADB	Spiked Blank	Total Ammonia-N	2010/12/14		101	%	85 - 115
		Method Blank	Total Ammonia-N	2010/12/14	ND, RDL=0.05		mg/L	
		RPD [IC2296-08]	Total Ammonia-N	2010/12/14	NC		%	25
2355649	SUP	QC Standard	Total Dissolved Solids	2010/12/13		95	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/12/13	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/12/13	1.1		%	25
2355701	AHA	Matrix Spike	Total Organic Carbon (TOC)	2010/12/10		100	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/12/10		98	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/12/10	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2010/12/10	0.5		%	20
2355710	SUP	QC Standard	Total Suspended Solids	2010/12/13		97	%	85 - 115
		Method Blank	Total Suspended Solids	2010/12/13	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/12/13	NC		%	25
2355721	SUP	QC Standard	Total Suspended Solids	2010/12/10		97	%	85 - 115
		Method Blank	Total Suspended Solids	2010/12/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/12/10	NC		%	25
2355756	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/12/13		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/12/13		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/12/13	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/12/13	0.2		%	20
2355768	DRM	Matrix Spike	Orthophosphate (P)	2010/12/13		106	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/12/13		101	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/12/13	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/12/13	NC		%	25
2355769	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/12/13		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/12/13		103	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/12/13	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/12/13	1.0		%	25
2355784	LS	Matrix Spike	Nitrite (N)	2010/12/13		103	%	80 - 120
			Nitrate (N)	2010/12/13		101	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/12/13		104	%	85 - 115
			Nitrate (N)	2010/12/13		98	%	85 - 115
		Method Blank	Nitrite (N)	2010/12/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/12/13	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/12/13	NC		%	25
			Nitrate (N)	2010/12/13	NC		%	25
2355792	LS	Matrix Spike	Nitrite (N)	2010/12/13		104	%	80 - 120
			Nitrate (N)	2010/12/13		102	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/12/13		104	%	85 - 115
			Nitrate (N)	2010/12/13		102	%	85 - 115
		Method Blank	Nitrite (N)	2010/12/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/12/13	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/12/13	NC		%	25
			Nitrate (N)	2010/12/13	NC		%	25
2355871	DLB	Matrix Spike	Reactive Silica (SiO2)	2010/12/14		98	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/12/14		99	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/12/14		102	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/12/14	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/12/14	NC		%	25
2356015	KTH	Spiked Blank	Colour	2010/12/10		102	%	85 - 115
		Method Blank	Colour	2010/12/10	ND, RDL=2		TCU	
		RPD	Colour	2010/12/10	NC		%	25
2356035	JDE	QC Standard	Alkalinity (Total as CaCO3)	2010/12/10		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/12/10	ND, RDL=1		mg/L	
		RPD [IC2303-02]	Alkalinity (Total as CaCO3)	2010/12/10	10.6		%	25

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2356037	JDE	QC Standard	Conductivity	2010/12/10		100	%	85 - 115
		Method Blank	Conductivity	2010/12/10	ND, RDL=1		umho/cm	
		RPD [IC2303-02]	Conductivity	2010/12/10	0.3		%	25
2356038	JDE	Matrix Spike						
		[IC2303-02]	Fluoride (F-)	2010/12/10		101	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/12/10		100	%	85 - 115
		Method Blank	Fluoride (F-)	2010/12/10	ND, RDL=0.1		mg/L	
		RPD [IC2303-02]	Fluoride (F-)	2010/12/10	NC		%	25
2356076	CP	Matrix Spike						
		[IC2294-08]	Total Chemical Oxygen Demand (COD)	2010/12/14		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/12/14		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/12/14	ND, RDL=4		mg/L	
		RPD [IC2294-08]	Total Chemical Oxygen Demand (COD)	2010/12/14	0.8		%	25
2356094	ADB	Matrix Spike	Nitrite (N)	2010/12/14		104	%	80 - 120
			Nitrate (N)	2010/12/14		103	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/12/14		105	%	85 - 115
			Nitrate (N)	2010/12/14		103	%	85 - 115
		Method Blank	Nitrite (N)	2010/12/14	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/12/14	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/12/14	NC		%	25
			Nitrate (N)	2010/12/14	NC		%	25
2356097	LS	Matrix Spike						
		[IC2305-02]	Nitrite (N)	2010/12/13		105	%	80 - 120
			Nitrate (N)	2010/12/13		97	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/12/13		104	%	85 - 115
			Nitrate (N)	2010/12/13		101	%	85 - 115
		Method Blank	Nitrite (N)	2010/12/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/12/13	ND, RDL=0.1		mg/L	
		RPD [IC2305-02]	Nitrite (N)	2010/12/13	NC		%	25
			Nitrate (N)	2010/12/13	NC		%	25
2356174	DRM	Matrix Spike						
		[IC2296-02]	Dissolved Chloride (Cl)	2010/12/13		105	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/12/13		102	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/12/13	ND, RDL=1		mg/L	
		RPD [IC2296-02]	Dissolved Chloride (Cl)	2010/12/13	NC		%	20
2356176	DRM	Matrix Spike						
		[IC2296-02]	Dissolved Sulphate (SO4)	2010/12/13		108	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/12/13		105	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/12/13	ND, RDL=1		mg/L	
		RPD [IC2296-02]	Dissolved Sulphate (SO4)	2010/12/13	NC		%	25
2356177	DRM	Matrix Spike						
		[IC2296-02]	Orthophosphate (P)	2010/12/13		108	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/12/13		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/12/13	ND, RDL=0.01		mg/L	
		RPD [IC2296-02]	Orthophosphate (P)	2010/12/13	NC		%	25
2356574	SUP	QC Standard	Total Dissolved Solids	2010/12/11		96	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/12/11	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2010/12/11	2.5		%	25
2356989	LHA	Matrix Spike	Total Cyanide (CN)	2010/12/14		110	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/12/14		95	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/12/14	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/12/14	NC		%	25
2357068	SAU	Matrix Spike						
		[IC2303-10]	Sulphide	2010/12/14		87	%	80 - 120
		Spiked Blank	Sulphide	2010/12/14		91	%	85 - 115

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2357068	SAU	Method Blank	Sulphide	2010/12/14	ND, RDL=0.02		mg/L	
		RPD [IC2303-10]	Sulphide	2010/12/14	NC		%	25
2357084	COP	QC Standard	Turbidity	2010/12/13		101	%	85 - 115
		Method Blank	Turbidity	2010/12/13	ND, RDL=0.1		NTU	
		RPD [IC2291-02]	Turbidity	2010/12/13	2.3		%	25
2357088	SUP	QC Standard	Total Suspended Solids	2010/12/13		94	%	85 - 115
		Method Blank	Total Suspended Solids	2010/12/13	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2010/12/13	10.9		%	25
2357104	VRO	Matrix Spike						
		[IC2303-02]	Dissolved Phosphorus	2010/12/14		96	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/12/14		105	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/12/14		102	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/12/14	0.002, RDL=0.002		mg/L	
		RPD [IC2303-02]	Dissolved Phosphorus	2010/12/14	11.5		%	20
2357105	VRO	Matrix Spike						
		[IC2303-08]	Total Phosphorus	2010/12/14		94	%	80 - 120
		QC Standard	Total Phosphorus	2010/12/14		104	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/12/14		101	%	85 - 115
		Method Blank	Total Phosphorus	2010/12/14	0.004, RDL=0.002		mg/L	
		RPD [IC2303-08]	Total Phosphorus	2010/12/14	0.9		%	20
2357171	DRM	Matrix Spike						
		[IC2305-08]	Total Kjeldahl Nitrogen (TKN)	2010/12/15		95	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/12/15		96	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/12/15		93	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/12/15	ND, RDL=0.1		mg/L	
		RPD [IC2305-08]	Total Kjeldahl Nitrogen (TKN)	2010/12/15	NC		%	20
2357221	AHA	Matrix Spike	Dissolved Organic Carbon	2010/12/13		98	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/12/13		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/12/13	0.3, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/12/13	0.6		%	20
2357382	AHA	Matrix Spike	Dissolved Organic Carbon	2010/12/13		98	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2010/12/13		97	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2010/12/13	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2010/12/13	3.5		%	20
2357528	JBW	Matrix Spike						
		[IC2300-07]	Total Aluminum (Al)	2010/12/14		113	%	80 - 120
			Total Antimony (Sb)	2010/12/14		111	%	80 - 120
			Total Arsenic (As)	2010/12/14		101	%	80 - 120
			Total Barium (Ba)	2010/12/14		97	%	80 - 120
			Total Beryllium (Be)	2010/12/14		102	%	80 - 120
			Total Bismuth (Bi)	2010/12/14		98	%	80 - 120
			Total Boron (B)	2010/12/14		102	%	80 - 120
			Total Cadmium (Cd)	2010/12/14		103	%	80 - 120
			Total Calcium (Ca)	2010/12/14		NC	%	80 - 120
			Total Chromium (Cr)	2010/12/14		101	%	80 - 120
			Total Cobalt (Co)	2010/12/14		97	%	80 - 120
			Total Copper (Cu)	2010/12/14		98	%	80 - 120
			Total Iron (Fe)	2010/12/14		99	%	80 - 120
			Total Lead (Pb)	2010/12/14		96	%	80 - 120
			Total Lithium (Li)	2010/12/14		99	%	80 - 120
			Total Magnesium (Mg)	2010/12/14		NC	%	80 - 120
			Total Manganese (Mn)	2010/12/14		101	%	80 - 120
			Total Molybdenum (Mo)	2010/12/14		102	%	80 - 120
			Total Nickel (Ni)	2010/12/14		96	%	80 - 120
			Total Potassium (K)	2010/12/14		103	%	80 - 120

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2357528	JBW	Matrix Spike [IC2300-07]	Total Silicon (Si)	2010/12/14		96	%	80 - 120
			Total Selenium (Se)	2010/12/14		101	%	80 - 120
			Total Silver (Ag)	2010/12/14		97	%	80 - 120
			Total Sodium (Na)	2010/12/14		103	%	80 - 120
			Total Strontium (Sr)	2010/12/14		102	%	80 - 120
			Total Tellurium (Te)	2010/12/14		101	%	80 - 120
			Total Thallium (Tl)	2010/12/14		96	%	80 - 120
			Total Thorium (Th)	2010/12/14		99	%	80 - 120
			Total Tin (Sn)	2010/12/14		104	%	80 - 120
			Total Titanium (Ti)	2010/12/14		103	%	80 - 120
			Total Tungsten (W)	2010/12/14		102	%	80 - 120
			Total Uranium (U)	2010/12/14		100	%	80 - 120
			Total Vanadium (V)	2010/12/14		102	%	80 - 120
			Total Zinc (Zn)	2010/12/14		98	%	80 - 120
			Total Zirconium (Zr)	2010/12/14		102	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/12/14		101	%	85 - 115
			Total Antimony (Sb)	2010/12/14		107	%	85 - 115
			Total Arsenic (As)	2010/12/14		99	%	85 - 115
			Total Barium (Ba)	2010/12/14		96	%	85 - 115
			Total Beryllium (Be)	2010/12/14		100	%	85 - 115
			Total Bismuth (Bi)	2010/12/14		96	%	85 - 115
			Total Boron (B)	2010/12/14		98	%	85 - 115
			Total Cadmium (Cd)	2010/12/14		100	%	85 - 116
			Total Calcium (Ca)	2010/12/14		102	%	85 - 115
			Total Chromium (Cr)	2010/12/14		98	%	85 - 115
			Total Cobalt (Co)	2010/12/14		96	%	85 - 115
			Total Copper (Cu)	2010/12/14		96	%	85 - 115
			Total Iron (Fe)	2010/12/14		97	%	85 - 115
			Total Lead (Pb)	2010/12/14		97	%	85 - 115
			Total Lithium (Li)	2010/12/14		98	%	85 - 115
			Total Magnesium (Mg)	2010/12/14		99	%	85 - 115
			Total Manganese (Mn)	2010/12/14		99	%	85 - 115
			Total Molybdenum (Mo)	2010/12/14		100	%	85 - 115
			Total Nickel (Ni)	2010/12/14		94	%	85 - 115
			Total Potassium (K)	2010/12/14		98	%	85 - 115
			Total Silicon (Si)	2010/12/14		94	%	85 - 115
			Total Selenium (Se)	2010/12/14		100	%	85 - 115
			Total Silver (Ag)	2010/12/14		96	%	85 - 115
			Total Sodium (Na)	2010/12/14		97	%	85 - 115
			Total Strontium (Sr)	2010/12/14		100	%	85 - 115
			Total Tellurium (Te)	2010/12/14		97	%	85 - 115
			Total Thallium (Tl)	2010/12/14		96	%	85 - 115
			Total Thorium (Th)	2010/12/14		97	%	85 - 115
			Total Tin (Sn)	2010/12/14		98	%	85 - 115
			Total Titanium (Ti)	2010/12/14		98	%	85 - 115
			Total Tungsten (W)	2010/12/14		99	%	85 - 115
			Total Uranium (U)	2010/12/14		100	%	85 - 115
			Total Vanadium (V)	2010/12/14		100	%	85 - 115
			Total Zinc (Zn)	2010/12/14		97	%	85 - 115
			Total Zirconium (Zr)	2010/12/14		100	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/12/14	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/12/14	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/12/14	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/12/14	ND, RDL=5		ug/L	

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2357528	JBW	Method Blank	Total Beryllium (Be)	2010/12/14	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/12/14	ND, RDL=1		ug/L	
			Total Boron (B)	2010/12/14	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/12/14	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/12/14	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/12/14	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/12/14	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/12/14	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/12/14	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/12/14	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/12/14	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/12/14	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/12/14	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/12/14	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/12/14	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/12/14	ND, RDL=200		ug/L	
			Total Silicon (Si)	2010/12/14	ND, RDL=50		ug/L	
			Total Selenium (Se)	2010/12/14	ND, RDL=2		ug/L	
			Total Silver (Ag)	2010/12/14	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/12/14	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/12/14	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/12/14	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/12/14	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/12/14	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/12/14	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/12/14	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/12/14	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/12/14	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/12/14	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/12/14	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/12/14	ND, RDL=1		ug/L	
		RPD [IC2300-07]	Total Aluminum (Al)	2010/12/14	11.0		%	25
			Total Antimony (Sb)	2010/12/14	NC		%	25
			Total Arsenic (As)	2010/12/14	NC		%	25
			Total Barium (Ba)	2010/12/14	NC		%	25
			Total Beryllium (Be)	2010/12/14	NC		%	25
			Total Bismuth (Bi)	2010/12/14	NC		%	25
			Total Boron (B)	2010/12/14	NC		%	25
			Total Cadmium (Cd)	2010/12/14	NC		%	25
			Total Calcium (Ca)	2010/12/14	8.8		%	25
			Total Chromium (Cr)	2010/12/14	NC		%	25
			Total Cobalt (Co)	2010/12/14	NC		%	25
			Total Copper (Cu)	2010/12/14	NC		%	25
			Total Iron (Fe)	2010/12/14	NC		%	25
			Total Lead (Pb)	2010/12/14	NC		%	25
			Total Lithium (Li)	2010/12/14	NC		%	25
			Total Magnesium (Mg)	2010/12/14	6.4		%	25
			Total Manganese (Mn)	2010/12/14	7.9		%	25
			Total Molybdenum (Mo)	2010/12/14	NC		%	25
			Total Nickel (Ni)	2010/12/14	NC		%	25
			Total Potassium (K)	2010/12/14	NC		%	25
			Total Silicon (Si)	2010/12/14	7.9		%	25
			Total Selenium (Se)	2010/12/14	NC		%	25
			Total Silver (Ag)	2010/12/14	NC		%	25
			Total Sodium (Na)	2010/12/14	6.3		%	25

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2357528	JBW	RPD [IC2300-07]	Total Strontium (Sr)	2010/12/14	7.0		%	25
			Total Tellurium (Te)	2010/12/14	NC		%	25
			Total Thallium (Tl)	2010/12/14	NC		%	25
			Total Thorium (Th)	2010/12/14	NC		%	25
			Total Tin (Sn)	2010/12/14	NC		%	25
			Total Titanium (Ti)	2010/12/14	NC		%	25
			Total Tungsten (W)	2010/12/14	NC		%	25
			Total Uranium (U)	2010/12/14	NC		%	25
			Total Vanadium (V)	2010/12/14	NC		%	25
			Total Zinc (Zn)	2010/12/14	NC		%	25
			Total Zirconium (Zr)	2010/12/14	NC		%	25
2357536	JOH	Matrix Spike [IC2296-07]	Total Sulphur (S)	2010/12/14		99	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/12/14		99	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/12/14	ND, RDL=0.5		mg/L	
		RPD [IC2296-07]	Total Sulphur (S)	2010/12/14	NC		%	25
2357626	GBU	Matrix Spike	Dissolved Aluminum (Al)	2010/12/13		96	%	80 - 120
			Dissolved Antimony (Sb)	2010/12/13		100	%	80 - 120
			Dissolved Arsenic (As)	2010/12/13		99	%	80 - 120
			Dissolved Barium (Ba)	2010/12/13		91	%	80 - 120
			Dissolved Beryllium (Be)	2010/12/13		92	%	80 - 120
			Dissolved Bismuth (Bi)	2010/12/13		98	%	80 - 120
			Dissolved Boron (B)	2010/12/13		90	%	80 - 120
			Dissolved Cadmium (Cd)	2010/12/13		96	%	80 - 120
			Dissolved Calcium (Ca)	2010/12/13		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/12/13		96	%	80 - 120
			Dissolved Cobalt (Co)	2010/12/13		94	%	80 - 120
			Dissolved Copper (Cu)	2010/12/13		NC	%	80 - 120
			Dissolved Iron (Fe)	2010/12/13		99	%	80 - 120
			Dissolved Lead (Pb)	2010/12/13		93	%	80 - 120
			Dissolved Lithium (Li)	2010/12/13		96	%	80 - 120
			Dissolved Magnesium (Mg)	2010/12/13		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/12/13		95	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/12/13		NC	%	80 - 120
			Dissolved Nickel (Ni)	2010/12/13		93	%	80 - 120
			Dissolved Phosphorus (P)	2010/12/13		NC	%	80 - 120
			Dissolved Potassium (K)	2010/12/13		NC	%	80 - 120
			Dissolved Selenium (Se)	2010/12/13		92	%	80 - 120
			Dissolved Silicon (Si)	2010/12/13		102	%	80 - 120
			Dissolved Silver (Ag)	2010/12/13		94	%	80 - 120
			Dissolved Sodium (Na)	2010/12/13		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/12/13		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/12/13		96	%	80 - 120
			Dissolved Thallium (Tl)	2010/12/13		92	%	80 - 120
			Dissolved Thorium (Th)	2010/12/13		97	%	80 - 120
			Dissolved Tin (Sn)	2010/12/13		101	%	80 - 120
			Dissolved Titanium (Ti)	2010/12/13		99	%	80 - 120
			Dissolved Tungsten (W)	2010/12/13		98	%	80 - 120
			Dissolved Uranium (U)	2010/12/13		98	%	80 - 120
			Dissolved Vanadium (V)	2010/12/13		96	%	80 - 120
			Dissolved Zinc (Zn)	2010/12/13		NC	%	80 - 120
			Dissolved Zirconium (Zr)	2010/12/13		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/12/13		97	%	90 - 110
			Dissolved Antimony (Sb)	2010/12/13		101	%	90 - 110
			Dissolved Arsenic (As)	2010/12/13		101	%	90 - 110

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2357626	GBU	Spiked Blank	Dissolved Barium (Ba)	2010/12/13		95	%	90 - 110
			Dissolved Beryllium (Be)	2010/12/13		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/12/13		104	%	90 - 110
			Dissolved Boron (B)	2010/12/13		98	%	90 - 110
			Dissolved Cadmium (Cd)	2010/12/13		100	%	90 - 110
			Dissolved Calcium (Ca)	2010/12/13		102	%	90 - 110
			Dissolved Chromium (Cr)	2010/12/13		97	%	90 - 110
			Dissolved Cobalt (Co)	2010/12/13		96	%	90 - 110
			Dissolved Copper (Cu)	2010/12/13		97	%	90 - 110
			Dissolved Iron (Fe)	2010/12/13		101	%	90 - 110
			Dissolved Lead (Pb)	2010/12/13		97	%	90 - 110
			Dissolved Lithium (Li)	2010/12/13		98	%	90 - 110
			Dissolved Magnesium (Mg)	2010/12/13		99	%	90 - 110
			Dissolved Manganese (Mn)	2010/12/13		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/12/13		98	%	90 - 110
			Dissolved Nickel (Ni)	2010/12/13		95	%	90 - 110
			Dissolved Phosphorus (P)	2010/12/13		98	%	90 - 110
			Dissolved Potassium (K)	2010/12/13		102	%	90 - 110
			Dissolved Selenium (Se)	2010/12/13		96	%	90 - 110
			Dissolved Silicon (Si)	2010/12/13		101	%	90 - 110
			Dissolved Silver (Ag)	2010/12/13		97	%	90 - 110
			Dissolved Sodium (Na)	2010/12/13		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/12/13		95	%	90 - 110
			Dissolved Tellurium (Te)	2010/12/13		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/12/13		96	%	90 - 110
			Dissolved Thorium (Th)	2010/12/13		102	%	90 - 110
			Dissolved Tin (Sn)	2010/12/13		104	%	90 - 110
			Dissolved Titanium (Ti)	2010/12/13		98	%	90 - 110
			Dissolved Tungsten (W)	2010/12/13		99	%	90 - 110
			Dissolved Uranium (U)	2010/12/13		101	%	90 - 110
			Dissolved Vanadium (V)	2010/12/13		97	%	90 - 110
			Dissolved Zinc (Zn)	2010/12/13		97	%	90 - 110
			Dissolved Zirconium (Zr)	2010/12/13		106	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/12/13	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/12/13	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/12/13	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/12/13	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/12/13	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/12/13	ND, RDL=2		ug/L	

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2357626	GBU	Method Blank	Dissolved Silicon (Si)	2010/12/13	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/12/13	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/12/13	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/12/13	NC		%	25
			Dissolved Antimony (Sb)	2010/12/13	NC		%	25
			Dissolved Arsenic (As)	2010/12/13	NC		%	25
			Dissolved Barium (Ba)	2010/12/13	0.5		%	25
			Dissolved Beryllium (Be)	2010/12/13	NC		%	25
			Dissolved Boron (B)	2010/12/13	0.6		%	25
			Dissolved Cadmium (Cd)	2010/12/13	NC		%	25
			Dissolved Calcium (Ca)	2010/12/13	0.2		%	25
			Dissolved Chromium (Cr)	2010/12/13	NC		%	25
			Dissolved Cobalt (Co)	2010/12/13	NC		%	25
			Dissolved Copper (Cu)	2010/12/13	1.0		%	25
			Dissolved Iron (Fe)	2010/12/13	NC		%	25
			Dissolved Lead (Pb)	2010/12/13	0.6		%	25
			Dissolved Magnesium (Mg)	2010/12/13	0.4		%	25
			Dissolved Manganese (Mn)	2010/12/13	NC		%	25
			Dissolved Molybdenum (Mo)	2010/12/13	1.2		%	25
			Dissolved Nickel (Ni)	2010/12/13	2.2		%	25
			Dissolved Phosphorus (P)	2010/12/13	NC		%	25
			Dissolved Potassium (K)	2010/12/13	1.2		%	25
			Dissolved Selenium (Se)	2010/12/13	NC		%	25
			Dissolved Silicon (Si)	2010/12/13	1.6		%	25
			Dissolved Silver (Ag)	2010/12/13	NC		%	25
			Dissolved Sodium (Na)	2010/12/13	0.06		%	25
			Dissolved Strontium (Sr)	2010/12/13	0.1		%	25
			Dissolved Thallium (Tl)	2010/12/13	NC		%	25
			Dissolved Titanium (Ti)	2010/12/13	NC		%	25
			Dissolved Uranium (U)	2010/12/13	NC		%	25
			Dissolved Vanadium (V)	2010/12/13	NC		%	25
			Dissolved Zinc (Zn)	2010/12/13	1.6		%	25
2357628	GBU	Matrix Spike [IC2304-02]	Dissolved Aluminum (Al)	2010/12/14		97	%	80 - 120
			Dissolved Antimony (Sb)	2010/12/14		97	%	80 - 120
			Dissolved Arsenic (As)	2010/12/14		98	%	80 - 120
			Dissolved Barium (Ba)	2010/12/14		93	%	80 - 120
			Dissolved Beryllium (Be)	2010/12/14		98	%	80 - 120
			Dissolved Bismuth (Bi)	2010/12/14		90	%	80 - 120
			Dissolved Boron (B)	2010/12/14		97	%	80 - 120
			Dissolved Cadmium (Cd)	2010/12/14		95	%	80 - 120
			Dissolved Calcium (Ca)	2010/12/14		98	%	80 - 120
			Dissolved Chromium (Cr)	2010/12/14		96	%	80 - 120
			Dissolved Cobalt (Co)	2010/12/14		95	%	80 - 120

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2357628	GBU	Matrix Spike [IC2304-02]	Dissolved Copper (Cu)	2010/12/14		95	%	80 - 120
			Dissolved Iron (Fe)	2010/12/14		96	%	80 - 120
			Dissolved Lead (Pb)	2010/12/14		95	%	80 - 120
			Dissolved Lithium (Li)	2010/12/14		98	%	80 - 120
			Dissolved Magnesium (Mg)	2010/12/14		95	%	80 - 120
			Dissolved Manganese (Mn)	2010/12/14		95	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/12/14		95	%	80 - 120
			Dissolved Nickel (Ni)	2010/12/14		95	%	80 - 120
			Dissolved Phosphorus (P)	2010/12/14		98	%	80 - 120
			Dissolved Potassium (K)	2010/12/14		98	%	80 - 120
			Dissolved Selenium (Se)	2010/12/14		94	%	80 - 120
			Dissolved Silicon (Si)	2010/12/14		100	%	80 - 120
			Dissolved Silver (Ag)	2010/12/14		94	%	80 - 120
			Dissolved Sodium (Na)	2010/12/14		98	%	80 - 120
			Dissolved Strontium (Sr)	2010/12/14		92	%	80 - 120
			Dissolved Tellurium (Te)	2010/12/14		95	%	80 - 120
			Dissolved Thallium (Tl)	2010/12/14		94	%	80 - 120
			Dissolved Thorium (Th)	2010/12/14		96	%	80 - 120
			Dissolved Tin (Sn)	2010/12/14		97	%	80 - 120
			Dissolved Titanium (Ti)	2010/12/14		97	%	80 - 120
			Dissolved Tungsten (W)	2010/12/14		95	%	80 - 120
			Dissolved Uranium (U)	2010/12/14		95	%	80 - 120
			Dissolved Vanadium (V)	2010/12/14		97	%	80 - 120
			Dissolved Zinc (Zn)	2010/12/14		96	%	80 - 120
			Dissolved Zirconium (Zr)	2010/12/14		100	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/12/13		98	%	90 - 110
			Dissolved Antimony (Sb)	2010/12/13		100	%	90 - 110
			Dissolved Arsenic (As)	2010/12/13		100	%	90 - 110
			Dissolved Barium (Ba)	2010/12/13		94	%	90 - 110
			Dissolved Beryllium (Be)	2010/12/13		92	%	90 - 110
			Dissolved Bismuth (Bi)	2010/12/13		103	%	90 - 110
			Dissolved Boron (B)	2010/12/13		90	%	90 - 110
			Dissolved Cadmium (Cd)	2010/12/13		99	%	90 - 110
			Dissolved Calcium (Ca)	2010/12/13		104	%	90 - 110
			Dissolved Chromium (Cr)	2010/12/13		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/12/13		97	%	90 - 110
			Dissolved Copper (Cu)	2010/12/13		98	%	90 - 110
			Dissolved Iron (Fe)	2010/12/13		102	%	90 - 110
			Dissolved Lead (Pb)	2010/12/13		96	%	90 - 110
			Dissolved Lithium (Li)	2010/12/13		96	%	90 - 110
			Dissolved Magnesium (Mg)	2010/12/13		100	%	90 - 110
			Dissolved Manganese (Mn)	2010/12/13		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/12/13		99	%	90 - 110
			Dissolved Nickel (Ni)	2010/12/13		97	%	90 - 110
			Dissolved Phosphorus (P)	2010/12/13		97	%	90 - 110
			Dissolved Potassium (K)	2010/12/13		104	%	90 - 110
			Dissolved Selenium (Se)	2010/12/13		96	%	90 - 110
			Dissolved Silicon (Si)	2010/12/13		102	%	90 - 110
			Dissolved Silver (Ag)	2010/12/13		96	%	90 - 110
			Dissolved Sodium (Na)	2010/12/13		105	%	90 - 110
			Dissolved Strontium (Sr)	2010/12/13		95	%	90 - 110
			Dissolved Tellurium (Te)	2010/12/13		97	%	90 - 110
			Dissolved Thallium (Tl)	2010/12/13		94	%	90 - 110
			Dissolved Thorium (Th)	2010/12/13		101	%	90 - 110

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2357628	GBU	Spiked Blank	Dissolved Tin (Sn)	2010/12/13		102	%	90 - 110
			Dissolved Titanium (Ti)	2010/12/13		101	%	90 - 110
			Dissolved Tungsten (W)	2010/12/13		99	%	90 - 110
			Dissolved Uranium (U)	2010/12/13		101	%	90 - 110
			Dissolved Vanadium (V)	2010/12/13		98	%	90 - 110
			Dissolved Zinc (Zn)	2010/12/13		98	%	90 - 110
			Dissolved Zirconium (Zr)	2010/12/13		108	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/12/13	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/12/13	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/12/13	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/12/13	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/12/13	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/12/13	2, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/12/13	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/12/13	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/12/13	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/12/13	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/12/13	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/12/13	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/12/13	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/12/13	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/12/13	ND, RDL=1		ug/L	
		RPD [IC2304-02]	Dissolved Aluminum (Al)	2010/12/13	3.5		%	25
			Dissolved Antimony (Sb)	2010/12/13	NC		%	25
			Dissolved Arsenic (As)	2010/12/13	NC		%	25
			Dissolved Barium (Ba)	2010/12/13	NC		%	25
			Dissolved Beryllium (Be)	2010/12/13	NC		%	25
			Dissolved Bismuth (Bi)	2010/12/13	NC		%	25
			Dissolved Boron (B)	2010/12/13	NC		%	25
			Dissolved Cadmium (Cd)	2010/12/13	NC		%	25
			Dissolved Calcium (Ca)	2010/12/13	0.6		%	25
			Dissolved Chromium (Cr)	2010/12/13	NC		%	25
			Dissolved Cobalt (Co)	2010/12/13	NC		%	25
			Dissolved Copper (Cu)	2010/12/13	NC		%	25

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0H6949

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2357628	GBU	RPD [IC2304-02]	Dissolved Iron (Fe)	2010/12/13	NC		%	25
			Dissolved Lead (Pb)	2010/12/13	NC		%	25
			Dissolved Lithium (Li)	2010/12/13	NC		%	25
			Dissolved Magnesium (Mg)	2010/12/13	0.6		%	25
			Dissolved Manganese (Mn)	2010/12/13	NC		%	25
			Dissolved Molybdenum (Mo)	2010/12/13	NC		%	25
			Dissolved Nickel (Ni)	2010/12/13	NC		%	25
			Dissolved Phosphorus (P)	2010/12/13	NC		%	25
			Dissolved Potassium (K)	2010/12/13	NC		%	25
			Dissolved Selenium (Se)	2010/12/13	NC		%	25
			Dissolved Silicon (Si)	2010/12/13	2.2		%	25
			Dissolved Silver (Ag)	2010/12/13	NC		%	25
			Dissolved Sodium (Na)	2010/12/13	0.9		%	25
			Dissolved Strontium (Sr)	2010/12/13	1.6		%	25
			Dissolved Tellurium (Te)	2010/12/13	NC		%	25
			Dissolved Thallium (Tl)	2010/12/13	NC		%	25
			Dissolved Thorium (Th)	2010/12/13	NC		%	25
			Dissolved Tin (Sn)	2010/12/13	NC		%	25
			Dissolved Titanium (Ti)	2010/12/13	NC		%	25
			Dissolved Tungsten (W)	2010/12/13	NC		%	25
			Dissolved Uranium (U)	2010/12/13	NC		%	25
			Dissolved Vanadium (V)	2010/12/13	NC		%	25
			Dissolved Zinc (Zn)	2010/12/13	NC		%	25
			Dissolved Zirconium (Zr)	2010/12/13	NC		%	25
2358290	JOH	Matrix Spike	Dissolved Sulphur (S)	2010/12/14		NC	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/12/14		101	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/12/14	ND, RDL=0.5		mg/L	
2359825	VRO	Matrix Spike	Total Phosphorus	2010/12/16		96	%	80 - 120
		QC Standard	Total Phosphorus	2010/12/16		104	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/12/16		102	%	85 - 115
		Method Blank	Total Phosphorus	2010/12/16	0.004, RDL=0.002		mg/L	
		RPD	Total Phosphorus	2010/12/16	0.9		%	20
2359833	VRO	Matrix Spike	Dissolved Phosphorus	2010/12/16		99	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/12/16		106	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/12/16		106	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/12/16	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/12/16	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0H6949

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

TOM MITCHELL, B.Sc, Team Leader, Compressed Gases

BRAD NEWMAN, Scientific Specialist

MIKE MACGILLIVRAY, Bedford Inorg Spvsr

GRACE SISON, Technical and Customer Service Coordinator

CRISTINA CARRIERE, Scientific Services

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5779 www.maxxam.ca

IMMEDIATE TAT

8-Dec-10 10:15
ANTONELLA BRASIL
B0H6949
AKP ENV-608

CHAIN OF CUSTODY RECORD

Page 1 of 6

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	BOTTLE ORDER #:	226666
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:			
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#226666-02-01	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:

☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combir

☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse

☐ Reg. 558 Municipality

Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 1A	Dec 6/10	12:01 pm	WT			–	–	–	–	–	–	–	–	–	–	18	
2		SW 2	Dec 6/10	2:30 pm	WT			–	–	–	–	–	–	–	–	–	–	18	
3		SW 3	Dec 6/10	12:50 pm	WT			–	–	–	–	–	–	–	–	–	–	18	
4		SW 4	Dec 6/10	10:40 Am	WT			–	–	–	–	–	–	–	–	–	–	18	
5		SW 6	Dec 6/10	9:30 Am	WT			–	–	–	–	–	–	–	–	–	–	18	4,2,2c
6		SW 7A	Dec 6/10	2:00 pm	WT			–	–	–	–	–	–	–	–	–	–	18	2,1,1c
7		SW 10	Dec 6/10	11:35 Am	WT			–	–	–	–	–	–	–	–	–	–	18	2,2,2c
8		SW 11	Dec 6/10	11:05 Am	WT			–	–	–	–	–	–	–	–	–	–	18	5,2,1c
9		SW 12A	Dec 6/10	3:30 pm	WT			–	–	–	–	–	–	–	–	–	–	18	2,1,1c
10		SW 13	Dec 6/10	1:11 pm	WT			–	–	–	–	–	–	–	–	–	–	18	1,4,3c
																			1,3,2c
																			2,4,4c
																			3,3,1c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Beven Burnell	10/12/06	10:00pm	Amanda.	Dec 7/10.	7:30am.	
			NUSRAT ND	10/12/08	10:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact / Cooler?
X	3.2, 4.8, 4.1	☑

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Ma

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5779 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 226666
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#226666-02-02	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐
Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
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Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 1A	Dec 4/10	12:01 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 2	Dec 4/10	2:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
3		SW 3	Dec 4/10	12:50 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW 4	Dec 4/10	10:40 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	4, 2, 2c
5		SW 6	Dec 4/10	9:30 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2, 1, 1c
6		SW 7A	Dec 4/10	2:00 Pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	5, 2, 1c 2, 2, 2c
7		SW 10	Dec 4/10	11:35 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2, 1, 1c 1, 1, 3c
8		SW 11	Dec 4/10	11:05 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1, 3, 2c
9		SW 12A	Dec 4/10	3:30 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2, 4, 4c
10		SW 13	Dec 4/10	1:11 PM	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	3, 3, 1c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Ruben Burnell	10/12/06	10:00pm	Amanda. NUSRAT NDZ	Dec 7/10. 2010/12/08	7:30am 10:15		X	3.2, 4.8, 4.1	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 226666
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#226666-02-03	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:

MISA Reg. 153/04 Sewer Use: Sanitary / Storm / Combi

PWQO Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse

Reg. 558 Municipality

Other (specify) Report Criteria on C of A?

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑

(will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐

Date Required: Time Required:

Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	ANALYSIS REQUESTED (Please be specific): Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1A	Dec 6/10	12:01 Am	WT			✓	18	
2		SW 2	Dec 4/10	2:30 pm	WT			✓	18	
3		SW 3	Dec 6/10	12:50 pm	WT			✓	18	
4		SW 4	Dec 6/10	10:40 Am	WT			✓	18	4, 2, 2 c
5		SW 6	Dec 6/10	9:30 Am	WT			✓	18	2, 1, 1 c 5, 2, 1 c
6		SW 7A	Dec 6/10	2:00 pm	WT			✓	18	2, 2, 2 c
7		SW 10	Dec 6/10	11:35 Am	WT			✓	18	2, 1, 1 c 1, 4, 3 c
8		SW 11	Dec 6/10	11:05 Am	WT			✓	18	1, 3, 2 c
9		SW 12A	Dec 6/10	3:30 pm	WT			✓	18	2, 4, 4 c
10		SW 13	Dec 6/10	1:41 pm	WT			✓	18	3, 3, 1 c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Bunch	10/12/06	10:00 pm	Amanda	Dec 7/10	730am		X	3.2, 4.8, 4.1	☐ Yes ☐ No
			ONUSRAT NA	12/08	19:15				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5779 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #:
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			226666
Address:	303 - 1620 W 8th Ave	Address:	500 - 2955 Virtual Way	Project #:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		C#226666-01-01	ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ (
☐ PWQO ☐ Table 1 ☐ Residential/Parkland
☐ Table 2 ☐ Industrial/Commercial
☐ Reg. 558 ☐ Table 3 ☐ Medium/Fine Municipality
☐ Table 6 ☐ Coarse
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 14	Dec 6/10	2:55 pm	WT			–	–	–	–	–	–	–	–	–	–	18	
2		SW. 15	Dec 6/10	8:30 pm	WT			–	–	–	–	–	–	–	–	–	–	18	
3		SW16	Dec 6/10	9:45 Am	WT			–	–	–	–	–	–	–	–	–	–	18	
4		SW 17	Dec 6/10	7:45 Am	WT			–	–	–	–	–	–	–	–	–	–	18	
5		SW 18	Dec 6/10	1:30 pm	WT			–	–	–	–	–	–	–	–	–	–	18	4,2,2c
6																			2,1,1c
7																			2,2,2c
8																			5,2,1c
9																			2,1,1c
10																			1,4,3c
																			1,3c,2c
																			2,4,4c
																			3,3,1c

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Melissa Beven Burnell	10/12/06	10:00pm	Amanda	Dec 7/10	7:30am	
			NUSPAT NAZ	2010/12/08	10:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	3.2, 4.8, 4.1	☐ Yes ☐ No

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 226666
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave	Address:	500 - 2955 Virtual Way	Project #:			
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#226666-01-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

REGULATORY CRITERIA:

- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combin
- ☐ PWQO — ☐ Table 1 ☐ Table 2 — ☐ Residential/Parkland ☐ Industrial/Commercial
- ☐ Reg. 558 — ☐ Table 3 ☐ Table 6 — ☐ Medium/Fine ☐ Coarse — Municipality
- Other (specify) — Report Criteria on C of A ? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW14	Dec 4/10	2:55 PM	WT			–	–	–	–	–	–	–	–	–	–	18	4, 2, 2 c
2		SW15	Dec 4/10	8:30 PM	WT			–	–	–	–	–	–	–	–	–	–	18	2, 1, 1 c
3		SW16	Dec 4/10	9:45 AM	WT			–	–	–	–	–	–	–	–	–	–	18	5, 2, 1 c
4		SW17	Dec 6/10	7:45 AM	WT			–	–	–	–	–	–	–	–	–	–	18	2, 2, 2 c
5		SW18	Dec 6/10	1:30 PM	WT			–	–	–	–	–	–	–	–	–	–	18	2, 1, 1 c
6																			1, 4, 3 c
7																			1, 3, 2 c
8																			2, 4, 4 c
9																			3, 3, 1 c
10																			

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Bevan Bunnell	10/12/06	10:00pm	Amanda	Dec 7/10	730am	
			Wusrat NAZ	10/12/08	10:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	3.2, 4.8, 4.1	☐ Yes ☐ No

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Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 226666
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		C#226666-01-03	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

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ANALYSIS REQUESTED (Please be specific):

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 14	Dec 4/10	2:55 pm	WT			–	18	4, 2, 2 c
2		SW15	Dec 4/10	8:30 Am	WT			–	18	2, 1, 1 c
3		SW16	Dec 4/10	9:45 Am	WT			–	18	5, 2, 1 c
4		SW17	Dec 4/10	7:45 Am	WT			–	18	~~2, 2, 2 c~~ 2, 1, 1 c
5		SW18	Dec 4/10	1:30 pm	WT			–	18	1, 4, 3 c 1, 3, 2 c ~~2, 4, 4 c~~ 3, 3, 1 c
6					~~WT~~					
7										
8										
9										
10										

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bowen Burnell	10/12/06	10:00pm	Amander	Dec 7/10	730am		X	3.2, 4.8, 4.1	☐ Yes ☐ No
			NUSRAT NAZ	2010/12/08	10:15				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: B0H6949
Your C.O.C. #: 08326311

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/12/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0C0047
Received: 2010/12/10, 09:00

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	16	N/A	2010/12/14	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: AKhalsa@maxxam.ca
Phone# (604) 639-8432

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B0C0047
Report Date: 2010/12/14

Client Project #: B0H6949

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Y96370	Y96371	Y96372	Y96373		
Sampling Date		2010/12/06	2010/12/06	2010/12/06	2010/12/06		
COC Number		08326311	08326311	08326311	08326311		
	Units	**IC2291-09R\SW 1A**	**IC2292-09R\SW 2**	**IC2293-09R\SW 3**	**IC2294-09R\SW 4**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0013	0.0012	0.0011	0.0013	0.0005	4502967

RDL = Reportable Detection Limit

Maxxam ID		Y96374	Y96375	Y96376	Y96377		
Sampling Date		2010/12/06	2010/12/06	2010/12/06	2010/12/06		
COC Number		08326311	08326311	08326311	08326311		
	Units	**IC2295-09R\SW 6**	**IC2296-09R\SW 7A**	**IC2297-09R\SW 10**	**IC2298-09R\SW 11**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0006	0.0008	0.0008	0.0010	0.0005	4502967

RDL = Reportable Detection Limit

Maxxam ID		Y96378	Y96379	Y96380	Y96381		
Sampling Date		2010/12/06	2010/12/06	2010/12/06	2010/12/06		
COC Number		08326311	08326311	08326311	08326311		
	Units	**IC2299-09R\SW 12A**	**IC2300-09R\SW 13**	**IC2301-09R\SW 14**	**IC2302-09R\SW 15**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0014	0.0010	0.0012	0.0016	0.0005	4502967

RDL = Reportable Detection Limit

Maxxam ID		Y96382	Y96383	Y96384	Y96385		
Sampling Date		2010/12/06	2010/12/06	2010/12/06	2010/12/06		
COC Number		08326311	08326311	08326311	08326311		
	Units	**IC2303-09R\SW 16**	**IC2304-09R\SW 17**	**IC2305-09R\SW 18**	**IC2306-07R\TRIP BLANK**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0008	0.0008	0.0012	<0.0005	0.0005	4502967

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B0C0047
Report Date: 2010/12/14

Client Project #: B0H6949

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Y96385		
Sampling Date		2010/12/06		
COC Number		08326311		
	Units	**IC2306-07R\TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics				
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	4502967

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.
Client Project #: B0H6949

Maxxam Job #: B0C0047
Report Date: 2010/12/14

Package 1	4.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: B0H6949
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB0C0047

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4502967	TS1	Matrix Spike [Y96385-01]	Weak Acid Dissoc. Cyanide (CN)	2010/12/14		101	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/12/14		103	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/12/14	<0.0005		mg/L	
		RPD [Y96385-01]	Weak Acid Dissoc. Cyanide (CN)	2010/12/14	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B0C0047

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Data Validation Coordinator

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX I - 4

Laboratory Results
December 2010

Your C.O.C. #: 23275501, 232755-01-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2011/01/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0I6816
Received: 2010/12/30, 09:12

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	16	2010/12/31	2011/01/07	SLA SOP-00100	APHA SM2310B (Mod)
Alkalinity	16	N/A	2011/01/04	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	16	N/A	2011/01/05	CAM SOP-00102	APHA 4500-CO2 D
Biological Oxygen Demand (BOD)	16	N/A	2011/01/04	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	6	N/A	2010/12/31	CAM SOP-00463	SM 4500 Cl E
Chloride by Automated Colourimetry	10	N/A	2011/01/05	CAM SOP-00463	SM 4500 Cl E
Dissolved Carbon Dioxide in Water	16	N/A	2011/01/04	CAM SOP-00219	Direct Injection
Chemical Oxygen Demand	16	N/A	2011/01/05	CAM SOP-00416	APHA 5220D
Colour	16	N/A	2011/01/04	CAM SOP-00412	APHA 2120
Conductivity	16	N/A	2011/01/04	CAM SOP-00448	SM 2510
Total Cyanide	16	2011/01/04	2011/01/04	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	11	N/A	2011/01/04	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	5	N/A	2011/01/05	CAM SOP-00446	SM 5310 B
Dissolved Oxygen	16	N/A	2010/12/30	CAM SOP-00427	APHA 4500 OG
Fluoride	16	2011/01/04	2011/01/04	CAM SOP-00448	APHA 4500FC
Dissolved Gases in Water in mg/L units	16	N/A	2010/12/30		
Hardness (calculated as CaCO3)	16	N/A	2011/01/04	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	5	2010/12/31	2010/12/31	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	11	2010/12/31	2011/01/04	CAM SOP-00453	EPA 7470
Lab Filtered Metals Analysis by ICP	16	2011/01/04	2011/01/06	CAM SOP-00408	EPA 6010
Lab Filtered Metals by ICPMS	9	2010/12/31	2011/01/04	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	6	2011/01/04	2011/01/04	CAM SOP-00447	EPA 6020
Lab Filtered Metals by ICPMS	1	2011/01/07	2011/01/07	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	15	N/A	2011/01/06	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	1	N/A	2011/01/07	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	16	2011/01/05	2011/01/06	CAM SOP-00408	EPA 6010
Ammonia-N	16	N/A	2011/01/06	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (4)	16	N/A	2011/01/04	CAM SOP-00440	SM 4500 NO3I/NO2B
Animal and Vegetable Oil & Grease	16	N/A	2011/01/04	CAM SOP-00326	SM 5520 B
Total Oil and Grease	16	2011/01/04	2011/01/04	CAM SOP-00326	EPA 1664A
pH	16	N/A	2011/01/04	CAM SOP-00448	SM 4500H
Orthophosphate	15	N/A	2011/01/04	CAM SOP-00461	SM 4500 P-F
Orthophosphate	1	N/A	2011/01/05	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	13	N/A	2011/01/06	ATL SOP 00022 R3	Based on EPA 366.0
Reactive Silica (2)	3	N/A	2011/01/07	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	15	N/A	2011/01/04	CAM SOP-00464	EPA 375.4
Sulphate by Automated Colourimetry	1	N/A	2011/01/05	CAM SOP-00464	EPA 375.4
Redox Potential (1)	16	2011/01/05	2011/01/13	APHA-SM 2580 B Mod. & ASTM D1498-76 Mod.	

../2

Your C.O.C. #: 23275501, 232755-01-02

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2011/01/14

CERTIFICATE OF ANALYSIS

-2-

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Sulphide	16	N/A	2011/01/04	CAM SOP-00455	SM 4500-S G
Total Dissolved Solids	4	N/A	2011/01/04	CAM SOP-00428	APHA 2540C
Total Dissolved Solids	12	N/A	2011/01/05	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	16	2011/01/05	2011/01/05	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	16	N/A	2011/01/05	CAM SOP-00446	SM 5310B
Dissolved Phosphorus	16	2011/01/05	2011/01/06	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	16	2011/01/05	2011/01/06	CAM SOP-00407	APHA 4500 P,B,F
TPH (Heavy Oil) (5)	16	2011/01/04	2011/01/04	CAM SOP-00326	SM 5520F
Low Level Total Suspended Solids	16	N/A	2011/01/04	CAM SOP-00428	SM 2540D
Turbidity	16	N/A	2010/12/31	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(5) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: ABrasil@maxxam.ca
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9792	IG9792		IG9793		
Sampling Date							
COC Number		232755-01-02	232755-01-02		232755-01-02		
	Units	**SW 1A**	**SW 1A Lab-Dup**	**QC Batch**	**SW 2**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	2370427	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	139	N/A	2370792	117	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2370792	ND	1	2370792
Hardness (CaCO3)	mg/L	150	N/A	2370434	130	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2370792	ND	1	2370792
Inorganics							
Acidity as CaC03	mg/L	16	N/A	2371399	ND	10	2371399
Total Ammonia-N	mg/L	0.06	N/A	2372958	ND	0.05	2372958
Total BOD	mg/L	ND	ND	2370942	ND	2	2370942
Total Chemical Oxygen Demand (COD)	mg/L	68	N/A	2372797	53	4	2372797
Colour	TCU	100	N/A	2371848	100	4	2371848
Conductivity	umho/cm	296	N/A	2371928	232	1	2371928
Total Dissolved Solids	mg/L	176	N/A	2372229	146	10	2372246
Fluoride (F-)	mg/L	ND	N/A	2371929	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	N/A	2372884	0.8	0.2	2372884
Dissolved Organic Carbon	mg/L	23.8	N/A	2372063	20.4	0.2	2372824
Total Organic Carbon (TOC)	mg/L	23.9	N/A	2372795	21.4	0.2	2372795
Orthophosphate (P)	mg/L	0.02	N/A	2371840	0.02	0.01	2371840
Dissolved Oxygen	mg/L	9.18	N/A	2371117	10.6	N/A	2371117
pH	pH	7.70	N/A	2371932	7.81	N/A	2371932
Dissolved Phosphorus	mg/L	0.029	N/A	2372809	0.017	0.002	2372809
Total Phosphorus	mg/L	0.048	N/A	2372817	0.028	0.002	2372817
Reactive Silica (SiO2)	mg/L	13	N/A	2373765	11	0.5	2373765
Total Suspended Solids	mg/L	8	8	2372012	3	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	2371842	ND	1	2371842
Sulphide	mg/L	ND	N/A	2371959	ND	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	2371920	ND	0.005	2371926
Turbidity	NTU	9.4	N/A	2371216	5.7	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	139	N/A	2371923	118	1	2371923
Dissolved Chloride (Cl)	mg/L	7	N/A	2371199	2	1	2372015

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9792	IG9792		IG9793		
Sampling Date							
COC Number		232755-01-02	232755-01-02		232755-01-02		
	Units	**SW 1A**	**SW 1A Lab-Dup**	**QC Batch**	**SW 2**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	2371874	ND	0.01	2372098
Nitrate (N)	mg/L	ND	N/A	2371874	ND	0.1	2372098
Nitrate + Nitrite	mg/L	ND	N/A	2371874	ND	0.1	2372098
Subcontracted Analysis							
Redox Potential	mV	+337	N/A	2372903	+312	N/A	2372903
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	ND	N/A	2371917	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	2371918	ND	0.5	2371918

ND = Not detected
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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9794	IG9794			IG9795		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 3**	**SW 3 Lab-Dup**	**RDL**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2370427	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	163	N/A	1	2370792	52	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Hardness (CaCO3)	mg/L	180	N/A	1	2370434	61	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Inorganics								
Acidity as CaC03	mg/L	10	N/A	10	2371399	33	10	2371399
Total Ammonia-N	mg/L	ND	N/A	0.05	2372958	0.09	0.05	2372958
Total BOD	mg/L	ND	N/A	2	2370942	ND	2	2370942
Total Chemical Oxygen Demand (COD)	mg/L	56	N/A	4	2372797	86	4	2372797
Colour	TCU	77	77	2	2371848	150	4	2371848
Conductivity	umho/cm	334	N/A	1	2371928	130	1	2371928
Total Dissolved Solids	mg/L	218	N/A	10	2372229	80	10	2372229
Fluoride (F-)	mg/L	ND	N/A	0.1	2371929	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	N/A	0.2	2372884	1.1	0.2	2372884
Dissolved Organic Carbon	mg/L	20.8	N/A	0.2	2372063	29.0	0.2	2372824
Total Organic Carbon (TOC)	mg/L	20.8	N/A	0.2	2372795	31.0	0.2	2372795
Orthophosphate (P)	mg/L	0.03	N/A	0.01	2371840	ND	0.01	2371840
Dissolved Oxygen	mg/L	9.48	N/A	N/A	2371117	7.72	N/A	2371117
pH	pH	7.67	N/A	N/A	2371932	7.05	N/A	2371932
Dissolved Phosphorus	mg/L	0.028	0.028	0.002	2372809	0.014	0.002	2372809
Total Phosphorus	mg/L	0.047	0.046	0.002	2372817	0.018	0.002	2372817
Reactive Silica (SiO2)	mg/L	13	N/A	0.5	2373765	12	0.5	2373765
Total Suspended Solids	mg/L	7	N/A	1	2372012	4	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2371842	ND	1	2371842
Sulphide	mg/L	ND	N/A	0.02	2371959	ND	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2371920	ND	0.005	2371926
Turbidity	NTU	9.3	N/A	0.1	2371216	1.6	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	164	N/A	1	2371923	52	1	2371923
Dissolved Chloride (Cl)	mg/L	5	N/A	1	2371199	7	1	2372015

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9794	IG9794			IG9795		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 3**	**SW 3 Lab-Dup**	**RDL**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2371874	ND	0.01	2371874
Nitrate (N)	mg/L	ND	N/A	0.1	2371874	ND	0.1	2371874
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2371874	ND	0.1	2371874
Subcontracted Analysis								
Redox Potential	mV	+303	N/A	N/A	2372903	+332	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2371917	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2371918	ND	0.5	2371918

ND = Not detected
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Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9796	IG9796			IG9797		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 6**	**SW 6 Lab-Dup**	**RDL**	**QC Batch**	**SW 7A**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2370427	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	52	N/A	1	2370792	189	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	1	1	2370792
Hardness (CaCO3)	mg/L	63	N/A	1	2370434	200	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Inorganics								
Acidity as CaC03	mg/L	23	N/A	10	2371399	ND	10	2371399
Total Ammonia-N	mg/L	0.09	N/A	0.05	2372958	0.06	0.05	2372958
Total BOD	mg/L	ND	N/A	2	2370942	ND	2	2370942
Total Chemical Oxygen Demand (COD)	mg/L	82	N/A	4	2372797	38	4	2372797
Colour	TCU	150	N/A	4	2371848	64	2	2371848
Conductivity	umho/cm	125	N/A	1	2371928	382	1	2371928
Total Dissolved Solids	mg/L	76	N/A	10	2372246	244	10	2372246
Fluoride (F-)	mg/L	ND	N/A	0.1	2371929	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	N/A	0.2	2372884	0.7	0.2	2372884
Dissolved Organic Carbon	mg/L	29.1	N/A	0.2	2372075	15.5	0.2	2372075
Total Organic Carbon (TOC)	mg/L	30.8	N/A	0.2	2372795	15.5	0.2	2372795
Orthophosphate (P)	mg/L	ND	N/A	0.01	2371840	0.02	0.01	2371840
Dissolved Oxygen	mg/L	6.67	N/A	N/A	2371117	10.2	N/A	2371117
pH	pH	7.04	N/A	N/A	2371932	7.92	N/A	2371932
Dissolved Phosphorus	mg/L	0.017	N/A	0.002	2372809	0.019	0.002	2372809
Total Phosphorus	mg/L	0.016	N/A	0.002	2372817	0.032	0.002	2372817
Reactive Silica (SiO2)	mg/L	12	N/A	0.5	2373774	13	0.5	2373774
Total Suspended Solids	mg/L	2	N/A	1	2372012	2	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2371842	ND	1	2371842
Sulphide	mg/L	ND	N/A	0.02	2371959	ND	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2371920	ND	0.005	2371920
Turbidity	NTU	1.5	N/A	0.1	2371216	3.6	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	52	N/A	1	2371923	190	1	2371923
Dissolved Chloride (Cl)	mg/L	6	N/A	1	2372015	5	1	2372015

ND = Not detected
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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9796	IG9796			IG9797		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 6**	**SW 6 Lab-Dup**	**RDL**	**QC Batch**	**SW 7A**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2371874	ND	0.01	2372098
Nitrate (N)	mg/L	ND	N/A	0.1	2371874	ND	0.1	2372098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2371874	ND	0.1	2372098
Subcontracted Analysis								
Redox Potential	mV	+320	+319	N/A	2372903	+289	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2371917	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2371918	ND	0.5	2371918

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9798		IG9799		IG9800		
Sampling Date								
COC Number		232755-01-02		232755-01-02		232755-01-02		
	Units	**SW 10**	**QC Batch**	**SW 11**	**RDL**	**SW 12A**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	2370427	ND	0.5	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	129	2370792	93	1	49	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	2370792	ND	1	ND	1	2370792
Hardness (CaCO3)	mg/L	140	2370434	100	1	49	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	2370792	ND	1	ND	1	2370792
Inorganics								
Acidity as CaC03	mg/L	15	2371399	18	10	39	10	2371399
Total Ammonia-N	mg/L	ND	2372958	0.06	0.05	0.22	0.05	2372958
Total BOD	mg/L	ND	2370942	ND	2	11	2	2370942
Total Chemical Oxygen Demand (COD)	mg/L	65	2372797	90	4	82	4	2372797
Colour	TCU	110	2371848	170	4	200	6	2371848
Conductivity	umho/cm	280	2371928	185	1	103	1	2371928
Total Dissolved Solids	mg/L	168	2372246	108	10	66	10	2372246
Fluoride (F-)	mg/L	ND	2371929	ND	0.1	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	1.0	2372884	1.3	0.2	1.5	0.2	2372884
Dissolved Organic Carbon	mg/L	24.0	2372075	33.4	0.2	24.3	0.2	2372824
Total Organic Carbon (TOC)	mg/L	24.7	2372795	34.1	0.2	28.0	0.2	2372795
Orthophosphate (P)	mg/L	0.02	2371840	ND	0.01	ND	0.01	2371840
Dissolved Oxygen	mg/L	9.68	2371117	8.56	N/A	3.82	N/A	2371117
pH	pH	7.69	2371932	7.36	N/A	6.89	N/A	2371932
Dissolved Phosphorus	mg/L	0.026	2372809	0.016	0.002	0.017	0.002	2372809
Total Phosphorus	mg/L	0.039	2372817	0.026	0.002	0.050	0.002	2372817
Reactive Silica (SiO2)	mg/L	13	2373774	14	0.5	4.8	0.5	2373774
Total Suspended Solids	mg/L	2	2372012	1	1	17	2	2372012
Dissolved Sulphate (SO4)	mg/L	ND	2371842	ND	1	ND	1	2371842
Sulphide	mg/L	ND	2371959	ND	0.02	0.02	0.02	2371959
Total Cyanide (CN)	mg/L	ND	2371920	ND	0.005	ND	0.005	2371920
Turbidity	NTU	4.6	2371216	2.7	0.1	17	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	130	2371923	93	1	49	1	2371923
Dissolved Chloride (Cl)	mg/L	7	2372015	2	1	2	1	2371199
Nitrite (N)	mg/L	ND	2372098	ND	0.01	ND	0.01	2372098

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9798		IG9799		IG9800		
Sampling Date								
COC Number		232755-01-02		232755-01-02		232755-01-02		
	Units	**SW 10**	**QC Batch**	**SW 11**	**RDL**	**SW 12A**	**RDL**	**QC Batch**
Nitrate (N)	mg/L	ND	2372098	ND	0.1	ND	0.1	2372098
Nitrate + Nitrite	mg/L	ND	2372098	ND	0.1	ND	0.1	2372098
Subcontracted Analysis								
Redox Potential	mV	+298	2372903	+312	N/A	+341	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	2371917	ND	0.5	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	2371918	ND	0.5	ND	0.5	2371918

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9801	IG9801			IG9802		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 13**	**SW 13 Lab-Dup**	**RDL**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2370427	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	165	N/A	1	2370792	62	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Hardness (CaCO3)	mg/L	170	N/A	1	2370434	72	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Inorganics								
Acidity as CaC03	mg/L	14	15	10	2371399	23	10	2371399
Total Ammonia-N	mg/L	ND	N/A	0.05	2372958	0.06	0.05	2372958
Total BOD	mg/L	ND	N/A	2	2370389	ND	2	2370389
Total Chemical Oxygen Demand (COD)	mg/L	46	N/A	4	2372797	73	4	2372797
Colour	TCU	54	N/A	2	2371848	150	4	2371848
Conductivity	umho/cm	322	N/A	1	2371928	127	1	2371928
Total Dissolved Solids	mg/L	188	N/A	10	2372229	78	10	2372246
Fluoride (F-)	mg/L	ND	N/A	0.1	2371929	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	0.8	N/A	0.2	2372884	1.0	0.2	2372884
Dissolved Organic Carbon	mg/L	18.0	N/A	0.2	2372075	28.2	0.2	2372075
Total Organic Carbon (TOC)	mg/L	18.2	N/A	0.2	2372795	28.2	0.2	2372795
Orthophosphate (P)	mg/L	0.01	N/A	0.01	2371840	ND	0.01	2371840
Dissolved Oxygen	mg/L	9.18	N/A	N/A	2371117	4.98	N/A	2371117
pH	pH	7.77	N/A	N/A	2371932	7.16	N/A	2371932
Dissolved Phosphorus	mg/L	0.017	N/A	0.002	2372809	0.014	0.002	2372809
Total Phosphorus	mg/L	0.027	N/A	0.002	2372817	0.024	0.002	2372817
Reactive Silica (SiO2)	mg/L	12	N/A	0.5	2373774	11	0.5	2373774
Total Suspended Solids	mg/L	1	1	1	2372019	1	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2371842	ND	1	2371842
Sulphide	mg/L	ND	N/A	0.02	2371959	ND	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2371920	ND	0.005	2371920
Turbidity	NTU	3.2	N/A	0.1	2371216	1.3	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	166	N/A	1	2371923	62	1	2371923
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2371199	1	1	2371199

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9801	IG9801			IG9802		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 13**	**SW 13 Lab-Dup**	**RDL**	**QC Batch**	**SW 14**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2372098	ND	0.01	2372098
Nitrate (N)	mg/L	ND	N/A	0.1	2372098	ND	0.1	2372098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2372098	ND	0.1	2372098
Subcontracted Analysis								
Redox Potential	mV	+288	+285	N/A	2372903	+319	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2371917	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2371918	ND	0.5	2371918

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9803	IG9803			IG9804		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 15**	**SW 15 Lab-Dup**	**RDL**	**QC Batch**	**SW 16**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	0.5	2370427	ND	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	119	N/A	1	2370792	24	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Hardness (CaCO3)	mg/L	130	N/A	1	2370434	26	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2370792	ND	1	2370792
Inorganics								
Acidity as CaC03	mg/L	14	N/A	10	2371399	ND	10	2371399
Total Ammonia-N	mg/L	0.08	N/A	0.05	2372958	ND	0.05	2372958
Total BOD	mg/L	ND	N/A	2	2370389	ND	2	2370389
Total Chemical Oxygen Demand (COD)	mg/L	78	77	4	2372797	28	4	2372797
Colour	TCU	150	N/A	4	2371848	40	2	2371848
Conductivity	umho/cm	251	N/A	1	2371928	68	1	2371928
Total Dissolved Solids	mg/L	156	N/A	10	2372246	46	10	2372246
Fluoride (F-)	mg/L	ND	N/A	0.1	2371929	ND	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	1.1	N/A	0.2	2372884	0.5	0.1	2372884
Dissolved Organic Carbon	mg/L	27.4	28.4	0.2	2372063	10.2	0.2	2372824
Total Organic Carbon (TOC)	mg/L	29.6	N/A	0.2	2372795	10.4	0.2	2372795
Orthophosphate (P)	mg/L	0.02	N/A	0.01	2371840	0.01	0.01	2371840
Dissolved Oxygen	mg/L	8.52	N/A	N/A	2371117	10.7	N/A	2371117
pH	pH	7.57	N/A	N/A	2371932	7.32	N/A	2371932
Dissolved Phosphorus	mg/L	0.024	N/A	0.002	2372809	0.014	0.002	2372809
Total Phosphorus	mg/L	0.044	N/A	0.002	2372817	0.023	0.002	2372817
Reactive Silica (SiO2)	mg/L	13	N/A	0.5	2373774	3.3	0.5	2373774
Total Suspended Solids	mg/L	13	N/A	1	2372012	2	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2371842	2	1	2371842
Sulphide	mg/L	ND	N/A	0.02	2371959	ND	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2371926	ND	0.005	2371926
Turbidity	NTU	16	N/A	0.1	2371245	1.7	0.1	2371245
Alkalinity (Total as CaCO3)	mg/L	120	N/A	1	2371923	24	1	2371923
Dissolved Chloride (Cl)	mg/L	4	N/A	1	2372015	2	1	2372015

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9803	IG9803			IG9804		
Sampling Date								
COC Number		232755-01-02	232755-01-02			232755-01-02		
	Units	**SW 15**	**SW 15 Lab-Dup**	**RDL**	**QC Batch**	**SW 16**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	N/A	0.01	2372098	ND	0.01	2372098
Nitrate (N)	mg/L	ND	N/A	0.1	2372098	ND	0.1	2372098
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2372098	ND	0.1	2372098
Subcontracted Analysis								
Redox Potential	mV	+297	N/A	N/A	2372903	+315	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	0.5	2371917	ND	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	0.5	2371918	ND	0.5	2371918

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Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9804		IG9805	IG9805		
Sampling Date							
COC Number		232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 16 Lab-Dup**	**QC Batch**	**SW 17**	**SW 17 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	N/A	2370427	ND	N/A	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2370792	33	N/A	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2370792	ND	N/A	1	2370792
Hardness (CaCO3)	mg/L	N/A	2370434	36	N/A	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	2370792	ND	N/A	1	2370792
Inorganics							
Acidity as CaC03	mg/L	N/A	2371399	ND	N/A	10	2371399
Total Ammonia-N	mg/L	N/A	2372958	ND	N/A	0.05	2372958
Total BOD	mg/L	N/A	2370389	ND	N/A	2	2370389
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2372797	31	N/A	4	2372797
Colour	TCU	N/A	2371848	46	N/A	2	2371848
Conductivity	umho/cm	N/A	2371928	87	N/A	1	2371928
Total Dissolved Solids	mg/L	N/A	2372246	54	N/A	10	2372246
Fluoride (F-)	mg/L	N/A	2371929	ND	N/A	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	2372884	0.5	0.6	0.1	2372884
Dissolved Organic Carbon	mg/L	N/A	2372824	11.8	N/A	0.2	2372075
Total Organic Carbon (TOC)	mg/L	N/A	2372795	11.2	N/A	0.2	2372795
Orthophosphate (P)	mg/L	N/A	2371840	ND	N/A	0.01	2371840
Dissolved Oxygen	mg/L	N/A	2371117	10.6	N/A	N/A	2371117
pH	pH	N/A	2371932	7.40	N/A	N/A	2371932
Dissolved Phosphorus	mg/L	N/A	2372809	0.013	N/A	0.002	2372809
Total Phosphorus	mg/L	N/A	2372817	0.021	N/A	0.002	2372817
Reactive Silica (SiO2)	mg/L	N/A	2373774	3.8	N/A	0.5	2373774
Total Suspended Solids	mg/L	N/A	2372012	2	N/A	1	2372012
Dissolved Sulphate (SO4)	mg/L	N/A	2371842	1	N/A	1	2371842
Sulphide	mg/L	N/A	2371959	ND	N/A	0.02	2371959
Total Cyanide (CN)	mg/L	N/A	2371926	ND	N/A	0.005	2371920
Turbidity	NTU	N/A	2371245	2.6	N/A	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	N/A	2371923	33	N/A	1	2371923
Dissolved Chloride (Cl)	mg/L	2	2372015	3	N/A	1	2372015

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Maxxam ID		IG9804		IG9805	IG9805		
Sampling Date							
COC Number		232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 16 Lab-Dup**	**QC Batch**	**SW 17**	**SW 17 Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	N/A	2372098	ND	N/A	0.01	2372098
Nitrate (N)	mg/L	N/A	2372098	ND	N/A	0.1	2372098
Nitrate + Nitrite	mg/L	N/A	2372098	ND	N/A	0.1	2372098
Subcontracted Analysis							
Redox Potential	mV	N/A	2372903	+305	N/A	N/A	2372903
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	N/A	2371917	ND	N/A	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	N/A	2371918	ND	N/A	0.5	2371918

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RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9806	IG9806		IG9807	IG9807		
Sampling Date								
COC Number		232755-01-02	232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 18**	**SW 18 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	ND	N/A	2370427	ND	N/A	0.5	2370427
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	176	N/A	2370792	ND	N/A	1	2370792
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2370792	ND	N/A	1	2370792
Hardness (CaCO3)	mg/L	190	N/A	2370434	ND	N/A	1	2370434
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2370792	ND	N/A	1	2370792
Inorganics								
Acidity as CaC03	mg/L	29	N/A	2371399	ND	N/A	10	2371399
Total Ammonia-N	mg/L	ND	N/A	2372958	ND	N/A	0.05	2372958
Total BOD	mg/L	ND	N/A	2370389	ND	N/A	2	2370389
Total Chemical Oxygen Demand (COD)	mg/L	57	N/A	2372797	ND	N/A	4	2372797
Colour	TCU	70	N/A	2371848	ND	N/A	2	2371848
Conductivity	umho/cm	349	N/A	2371928	2	N/A	1	2371928
Total Dissolved Solids	mg/L	224	N/A	2372246	ND	N/A	10	2372246
Fluoride (F-)	mg/L	ND	N/A	2371929	ND	N/A	0.1	2371929
Total Kjeldahl Nitrogen (TKN)	mg/L	0.9	N/A	2372884	ND	N/A	0.1	2372884
Dissolved Organic Carbon	mg/L	21.3	N/A	2372063	0.6	N/A	0.2	2372075
Total Organic Carbon (TOC)	mg/L	21.9	22.7	2372795	0.4	N/A	0.2	2372795
Orthophosphate (P)	mg/L	ND	N/A	2371840	ND	N/A	0.01	2372945
Dissolved Oxygen	mg/L	7.55	N/A	2371117	10.6	N/A	N/A	2371117
pH	pH	7.65	N/A	2371932	6.24	N/A	N/A	2371932
Dissolved Phosphorus	mg/L	0.015	N/A	2372809	0.006	N/A	0.002	2372809
Total Phosphorus	mg/L	0.023	N/A	2372817	0.003	N/A	0.002	2372817
Reactive Silica (SiO2)	mg/L	15	N/A	2373774	ND	ND	0.5	2373774
Total Suspended Solids	mg/L	ND	N/A	2372012	ND	N/A	1	2372012
Dissolved Sulphate (SO4)	mg/L	ND	N/A	2371842	ND	N/A	1	2372942
Sulphide	mg/L	ND	N/A	2371959	ND	N/A	0.02	2371959
Total Cyanide (CN)	mg/L	ND	N/A	2371920	ND	N/A	0.005	2371920
Turbidity	NTU	1.3	N/A	2371245	0.2	N/A	0.1	2371216
Alkalinity (Total as CaCO3)	mg/L	177	N/A	2371923	ND	N/A	1	2371923
Dissolved Chloride (Cl)	mg/L	3	N/A	2372015	ND	N/A	1	2372789

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Maxxam Job #: B0I6816
Report Date: 2011/01/14

RESULTS OF ANALYSES OF WATER

Maxxam ID		IG9806	IG9806		IG9807	IG9807		
Sampling Date								
COC Number		232755-01-02	232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 18**	**SW 18 Lab-Dup**	**QC Batch**	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Nitrite (N)	mg/L	ND	ND	2372098	ND	N/A	0.01	2372098
Nitrate (N)	mg/L	ND	ND	2372098	ND	N/A	0.1	2372098
Nitrate + Nitrite	mg/L	ND	ND	2372098	ND	N/A	0.1	2372098
Subcontracted Analysis								
Redox Potential	mV	+298	+298	2372903	+372	N/A	N/A	2372903
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	ND	N/A	2371917	ND	N/A	0.5	2371917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	N/A	2371918	ND	N/A	0.5	2371918

ND = Not detected
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QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

PERMANENT GASES (WATER)

Maxxam ID		IG9792	IG9793	IG9794	IG9795	IG9796	IG9797		
Sampling Date									
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**SW 4**	**SW 6**	**SW 7A**	**RDL**	**QC Batch**
Fixed Gases									
Carbon Dioxide	L/m3	9.8	3.7	11	12	14	5.9	0.6	2371975
Calculated Carbon Dioxide	mg/L	18	7	19	22	26	11	1	2370375

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		IG9798	IG9799	IG9800	IG9801	IG9802	IG9803		
Sampling Date									
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 10**	**SW 11**	**SW 12A**	**SW 13**	**SW 14**	**SW 15**	**RDL**	**QC Batch**
Fixed Gases									
Carbon Dioxide	L/m3	8.4	13	21	8.4	14	10	0.6	2371975
Calculated Carbon Dioxide	mg/L	15	23	38	15	25	19	1	2370375

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		IG9804	IG9805	IG9806	IG9806	IG9807		
Sampling Date								
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 16**	**SW 17**	**SW 18**	**SW 18 Lab-Dup**	**TRIP BLANK**	**RDL**	**QC Batch**
Fixed Gases								
Carbon Dioxide	L/m3	0.6	1.3	14	16	0.9	0.6	2371975
Calculated Carbon Dioxide	mg/L	1	2	26	N/A	2	1	2370375

N/A = Not Applicable
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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9792	IG9793	IG9794	IG9794		IG9795		
Sampling Date									
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		232755-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**SW 3 Lab-Dup**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Metals									
Mercury (Hg)	mg/L	ND	ND	ND	N/A	2371796	ND	0.0001	2371165
Dissolved Sulphur (S)	mg/L	1.7	0.5	1.4	1.4	2372047	ND	0.5	2372047
Total Sulphur (S)	mg/L	1.7	0.5	1.3	N/A	2373443	ND	0.5	2373443
Dissolved Aluminum (Al)	ug/L	20	21	13	N/A	2371401	20	5	2371401
Total Aluminum (Al)	ug/L	170	130	160	N/A	2373435	42	5	2373435
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	N/A	2371401	ND	0.5	2371401
Total Antimony (Sb)	ug/L	ND	ND	ND	N/A	2373435	ND	0.5	2373435
Dissolved Arsenic (As)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Arsenic (As)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Barium (Ba)	ug/L	14	12	17	N/A	2371401	9	5	2371401
Total Barium (Ba)	ug/L	16	13	17	N/A	2373435	9	5	2373435
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	N/A	2371401	ND	0.5	2371401
Total Beryllium (Be)	ug/L	ND	ND	ND	N/A	2373435	ND	0.5	2373435
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Bismuth (Bi)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Boron (B)	ug/L	16	ND	ND	N/A	2371401	ND	10	2371401
Total Boron (B)	ug/L	ND	ND	ND	N/A	2373435	ND	10	2373435
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	N/A	2371401	ND	0.1	2371401
Total Cadmium (Cd)	ug/L	ND	ND	ND	N/A	2373435	ND	0.1	2373435
Dissolved Calcium (Ca)	ug/L	35000	30000	42000	N/A	2371401	14000	200	2371401
Total Calcium (Ca)	ug/L	35000	31000	40000	N/A	2373435	15000	200	2373435
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	N/A	2371401	ND	5	2371401
Total Chromium (Cr)	ug/L	ND	ND	ND	N/A	2373435	ND	5	2373435
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	N/A	2371401	ND	0.5	2371401
Total Cobalt (Co)	ug/L	ND	ND	ND	N/A	2373435	ND	0.5	2373435
Dissolved Copper (Cu)	ug/L	1	ND	ND	N/A	2371401	ND	1	2371401
Total Copper (Cu)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Iron (Fe)	ug/L	480	520	390	N/A	2371401	310	100	2371401
Total Iron (Fe)	ug/L	770	760	690	N/A	2373435	350	100	2373435
Dissolved Lead (Pb)	ug/L	ND	ND	ND	N/A	2371401	ND	0.5	2371401

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9792	IG9793	IG9794	IG9794		IG9795		
Sampling Date									
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		232755-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**SW 3 Lab-Dup**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	ND	ND	N/A	2373435	ND	0.5	2373435
Dissolved Lithium (Li)	ug/L	ND	ND	ND	N/A	2371401	ND	5	2371401
Total Lithium (Li)	ug/L	ND	ND	ND	N/A	2373435	ND	5	2373435
Dissolved Magnesium (Mg)	ug/L	16000	13000	18000	N/A	2371401	6400	50	2371401
Total Magnesium (Mg)	ug/L	15000	13000	17000	N/A	2373435	6600	50	2373435
Dissolved Manganese (Mn)	ug/L	74	74	110	N/A	2371401	210	2	2371401
Total Manganese (Mn)	ug/L	78	86	120	N/A	2373435	230	2	2373435
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Molybdenum (Mo)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Nickel (Ni)	ug/L	1	ND	1	N/A	2371401	ND	1	2371401
Total Nickel (Ni)	ug/L	ND	ND	1	N/A	2373435	ND	1	2373435
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	N/A	2371401	ND	100	2371401
Dissolved Potassium (K)	ug/L	1300	620	1300	N/A	2371401	820	200	2371401
Total Potassium (K)	ug/L	1300	630	1200	N/A	2373435	840	200	2373435
Dissolved Selenium (Se)	ug/L	ND	ND	ND	N/A	2371401	ND	2	2371401
Dissolved Silicon (Si)	ug/L	6000	5300	6200	N/A	2371401	5300	50	2371401
Total Silicon (Si)	ug/L	6300	5500	6600	N/A	2373435	5400	50	2373435
Total Selenium (Se)	ug/L	ND	ND	ND	N/A	2373435	ND	2	2373435
Dissolved Silver (Ag)	ug/L	ND	ND	ND	N/A	2371401	ND	0.1	2371401
Total Silver (Ag)	ug/L	ND	ND	ND	N/A	2373435	ND	0.1	2373435
Dissolved Sodium (Na)	ug/L	4800	1600	4300	N/A	2371401	4500	100	2371401
Total Sodium (Na)	ug/L	4500	1500	3800	N/A	2373435	4500	100	2373435
Dissolved Strontium (Sr)	ug/L	86	48	86	N/A	2371401	27	1	2371401
Total Strontium (Sr)	ug/L	81	47	78	N/A	2373435	28	1	2373435
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Tellurium (Te)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	N/A	2371401	ND	0.05	2371401
Total Thallium (Tl)	ug/L	ND	ND	ND	N/A	2373435	ND	0.05	2373435
Dissolved Thorium (Th)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Thorium (Th)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Tin (Sn)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9792	IG9793	IG9794	IG9794		IG9795		
Sampling Date									
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		232755-01-02		
	Units	**SW 1A**	**SW 2**	**SW 3**	**SW 3 Lab-Dup**	**QC Batch**	**SW 4**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	N/A	2371401	ND	5	2371401
Total Titanium (Ti)	ug/L	12	9	11	N/A	2373435	ND	5	2373435
Dissolved Tungsten (W)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Tungsten (W)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435
Dissolved Uranium (U)	ug/L	0.7	0.3	0.8	N/A	2371401	ND	0.1	2371401
Total Uranium (U)	ug/L	0.7	0.3	0.7	N/A	2373435	ND	0.1	2373435
Dissolved Vanadium (V)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Vanadium (V)	ug/L	1	ND	1	N/A	2373435	ND	1	2373435
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	N/A	2371401	ND	5	2371401
Total Zinc (Zn)	ug/L	ND	ND	ND	N/A	2373435	ND	5	2373435
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	N/A	2371401	ND	1	2371401
Total Zirconium (Zr)	ug/L	ND	ND	ND	N/A	2373435	ND	1	2373435

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9796		IG9797		IG9798		
Sampling Date								
COC Number		232755-01-02		232755-01-02		232755-01-02		
	Units	**SW 6**	**QC Batch**	**SW 7A**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	2371796	ND	2371165	ND	0.0001	2371796
Dissolved Sulphur (S)	mg/L	ND	2372047	1.3	2372047	1.7	0.5	2372047
Total Sulphur (S)	mg/L	ND	2373443	1.4	2373443	1.7	0.5	2373443
Dissolved Aluminum (Al)	ug/L	22	2371401	10	2371401	19	5	2372046
Total Aluminum (Al)	ug/L	38	2373435	90	2373435	200	5	2373435
Dissolved Antimony (Sb)	ug/L	ND	2371401	ND	2371401	ND	0.5	2372046
Total Antimony (Sb)	ug/L	ND	2373435	ND	2373435	ND	0.5	2373435
Dissolved Arsenic (As)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Arsenic (As)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Barium (Ba)	ug/L	10	2371401	22	2371401	12	5	2372046
Total Barium (Ba)	ug/L	9	2373435	22	2373435	13	5	2373435
Dissolved Beryllium (Be)	ug/L	ND	2371401	ND	2371401	ND	0.5	2372046
Total Beryllium (Be)	ug/L	ND	2373435	ND	2373435	ND	0.5	2373435
Dissolved Bismuth (Bi)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Bismuth (Bi)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Boron (B)	ug/L	ND	2371401	ND	2371401	ND	10	2372046
Total Boron (B)	ug/L	ND	2373435	ND	2373435	ND	10	2373435
Dissolved Cadmium (Cd)	ug/L	ND	2371401	ND	2371401	ND	0.1	2372046
Total Cadmium (Cd)	ug/L	ND	2373435	ND	2373435	ND	0.1	2373435
Dissolved Calcium (Ca)	ug/L	14000	2371401	48000	2371401	32000	200	2372046
Total Calcium (Ca)	ug/L	14000	2373435	52000	2373435	34000	200	2373435
Dissolved Chromium (Cr)	ug/L	ND	2371401	ND	2371401	ND	5	2372046
Total Chromium (Cr)	ug/L	ND	2373435	ND	2373435	ND	5	2373435
Dissolved Cobalt (Co)	ug/L	ND	2371401	ND	2371401	ND	0.5	2372046
Total Cobalt (Co)	ug/L	ND	2373435	ND	2373435	ND	0.5	2373435
Dissolved Copper (Cu)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Copper (Cu)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Iron (Fe)	ug/L	340	2371401	420	2371401	410	100	2372046
Total Iron (Fe)	ug/L	320	2373435	660	2373435	660	100	2373435
Dissolved Lead (Pb)	ug/L	ND	2371401	ND	2371401	ND	0.5	2372046
Total Lead (Pb)	ug/L	ND	2373435	ND	2373435	ND	0.5	2373435
Dissolved Lithium (Li)	ug/L	ND	2371401	ND	2371401	5	5	2372046

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9796		IG9797		IG9798		
Sampling Date								
COC Number		232755-01-02		232755-01-02		232755-01-02		
	Units	**SW 6**	**QC Batch**	**SW 7A**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	2373435	ND	2373435	ND	5	2373435
Dissolved Magnesium (Mg)	ug/L	6500	2371401	19000	2371401	14000	50	2372046
Total Magnesium (Mg)	ug/L	6400	2373435	20000	2373435	15000	50	2373435
Dissolved Manganese (Mn)	ug/L	220	2371401	120	2371401	14	2	2372046
Total Manganese (Mn)	ug/L	220	2373435	140	2373435	70	2	2373435
Dissolved Molybdenum (Mo)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Molybdenum (Mo)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Nickel (Ni)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Nickel (Ni)	ug/L	ND	2373435	ND	2373435	1	1	2373435
Dissolved Phosphorus (P)	ug/L	ND	2371401	ND	2371401	ND	100	2372046
Dissolved Potassium (K)	ug/L	860	2371401	1200	2371401	1300	200	2372046
Total Potassium (K)	ug/L	810	2373435	1300	2373435	1300	200	2373435
Dissolved Selenium (Se)	ug/L	ND	2371401	ND	2371401	ND	2	2372046
Dissolved Silicon (Si)	ug/L	5400	2371401	6000	2371401	5800	50	2372046
Total Silicon (Si)	ug/L	5200	2373435	6600	2373435	6400	50	2373435
Total Selenium (Se)	ug/L	ND	2373435	ND	2373435	ND	2	2373435
Dissolved Silver (Ag)	ug/L	ND	2371401	ND	2371401	ND	0.1	2372046
Total Silver (Ag)	ug/L	ND	2373435	ND	2373435	ND	0.1	2373435
Dissolved Sodium (Na)	ug/L	3700	2371401	3700	2371401	4700	100	2372046
Total Sodium (Na)	ug/L	3900	2373435	3800	2373435	4800	100	2373435
Dissolved Strontium (Sr)	ug/L	28	2371401	92	2371401	78	1	2372046
Total Strontium (Sr)	ug/L	27	2373435	95	2373435	79	1	2373435
Dissolved Tellurium (Te)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Tellurium (Te)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Thallium (Tl)	ug/L	ND	2371401	ND	2371401	ND	0.05	2372046
Total Thallium (Tl)	ug/L	ND	2373435	ND	2373435	ND	0.05	2373435
Dissolved Thorium (Th)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Thorium (Th)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Tin (Sn)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Tin (Sn)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Titanium (Ti)	ug/L	ND	2371401	ND	2371401	ND	5	2372046
Total Titanium (Ti)	ug/L	ND	2373435	ND	2373435	9	5	2373435
Dissolved Tungsten (W)	ug/L	ND	2371401	ND	2371401	ND	1	2372046

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9796		IG9797		IG9798		
Sampling Date								
COC Number		232755-01-02		232755-01-02		232755-01-02		
	Units	**SW 6**	**QC Batch**	**SW 7A**	**QC Batch**	**SW 10**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Uranium (U)	ug/L	ND	2371401	0.8	2371401	0.6	0.1	2372046
Total Uranium (U)	ug/L	ND	2373435	0.8	2373435	0.6	0.1	2373435
Dissolved Vanadium (V)	ug/L	ND	2371401	ND	2371401	1	1	2372046
Total Vanadium (V)	ug/L	ND	2373435	ND	2373435	ND	1	2373435
Dissolved Zinc (Zn)	ug/L	ND	2371401	ND	2371401	ND	5	2372046
Total Zinc (Zn)	ug/L	ND	2373435	5	2373435	ND	5	2373435
Dissolved Zirconium (Zr)	ug/L	ND	2371401	ND	2371401	ND	1	2372046
Total Zirconium (Zr)	ug/L	ND	2373435	ND	2373435	ND	1	2373435

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9799	IG9799		IG9800	IG9800		
Sampling Date								
COC Number		232755-01-02	232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 11**	**SW 11 Lab-Dup**	**QC Batch**	**SW 12A**	**SW 12A Lab-Dup**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	ND	2371165	ND	N/A	0.0001	2371165
Dissolved Sulphur (S)	mg/L	ND	N/A	2372047	ND	N/A	0.5	2372047
Total Sulphur (S)	mg/L	ND	N/A	2373443	0.5	ND	0.5	2373443
Dissolved Aluminum (Al)	ug/L	42	N/A	2371401	84	N/A	5	2374964
Total Aluminum (Al)	ug/L	140	N/A	2373435	570	N/A	5	2374857
Dissolved Antimony (Sb)	ug/L	ND	N/A	2371401	0.6	N/A	0.5	2374964
Total Antimony (Sb)	ug/L	ND	N/A	2373435	ND	N/A	0.5	2374857
Dissolved Arsenic (As)	ug/L	ND	N/A	2371401	1	N/A	1	2374964
Total Arsenic (As)	ug/L	ND	N/A	2373435	1	N/A	1	2374857
Dissolved Barium (Ba)	ug/L	11	N/A	2371401	11	N/A	5	2374964
Total Barium (Ba)	ug/L	12	N/A	2373435	17	N/A	5	2374857
Dissolved Beryllium (Be)	ug/L	ND	N/A	2371401	ND	N/A	0.5	2374964
Total Beryllium (Be)	ug/L	ND	N/A	2373435	ND	N/A	0.5	2374857
Dissolved Bismuth (Bi)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Bismuth (Bi)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Boron (B)	ug/L	ND	N/A	2371401	ND	N/A	10	2374964
Total Boron (B)	ug/L	ND	N/A	2373435	ND	N/A	10	2374857
Dissolved Cadmium (Cd)	ug/L	ND	N/A	2371401	ND	N/A	0.1	2374964
Total Cadmium (Cd)	ug/L	ND	N/A	2373435	ND	N/A	0.1	2374857
Dissolved Calcium (Ca)	ug/L	23000	N/A	2371401	13000	N/A	200	2374964
Total Calcium (Ca)	ug/L	24000	N/A	2373435	14000	N/A	200	2374857
Dissolved Chromium (Cr)	ug/L	ND	N/A	2371401	ND	N/A	5	2374964
Total Chromium (Cr)	ug/L	ND	N/A	2373435	ND	N/A	5	2374857
Dissolved Cobalt (Co)	ug/L	0.9	N/A	2371401	ND	N/A	0.5	2374964
Total Cobalt (Co)	ug/L	1.1	N/A	2373435	3.2	N/A	0.5	2374857
Dissolved Copper (Cu)	ug/L	ND	N/A	2371401	1	N/A	1	2374964
Total Copper (Cu)	ug/L	ND	N/A	2373435	1	N/A	1	2374857
Dissolved Iron (Fe)	ug/L	820	N/A	2371401	2400	N/A	100	2374964
Total Iron (Fe)	ug/L	1100	N/A	2373435	4600	N/A	100	2374857
Dissolved Lead (Pb)	ug/L	ND	N/A	2371401	ND	N/A	0.5	2374964

ND = Not detected
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QC Batch = Quality Control Batch

Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9799	IG9799		IG9800	IG9800		
Sampling Date								
COC Number		232755-01-02	232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 11**	**SW 11 Lab-Dup**	**QC Batch**	**SW 12A**	**SW 12A Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	2373435	ND	N/A	0.5	2374857
Dissolved Lithium (Li)	ug/L	ND	N/A	2371401	ND	N/A	5	2374964
Total Lithium (Li)	ug/L	ND	N/A	2373435	ND	N/A	5	2374857
Dissolved Magnesium (Mg)	ug/L	11000	N/A	2371401	4000	N/A	50	2374964
Total Magnesium (Mg)	ug/L	11000	N/A	2373435	4100	N/A	50	2374857
Dissolved Manganese (Mn)	ug/L	290	N/A	2371401	2	N/A	2	2374964
Total Manganese (Mn)	ug/L	340	N/A	2373435	450	N/A	2	2374857
Dissolved Molybdenum (Mo)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Molybdenum (Mo)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Nickel (Ni)	ug/L	ND	N/A	2371401	1	N/A	1	2374964
Total Nickel (Ni)	ug/L	ND	N/A	2373435	1	N/A	1	2374857
Dissolved Phosphorus (P)	ug/L	ND	N/A	2371401	ND	N/A	100	2374964
Dissolved Potassium (K)	ug/L	810	N/A	2371401	1200	N/A	200	2374964
Total Potassium (K)	ug/L	820	N/A	2373435	1300	N/A	200	2374857
Dissolved Selenium (Se)	ug/L	ND	N/A	2371401	ND	N/A	2	2374964
Dissolved Silicon (Si)	ug/L	6300	N/A	2371401	2200	N/A	50	2374964
Total Silicon (Si)	ug/L	6500	N/A	2373435	3100	N/A	50	2374857
Total Selenium (Se)	ug/L	ND	N/A	2373435	ND	N/A	2	2374857
Dissolved Silver (Ag)	ug/L	ND	N/A	2371401	ND	N/A	0.1	2374964
Total Silver (Ag)	ug/L	ND	N/A	2373435	ND	N/A	0.1	2374857
Dissolved Sodium (Na)	ug/L	1300	N/A	2371401	1200	N/A	100	2374964
Total Sodium (Na)	ug/L	1300	N/A	2373435	1200	N/A	100	2374857
Dissolved Strontium (Sr)	ug/L	43	N/A	2371401	23	N/A	1	2374964
Total Strontium (Sr)	ug/L	43	N/A	2373435	23	N/A	1	2374857
Dissolved Tellurium (Te)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Tellurium (Te)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Thallium (Tl)	ug/L	ND	N/A	2371401	ND	N/A	0.05	2374964
Total Thallium (Tl)	ug/L	ND	N/A	2373435	ND	N/A	0.05	2374857
Dissolved Thorium (Th)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Thorium (Th)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Tin (Sn)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9799	IG9799		IG9800	IG9800		
Sampling Date								
COC Number		232755-01-02	232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 11**	**SW 11 Lab-Dup**	**QC Batch**	**SW 12A**	**SW 12A Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Titanium (Ti)	ug/L	ND	N/A	2371401	ND	N/A	5	2374964
Total Titanium (Ti)	ug/L	5	N/A	2373435	17	N/A	5	2374857
Dissolved Tungsten (W)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Tungsten (W)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857
Dissolved Uranium (U)	ug/L	ND	N/A	2371401	0.2	N/A	0.1	2374964
Total Uranium (U)	ug/L	ND	N/A	2373435	0.1	N/A	0.1	2374857
Dissolved Vanadium (V)	ug/L	ND	N/A	2371401	1	N/A	1	2374964
Total Vanadium (V)	ug/L	ND	N/A	2373435	3	N/A	1	2374857
Dissolved Zinc (Zn)	ug/L	ND	N/A	2371401	ND	N/A	5	2374964
Total Zinc (Zn)	ug/L	ND	N/A	2373435	6	N/A	5	2374857
Dissolved Zirconium (Zr)	ug/L	ND	N/A	2371401	ND	N/A	1	2374964
Total Zirconium (Zr)	ug/L	ND	N/A	2373435	ND	N/A	1	2374857

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9801		IG9802		IG9803	IG9803		
Sampling Date									
COC Number		232755-01-02		232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 13**	**QC Batch**	**SW 14**	**QC Batch**	**SW 15**	**SW 15 Lab-Dup**	**RDL**	**QC Batch**
Metals									
Mercury (Hg)	mg/L	ND	2371165	ND	2371796	ND	N/A	0.0001	2371796
Dissolved Sulphur (S)	mg/L	0.7	2372047	ND	2372047	1.9	N/A	0.5	2372047
Total Sulphur (S)	mg/L	0.7	2373443	ND	2373443	1.9	N/A	0.5	2373443
Dissolved Aluminum (Al)	ug/L	6	2371401	46	2371401	42	N/A	5	2372046
Total Aluminum (Al)	ug/L	69	2373435	46	2373435	530	380 (1)	5	2373435
Dissolved Antimony (Sb)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.5	2372046
Total Antimony (Sb)	ug/L	ND	2373435	ND	2373435	ND	ND	0.5	2373435
Dissolved Arsenic (As)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Arsenic (As)	ug/L	ND	2373435	ND	2373435	ND	1	1	2373435
Dissolved Barium (Ba)	ug/L	14	2371401	9	2371401	14	N/A	5	2372046
Total Barium (Ba)	ug/L	14	2373435	9	2373435	17	17	5	2373435
Dissolved Beryllium (Be)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.5	2372046
Total Beryllium (Be)	ug/L	ND	2373435	ND	2373435	ND	ND	0.5	2373435
Dissolved Bismuth (Bi)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Bismuth (Bi)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Boron (B)	ug/L	ND	2371401	ND	2371401	ND	N/A	10	2372046
Total Boron (B)	ug/L	ND	2373435	ND	2373435	ND	ND	10	2373435
Dissolved Cadmium (Cd)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.1	2372046
Total Cadmium (Cd)	ug/L	ND	2373435	ND	2373435	0.2	0.1	0.1	2373435
Dissolved Calcium (Ca)	ug/L	41000	2371401	17000	2371401	30000	N/A	200	2372046
Total Calcium (Ca)	ug/L	40000	2373435	17000	2373435	31000	32000	200	2373435
Dissolved Chromium (Cr)	ug/L	ND	2371401	ND	2371401	ND	N/A	5	2372046
Total Chromium (Cr)	ug/L	ND	2373435	ND	2373435	ND	ND	5	2373435
Dissolved Cobalt (Co)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.5	2372046
Total Cobalt (Co)	ug/L	ND	2373435	ND	2373435	ND	ND	0.5	2373435
Dissolved Copper (Cu)	ug/L	ND	2371401	ND	2371401	1	N/A	1	2372046
Total Copper (Cu)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Iron (Fe)	ug/L	260	2371401	410	2371401	450	N/A	100	2372046
Total Iron (Fe)	ug/L	350	2373435	400	2373435	1100	970	100	2373435
Dissolved Lead (Pb)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.5	2372046

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(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9801		IG9802		IG9803	IG9803		
Sampling Date									
COC Number		232755-01-02		232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 13**	**QC Batch**	**SW 14**	**QC Batch**	**SW 15**	**SW 15 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	2373435	ND	2373435	ND	ND	0.5	2373435
Dissolved Lithium (Li)	ug/L	ND	2371401	ND	2371401	5	N/A	5	2372046
Total Lithium (Li)	ug/L	ND	2373435	ND	2373435	ND	ND	5	2373435
Dissolved Magnesium (Mg)	ug/L	18000	2371401	7100	2371401	14000	N/A	50	2372046
Total Magnesium (Mg)	ug/L	18000	2373435	6900	2373435	14000	14000	50	2373435
Dissolved Manganese (Mn)	ug/L	68	2371401	56	2371401	57	N/A	2	2372046
Total Manganese (Mn)	ug/L	75	2373435	60	2373435	110	110	2	2373435
Dissolved Molybdenum (Mo)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Molybdenum (Mo)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Nickel (Ni)	ug/L	ND	2371401	ND	2371401	1	N/A	1	2372046
Total Nickel (Ni)	ug/L	ND	2373435	ND	2373435	1	1	1	2373435
Dissolved Phosphorus (P)	ug/L	ND	2371401	ND	2371401	ND	N/A	100	2372046
Dissolved Potassium (K)	ug/L	980	2371401	380	2371401	870	N/A	200	2372046
Total Potassium (K)	ug/L	940	2373435	310	2373435	1000	970	200	2373435
Dissolved Selenium (Se)	ug/L	ND	2371401	ND	2371401	ND	N/A	2	2372046
Dissolved Silicon (Si)	ug/L	5500	2371401	5300	2371401	5800	N/A	50	2372046
Total Silicon (Si)	ug/L	5600	2373435	5000	2373435	7200	6800	50	2373435
Total Selenium (Se)	ug/L	ND	2373435	ND	2373435	ND	ND	2	2373435
Dissolved Silver (Ag)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.1	2372046
Total Silver (Ag)	ug/L	ND	2373435	ND	2373435	ND	ND	0.1	2373435
Dissolved Sodium (Na)	ug/L	2300	2371401	1100	2371401	3100	N/A	100	2372046
Total Sodium (Na)	ug/L	2200	2373435	960	2373435	3100	3100	100	2373435
Dissolved Strontium (Sr)	ug/L	77	2371401	26	2371401	60	N/A	1	2372046
Total Strontium (Sr)	ug/L	73	2373435	26	2373435	60	63	1	2373435
Dissolved Tellurium (Te)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Tellurium (Te)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Thallium (Tl)	ug/L	ND	2371401	ND	2371401	ND	N/A	0.05	2372046
Total Thallium (Tl)	ug/L	ND	2373435	ND	2373435	ND	ND	0.05	2373435
Dissolved Thorium (Th)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Thorium (Th)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Tin (Sn)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9801		IG9802		IG9803	IG9803		
Sampling Date									
COC Number		232755-01-02		232755-01-02		232755-01-02	232755-01-02		
	Units	**SW 13**	**QC Batch**	**SW 14**	**QC Batch**	**SW 15**	**SW 15 Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Titanium (Ti)	ug/L	ND	2371401	ND	2371401	ND	N/A	5	2372046
Total Titanium (Ti)	ug/L	ND	2373435	ND	2373435	22	16	5	2373435
Dissolved Tungsten (W)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Tungsten (W)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435
Dissolved Uranium (U)	ug/L	0.6	2371401	ND	2371401	0.6	N/A	0.1	2372046
Total Uranium (U)	ug/L	0.6	2373435	ND	2373435	0.6	0.6	0.1	2373435
Dissolved Vanadium (V)	ug/L	ND	2371401	ND	2371401	1	N/A	1	2372046
Total Vanadium (V)	ug/L	ND	2373435	ND	2373435	2	2	1	2373435
Dissolved Zinc (Zn)	ug/L	ND	2371401	ND	2371401	ND	N/A	5	2372046
Total Zinc (Zn)	ug/L	ND	2373435	ND	2373435	ND	ND	5	2373435
Dissolved Zirconium (Zr)	ug/L	ND	2371401	ND	2371401	ND	N/A	1	2372046
Total Zirconium (Zr)	ug/L	ND	2373435	ND	2373435	ND	ND	1	2373435

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9804	IG9805	IG9806	IG9807		
Sampling Date							
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 16**	**SW 17**	**SW 18**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	ND	0.0001	2371796
Dissolved Sulphur (S)	mg/L	1.5	1.7	0.8	ND	0.5	2372047
Total Sulphur (S)	mg/L	1.6	1.8	0.9	ND	0.5	2373443
Dissolved Aluminum (Al)	ug/L	22	21	10	ND	5	2372046
Total Aluminum (Al)	ug/L	59	86	36	ND	5	2373435
Dissolved Antimony (Sb)	ug/L	ND	0.7	ND	ND	0.5	2372046
Total Antimony (Sb)	ug/L	ND	ND	ND	ND	0.5	2373435
Dissolved Arsenic (As)	ug/L	ND	ND	ND	ND	1	2372046
Total Arsenic (As)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Barium (Ba)	ug/L	8	9	17	ND	5	2372046
Total Barium (Ba)	ug/L	8	10	18	ND	5	2373435
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2372046
Total Beryllium (Be)	ug/L	ND	ND	ND	ND	0.5	2373435
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2372046
Total Bismuth (Bi)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Boron (B)	ug/L	ND	ND	ND	ND	10	2372046
Total Boron (B)	ug/L	ND	ND	ND	ND	10	2373435
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2372046
Total Cadmium (Cd)	ug/L	ND	ND	ND	ND	0.1	2373435
Dissolved Calcium (Ca)	ug/L	6800	9400	44000	ND	200	2372046
Total Calcium (Ca)	ug/L	6900	9300	43000	ND	200	2373435
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2372046
Total Chromium (Cr)	ug/L	ND	ND	ND	ND	5	2373435
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2372046
Total Cobalt (Co)	ug/L	ND	ND	ND	ND	0.5	2373435
Dissolved Copper (Cu)	ug/L	ND	ND	ND	ND	1	2372046
Total Copper (Cu)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Iron (Fe)	ug/L	ND	100	100	ND	100	2372046
Total Iron (Fe)	ug/L	ND	140	160	ND	100	2373435
Dissolved Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2372046
Total Lead (Pb)	ug/L	ND	ND	ND	ND	0.5	2373435
Dissolved Lithium (Li)	ug/L	ND	ND	ND	ND	5	2372046

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9804	IG9805	IG9806	IG9807		
Sampling Date							
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 16**	**SW 17**	**SW 18**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lithium (Li)	ug/L	ND	ND	ND	ND	5	2373435
Dissolved Magnesium (Mg)	ug/L	2100	3100	19000	ND	50	2372046
Total Magnesium (Mg)	ug/L	2100	3000	19000	ND	50	2373435
Dissolved Manganese (Mn)	ug/L	ND	ND	13	ND	2	2372046
Total Manganese (Mn)	ug/L	7	11	96	ND	2	2373435
Dissolved Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2372046
Total Molybdenum (Mo)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Nickel (Ni)	ug/L	ND	ND	2	ND	1	2372046
Total Nickel (Ni)	ug/L	ND	ND	1	ND	1	2373435
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	ND	100	2372046
Dissolved Potassium (K)	ug/L	660	770	1300	ND	200	2372046
Total Potassium (K)	ug/L	650	710	1300	ND	200	2373435
Dissolved Selenium (Se)	ug/L	ND	ND	ND	ND	2	2372046
Dissolved Silicon (Si)	ug/L	1500	1800	6800	ND	50	2372046
Total Silicon (Si)	ug/L	1600	1900	6900	ND	50	2373435
Total Selenium (Se)	ug/L	ND	ND	ND	ND	2	2373435
Dissolved Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2372046
Total Silver (Ag)	ug/L	ND	ND	ND	ND	0.1	2373435
Dissolved Sodium (Na)	ug/L	3300	3600	2400	ND	100	2372046
Total Sodium (Na)	ug/L	3200	3400	2300	ND	100	2373435
Dissolved Strontium (Sr)	ug/L	20	25	74	ND	1	2372046
Total Strontium (Sr)	ug/L	20	24	72	ND	1	2373435
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2372046
Total Tellurium (Te)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2372046
Total Thallium (Tl)	ug/L	ND	ND	ND	ND	0.05	2373435
Dissolved Thorium (Th)	ug/L	ND	ND	ND	ND	1	2372046
Total Thorium (Th)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Tin (Sn)	ug/L	ND	ND	ND	ND	1	2372046
Total Tin (Sn)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2372046
Total Titanium (Ti)	ug/L	ND	ND	ND	ND	5	2373435
Dissolved Tungsten (W)	ug/L	ND	ND	ND	ND	1	2372046

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Klohn Crippen Berger Ltd

Maxxam Job #: B0I6816
Report Date: 2011/01/14

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IG9804	IG9805	IG9806	IG9807		
Sampling Date							
COC Number		232755-01-02	232755-01-02	232755-01-02	232755-01-02		
	Units	**SW 16**	**SW 17**	**SW 18**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Tungsten (W)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Uranium (U)	ug/L	ND	0.1	0.4	ND	0.1	2372046
Total Uranium (U)	ug/L	ND	ND	0.4	ND	0.1	2373435
Dissolved Vanadium (V)	ug/L	ND	ND	ND	ND	1	2372046
Total Vanadium (V)	ug/L	ND	ND	ND	ND	1	2373435
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	ND	5	2372046
Total Zinc (Zn)	ug/L	9	ND	ND	ND	5	2373435
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2372046
Total Zirconium (Zr)	ug/L	ND	ND	ND	ND	1	2373435

ND = Not detected
RDL = Reportable Detection Limit
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GENERAL COMMENTS

Sample IG9800-01: Dissolved Carbon Dioxide Analysis: The result is from an analysis done on a vial with considerable amount of headspace. Therefore, this result should be used with discretion. Total Sulfur < Sulfide: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample IG9802-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample IG9805-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample IG9807-01: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: MB0I6816

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2370389	FZH	QC Standard	Total BOD	2011/01/04		111	%	85 - 115
		Method Blank	Total BOD	2011/01/04	ND, RDL=2		mg/L	
		RPD	Total BOD	2011/01/04	NC		%	25
2370942	FZH	QC Standard	Total BOD	2011/01/04		103	%	85 - 115
		Method Blank	Total BOD	2011/01/04	ND, RDL=2		mg/L	
		RPD [IG9792-04]	Total BOD	2011/01/04	NC		%	25
2371165	MC	Matrix Spike [IG9799-14]	Mercury (Hg)	2010/12/31		98	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/12/31		99	%	80 - 120
		Method Blank	Mercury (Hg)	2010/12/31	ND, RDL=0.0001		mg/L	
		RPD [IG9799-14]	Mercury (Hg)	2010/12/31	NC		%	25
2371199	JDE	Matrix Spike	Dissolved Chloride (Cl)	2010/12/31		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/12/31		103	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/12/31	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/12/31	1.7		%	20
2371216	COP	QC Standard	Turbidity	2010/12/31		101	%	85 - 115
		Method Blank	Turbidity	2010/12/31	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/12/31	6.0		%	25
2371245	COP	QC Standard	Turbidity	2010/12/31		101	%	85 - 115
		Method Blank	Turbidity	2010/12/31	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/12/31	NC		%	25
2371399	RSR	Method Blank	Acidity as CaC03	2011/01/07	ND, RDL=10		mg/L	
		RPD [IG9801-06]	Acidity as CaC03	2011/01/07	NC		%	25
2371401	HRE	Matrix Spike	Dissolved Aluminum (Al)	2011/01/04		98	%	80 - 120
			Dissolved Antimony (Sb)	2011/01/04		106	%	80 - 120
			Dissolved Arsenic (As)	2011/01/04		100	%	80 - 120
			Dissolved Barium (Ba)	2011/01/04		98	%	80 - 120
			Dissolved Beryllium (Be)	2011/01/04		98	%	80 - 120
			Dissolved Bismuth (Bi)	2011/01/04		100	%	80 - 120
			Dissolved Boron (B)	2011/01/04		95	%	80 - 120
			Dissolved Cadmium (Cd)	2011/01/04		104	%	80 - 120
			Dissolved Calcium (Ca)	2011/01/04		NC	%	80 - 120
			Dissolved Chromium (Cr)	2011/01/04		96	%	80 - 120
			Dissolved Cobalt (Co)	2011/01/04		97	%	80 - 120
			Dissolved Copper (Cu)	2011/01/04		97	%	80 - 120
			Dissolved Iron (Fe)	2011/01/04		95	%	80 - 120
			Dissolved Lead (Pb)	2011/01/04		99	%	80 - 120
			Dissolved Lithium (Li)	2011/01/04		94	%	80 - 120
			Dissolved Magnesium (Mg)	2011/01/04		NC	%	80 - 120
			Dissolved Manganese (Mn)	2011/01/04		94	%	80 - 120
			Dissolved Molybdenum (Mo)	2011/01/04		104	%	80 - 120
			Dissolved Nickel (Ni)	2011/01/04		96	%	80 - 120
			Dissolved Phosphorus (P)	2011/01/04		100	%	80 - 120
			Dissolved Potassium (K)	2011/01/04		96	%	80 - 120
			Dissolved Selenium (Se)	2011/01/04		99	%	80 - 120
			Dissolved Silicon (Si)	2011/01/04		97	%	80 - 120
			Dissolved Silver (Ag)	2011/01/04		99	%	80 - 120
			Dissolved Sodium (Na)	2011/01/04		97	%	80 - 120
			Dissolved Strontium (Sr)	2011/01/04		96	%	80 - 120
			Dissolved Tellurium (Te)	2011/01/04		101	%	80 - 120
			Dissolved Thallium (Tl)	2011/01/04		101	%	80 - 120
			Dissolved Thorium (Th)	2011/01/04		88	%	80 - 120
			Dissolved Tin (Sn)	2011/01/04		103	%	80 - 120
			Dissolved Titanium (Ti)	2011/01/04		95	%	80 - 120
			Dissolved Tungsten (W)	2011/01/04		102	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0I6816

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2371401 HRE	Matrix Spike	Dissolved Uranium (U)	2011/01/04		101	%	80 - 120
		Dissolved Vanadium (V)	2011/01/04		98	%	80 - 120
		Dissolved Zinc (Zn)	2011/01/04		98	%	80 - 120
		Dissolved Zirconium (Zr)	2011/01/04		104	%	80 - 120
	Spiked Blank	Dissolved Aluminum (Al)	2011/01/04		100	%	90 - 110
		Dissolved Antimony (Sb)	2011/01/04		106	%	90 - 110
		Dissolved Arsenic (As)	2011/01/04		100	%	90 - 110
		Dissolved Barium (Ba)	2011/01/04		101	%	90 - 110
		Dissolved Beryllium (Be)	2011/01/04		101	%	90 - 110
		Dissolved Bismuth (Bi)	2011/01/04		101	%	90 - 110
		Dissolved Boron (B)	2011/01/04		96	%	90 - 110
		Dissolved Cadmium (Cd)	2011/01/04		106	%	90 - 110
		Dissolved Calcium (Ca)	2011/01/04		100	%	90 - 110
		Dissolved Chromium (Cr)	2011/01/04		101	%	90 - 110
		Dissolved Cobalt (Co)	2011/01/04		102	%	90 - 110
		Dissolved Copper (Cu)	2011/01/04		101	%	90 - 110
		Dissolved Iron (Fe)	2011/01/04		100	%	90 - 110
		Dissolved Lead (Pb)	2011/01/04		101	%	90 - 110
		Dissolved Lithium (Li)	2011/01/04		98	%	90 - 110
		Dissolved Magnesium (Mg)	2011/01/04		103	%	90 - 110
		Dissolved Manganese (Mn)	2011/01/04		100	%	90 - 110
		Dissolved Molybdenum (Mo)	2011/01/04		104	%	90 - 110
		Dissolved Nickel (Ni)	2011/01/04		101	%	90 - 110
		Dissolved Phosphorus (P)	2011/01/04		99	%	90 - 110
		Dissolved Potassium (K)	2011/01/04		98	%	90 - 110
		Dissolved Selenium (Se)	2011/01/04		103	%	90 - 110
		Dissolved Silicon (Si)	2011/01/04		99	%	90 - 110
		Dissolved Silver (Ag)	2011/01/04		101	%	90 - 110
		Dissolved Sodium (Na)	2011/01/04		101	%	90 - 110
		Dissolved Strontium (Sr)	2011/01/04		102	%	90 - 110
		Dissolved Tellurium (Te)	2011/01/04		102	%	90 - 110
		Dissolved Thallium (Tl)	2011/01/04		101	%	90 - 110
		Dissolved Thorium (Th)	2011/01/04		99	%	90 - 110
		Dissolved Tin (Sn)	2011/01/04		103	%	90 - 110
		Dissolved Titanium (Ti)	2011/01/04		98	%	90 - 110
		Dissolved Tungsten (W)	2011/01/04		104	%	90 - 110
		Dissolved Uranium (U)	2011/01/04		102	%	90 - 110
		Dissolved Vanadium (V)	2011/01/04		101	%	90 - 110
		Dissolved Zinc (Zn)	2011/01/04		100	%	90 - 110
		Dissolved Zirconium (Zr)	2011/01/04		104	%	90 - 110
	Method Blank	Dissolved Aluminum (Al)	2011/01/04	ND, RDL=5		ug/L	
		Dissolved Antimony (Sb)	2011/01/04	ND, RDL=0.5		ug/L	
		Dissolved Arsenic (As)	2011/01/04	ND, RDL=1		ug/L	
		Dissolved Barium (Ba)	2011/01/04	ND, RDL=5		ug/L	
		Dissolved Beryllium (Be)	2011/01/04	ND, RDL=0.5		ug/L	
		Dissolved Bismuth (Bi)	2011/01/04	ND, RDL=1		ug/L	
		Dissolved Boron (B)	2011/01/04	ND, RDL=10		ug/L	
		Dissolved Cadmium (Cd)	2011/01/04	ND, RDL=0.1		ug/L	
		Dissolved Calcium (Ca)	2011/01/04	ND, RDL=200		ug/L	
		Dissolved Chromium (Cr)	2011/01/04	ND, RDL=5		ug/L	
		Dissolved Cobalt (Co)	2011/01/04	ND, RDL=0.5		ug/L	
		Dissolved Copper (Cu)	2011/01/04	ND, RDL=1		ug/L	
		Dissolved Iron (Fe)	2011/01/04	ND, RDL=100		ug/L	
		Dissolved Lead (Pb)	2011/01/04	ND, RDL=0.5		ug/L	
		Dissolved Lithium (Li)	2011/01/04	ND, RDL=5		ug/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2371401	HRE	Method Blank	Dissolved Magnesium (Mg)	2011/01/04	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2011/01/04	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2011/01/04	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2011/01/04	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2011/01/04	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2011/01/04	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2011/01/04	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2011/01/04	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2011/01/04	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2011/01/04	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2011/01/04	ND, RDL=1		ug/L	
		RPD	Dissolved Arsenic (As)	2011/01/04	NC		%	25
			Dissolved Chromium (Cr)	2011/01/04	NC		%	25
			Dissolved Copper (Cu)	2011/01/04	NC		%	25
2371796	MC	Matrix Spike	Mercury (Hg)	2011/01/04		103	%	75 - 125
		Spiked Blank	Mercury (Hg)	2011/01/04		104	%	80 - 120
		Method Blank	Mercury (Hg)	2011/01/04	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2011/01/04	NC		%	25
2371840	DRM	Matrix Spike	Orthophosphate (P)	2011/01/04		103	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2011/01/04		101	%	80 - 120
		Method Blank	Orthophosphate (P)	2011/01/04	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2011/01/04	NC		%	25
2371842	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2011/01/04		103	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2011/01/04		98	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2011/01/04	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2011/01/04	NC		%	25
2371848	SAU	Spiked Blank	Colour	2011/01/04		97	%	85 - 115
		Method Blank	Colour	2011/01/04	ND, RDL=2		TCU	
		RPD [IG9794-02]	Colour	2011/01/04	0.2		%	25
2371874	LS	Matrix Spike	Nitrite (N)	2011/01/04		NC	%	80 - 120
			Nitrate (N)	2011/01/04		NC	%	80 - 120
		Spiked Blank	Nitrite (N)	2011/01/04		102	%	85 - 115
			Nitrate (N)	2011/01/04		108	%	85 - 115
		Method Blank	Nitrite (N)	2011/01/04	ND, RDL=0.01		mg/L	
			Nitrate (N)	2011/01/04	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2011/01/04	1.1		%	25
			Nitrate (N)	2011/01/04	0.7		%	25
2371917	FA	Spiked Blank	Total Oil & Grease	2011/01/04		98	%	85 - 115
		RPD	Total Oil & Grease	2011/01/04	1.0		%	25
		Method Blank	Total Oil & Grease	2011/01/04	ND, RDL=0.5		mg/L	
2371918	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2011/01/04		96	%	85 - 115
		RPD	Total Oil & Grease Mineral/Synthetic	2011/01/04	1.1		%	25
		Method Blank	Total Oil & Grease Mineral/Synthetic	2011/01/04	ND, RDL=0.5		mg/L	
2371920	LHA	Matrix Spike	Total Cyanide (CN)	2011/01/04		102	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2011/01/04		93	%	80 - 120

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2371920	LHA	Method Blank	Total Cyanide (CN)	2011/01/04	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2011/01/04	NC		%	25
2371923	YPA	QC Standard	Alkalinity (Total as CaCO3)	2011/01/04		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2011/01/04	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2011/01/04	0.9		%	25
2371926	LHA	Matrix Spike	Total Cyanide (CN)	2011/01/04		114	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2011/01/04		98	%	80 - 120
		Method Blank	Total Cyanide (CN)	2011/01/04	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2011/01/04	NC (1)		%	25
2371928	YPA	QC Standard	Conductivity	2011/01/04		104	%	85 - 115
		Method Blank	Conductivity	2011/01/04	ND, RDL=1		umho/cm	
		RPD	Conductivity	2011/01/04	0.1		%	25
2371929	YPA	Matrix Spike	Fluoride (F-)	2011/01/04		NC	%	80 - 120
		Spiked Blank	Fluoride (F-)	2011/01/04		102	%	85 - 115
		Method Blank	Fluoride (F-)	2011/01/04	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2011/01/04	1		%	25
2371959	JDE	Matrix Spike	Sulphide	2011/01/04		84	%	80 - 120
		Spiked Blank	Sulphide	2011/01/04		95	%	85 - 115
		Method Blank	Sulphide	2011/01/04	ND, RDL=0.02		mg/L	
		RPD	Sulphide	2011/01/04	NC		%	25
2371975	CAT	Method Blank	Carbon Dioxide	2011/01/04	ND, RDL=0.6		L/m3	
		RPD [IG9806-15]	Carbon Dioxide	2011/01/04	10.1		%	25
2372012	SUP	QC Standard	Total Suspended Solids	2011/01/04		96	%	85 - 115
		Method Blank	Total Suspended Solids	2011/01/04	ND, RDL=1		mg/L	
		RPD [IG9792-05]	Total Suspended Solids	2011/01/04	2.9		%	25
2372015	DRM	Matrix Spike [IG9804-02]	Dissolved Chloride (Cl)	2011/01/05		106	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2011/01/05		106	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2011/01/05	ND, RDL=1		mg/L	
		RPD [IG9804-02]	Dissolved Chloride (Cl)	2011/01/05	NC		%	20
2372019	SUP	QC Standard	Total Suspended Solids	2011/01/04		99	%	85 - 115
		Method Blank	Total Suspended Solids	2011/01/04	ND, RDL=1		mg/L	
		RPD [IG9801-05]	Total Suspended Solids	2011/01/04	NC		%	25
2372046	HRE	Matrix Spike	Dissolved Aluminum (Al)	2011/01/04		97	%	80 - 120
			Dissolved Antimony (Sb)	2011/01/04		105	%	80 - 120
			Dissolved Arsenic (As)	2011/01/04		101	%	80 - 120
			Dissolved Barium (Ba)	2011/01/04		97	%	80 - 120
			Dissolved Beryllium (Be)	2011/01/04		98	%	80 - 120
			Dissolved Bismuth (Bi)	2011/01/04		100	%	80 - 120
			Dissolved Boron (B)	2011/01/04		89	%	80 - 120
			Dissolved Cadmium (Cd)	2011/01/04		105	%	80 - 120
			Dissolved Calcium (Ca)	2011/01/04		NC	%	80 - 120
			Dissolved Chromium (Cr)	2011/01/04		97	%	80 - 120
			Dissolved Cobalt (Co)	2011/01/04		97	%	80 - 120
			Dissolved Copper (Cu)	2011/01/04		98	%	80 - 120
			Dissolved Iron (Fe)	2011/01/04		97	%	80 - 120
			Dissolved Lead (Pb)	2011/01/04		101	%	80 - 120
			Dissolved Lithium (Li)	2011/01/04		95	%	80 - 120
			Dissolved Magnesium (Mg)	2011/01/04		NC	%	80 - 120
			Dissolved Manganese (Mn)	2011/01/04		95	%	80 - 120
			Dissolved Molybdenum (Mo)	2011/01/04		103	%	80 - 120
			Dissolved Nickel (Ni)	2011/01/04		98	%	80 - 120
			Dissolved Phosphorus (P)	2011/01/04		99	%	80 - 120
			Dissolved Potassium (K)	2011/01/04		96	%	80 - 120
			Dissolved Selenium (Se)	2011/01/04		101	%	80 - 120

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2372046	HRE	Matrix Spike	Dissolved Silicon (Si)	2011/01/04		96	%	80 - 120
			Dissolved Silver (Ag)	2011/01/04		99	%	80 - 120
			Dissolved Sodium (Na)	2011/01/04		96	%	80 - 120
			Dissolved Strontium (Sr)	2011/01/04		95	%	80 - 120
			Dissolved Tellurium (Te)	2011/01/04		101	%	80 - 120
			Dissolved Thallium (Tl)	2011/01/04		102	%	80 - 120
			Dissolved Thorium (Th)	2011/01/04		87	%	80 - 120
			Dissolved Tin (Sn)	2011/01/04		102	%	80 - 120
			Dissolved Titanium (Ti)	2011/01/04		97	%	80 - 120
			Dissolved Tungsten (W)	2011/01/04		102	%	80 - 120
			Dissolved Uranium (U)	2011/01/04		102	%	80 - 120
			Dissolved Vanadium (V)	2011/01/04		98	%	80 - 120
			Dissolved Zinc (Zn)	2011/01/04		98	%	80 - 120
			Dissolved Zirconium (Zr)	2011/01/04		103	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2011/01/04		101	%	90 - 110
			Dissolved Antimony (Sb)	2011/01/04		105	%	90 - 110
			Dissolved Arsenic (As)	2011/01/04		101	%	90 - 110
			Dissolved Barium (Ba)	2011/01/04		99	%	90 - 110
			Dissolved Beryllium (Be)	2011/01/04		100	%	90 - 110
			Dissolved Bismuth (Bi)	2011/01/04		101	%	90 - 110
			Dissolved Boron (B)	2011/01/04		96	%	90 - 110
			Dissolved Cadmium (Cd)	2011/01/04		105	%	90 - 110
			Dissolved Calcium (Ca)	2011/01/04		101	%	90 - 110
			Dissolved Chromium (Cr)	2011/01/04		99	%	90 - 110
			Dissolved Cobalt (Co)	2011/01/04		101	%	90 - 110
			Dissolved Copper (Cu)	2011/01/04		101	%	90 - 110
			Dissolved Iron (Fe)	2011/01/04		100	%	90 - 110
			Dissolved Lead (Pb)	2011/01/04		102	%	90 - 110
			Dissolved Lithium (Li)	2011/01/04		95	%	90 - 110
			Dissolved Magnesium (Mg)	2011/01/04		102	%	90 - 110
			Dissolved Manganese (Mn)	2011/01/04		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2011/01/04		103	%	90 - 110
			Dissolved Nickel (Ni)	2011/01/04		101	%	90 - 110
			Dissolved Phosphorus (P)	2011/01/04		98	%	90 - 110
			Dissolved Potassium (K)	2011/01/04		98	%	90 - 110
			Dissolved Selenium (Se)	2011/01/04		102	%	90 - 110
			Dissolved Silicon (Si)	2011/01/04		99	%	90 - 110
			Dissolved Silver (Ag)	2011/01/04		100	%	90 - 110
			Dissolved Sodium (Na)	2011/01/04		102	%	90 - 110
			Dissolved Strontium (Sr)	2011/01/04		102	%	90 - 110
			Dissolved Tellurium (Te)	2011/01/04		101	%	90 - 110
			Dissolved Thallium (Tl)	2011/01/04		103	%	90 - 110
			Dissolved Thorium (Th)	2011/01/04		99	%	90 - 110
			Dissolved Tin (Sn)	2011/01/04		104	%	90 - 110
			Dissolved Titanium (Ti)	2011/01/04		98	%	90 - 110
			Dissolved Tungsten (W)	2011/01/04		104	%	90 - 110
			Dissolved Uranium (U)	2011/01/04		103	%	90 - 110
			Dissolved Vanadium (V)	2011/01/04		99	%	90 - 110
			Dissolved Zinc (Zn)	2011/01/04		99	%	90 - 110
			Dissolved Zirconium (Zr)	2011/01/04		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2011/01/04	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2011/01/04	ND, RDL=0.5		ug/L	

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2372046	HRE	Method Blank	Dissolved Bismuth (Bi)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2011/01/04	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2011/01/04	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2011/01/04	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2011/01/04	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2011/01/04	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2011/01/04	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2011/01/04	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2011/01/04	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2011/01/04	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2011/01/04	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2011/01/04	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2011/01/04	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2011/01/04	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2011/01/04	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2011/01/04	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2011/01/04	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2011/01/04	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2011/01/04	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2011/01/04	ND, RDL=1		ug/L	
		RPD	Dissolved Arsenic (As)	2011/01/04	NC		%	25
			Dissolved Chromium (Cr)	2011/01/04	NC		%	25
			Dissolved Copper (Cu)	2011/01/04	NC		%	25
2372047	JOH	Matrix Spike						
		[IG9794-03]	Dissolved Sulphur (S)	2011/01/06		110	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2011/01/06		100	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2011/01/06	ND, RDL=0.5		mg/L	
		RPD [IG9794-03]	Dissolved Sulphur (S)	2011/01/06	NC		%	25
2372063	AHA	Matrix Spike						
		[IG9803-13]	Dissolved Organic Carbon	2011/01/04		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2011/01/04		96	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2011/01/04	0.2, RDL=0.2		mg/L	
		RPD [IG9803-13]	Dissolved Organic Carbon	2011/01/04	3.9		%	20
2372075	AHA	Matrix Spike	Dissolved Organic Carbon	2011/01/04		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2011/01/04		93	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2011/01/04	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2011/01/04	0.7		%	20
2372098	LS	Matrix Spike						
		[IG9806-03]	Nitrite (N)	2011/01/04		119	%	80 - 120
			Nitrate (N)	2011/01/04		97	%	80 - 120
		Spiked Blank	Nitrite (N)	2011/01/04		115	%	85 - 115
			Nitrate (N)	2011/01/04		96	%	85 - 115
		Method Blank	Nitrite (N)	2011/01/04	ND, RDL=0.01		mg/L	
			Nitrate (N)	2011/01/04	ND, RDL=0.1		mg/L	

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2372098	LS	RPD [IG9806-03]	Nitrite (N)	2011/01/04	NC		%	25
			Nitrate (N)	2011/01/04	NC		%	25
2372229	RAY	QC Standard	Total Dissolved Solids	2011/01/04		96	%	90 - 110
		Method Blank	Total Dissolved Solids	2011/01/04	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2011/01/04	NC		%	25
2372246	SUP	QC Standard	Total Dissolved Solids	2011/01/05		94	%	90 - 110
		Method Blank	Total Dissolved Solids	2011/01/05	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2011/01/05	2.1		%	25
2372789	DRM	Matrix Spike	Dissolved Chloride (Cl)	2011/01/05		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2011/01/05		105	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2011/01/05	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2011/01/05	0.3		%	20
2372795	AHA	Matrix Spike						
		[IG9806-10]	Total Organic Carbon (TOC)	2011/01/05		NC	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2011/01/05		95	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2011/01/05	0.3, RDL=0.2		mg/L	
		RPD [IG9806-10]	Total Organic Carbon (TOC)	2011/01/05	3.3		%	20
2372797	SAU	Matrix Spike						
		[IG9803-10]	Total Chemical Oxygen Demand (COD)	2011/01/05		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2011/01/05		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2011/01/05	ND, RDL=4		mg/L	
		RPD [IG9803-10]	Total Chemical Oxygen Demand (COD)	2011/01/05	1		%	25
2372809	VRO	Matrix Spike						
		[IG9794-02]	Dissolved Phosphorus	2011/01/06		95	%	80 - 120
		QC Standard	Dissolved Phosphorus	2011/01/06		102	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2011/01/06		99	%	85 - 115
		Method Blank	Dissolved Phosphorus	2011/01/06	ND, RDL=0.002		mg/L	
		RPD [IG9794-02]	Dissolved Phosphorus	2011/01/06	2.5		%	20
2372817	VRO	Matrix Spike						
		[IG9794-10]	Total Phosphorus	2011/01/06		97	%	80 - 120
		QC Standard	Total Phosphorus	2011/01/06		102	%	85 - 115
		Spiked Blank	Total Phosphorus	2011/01/06		107	%	85 - 115
		Method Blank	Total Phosphorus	2011/01/06	ND, RDL=0.002		mg/L	
		RPD [IG9794-10]	Total Phosphorus	2011/01/06	2.4		%	20
2372824	AHA	Matrix Spike	Dissolved Organic Carbon	2011/01/05		NC	%	80 - 120
		Spiked Blank	Dissolved Organic Carbon	2011/01/05		99	%	80 - 120
		Method Blank	Dissolved Organic Carbon	2011/01/05	ND, RDL=0.2		mg/L	
		RPD	Dissolved Organic Carbon	2011/01/05	2.4		%	20
2372884	C_N	Matrix Spike						
		[IG9805-10]	Total Kjeldahl Nitrogen (TKN)	2011/01/05		98	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2011/01/05		99	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2011/01/05		93	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2011/01/05	ND, RDL=0.1		mg/L	
		RPD [IG9805-10]	Total Kjeldahl Nitrogen (TKN)	2011/01/05	1.4		%	20
2372903	R_M	Calibration Check	Redox Potential	2011/01/13		+247	%	N/A
		Method Blank	Redox Potential	2011/01/13	+393		mV	
		RPD [IG9796-07]	Redox Potential	2011/01/13	0.3		%	10
		RPD [IG9801-07]	Redox Potential	2011/01/13	1.0		%	10
		RPD [IG9806-07]	Redox Potential	2011/01/13	0		%	10
2372942	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2011/01/05		102	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2011/01/05		106	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2011/01/05	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2011/01/05	2.9		%	25
2372945	DRM	Matrix Spike	Orthophosphate (P)	2011/01/05		101	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2011/01/05		100	%	80 - 120

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2372945	DRM	Method Blank	Orthophosphate (P)	2011/01/05	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2011/01/05	NC		%	25
2372958	ADB	Matrix Spike	Total Ammonia-N	2011/01/06		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2011/01/06		101	%	85 - 115
		Method Blank	Total Ammonia-N	2011/01/06	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2011/01/06	NC		%	25
2373435	HRE	Matrix Spike [IG9803-09]	Total Aluminum (Al)	2011/01/06		NC	%	80 - 120
			Total Antimony (Sb)	2011/01/06		101	%	80 - 120
			Total Arsenic (As)	2011/01/06		95	%	80 - 120
			Total Barium (Ba)	2011/01/06		94	%	80 - 120
			Total Beryllium (Be)	2011/01/06		91	%	80 - 120
			Total Bismuth (Bi)	2011/01/06		96	%	80 - 120
			Total Boron (B)	2011/01/06		89	%	80 - 120
			Total Cadmium (Cd)	2011/01/06		97	%	80 - 120
			Total Calcium (Ca)	2011/01/06		NC	%	80 - 120
			Total Chromium (Cr)	2011/01/06		93	%	80 - 120
			Total Cobalt (Co)	2011/01/06		92	%	80 - 120
			Total Copper (Cu)	2011/01/06		93	%	80 - 120
			Total Iron (Fe)	2011/01/06		96	%	80 - 120
			Total Lead (Pb)	2011/01/06		95	%	80 - 120
			Total Lithium (Li)	2011/01/06		87	%	80 - 120
			Total Magnesium (Mg)	2011/01/06		NC	%	80 - 120
			Total Manganese (Mn)	2011/01/06		93	%	80 - 120
			Total Molybdenum (Mo)	2011/01/06		99	%	80 - 120
			Total Nickel (Ni)	2011/01/06		92	%	80 - 120
			Total Potassium (K)	2011/01/06		94	%	80 - 120
			Total Silicon (Si)	2011/01/06		93	%	80 - 120
			Total Selenium (Se)	2011/01/06		97	%	80 - 120
			Total Silver (Ag)	2011/01/06		92	%	80 - 120
			Total Sodium (Na)	2011/01/06		94	%	80 - 120
			Total Strontium (Sr)	2011/01/06		92	%	80 - 120
			Total Tellurium (Te)	2011/01/06		95	%	80 - 120
			Total Thallium (Tl)	2011/01/06		94	%	80 - 120
			Total Thorium (Th)	2011/01/06		98	%	80 - 120
			Total Tin (Sn)	2011/01/06		98	%	80 - 120
			Total Titanium (Ti)	2011/01/06		91	%	80 - 120
			Total Tungsten (W)	2011/01/06		98	%	80 - 120
			Total Uranium (U)	2011/01/06		97	%	80 - 120
			Total Vanadium (V)	2011/01/06		92	%	80 - 120
			Total Zinc (Zn)	2011/01/06		94	%	80 - 120
			Total Zirconium (Zr)	2011/01/06		97	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2011/01/06		96	%	85 - 115
			Total Antimony (Sb)	2011/01/06		102	%	85 - 115
			Total Arsenic (As)	2011/01/06		98	%	85 - 115
			Total Barium (Ba)	2011/01/06		93	%	85 - 115
			Total Beryllium (Be)	2011/01/06		93	%	85 - 115
			Total Bismuth (Bi)	2011/01/06		96	%	85 - 115
			Total Boron (B)	2011/01/06		91	%	85 - 115
			Total Cadmium (Cd)	2011/01/06		98	%	85 - 116
			Total Calcium (Ca)	2011/01/06		101	%	85 - 115
			Total Chromium (Cr)	2011/01/06		97	%	85 - 115
			Total Cobalt (Co)	2011/01/06		97	%	85 - 115
			Total Copper (Cu)	2011/01/06		97	%	85 - 115
			Total Iron (Fe)	2011/01/06		99	%	85 - 115

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2373435	HRE	Spiked Blank	Total Lead (Pb)	2011/01/06		96	%	85 - 115
			Total Lithium (Li)	2011/01/06		89	%	85 - 115
			Total Magnesium (Mg)	2011/01/06		98	%	85 - 115
			Total Manganese (Mn)	2011/01/06		96	%	85 - 115
			Total Molybdenum (Mo)	2011/01/06		99	%	85 - 115
			Total Nickel (Ni)	2011/01/06		95	%	85 - 115
			Total Potassium (K)	2011/01/06		97	%	85 - 115
			Total Silicon (Si)	2011/01/06		97	%	85 - 115
			Total Selenium (Se)	2011/01/06		99	%	85 - 115
			Total Silver (Ag)	2011/01/06		92	%	85 - 115
			Total Sodium (Na)	2011/01/06		99	%	85 - 115
			Total Strontium (Sr)	2011/01/06		95	%	85 - 115
			Total Tellurium (Te)	2011/01/06		97	%	85 - 115
			Total Thallium (Tl)	2011/01/06		94	%	85 - 115
			Total Thorium (Th)	2011/01/06		98	%	85 - 115
			Total Tin (Sn)	2011/01/06		98	%	85 - 115
			Total Titanium (Ti)	2011/01/06		96	%	85 - 115
			Total Tungsten (W)	2011/01/06		100	%	85 - 115
			Total Uranium (U)	2011/01/06		98	%	85 - 115
			Total Vanadium (V)	2011/01/06		95	%	85 - 115
			Total Zinc (Zn)	2011/01/06		97	%	85 - 115
			Total Zirconium (Zr)	2011/01/06		97	%	85 - 115
		Method Blank	Total Aluminum (Al)	2011/01/06	5, RDL=5		ug/L	
			Total Antimony (Sb)	2011/01/06	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2011/01/06	ND, RDL=1		ug/L	
			Total Barium (Ba)	2011/01/06	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2011/01/06	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2011/01/06	ND, RDL=1		ug/L	
			Total Boron (B)	2011/01/06	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2011/01/06	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2011/01/06	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2011/01/06	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2011/01/06	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2011/01/06	ND, RDL=1		ug/L	
			Total Iron (Fe)	2011/01/06	ND, RDL=100		ug/L	
			Total Lead (Pb)	2011/01/06	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2011/01/06	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2011/01/06	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2011/01/06	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2011/01/06	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2011/01/06	ND, RDL=1		ug/L	
			Total Potassium (K)	2011/01/06	ND, RDL=200		ug/L	
			Total Silicon (Si)	2011/01/06	ND, RDL=50		ug/L	
			Total Selenium (Se)	2011/01/06	ND, RDL=2		ug/L	
			Total Silver (Ag)	2011/01/06	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2011/01/06	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2011/01/06	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2011/01/06	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2011/01/06	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2011/01/06	ND, RDL=1		ug/L	
			Total Tin (Sn)	2011/01/06	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2011/01/06	ND, RDL=5		ug/L	
			Total Tungsten (W)	2011/01/06	ND, RDL=1		ug/L	
			Total Uranium (U)	2011/01/06	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2011/01/06	1, RDL=1		ug/L	

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2373435	HRE	Method Blank	Total Zinc (Zn)	2011/01/06	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2011/01/06	ND, RDL=1		ug/L	
		RPD [IG9803-09]	Total Aluminum (Al)	2011/01/06	31.7 (2)		%	25
			Total Antimony (Sb)	2011/01/06	NC		%	25
			Total Arsenic (As)	2011/01/06	NC		%	25
			Total Barium (Ba)	2011/01/06	NC		%	25
			Total Beryllium (Be)	2011/01/06	NC		%	25
			Total Bismuth (Bi)	2011/01/06	NC		%	25
			Total Boron (B)	2011/01/06	NC		%	25
			Total Cadmium (Cd)	2011/01/06	NC		%	25
			Total Calcium (Ca)	2011/01/06	3.3		%	25
			Total Chromium (Cr)	2011/01/06	NC		%	25
			Total Cobalt (Co)	2011/01/06	NC		%	25
			Total Copper (Cu)	2011/01/06	NC		%	25
			Total Iron (Fe)	2011/01/06	9.8		%	25
			Total Lead (Pb)	2011/01/06	NC		%	25
			Total Lithium (Li)	2011/01/06	NC		%	25
			Total Magnesium (Mg)	2011/01/06	3.2		%	25
			Total Manganese (Mn)	2011/01/06	4.3		%	25
			Total Molybdenum (Mo)	2011/01/06	NC		%	25
			Total Nickel (Ni)	2011/01/06	NC		%	25
			Total Potassium (K)	2011/01/06	NC		%	25
			Total Silicon (Si)	2011/01/06	5.2		%	25
			Total Selenium (Se)	2011/01/06	NC		%	25
			Total Silver (Ag)	2011/01/06	NC		%	25
			Total Sodium (Na)	2011/01/06	2.5		%	25
			Total Strontium (Sr)	2011/01/06	4.6		%	25
			Total Tellurium (Te)	2011/01/06	NC		%	25
			Total Thallium (Tl)	2011/01/06	NC		%	25
			Total Thorium (Th)	2011/01/06	NC		%	25
			Total Tin (Sn)	2011/01/06	NC		%	25
			Total Titanium (Ti)	2011/01/06	NC		%	25
			Total Tungsten (W)	2011/01/06	NC		%	25
			Total Uranium (U)	2011/01/06	5.0		%	25
			Total Vanadium (V)	2011/01/06	NC		%	25
			Total Zinc (Zn)	2011/01/06	NC		%	25
			Total Zirconium (Zr)	2011/01/06	NC		%	25
2373443	JOH	Matrix Spike [IG9800-09]	Total Sulphur (S)	2011/01/06		99	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2011/01/06		99	%	85 - 115
		Method Blank	Total Sulphur (S)	2011/01/06	ND, RDL=0.5		mg/L	
		RPD [IG9800-09]	Total Sulphur (S)	2011/01/06	NC		%	25
2373765	DLB	Matrix Spike	Reactive Silica (SiO2)	2011/01/07		98	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2011/01/07		100	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2011/01/07		101	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2011/01/07	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2011/01/07	NC		%	25
2373774	DLB	Matrix Spike [IG9807-02]	Reactive Silica (SiO2)	2011/01/06		99	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2011/01/07		101	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2011/01/07		102	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2011/01/07	ND, RDL=0.5		mg/L	
		RPD [IG9807-02]	Reactive Silica (SiO2)	2011/01/06	NC		%	25
2374857	HRE	Matrix Spike	Total Aluminum (Al)	2011/01/07		NC	%	80 - 120
			Total Antimony (Sb)	2011/01/07		104	%	80 - 120

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2374857	HRE	Matrix Spike	Total Arsenic (As)	2011/01/07		99	%	80 - 120
			Total Barium (Ba)	2011/01/07		94	%	80 - 120
			Total Beryllium (Be)	2011/01/07		104	%	80 - 120
			Total Bismuth (Bi)	2011/01/07		97	%	80 - 120
			Total Boron (B)	2011/01/07		100	%	80 - 120
			Total Cadmium (Cd)	2011/01/07		101	%	80 - 120
			Total Calcium (Ca)	2011/01/07		NC	%	80 - 120
			Total Chromium (Cr)	2011/01/07		96	%	80 - 120
			Total Cobalt (Co)	2011/01/07		94	%	80 - 120
			Total Copper (Cu)	2011/01/07		94	%	80 - 120
			Total Iron (Fe)	2011/01/07		97	%	80 - 120
			Total Lead (Pb)	2011/01/07		95	%	80 - 120
			Total Lithium (Li)	2011/01/07		95	%	80 - 120
			Total Magnesium (Mg)	2011/01/07		NC	%	80 - 120
			Total Manganese (Mn)	2011/01/07		93	%	80 - 120
			Total Molybdenum (Mo)	2011/01/07		101	%	80 - 120
			Total Nickel (Ni)	2011/01/07		93	%	80 - 120
			Total Potassium (K)	2011/01/07		NC	%	80 - 120
			Total Silicon (Si)	2011/01/07		95	%	80 - 120
			Total Selenium (Se)	2011/01/07		97	%	80 - 120
			Total Silver (Ag)	2011/01/07		93	%	80 - 120
			Total Sodium (Na)	2011/01/07		NC	%	80 - 120
			Total Strontium (Sr)	2011/01/07		NC	%	80 - 120
			Total Tellurium (Te)	2011/01/07		95	%	80 - 120
			Total Thallium (Tl)	2011/01/07		94	%	80 - 120
			Total Thorium (Th)	2011/01/07		99	%	80 - 120
			Total Tin (Sn)	2011/01/07		99	%	80 - 120
			Total Titanium (Ti)	2011/01/07		96	%	80 - 120
			Total Tungsten (W)	2011/01/07		99	%	80 - 120
			Total Uranium (U)	2011/01/07		99	%	80 - 120
			Total Vanadium (V)	2011/01/07		98	%	80 - 120
			Total Zinc (Zn)	2011/01/07		96	%	80 - 120
			Total Zirconium (Zr)	2011/01/07		101	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2011/01/07		100	%	85 - 115
			Total Antimony (Sb)	2011/01/07		106	%	85 - 115
			Total Arsenic (As)	2011/01/07		98	%	85 - 115
			Total Barium (Ba)	2011/01/07		95	%	85 - 115
			Total Beryllium (Be)	2011/01/07		102	%	85 - 115
			Total Bismuth (Bi)	2011/01/07		97	%	85 - 115
			Total Boron (B)	2011/01/07		105	%	85 - 115
			Total Cadmium (Cd)	2011/01/07		101	%	85 - 116
			Total Calcium (Ca)	2011/01/07		98	%	85 - 115
			Total Chromium (Cr)	2011/01/07		97	%	85 - 115
			Total Cobalt (Co)	2011/01/07		96	%	85 - 115
			Total Copper (Cu)	2011/01/07		96	%	85 - 115
			Total Iron (Fe)	2011/01/07		98	%	85 - 115
			Total Lead (Pb)	2011/01/07		97	%	85 - 115
			Total Lithium (Li)	2011/01/07		94	%	85 - 115
			Total Magnesium (Mg)	2011/01/07		99	%	85 - 115
			Total Manganese (Mn)	2011/01/07		98	%	85 - 115
			Total Molybdenum (Mo)	2011/01/07		102	%	85 - 115
			Total Nickel (Ni)	2011/01/07		96	%	85 - 115
			Total Potassium (K)	2011/01/07		97	%	85 - 115
			Total Silicon (Si)	2011/01/07		99	%	85 - 115
			Total Selenium (Se)	2011/01/07		97	%	85 - 115

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2374857 HRE	Spiked Blank	Total Silver (Ag)	2011/01/07		96	%	85 - 115
		Total Sodium (Na)	2011/01/07		99	%	85 - 115
		Total Strontium (Sr)	2011/01/07		97	%	85 - 115
		Total Tellurium (Te)	2011/01/07		100	%	85 - 115
		Total Thallium (Tl)	2011/01/07		97	%	85 - 115
		Total Thorium (Th)	2011/01/07		98	%	85 - 115
		Total Tin (Sn)	2011/01/07		102	%	85 - 115
		Total Titanium (Ti)	2011/01/07		100	%	85 - 115
		Total Tungsten (W)	2011/01/07		102	%	85 - 115
		Total Uranium (U)	2011/01/07		99	%	85 - 115
		Total Vanadium (V)	2011/01/07		98	%	85 - 115
		Total Zinc (Zn)	2011/01/07		97	%	85 - 115
		Total Zirconium (Zr)	2011/01/07		103	%	85 - 115
	Method Blank	Total Aluminum (Al)	2011/01/07	ND, RDL=5		ug/L	
		Total Antimony (Sb)	2011/01/07	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2011/01/07	ND, RDL=1		ug/L	
		Total Barium (Ba)	2011/01/07	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2011/01/07	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2011/01/07	ND, RDL=1		ug/L	
		Total Boron (B)	2011/01/07	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2011/01/07	ND, RDL=0.1		ug/L	
		Total Calcium (Ca)	2011/01/07	ND, RDL=200		ug/L	
		Total Chromium (Cr)	2011/01/07	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2011/01/07	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2011/01/07	ND, RDL=1		ug/L	
		Total Iron (Fe)	2011/01/07	ND, RDL=100		ug/L	
		Total Lead (Pb)	2011/01/07	ND, RDL=0.5		ug/L	
		Total Lithium (Li)	2011/01/07	ND, RDL=5		ug/L	
		Total Magnesium (Mg)	2011/01/07	ND, RDL=50		ug/L	
		Total Manganese (Mn)	2011/01/07	ND, RDL=2		ug/L	
		Total Molybdenum (Mo)	2011/01/07	ND, RDL=1		ug/L	
		Total Nickel (Ni)	2011/01/07	ND, RDL=1		ug/L	
		Total Potassium (K)	2011/01/07	ND, RDL=200		ug/L	
		Total Silicon (Si)	2011/01/07	ND, RDL=50		ug/L	
		Total Selenium (Se)	2011/01/07	ND, RDL=2		ug/L	
		Total Silver (Ag)	2011/01/07	ND, RDL=0.1		ug/L	
		Total Sodium (Na)	2011/01/07	ND, RDL=100		ug/L	
		Total Strontium (Sr)	2011/01/07	ND, RDL=1		ug/L	
		Total Tellurium (Te)	2011/01/07	ND, RDL=1		ug/L	
		Total Thallium (Tl)	2011/01/07	ND, RDL=0.05		ug/L	
		Total Thorium (Th)	2011/01/07	ND, RDL=1		ug/L	
		Total Tin (Sn)	2011/01/07	ND, RDL=1		ug/L	
		Total Titanium (Ti)	2011/01/07	ND, RDL=5		ug/L	
		Total Tungsten (W)	2011/01/07	ND, RDL=1		ug/L	
		Total Uranium (U)	2011/01/07	ND, RDL=0.1		ug/L	
		Total Vanadium (V)	2011/01/07	ND, RDL=1		ug/L	
		Total Zinc (Zn)	2011/01/07	ND, RDL=5		ug/L	
		Total Zirconium (Zr)	2011/01/07	1, RDL=1		ug/L	
	RPD	Total Lead (Pb)	2011/01/07	NC		%	25
2374964 GBU	Matrix Spike	Dissolved Aluminum (Al)	2011/01/07		98	%	80 - 120
		Dissolved Antimony (Sb)	2011/01/07		102	%	80 - 120
		Dissolved Arsenic (As)	2011/01/07		102	%	80 - 120
		Dissolved Barium (Ba)	2011/01/07		NC	%	80 - 120
		Dissolved Beryllium (Be)	2011/01/07		106	%	80 - 120
		Dissolved Bismuth (Bi)	2011/01/07		98	%	80 - 120

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2374964	GBU	Matrix Spike	Dissolved Boron (B)	2011/01/07		108	%	80 - 120
			Dissolved Cadmium (Cd)	2011/01/07		99	%	80 - 120
			Dissolved Calcium (Ca)	2011/01/07		NC	%	80 - 120
			Dissolved Chromium (Cr)	2011/01/07		101	%	80 - 120
			Dissolved Cobalt (Co)	2011/01/07		98	%	80 - 120
			Dissolved Copper (Cu)	2011/01/07		96	%	80 - 120
			Dissolved Iron (Fe)	2011/01/07		99	%	80 - 120
			Dissolved Lead (Pb)	2011/01/07		100	%	80 - 120
			Dissolved Lithium (Li)	2011/01/07		101	%	80 - 120
			Dissolved Magnesium (Mg)	2011/01/07		NC	%	80 - 120
			Dissolved Manganese (Mn)	2011/01/07		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2011/01/07		105	%	80 - 120
			Dissolved Nickel (Ni)	2011/01/07		97	%	80 - 120
			Dissolved Phosphorus (P)	2011/01/07		109	%	80 - 120
			Dissolved Potassium (K)	2011/01/07		102	%	80 - 120
			Dissolved Selenium (Se)	2011/01/07		98	%	80 - 120
			Dissolved Silicon (Si)	2011/01/07		103	%	80 - 120
			Dissolved Silver (Ag)	2011/01/07		98	%	80 - 120
			Dissolved Sodium (Na)	2011/01/07		NC	%	80 - 120
			Dissolved Strontium (Sr)	2011/01/07		NC	%	80 - 120
			Dissolved Tellurium (Te)	2011/01/07		94	%	80 - 120
			Dissolved Thallium (Tl)	2011/01/07		100	%	80 - 120
			Dissolved Thorium (Th)	2011/01/07		92	%	80 - 120
			Dissolved Tin (Sn)	2011/01/07		102	%	80 - 120
			Dissolved Titanium (Ti)	2011/01/07		101	%	80 - 120
			Dissolved Tungsten (W)	2011/01/07		104	%	80 - 120
			Dissolved Uranium (U)	2011/01/07		105	%	80 - 120
			Dissolved Vanadium (V)	2011/01/07		101	%	80 - 120
			Dissolved Zinc (Zn)	2011/01/07		95	%	80 - 120
			Dissolved Zirconium (Zr)	2011/01/07		106	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2011/01/07		100	%	90 - 110
			Dissolved Antimony (Sb)	2011/01/07		101	%	90 - 110
			Dissolved Arsenic (As)	2011/01/07		101	%	90 - 110
			Dissolved Barium (Ba)	2011/01/07		101	%	90 - 110
			Dissolved Beryllium (Be)	2011/01/07		103	%	90 - 110
			Dissolved Bismuth (Bi)	2011/01/07		98	%	90 - 110
			Dissolved Boron (B)	2011/01/07		103	%	90 - 110
			Dissolved Cadmium (Cd)	2011/01/07		99	%	90 - 110
			Dissolved Calcium (Ca)	2011/01/07		100	%	90 - 110
			Dissolved Chromium (Cr)	2011/01/07		100	%	90 - 110
			Dissolved Cobalt (Co)	2011/01/07		100	%	90 - 110
			Dissolved Copper (Cu)	2011/01/07		100	%	90 - 110
			Dissolved Iron (Fe)	2011/01/07		101	%	90 - 110
			Dissolved Lead (Pb)	2011/01/07		100	%	90 - 110
			Dissolved Lithium (Li)	2011/01/07		97	%	90 - 110
			Dissolved Magnesium (Mg)	2011/01/07		102	%	90 - 110
			Dissolved Manganese (Mn)	2011/01/07		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2011/01/07		100	%	90 - 110
			Dissolved Nickel (Ni)	2011/01/07		100	%	90 - 110
			Dissolved Phosphorus (P)	2011/01/07		103	%	90 - 110
			Dissolved Potassium (K)	2011/01/07		100	%	90 - 110
			Dissolved Selenium (Se)	2011/01/07		100	%	90 - 110
			Dissolved Silicon (Si)	2011/01/07		100	%	90 - 110
			Dissolved Silver (Ag)	2011/01/07		99	%	90 - 110
			Dissolved Sodium (Na)	2011/01/07		99	%	90 - 110

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2374964	GBU	Spiked Blank	Dissolved Strontium (Sr)	2011/01/07		101	%	90 - 110
			Dissolved Tellurium (Te)	2011/01/07		98	%	90 - 110
			Dissolved Thallium (Tl)	2011/01/07		99	%	90 - 110
			Dissolved Thorium (Th)	2011/01/07		100	%	90 - 110
			Dissolved Tin (Sn)	2011/01/07		99	%	90 - 110
			Dissolved Titanium (Ti)	2011/01/07		100	%	90 - 110
			Dissolved Tungsten (W)	2011/01/07		102	%	90 - 110
			Dissolved Uranium (U)	2011/01/07		101	%	90 - 110
			Dissolved Vanadium (V)	2011/01/07		100	%	90 - 110
			Dissolved Zinc (Zn)	2011/01/07		100	%	90 - 110
			Dissolved Zirconium (Zr)	2011/01/07		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2011/01/07	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2011/01/07	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2011/01/07	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2011/01/07	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2011/01/07	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2011/01/07	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2011/01/07	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2011/01/07	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2011/01/07	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2011/01/07	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2011/01/07	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2011/01/07	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2011/01/07	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2011/01/07	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2011/01/07	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2011/01/07	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2011/01/07	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2011/01/07	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2011/01/07	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2011/01/07	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2011/01/07	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2011/01/07	NC		%	25
			Dissolved Arsenic (As)	2011/01/07	NC		%	25
			Dissolved Barium (Ba)	2011/01/07	1.0		%	25
			Dissolved Beryllium (Be)	2011/01/07	NC		%	25
			Dissolved Boron (B)	2011/01/07	NC		%	25
			Dissolved Cadmium (Cd)	2011/01/07	NC		%	25
			Dissolved Chromium (Cr)	2011/01/07	NC		%	25
			Dissolved Cobalt (Co)	2011/01/07	2.7		%	25

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #:
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0I6816

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2374964	GBU	RPD	Dissolved Copper (Cu)	2011/01/07	NC		%	25
			Dissolved Lead (Pb)	2011/01/07	NC		%	25
			Dissolved Molybdenum (Mo)	2011/01/07	NC		%	25
			Dissolved Nickel (Ni)	2011/01/07	NC		%	25
			Dissolved Selenium (Se)	2011/01/07	NC		%	25
			Dissolved Silver (Ag)	2011/01/07	NC		%	25
			Dissolved Sodium (Na)	2011/01/07	0.8		%	25
			Dissolved Thallium (Tl)	2011/01/07	NC		%	25
			Dissolved Uranium (U)	2011/01/07	0.4		%	25
			Dissolved Vanadium (V)	2011/01/07	NC (1)		%	25
			Dissolved Zinc (Zn)	2011/01/07	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Detection Limit was raised due to matrix interferences.
(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Validation Signature Page

Maxxam Job #: B0I6816

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

TOM MITCHELL, B.Sc, Team Leader, Compressed Gases

BRAD NEWMAN, Scientific Specialist

GRACE SISON, Technical and Customer Service Coordinator

ANN BUCK, Bedford Inorg

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

IMMEDIATE TEST

BOD

30-Dec-10 09:12
ANTONELLA BRASIL
B0I6816
AKP ENV-793

Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165		BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#232755-02-01	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

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(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW1A	Dec 28/10	11:05 Am	WT			✓	✓	✓	✓	—	—	✓	—	—	—	18	
2		SW 2	Dec 28/10	1:30 pm	WT			✓	✓	✓	✓	✓	—	—	—	—	✓	18	
3		SW 3	Dec 28/10	11:50 Am	WT			✓	✓	✓	✓	✓	—	✓	✓	—	—	19	
4		SW 4	Dec 28/10	10:00 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW 6	Dec 28/10	9:45 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6		SW 7A	Dec 28/10	1:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
7		SW10	Dec 28/10	10:45 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
8		SW 11	Dec 28/10	10:20 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/1/1°C 2/2/1°C 2/1/4°C 4/2/2°C
9		SW 12 A	Dec 28/10	2:15 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	4/5/4°C 0/1/1°C
10		SW 13	Dec 28/10	12:10 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/0/1°C 1/2/1°C 0/0/0°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Melissa Bevan Burney	10/12/29	8:45	SB	Dec 29/10	08:00		X	4.1, 4.7, 5.1	☐ Yes ☐ No
			CARRIER ASAD BHATTI	2010/12/30	09:12				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#232755-01-01	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Carbon Dioxide in Water	Dissolved Organic Carbon (DOC)	Dissolved Oxygen	Dissolved Phosphorus	Lab Filtered Metals Analysis by ICP	Lab Filtered Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	# of Bottles	Comments
1		SW 14	Dec 28/10	1:45 pm	WT			—	—	—	—	—	—	—	—	—	—	19	
2		SW 15	Dec 28/10	8:15 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
3		SW 16	Dec 28/10	9:00 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
4		SW 17	Dec 28/10	7:30 Am	WT			—	—	✓	—	✓	—	✓	—	✓	—	18	
5		SW 18	Dec 28/10	12:30 pm	WT			—	—	—	—	✓	—	✓	—	✓	—	18	
6																			
7																			0/1/1°C 2/2/1°C
8																			2/1/4°C 4/12/2°C 4/15/4°C
9																			0/0/1°C 0/1/1°C
10																			1/2/1°C 0/0/0°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Ruben Bevan Burnett	10/12/28	8:45 pm	[illegible]	Dec 29/10	08:00	
			ASAD BHATTI	2010/12/30	09:12	

Laboratory Use Only: Time Sensitive [X] | Temperature (°C) on Receipt 4.1, 4.2, 5.1 | Custody Seal Intact on Cooler? ☐ Yes ☐ No

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:		CHAIN OF CUSTODY #: C#232755-01-02	PROJECT MANAGER: ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

SPECIAL INSTRUCTIONS

Reg. 153 ☐ 2004 ☐ 2011

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ANALYSIS REQUESTED (Please be specific):

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Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Nitrate (NO_3) and Nitrite (NO_2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 1	Dec 28/10	11:05 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
2		SW 2	Dec 28/10	1130 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
3		SW 3	Dec 28/10	11:50 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
4		SW 4	Dec 28/10	10:00 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
5		SW 6	Dec 28/10	9:45 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
6		SW 7A	Dec 28/10	1:00 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	
7		SW 10	Dec 28/10	10:45 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	0/1/1°C 2/2/1°C
8		SW 11	Dec 28/10	10:20 Am	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	2/1/4°C 4/2/2°C
9		SW 12A	Dec 28/10	2:15 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	4/5/4°C 0/1/1°C 0/0/1°C 0/0/0°C
10		SW 13	Dec 28/10	12:10 pm	WT			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	18	1/2/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Burns	10/12/28	8:45pm	SB	DEC 29/10	08:00		X	4/4.7/5.1	☐ Yes ☐ No
			ASAD BHATTI	2010/12/30	09:12				

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Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:			
				Project Name:		CHAIN OF CUSTODY #:	PROJECT MANAGER:
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Site #:		C#232755-02-02	ANTONELLA BRASIL
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Sampled By:			

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☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
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	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Nitrate (NO3) and Nitrite (NO2) in Water	Oil & Grease - A/V/M/T	pH	Sulphide	Total Cyanide	Total Dissolved Solids	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	# of Bottles	Comments
1		SW 14	Dec 28/10	1:45 pm	WT			✓	✓	✓	✓	—	—	—	—	—	—	18	
2		SW 15	Dec 28/10	8:15 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
3		SW 16	Dec 28/10	9:00 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
4		SW 17	Dec 28/10	7:30 Am	WT			—	—	—	—	—	—	—	—	—	—	18	
5		SW 18	Dec 28/10	12:30 pm	WT			—	—	—	—	—	—	—	—	—	—	18	
6																			
7																			0/1/1°C 2/2/1°C
8																			2/1/4°C 4/2/2°C
9																			4/5/4°C 0/1/1°C
10																			0/0/1°C 0/0/0°C 1/2/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Burnell	10/12/28	8:45pm	SB	Dec 29/10	08:00		X	4/4.7/5.1	☐ Yes ☐ No
			ASAD BHATTI	2010/12/30	09:12				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxam.ca

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#232755-01-03	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA: ☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined; ☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Reg. 558 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse; Municipality ____; Other (specify) ____; Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ____ Time Required: ____ ☐
Rush Confirmation Number: ____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 1	Dec 28/10	11:05 Am	WT			✓	18	
2		SW 2	Dec 28/10	1:30 pm	WT			✓	18	
3		SW 3	Dec 28/10	11:50 Am	WT			✓	18	
4		SW 4	Dec 28/10	10:00 Am	WT			✓	18	
5		SW 6	Dec 28/10	9:45 Am	WT			✓	18	
6		SW 7A	Dec 28/10	1:00 pm	WT			✓	18	
7		SW 10	Dec 28/10	10:45 Am	WT			✓	18	0/1/1°C 2/2/1°C
8		SW 11	Dec 28/10	10:20 Am	WT			✓	18	2/1/4°C 4/2/2°C
9		SW 12A	Dec 28/10	2:15 Pm	WT			✓	18	4/5/4°C 0/1/1°C 0/0/1°C 0/0/0°C
10		SW 13	Dec 28/10	12:10 pm	WT			✓	18	1/2/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Bevan Burney	10/12/28	8:45pm	SB	Dec 29/10	08:10		X	4.1, 4.7, 5.1	☐ Yes ☐ No
			ASAD BHATTI	2010/12/30	09:12				

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White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 232755
Contact Name:	Evelyn Funk	Contact Name:	Leann Graham	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:		CHAIN OF CUSTODY #: C#232755-02-03	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8441 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	lgraham@klohn.com;lhollingsworth@klohn.com	Site #:			
				Sampled By:			

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A ? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Phosphorus (Colourimetric)	# of Bottles	Comments
1		SW 14	Dec 28/10	1:45 pm	WT			✓	18	
2		SW 15	Dec 28/10	8:15 Am	WT			✓	18	
3		SW 16	Dec 28/10	9:00 Am	WT			✓	18	
4		SW 17	Dec 28/10	7:30 Am	WT			✓	18	
5		SW 18	Dec 28/10	12:30 pm	WT			✓	18	
6										
7										
8										0/1/1°C 2/2/1°C 2/1/4°C 4/2/2°C
9										4/5/4°C 0/1/1°C
10										0/0/1°C 0/0/0°C 1/2/1°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
Brenda Burnely	10/12/28	8:45	SB	Dec 29/10	08:00		X	4.1, 4.7, 5.1	☐ Yes ☐ No
			ASAD BHATTI	2010/12/30	09:12				

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White: Maxxam Yellow: Client

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Your Project #: B016816
Your C.O.C. #: 08327288

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2011/01/12

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B102038
Received: 2011/01/11, 10:15

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	15	N/A	2011/01/12	BBY6SOP-00005	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: AKhalsa@maxxam.ca
Phone# (604) 639-8432

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B102038
Report Date: 2011/01/12

MAXXAM ANALYTICS INC.
Client Project #: B016816

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Z36178	Z36179	Z36180	Z36181		
Sampling Date		2010/12/28 11:05	2010/12/28 13:30	2010/12/28 11:50	2010/12/28 10:00		
COC Number		08327288	08327288	08327288	08327288		
	Units	**SW 1A (IG9792-12R)**	**SW 2 (IG9793-12R)**	**SW 3 (IG9794-12R)**	**SW 4 (IG9795-12R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0009	0.0008	0.0008	0.0011	0.0005	4557165

RDL = Reportable Detection Limit

Maxxam ID		Z36182	Z36183	Z36184	Z36185		
Sampling Date		2010/12/28 09:15	2010/12/28 13:00	2010/12/28 10:45	2010/12/28 10:20		
COC Number		08327288	08327288	08327288	08327288		
	Units	**SW 6 (IG9796-12R)**	**SW 7A (IG9797-12R)**	**SW 10 (IG9798-12R)**	**SW 11 (IG9799-12R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0010	<0.0005	0.0010	0.0015	0.0005	4557165

RDL = Reportable Detection Limit

Maxxam ID		Z36186	Z36187	Z36188	Z36189		
Sampling Date		2010/12/28 02:15	2010/12/28 12:10	2010/12/28 13:45	2010/12/28 08:15		
COC Number		08327288	08327288	08327288	08327288		
	Units	**SW 12A (IG9800-12R)**	**SW 13 (IG9801-12R)**	**SW 14 (IG9802-12R)**	**SW 15 (IG9803-12R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0013	0.0007	0.0008	0.0012	0.0005	4557165

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B102038
Report Date: 2011/01/12

Client Project #: B016816

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Z36190	Z36191	Z36192	Z36192		
Sampling Date		2010/12/28 09:00	2010/12/28 07:30	2010/12/28 12:30	2010/12/28 12:30		
COC Number		08327288	08327288	08327288	08327288		
	Units	**SW 16 (IG9804-12R)**	**SW 17 (IG9805-12R)**	**SW 18 (IG9806-12R)**	**SW 18 (IG9806-12R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0009	0.0009	0.0005	4557165

RDL = Reportable Detection Limit

Maxxam Job #: B102038
Report Date: 2011/01/12

MAXXAM ANALYTICS INC.
Client Project #: B016816

Package 1	3.3°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: B016816
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB102038

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4557165	TS1	Matrix Spike [Z36192-01]	Weak Acid Dissoc. Cyanide (CN)	2011/01/12		105	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2011/01/12		106	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2011/01/12	<0.0005		mg/L	
		RPD [Z36192-01]	Weak Acid Dissoc. Cyanide (CN)	2011/01/12	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B102038

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Data Validation Coordinator

==========

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Your Project #: MB0I6816
Your C.O.C. #: 08327127

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2011/01/06

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B100461
Received: 2011/01/05, 08:45

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	1	N/A	2011/01/05	BBY6SOP-00005	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: AKhalsa@maxxam.ca
Phone# (604) 639-8432

==========

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Total cover pages: 1

Maxxam Job #: B100461
Report Date: 2011/01/06

MAXXAM ANALYTICS INC.
Client Project #: MB0I6816

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		Z29240		
Sampling Date				
COC Number		08327127		
	Units	**TRIP BLANK (IG9807)**	**RDL**	**QC Batch**
Misc. Inorganics				
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	4545338

RDL = Reportable Detection Limit

Maxxam Job #: B100461
Report Date: 2011/01/06

MAXXAM ANALYTICS INC.
Client Project #: MB0I6816

Package 1	1.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB0I6816
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB100461

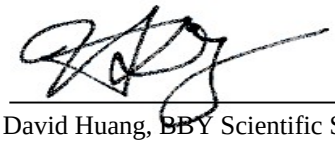
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4545338	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2011/01/05		102	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2011/01/05		103	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2011/01/05	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2011/01/05	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B100461

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



David Huang, BBY Scientific Specialist

==========

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APPENDIX II - 1

Geological Logs

PointID	Top (m)	Bottom (m)	Description
NR04-03	0.0	16.0	Overburden (Unsubdivided)
NR04-03	16.0	31.2	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR04-03	31.2	32.1	Clastic Metasedimentary Rocks (Unsubdivided)
NR04-03	32.1	46.4	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR04-03	46.4	47.4	Clastic Metasedimentary Rocks (Unsubdivided)
NR04-03	47.4	170.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR04-03	170.5	185.6	Late Structural Zones; Breccia zone
NR04-03	185.6	210.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR05-14	0.0	54.0	Overburden (Unsubdivided)
NR05-14	54.0	97.1	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR05-14	97.1	99.6	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR05-14	99.6	123.4	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR05-14	123.4	163.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR05-14	163.5	174.0	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR05-14	174.0	175.2	Early Mafic-Ultramafic intrusions; Gabbro
NR05-14	175.2	180.9	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR05-14	180.9	193.0	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR05-14	193.0	206.8	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR05-14	206.8	218.0	Felsic Metavolcanic Rocks; Felsic rock of undeterminate genesis (volcanic or sedimentary)
NR06-104	0.0	4.3	Overburden (Unsubdivided)
NR06-104	4.3	17.0	Mafic Metavolcanic Rocks; Massive lava flows
NR06-104	17.0	44.7	Mafic Metavolcanic Rocks; Pillowed lava flows
NR06-104	44.7	60.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	60.2	63.0	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-104	63.0	66.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	66.0	69.7	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-104	69.7	92.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	92.0	128.4	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR06-104	128.4	140.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	140.0	162.7	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR06-104	162.7	164.8	Chemical Metasedimentary Rocks; Interbedded clastic iron formation
NR06-104	164.8	167.0	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR06-104	167.0	171.3	Chemical Metasedimentary Rocks; Interbedded clastic iron formation
NR06-104	171.3	186.9	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR06-104	186.9	193.8	Chemical Metasedimentary Rocks; Interbedded clastic iron formation
NR06-104	193.8	199.4	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR06-104	199.4	204.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	204.2	209.8	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR06-104	209.8	212.6	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR06-104	212.6	218.7	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR06-104	218.7	239.7	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-104	239.7	301.0	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-104	301.0	357.4	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR06-104	357.4	386.1	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR06-104	386.1	443.4	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-104	443.4	451.8	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR06-104	451.8	452.9	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR06-104	452.9	474.6	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR06-104	474.6	487.0	Clastic Metasedimentary Rocks; Pebble conglomerate
NR06-104	487.0	500.0	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-107	0.0	10.0	Overburden (Unsubdivided)
NR06-107	10.0	19.0	Intermediate Metavolcanic Rocks; Massive lava flows
NR06-107	19.0	28.7	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR06-107	28.7	149.0	Intermediate Metavolcanic Rocks; Massive lava flows
NR06-107	149.0	152.1	Late Structural Zones; Shear zone
NR06-107	152.1	221.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-107	221.1	349.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-115	0.0	7.0	Overburden (Unsubdivided)
NR06-115	7.0	29.0	Mafic Metavolcanic Rocks; Massive lava flows
NR06-115	29.0	62.1	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR06-115	62.1	225.5	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows

PointID	Top (m)	Bottom (m)	Description
NR06-115	225.5	274.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-115	274.8	356.0	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR06-115	356.0	393.7	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR06-115	393.7	405.9	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR06-115	405.9	422.2	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR06-115	422.2	427.5	Felsic Metavolcanic Rocks; Monolithic tuff-breccia or possibly breccia
NR06-115	427.5	436.4	Felsic Metavolcanic Rocks; Monolithic tuff-breccia or possibly breccia
NR06-115	436.4	473.0	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR06-116	0.0	10.0	Overburden (Unsubdivided)
NR06-116	10.0	162.7	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR06-116	162.7	209.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-116	209.5	234.9	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR06-116	234.9	248.3	Late Structural Zones; Shear zone
NR06-116	248.3	287.5	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR06-116	287.5	290.0	Late Structural Zones; Shear zone
NR06-116	290.0	293.7	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-116	293.7	316.4	Clastic Metasedimentary Rocks; Possible, polymictic, intermediate volcanic, pebble conglomerate
NR06-116	316.4	321.2	Late Structural Zones; Quartz vein
NR06-116	321.2	360.4	Clastic Metasedimentary Rocks; Possible, polymictic, intermediate volcanic, pebble conglomerate
NR06-116	360.4	370.1	Felsic Metavolcanic Rocks; Quartz-feldspar crystal tuff
NR06-116	370.1	405.6	Clastic Metasedimentary Rocks; Possible, polymictic, intermediate volcanic, pebble conglomerate
NR06-116	405.6	445.1	Clastic Metasedimentary Rocks; Possible, polymictic, intermediate volcanic, pebble conglomerate
NR06-116	445.1	452.0	Clastic Metasedimentary Rocks; Polymictic, felsic to intermediate volcanic, pebble to boulder conglomerate
NR06-126	0.0	46.2	Overburden (Unsubdivided)
NR06-126	46.2	88.0	Late Structural Zones; Fault zone (gouge, lost core)
NR06-126	88.0	156.5	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-126	156.5	168.5	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR06-126	168.5	206.0	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR06-126	206.0	228.0	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR06-126	228.0	254.0	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR06-21	20.0	41.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-21	41.6	42.7	Late Felsic To Intermediate intrusions; Granitic rocks
NR06-21	42.7	44.3	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR06-21	44.3	45.8	Diabase (Unsubdivided)
NR06-21	45.8	57.1	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR06-21	57.1	59.1	Diabase (Unsubdivided)
NR06-21	59.1	59.6	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR06-21	59.6	60.9	Early Mafic-Ultramafic intrusions; Early Mafic intrusions
NR06-21	60.9	77.7	Intermediate Metavolcanic Rocks; Crystal tuff
NR06-21	77.7	80.6	Diabase (Unsubdivided)
NR06-21	80.7	210.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-21	210.6	219.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-21	219.0	227.3	Felsic Metavolcanic Rocks; Massive lava flows
NR06-21	227.3	374.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-34	0.0	45.0	Overburden (Unsubdivided)
NR06-34	45.0	146.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-34	146.1	163.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-34	163.5	170.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-34	170.0	257.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	0.0	4.0	Overburden (Unsubdivided)
NR06-53	4.0	95.2	Mafic Metavolcanic Rocks; Massive lava flows
NR06-53	95.2	127.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	127.6	131.4	Mafic Metavolcanic Rocks; Massive lava flows
NR06-53	131.5	155.6	Chemical Metasedimentary Rocks; Iron formation
NR06-53	155.6	163.9	Felsic Metavolcanic Rocks; Tuff
NR06-53	163.9	186.4	Chemical Metasedimentary Rocks; Iron formation
NR06-53	186.4	205.7	Late Felsic To Intermediate intrusions; Feldspar porphyry
NR06-53	205.7	223.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	223.2	276.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	276.8	311.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	311.8	348.3	Felsic Metavolcanic Rocks; Pyroclastic flows

PointID	Top (m)	Bottom (m)	Description
NR06-53	348.3	361.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	361.6	365.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	365.1	369.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-53	369.6	401.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-77	0.0	3.0	Overburden (Unsubdivided)
NR06-77	3.0	37.0	Mafic Metavolcanic Rocks; Massive lava flows
NR06-77	37.0	38.2	Chemical Metasedimentary Rocks (Unsubdivided)
NR06-77	38.2	117.6	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-77	117.6	140.9	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-77	140.9	142.8	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-77	142.8	146.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-77	146.8	159.3	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-77	159.3	168.5	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR06-77	168.5	173.2	Mafic Metavolcanic Rocks (Unsubdivided)
NR06-77	173.2	182.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-77	182.2	190.6	Mafic Metavolcanic Rocks; Amygdaloidal massive lava flows
NR06-77	190.6	192.6	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR06-77	192.6	209.0	Mafic Metavolcanic Rocks; Amygdaloidal massive lava flows
NR06-77	209.0	243.0	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR06-77	243.0	244.2	Late Structural Zones; Shear zone
NR06-77	244.2	323.0	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR06-77	323.0	354.1	Clastic Metasedimentary Rocks; Polymictic, felsic to intermediate volcanic, pebble to boulder conglomerate
NR06-77	354.1	359.4	Diabase (Unsubdivided)
NR06-77	359.4	416.0	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR06-79	0.0	19.2	Overburden (Unsubdivided)
NR06-79	19.2	34.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-79	34.1	35.7	Early Felsic to Intermediate Meta-Intrusions; Granitic rocks
NR06-79	35.7	43.1	Felsic Metavolcanic Rocks; Quartz-feldspar crystal tuff
NR06-79	43.1	44.3	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-79	44.3	47.4	Felsic Metavolcanic Rocks; Quartz-feldspar crystal tuff
NR06-79	47.4	62.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-79	62.2	63.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-79	63.5	66.5	Late Structural Zones; Fault zone (gouge, lost core)
NR06-79	66.5	174.8	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR06-79	174.8	178.2	Late Structural Zones; Fault zone (gouge, lost core)
NR06-79	178.2	261.9	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-79	261.9	264.9	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR06-79	264.9	317.0	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-79	317.0	331.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR06-79	331.5	382.1	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR06-79	382.1	401.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-141	0.0	16.0	Overburden (Unsubdivided)
NR07-141	16.0	88.1	Felsic Metavolcanic Rocks; Massive lava flows
NR07-141	88.1	93.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-141	93.0	146.4	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-141	146.4	224.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-141	224.0	254.1	Mafic Metavolcanic Rocks; Tuff
NR07-141	254.1	342.1	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-141	342.1	350.0	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-151	0.0	24.0	Overburden (Unsubdivided)
NR07-151	24.0	45.0	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR07-151	45.0	45.5	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR07-151	45.5	89.5	Intermediate Metavolcanic Rocks; Tuff
NR07-151	89.5	173.4	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR07-151	173.4	183.0	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR07-151	183.0	216.4	Late Structural Zones; Fault zone (gouge, lost core)
NR07-151	216.4	266.7	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-151	266.7	308.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR07-151	308.5	340.0	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR07-151	340.0	351.8	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR07-151	351.8	380.6	Felsic Metavolcanic Rocks; Heterolithic fragmental units

PointID	Top (m)	Bottom (m)	Description
NR07-151	380.6	452.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-151	452.0	462.0	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR07-151	462.0	479.4	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR07-151	479.8	489.0	Diabase (Unsubdivided)
NR07-163	0.0	4.0	Overburden (Unsubdivided)
NR07-163	4.0	9.7	Diabase (Unsubdivided)
NR07-163	9.7	16.5	Intermediate Metavolcanic Rocks (Unsubdivided)
NR07-163	16.5	18.6	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR07-163	18.6	28.8	Felsic Metavolcanic Rocks; Tuff
NR07-163	28.8	43.2	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR07-163	43.2	48.5	Mafic Metavolcanic Rocks; Tuff
NR07-163	48.5	77.0	Felsic Metavolcanic Rocks (Unsubdivided)
NR07-163	77.0	100.1	Felsic Metavolcanic Rocks; Lithic tuff
NR07-163	100.1	110.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-163	110.5	139.6	Felsic Metavolcanic Rocks; Quartz-feldspar crystal tuff
NR07-163	139.6	230.7	Intermediate Metavolcanic Rocks; Massive lava flows
NR07-163	230.7	232.4	Early Mafic-Ultramafic intrusions; Early Mafic intrusions
NR07-163	232.4	236.2	Intermediate Metavolcanic Rocks; Massive lava flows
NR07-163	236.2	273.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-163	273.0	297.8	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-163	297.8	323.9	Felsic Metavolcanic Rocks; Heterolithic lapilli-tuff
NR07-163	323.9	325.0	Early Mafic-Ultramafic intrusions; Early Mafic intrusions
NR07-163	325.0	335.1	Felsic Metavolcanic Rocks; Heterolithic lapilli-tuff
NR07-163	335.1	390.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-163	390.0	398.0	Clastic Metasedimentary Rocks; Possible, polymictic, intermediate volcanic, pebble conglomerate
NR07-163	398.0	517.4	Intermediate Metavolcanic Rocks; Massive lava flows
NR07-163	517.4	524.9	Felsic Metavolcanic Rocks; Tuff
NR07-163	524.9	533.2	Intermediate Metavolcanic Rocks; Massive lava flows
NR07-163	533.2	542.6	Felsic Metavolcanic Rocks; Tuff
NR07-163	542.6	561.5	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-163	561.5	576.3	Intermediate Metavolcanic Rocks; Tuff
NR07-163	576.3	583.4	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-169	0.0	6.0	Overburden (Unsubdivided)
NR07-169	6.0	38.3	Felsic Metavolcanic Rocks; Quartz-feldspar porphyritic massive lava flows
NR07-169	38.3	65.9	Felsic Metavolcanic Rocks; Tuff
NR07-169	65.9	83.0	Clastic Metasedimentary Rocks; Pebble conglomerate
NR07-169	83.0	143.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-169	143.0	150.9	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-169	150.9	217.9	Diabase (Unsubdivided)
NR07-169	217.9	236.4	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-169	236.4	241.8	Diabase (Unsubdivided)
NR07-169	241.8	266.8	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-169	266.8	268.0	Late Structural Zones; Fault zone (gouge, lost core)
NR07-169	268.0	287.0	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-169	287.0	289.3	Late Structural Zones; Fault zone (gouge, lost core)
NR07-169	289.3	312.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-169	312.6	320.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-169	320.8	345.2	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR07-169	345.2	370.7	Felsic Metavolcanic Rocks; Tuff
NR07-169	370.7	391.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-169	391.0	398.0	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR07-190	0.0	19.2	Overburden (Unsubdivided)
NR07-190	19.2	33.8	Mafic Metavolcanic Rocks; Porphyritic massive lava flows
NR07-190	33.8	57.8	Mafic Metavolcanic Rocks; Massive lava flows
NR07-190	57.8	67.6	Mafic Metavolcanic Rocks; Massive lava flows
NR07-190	67.6	70.2	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR07-190	70.2	130.7	Mafic Metavolcanic Rocks; Massive lava flows
NR07-190	130.7	170.8	Mafic Metavolcanic Rocks; Pillowed lava flows
NR07-190	170.8	175.6	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	175.6	180.0	Mafic Metavolcanic Rocks; Pillowed lava flows
NR07-190	180.0	186.1	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry

PointID	Top (m)	Bottom (m)	Description
NR07-190	186.1	193.0	Mafic Metavolcanic Rocks; Pillowed lava flows
NR07-190	193.0	200.0	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	200.0	234.0	Mafic Metavolcanic Rocks; Pillowed lava flows
NR07-190	234.0	237.0	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR07-190	237.0	240.3	Mafic Metavolcanic Rocks; Pillowed lava flows
NR07-190	240.3	257.1	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	257.1	261.7	Mafic Metavolcanic Rocks; Massive lava flows
NR07-190	261.7	264.9	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	264.9	289.9	Mafic Metavolcanic Rocks; Massive lava flows
NR07-190	289.9	293.7	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	293.7	295.7	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR07-190	295.7	297.7	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	297.7	298.9	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR07-190	298.9	327.3	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR07-190	327.3	328.3	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR07-190	328.3	353.0	Chemical Metasedimentary Rocks (Unsubdivided)
NR07-190	353.0	400.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-190	400.6	401.2	Late Structural Zones; Fault zone (gouge, lost core)
NR07-190	401.2	421.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-190	421.5	433.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-190	433.8	434.9	Late Structural Zones; Quartz-carbonate vein
NR07-190	434.9	452.5	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR07-190	452.5	455.4	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR07-190	455.4	460.2	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR07-190	460.2	462.1	Late Structural Zones; Fault zone (gouge, lost core)
NR07-190	462.1	480.5	Clastic Metasedimentary Rocks; Pebble To cobble conglomerate
NR07-190	480.5	528.2	Clastic Metasedimentary Rocks; Cobble To boulder conglomerate
NR07-190	528.2	573.5	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR07-190	573.5	578.8	Felsic Metavolcanic Rocks; Tuff
NR07-190	578.8	593.0	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR07-207	0.0	7.0	Overburden (Unsubdivided)
NR07-207	7.0	15.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR07-207	15.2	17.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR07-207	17.0	21.6	Late Felsic To Intermediate intrusions (Unsubdivided)
NR07-207	21.6	36.5	Felsic Metavolcanic Rocks; Tuff
NR07-207	36.5	54.0	Late Felsic To Intermediate intrusions (Unsubdivided)
NR07-207	54.0	89.9	Felsic Metavolcanic Rocks; Tuff
NR07-207	89.9	115.6	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR07-207	115.6	118.3	Late Structural Zones; Fault zone (gouge, lost core)
NR07-207	118.3	131.3	Mafic Metavolcanic Rocks; Massive lava flows
NR07-207	131.3	157.3	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-207	157.3	160.9	Mafic Metavolcanic Rocks; Massive lava flows
NR07-207	160.9	165.2	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-207	165.2	169.9	Mafic Metavolcanic Rocks; Massive lava flows
NR07-207	169.9	200.0	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-207	200.0	426.5	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-207	426.5	490.8	Clastic Metasedimentary Rocks; Polymictic, felsic volcanic conglomerate (unsudivided)
NR07-207	490.8	503.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR07-208	0.0	34.8	Overburden (Unsubdivided)
NR07-208	34.8	61.1	Mafic Metavolcanic Rocks; Tuff
NR07-208	61.1	173.0	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-208	173.0	184.5	Late Mafic-Ultramafic intrusions; Late Ultramafic intrusions
NR07-208	184.5	203.5	Late Mafic-Ultramafic intrusions; Late Ultramafic intrusions
NR07-208	203.5	209.5	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-208	209.5	211.6	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR07-208	211.6	291.7	Intermediate Metavolcanic Rocks; Crystal tuff
NR07-208	291.7	303.5	Mafic Metavolcanic Rocks; Crystal tuff
NR08-244	0.0	4.0	Overburden (Unsubdivided)
NR08-244	4.0	74.1	Mafic Metavolcanic Rocks; Massive lava flows
NR08-244	74.1	86.6	Intermediate Metavolcanic Rocks; Crystal tuff
NR08-244	86.6	101.7	Mafic Metavolcanic Rocks; Massive lava flows

PointID	Top (m)	Bottom (m)	Description
NR08-244	101.7	110.3	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR08-244	110.3	129.7	Mafic Metavolcanic Rocks; Massive lava flows
NR08-244	129.7	143.7	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR08-244	143.7	155.3	Mafic Metavolcanic Rocks; Massive lava flows
NR08-244	155.3	163.7	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-244	163.7	164.3	Early Mafic-Ultramafic intrusions (unsubdivided)
NR08-244	175.7	188.6	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-244	188.6	273.5	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-244	273.5	301.0	Felsic Metavolcanic Rocks; Heterolithic fragmental units
NR08-244	301.0	341.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-244	341.0	368.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-244	368.8	371.6	Clastic Metasedimentary Rocks; Polymictic, intermediate volcanic, pebble conglomerate
NR08-244	371.6	399.5	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-244	399.5	416.0	Clastic Metasedimentary Rocks; Oligomictic, felsic volcanic conglomerate (unsudivided)
NR08-246	0.0	34.0	Overburden (Unsubdivided)
NR08-246	34.0	50.5	Intermediate Metavolcanic Rocks; Crystal tuff
NR08-246	50.5	59.0	Mafic Metavolcanic Rocks; Tuff
NR08-246	59.0	68.4	Intermediate Metavolcanic Rocks; Crystal tuff
NR08-246	68.4	71.0	Mafic Metavolcanic Rocks; Tuff
NR08-246	71.0	114.8	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-246	114.8	204.5	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-246	204.5	215.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-246	215.0	235.7	Felsic Metavolcanic Rocks; Heterolithic felsic lapilli-tuff to tuff-breccia
NR08-246	235.7	238.6	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-246	238.6	272.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-246	272.0	350.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-249	0.0	4.0	Overburden (Unsubdivided)
NR08-249	4.0	81.5	Mafic Metavolcanic Rocks; Massive lava flows
NR08-249	81.5	95.6	Early Felsic to Intermediate Meta-Intrusions; Quartz porphyry
NR08-249	95.6	100.3	Mafic Metavolcanic Rocks; Porphyritic massive lava flows
NR08-249	100.3	108.8	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-249	108.8	110.5	Mafic Metavolcanic Rocks; Porphyritic massive lava flows
NR08-249	110.5	128.8	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-249	128.8	136.6	Mafic Metavolcanic Rocks; Porphyritic massive lava flows
NR08-249	136.6	145.4	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR08-249	145.4	150.4	Mafic Metavolcanic Rocks; Porphyritic massive lava flows
NR08-249	150.4	155.8	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR08-249	155.8	158.0	Mafic Metavolcanic Rocks; Massive lava flows
NR08-249	158.0	160.7	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR08-249	160.7	162.7	Mafic Metavolcanic Rocks; Massive lava flows
NR08-249	162.7	181.9	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR08-249	181.9	191.7	Mafic Metavolcanic Rocks; Pillowed lava flows
NR08-249	191.7	201.3	Early Felsic to Intermediate Meta-Intrusions; Feldspar porphyry
NR08-249	201.3	206.3	Mafic Metavolcanic Rocks; Tuff
NR08-249	206.3	209.0	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-249	209.0	218.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	218.0	228.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	228.1	245.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	245.0	248.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	248.1	248.2	Late Structural Zones; Fault zone (gouge, lost core)
NR08-249	248.2	260.3	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	260.3	267.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-249	267.0	282.2	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	282.2	282.3	Late Structural Zones; Fault zone (gouge, lost core)
NR08-249	282.3	294.3	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	294.3	301.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-249	301.0	301.5	Late Structural Zones; Fault zone (gouge, lost core)
NR08-249	301.5	335.4	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-249	335.4	336.9	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-249	336.9	337.1	Late Structural Zones; Fault zone (gouge, lost core)
NR08-249	337.1	368.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia

PointID	Top (m)	Bottom (m)	Description
NR08-249	368.0	476.3	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff
NR08-249	376.3	396.8	Felsic Metavolcanic Rocks; Tuff
NR08-249	396.8	400.0	Clastic Metasedimentary Rocks; Polymictic, felsic to intermediate volcanic, pebble to boulder conglomerate
NR08-249	400.0	467.6	Clastic Metasedimentary Rocks; Polymictic, felsic to intermediate volcanic, pebble to boulder conglomerate
NR08-249	467.6	470.5	Late Structural Zones; Fault zone (gouge, lost core)
NR08-249	470.5	475.5	Clastic Metasedimentary Rocks; Polymictic, felsic to intermediate volcanic, pebble to boulder conglomerate
NR08-249	475.5	500.0	Felsic Metavolcanic Rocks; Heterolithic lapilli-tuff
NR08-257	0.0	8.4	Overburden (Unsubdivided)
NR08-257	8.4	53.5	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	53.5	67.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-257	67.5	68.5	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-257	68.5	107.3	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-257	107.3	109.1	Late Felsic To Intermediate intrusions; Quartz-feldspar porphyry
NR08-257	109.1	120.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-257	120.5	123.7	Late Felsic To Intermediate intrusions; Syenitic rocks
NR08-257	123.7	171.1	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-257	171.1	199.9	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-257	199.9	220.5	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-257	220.5	274.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-257	274.0	276.1	Late Structural Zones; Fault zone (gouge, lost core)
NR08-257	276.1	297.7	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-257	297.7	315.3	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	315.3	342.6	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-257	342.6	372.9	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	372.9	380.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-257	380.5	383.5	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR08-257	383.5	399.6	Late Mafic-Ultramafic intrusions; Gabbro
NR08-257	399.6	414.5	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	414.5	420.6	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	420.6	428.5	Felsic Metavolcanic Rocks; Tuff
NR08-257	428.5	453.0	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	453.0	470.7	Felsic Metavolcanic Rocks; Tuff
NR08-257	470.7	476.6	Mafic Metavolcanic Rocks; Tuff
NR08-257	476.6	479.7	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-257	479.7	543.7	Mafic Metavolcanic Rocks; Tuff
NR08-257	543.7	548.8	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-257	548.8	595.8	Mafic Metavolcanic Rocks; Tuff
NR08-257	595.8	605.9	Intermediate Metavolcanic Rocks (Unsubdivided)
NR08-257	605.9	610.8	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-257	610.8	632.7	Intermediate Metavolcanic Rocks (Unsubdivided)
NR08-257	632.7	646.6	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-257	646.6	656.0	Intermediate Metavolcanic Rocks (Unsubdivided)
NR08-257	656.0	672.9	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-257	672.9	691.7	Mafic Metavolcanic Rocks; Variolitic lava flows
NR08-257	691.7	696.7	Intermediate Metavolcanic Rocks; Crystal tuff
NR08-257	696.7	749.9	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-257	749.9	765.7	Intermediate Metavolcanic Rocks (Unsubdivided)
NR08-257	765.7	771.1	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-257	771.1	787.6	Intermediate Metavolcanic Rocks (Unsubdivided)
NR08-257	787.6	792.0	Mafic Metavolcanic Rocks (Unsubdivided)
NR08-268	0.0	3.8	Overburden (Unsubdivided)
NR08-268	3.8	110.0	Intermediate Metavolcanic Rocks; Tuff
NR08-268	110.0	116.8	Late Felsic To Intermediate intrusions (Unsubdivided)
NR08-268	116.8	119.9	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-268	119.9	131.8	Intermediate Metavolcanic Rocks; Tuff
NR08-268	131.8	134.3	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-268	134.3	209.5	Intermediate Metavolcanic Rocks; Tuff
NR08-268	209.5	248.0	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-268	248.0	277.2	Intermediate Metavolcanic Rocks; Tuff
NR08-268	277.2	278.4	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-268	278.4	279.8	Late Mafic-Ultramafic intrusions; Late Mafic intrusions

PointID	Top (m)	Bottom (m)	Description
NR08-268	279.8	285.9	Intermediate Metavolcanic Rocks; Tuff
NR08-268	285.9	318.8	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-268	318.8	332.1	Intermediate Metavolcanic Rocks; Tuff
NR08-268	332.1	335.4	Early Felsic to Intermediate Meta-Intrusions; Quartz-feldspar porphyry
NR08-268	335.4	357.1	Intermediate Metavolcanic Rocks; Tuff
NR08-268	357.1	378.9	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-268	378.9	427.7	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-268	427.7	428.5	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-268	428.5	444.4	Intermediate Metavolcanic Rocks; Feldspar porphyritic lava flows
NR08-268	444.4	475.1	Felsic Metavolcanic Rocks; Feldspar crystal tuff
NR08-268	475.1	500.0	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-281	0.0	54.9	Overburden (Unsubdivided)
NR08-281	54.9	84.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-281	84.0	84.1	Late Structural Zones; Fault zone (gouge, lost core)
NR08-281	84.1	125.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-281	125.0	152.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR08-281	152.0	153.2	Late Structural Zones; Fault zone (gouge, lost core)
NR08-281	153.2	173.8	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff
NR08-281	173.8	179.0	Late Structural Zones; Fault zone (gouge, lost core)
NR08-281	179.0	246.4	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-281	246.4	272.3	Diabase (Unsubdivided)
NR08-281	272.3	299.0	Felsic Metavolcanic Rocks; Tuff
NR08-281	299.0	319.2	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-281	319.2	337.0	Felsic Metavolcanic Rocks; Tuff
NR08-281	337.0	368.3	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff
NR08-281	368.3	382.1	Felsic Metavolcanic Rocks; Tuff
NR08-281	382.1	392.1	Early Mafic-Ultramafic intrusions; Early Mafic intrusions
NR08-281	392.1	401.0	Felsic Metavolcanic Rocks; Tuff
NR08-283	0.0	18.7	Overburden (Unsubdivided)
NR08-283	18.7	56.8	Intermediate Metavolcanic Rocks; Tuff
NR08-283	56.8	80.9	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-283	80.9	140.2	Intermediate Metavolcanic Rocks; Feldspar porphyritic lava flows
NR08-283	140.2	141.8	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-283	141.8	150.9	Intermediate Metavolcanic Rocks; Feldspar porphyritic lava flows
NR08-283	150.9	209.5	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-283	209.5	210.6	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-283	210.6	228.3	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-283	228.3	229.4	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-283	229.4	240.1	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-283	240.1	249.0	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-283	249.0	249.5	Chemical Metasedimentary Rocks; Suphidic exhalative
NR08-283	249.5	255.1	Intermediate Metavolcanic Rocks; Tuff
NR08-283	255.1	258.1	Chemical Metasedimentary Rocks; Suphidic exhalative
NR08-283	258.1	260.9	Intermediate Metavolcanic Rocks; Tuff
NR08-283	260.9	279.0	Mafic Metavolcanic Rocks; Massive lava flows
NR08-283	279.0	335.9	Intermediate Metavolcanic Rocks; Tuff
NR08-283	335.9	336.5	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-283	336.5	430.5	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-283	430.5	431.4	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-283	431.4	442.3	Intermediate Metavolcanic Rocks; Feldspar porphyritic lava flows
NR08-283	442.3	443.0	Late Structural Zones; Breccia zone
NR08-283	443.0	549.5	Felsic Metavolcanic Rocks; Monolithic fragmental units
NR08-287	0.0	37.0	Overburden (Unsubdivided)
NR08-287	37.0	73.2	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-287	73.2	74.7	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-287	74.7	127.2	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-287	127.2	168.2	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-287	168.2	178.4	Chemical Metasedimentary Rocks; Graphitic sediments
NR08-287	178.4	222.5	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-287	222.5	223.4	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR08-287	223.4	284.1	Intermediate Metavolcanic Rocks; Tuff breccia

PointID	Top (m)	Bottom (m)	Description
NR08-287	284.1	334.3	Intermediate Metavolcanic Rocks; Massive lava flows
NR08-287	334.3	380.8	Intermediate Metavolcanic Rocks; Tuff breccia
NR08-287	380.8	424.6	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR08-287	424.6	494.5	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR08-287	494.5	530.2	Intermediate Metavolcanic Rocks; Tuff
NR08-287	530.2	548.0	Felsic Metavolcanic Rocks; Monolithic lapilli-tuff to tuff breccia
NR96-11	0.0	21.5	Overburden (Unsubdivided)
NR96-11	21.5	41.3	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR96-11	41.3	47.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	47.0	62.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	62.0	66.4	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	66.4	72.9	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	72.9	85.2	Late Structural Zones; Breccia zone
NR96-11	85.2	91.4	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR96-11	91.4	95.1	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	95.1	97.5	Mafic Metavolcanic Rocks; Variolitic lava flows
NR96-11	97.5	99.7	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	99.7	104.9	Mafic Metavolcanic Rocks; Variolitic lava flows
NR96-11	104.9	109.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	109.5	114.0	Mafic Metavolcanic Rocks; Variolitic lava flows
NR96-11	114.0	128.4	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	128.4	222.3	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	222.3	279.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	279.5	279.8	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR96-11	279.8	282.9	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-11	282.9	283.2	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR96-11	283.2	285.9	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	0.0	10.0	Overburden (Unsubdivided)
NR96-28	10.0	21.8	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	21.8	31.5	Chemical Metasedimentary Rocks; Chert
NR96-28	31.5	55.5	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	55.5	60.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	60.0	75.9	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	75.9	76.9	Late Structural Zones; Quartz vein
NR96-28	76.9	91.1	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	91.1	91.3	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR96-28	91.3	92.0	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	92.0	93.1	Late Mafic-Ultramafic intrusions; Late Mafic intrusions
NR96-28	93.1	93.2	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	93.2	93.4	Early Felsic to Intermediate Meta-Intrusions (Unsubdivided)
NR96-28	93.4	102.1	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	102.1	113.9	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	113.9	123.9	Felsic Metavolcanic Rocks; Tuff
NR96-28	123.9	139.2	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	139.2	144.7	Late Structural Zones; Fault zone (gouge, lost core)
NR96-28	144.7	202.7	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-28	202.7	213.2	Late Mafic-Ultramafic intrusions (unsubdivided)
NR96-28	213.2	218.3	Late Mafic-Ultramafic intrusions; Pyroxenite
NR96-28	218.3	243.2	Felsic Metavolcanic Rocks; Quartz crystal tuff
NR96-64	0.0	4.0	Overburden (Unsubdivided)
NR96-64	4.0	54.0	Felsic Metavolcanic Rocks; Pyroclastic flows
NR96-64	54.0	77.5	Clastic Metasedimentary Rocks; Possible pebble to boulder conglomerate
NR96-64	77.5	94.9	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR96-64	94.9	95.2	Clastic Metasedimentary Rocks; Possible pebble conglomerate
NR96-64	95.2	134.0	Felsic Metavolcanic Rocks; Quartz porphyritic, fractured to autobrecciated massive, locally amygdaloidal lava flows
NR96-64	134.0	168.3	Clastic Metasedimentary Rocks; Pebble conglomerate
NR96-64	168.3	182.8	Felsic Metavolcanic Rocks; Pyroclastic flows
NR96-64	182.8	201.7	Clastic Metasedimentary Rocks; Possible pebble to boulder conglomerate
NR96-64	201.7	275.8	Felsic Metavolcanic Rocks; Pyroclastic flows

TEST HOLE LOG

STARTED: 11/17/2009 **FINISHED:** 11/17/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 350.00

COORDINATES (m): N 5409786 E 425850

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
0					Peat.		
3.00							
347.00					KEEWATIN TILL (CH) High plasticity clay with trace sand (fine to medium grain), grey, soft-firm		

Continued Next Page

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – ×

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 1 **OF** 3 **HOLE NO.:** RR09-213A

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/17/2009 **FINISHED:** 11/17/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 350.00

COORDINATES (m): N 5409786 E 425850

Su - kPa: 20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2
REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L% : 20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
24					24.00 / 326.00 As above, but 30% of regular recovery.		
25					25.50 / 324.50 As above		

Continued Next Page

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

 HOLE NO.: RR09-213A

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/17/2009 **FINISHED:** 11/17/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 350.00

COORDINATES (m): N 5409786 E 425850

DESCRIPTION OF MATERIALS

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	INSTRUMENT DETAILS
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					

41.50 308.50 41.80 308.20 LABRADOREAN/boulder (no sample)

DACITE

46.50 303.50 End of Hole at 46.50 m

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB

REMOLD ◇ □

▲ UC/2 △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – ×

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 3 **OF** 3 **HOLE NO.:** RR09-213A

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/18/2009 **FINISHED:** 11/18/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 350.00

COORDINATES (m): N 5409790 E 425850

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					Peat.	
3.00						
347.00					KEEWATIN TILL (CH) High plasticity clay with trace sand (fine to medium grain), grey, soft-firm	
16.90						
333.10					End of Hole at 16.90 m	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – ×

20 40 60 80

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** RR09-213B

Klohn Crippen Berger

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/20/2009 **FINISHED:** 11/21/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409856 E 425286

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
					Peat (no recovery)		
					1.00		
1					347.00 Clay and Silt (CH), beige/brown, heavily oxidized		
					2.00		
2					346.00 Clay (CH) Sandy to some fine to coarse sand (likely interbedded fine sand/silt), grey, soft to firm, possibly stiff if undisturbed		
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
					18.00		
18					330.00 As above with little to no recovery.		
					19.50		
19					328.50 As above.		
20					Continued Next Page		

Su - kPa: 20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2
REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – × 20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 1 **OF** 3 **HOLE NO.:** RR09-214A

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/20/2009 **FINISHED:** 11/21/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409856 E 425286

Su - kPa: 20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2
★ % FINES
● SPT N
W_P% W% W_L%
× — — — — ○ — — — — ×
20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21						
22						
23					23.00 325.00 As above increasing coarse sand content. 324.90	
24						
25						
26						
27						
28						
29					As above decreasing sand content to trace or none.	
30					30.20 317.80 Sand, gravel and cobbles. Trace to some silt.	
31						
32						
33						
34						
35						
36						
37						
38						
39					39.50 308.50 BEDROCK	
40						

Continued Next Page

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/20/2009 **FINISHED:** 11/21/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409856 E 425286

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					40.50 307.50 End of Hole at 40.50 m	

Su - kPa
20 60 100 140 180
VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
× – – – – ○ – – – – ×
20 40 60 80

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 3 **OF** 3 **HOLE NO.:** RR09-214A

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: 11/22/2009 **FINISHED:** 11/22/2009

DRILL METHOD: Reverse Circulation

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409860 E 425286

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					Peat (no recovery)	
1.00					347.00 Clay and Silt (CH), beige/brown, heavily oxidized	
2.00					346.00 Clay (CH) Sandy to some fine to coarse sand (likely interbedded fine sand/silt), grey, soft to firm, possibly stiff if undisturbed	
13.50					334.50 End of Hole at 13.50 m	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB

REMOLD ◇ □

▲ UC/2

△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – ×

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: TJ **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** RR09-214B

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/16/10

TEST HOLE LOG

STARTED: May 31, 2010 **FINISHED:** May 31, 2010
DRILL METHOD: Air Rotary
GROUND ELEV. (m): 349.00
COORDINATES (m): N 5409720 E 425718

Su - kPa: 20 60 100 140 180
VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
× – – – – ○ – – – – ×
20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					PEAT (PT), "black muskeg", logs, wet	
1.83 / 347.17					CLAY (CL), silty, sandy, brown, wet	
3.05 / 345.95					CLAY (CH), trace of organics, blue-grey, wet	
6.10 / 342.90					CLAY (CH), trace of sands and gravels, blue-grey, wet	
22.86 / 326.14					GRAVEL (GM), and sand, silty, some cobbles, wet, producing water	
25.91 / 323.09						
28.04 / 320.96					GRANITE, cuttings, blue-green, producing little water End of Hole at 28.00 m	

5" 14-slot stainless steel screen installed with K-packer

Klohn Crippen Berger

PROJECT NO.: M09559A04
PROJECT: Rainy River Baseline Studies
LOCATION: Richardson Township, Ontario
LOGGED BY: KP **CHECKED BY:**
SHEET 1 **OF** 1 **HOLE NO.:** TW10-01

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/15/10

TEST HOLE LOG

STARTED: Jun 1, 2010 **FINISHED:** Jun 1, 2010

DRILL METHOD: Air Rotary

GROUND ELEV. (m): 349.00

COORDINATES (m): N 5409718 E 425672

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					PEAT (PT), "black muskeg", logs, wet	
1.83						
347.17					CLAY (CL), silty, sandy, brown, wet	
3.05						
345.95					CLAY (CH), blue-grey, wet, soft	
21.34						
327.66					GRAVEL (GM), and sand, silty, some cobbles, wet, producing water	
23.06						
325.94					End of Hole at 23.10 m	
					No screen installed. Bottom of casing left open.	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB

REMOLD ◇ □

▲ UC/2

△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – ○ – – – – ×

20 40 60 80

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: KP **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** TW10-02

Klohn Crippen Berger

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/15/10

TEST HOLE LOG

STARTED: Jun 2, 2010 **FINISHED:** Jun 2, 2010

DRILL METHOD: Air Rotary

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409707 E 424744

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					CLAY (CL), silty, sandy, some organics, brown, wet	
					2.74 345.26 CLAY (CH), blue-grey, wet, soft	
					6.10 341.90 CLAY (CH), blue-grey, wet, soft	
					25.60 322.40 GRAVEL (GM), and sand, silty, some cobbles, wet, producing water	
					28.65 319.35 GRANITE, broken, blue-green	
					29.26 318.74 End of Hole at 29.30 m	
					5" 14-slot stainless steel screen installed with K-packer	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: KP **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** TW10-03

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/15/10

TEST HOLE LOG

STARTED: Jun 3, 2010 **FINISHED:** Jun 3, 2010

DRILL METHOD: Air Rotary

GROUND ELEV. (m): 348.00

COORDINATES (m): N 5409651 E 424745

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					PEAT (PT), "black muskeg", logs, wet	
1.22					346.78 CLAY (CL), silty, sandy, brown, wet	
3.66					344.34 CLAY (CH), blue-grey, wet, soft	
28.96					319.04 GRAVEL (GM), and sand, silty, some cobbles, grey silt, wet, producing water	
31.09					316.91 GRAVEL (GM), coarse, and sand, silty, some cobbles, wet, compact, producing water	
31.39					316.61 GRANITE, broken, blue-green	
32.31					315.69 End of Hole at 32.30 m	

No screen installed. Bottom of casing left open.

Su - kPa: 20, 60, 100, 140, 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2
★ % FINES
● SPT N
W_P% W% W_L%
× – – – – ○ – – – – ×
20 40 60 80

PROJECT NO.: M09559A04

PROJECT: Rainy River Baseline Studies

LOCATION: Richardson Township, Ontario

LOGGED BY: KP **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** TW10-04

Klohn Crippen Berger

KCBL_TEST_HOLE-SI KCBWELLS.GPJ KC_DATA.GDT 11/15/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

CLIENT: Rainy River Resources	PROJECT NO.: M09559A06
PROJECT: 2010 Open Pit Investigation	DATE HOLE STARTED: FINISHED:
LOCATION: Rainy River, Pit Area	DATUM: UTM NAD-83
DIRECTION AZIMUTH: 180 DIP (from horiz): -80	TOP OF PIPE ELEVATION: 355 m
CO-ORDINATES: E 425482m N 5409624m	GROUND ELEVATION: 355 m
MANUFACTURER'S DRILL DESIGNATION:	TOTAL DEPTH OF HOLE: 383 m
DRILLING CONTRACTOR: Bradley Brothers	DRILLING METHOD SOIL: HQ CORE ROCK: HQ CORE
LOGGED BY: BL	DRILLING FLUID: Water CASED TO: 21m
CHECKED BY:	HOLE DIA.: HQ3

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA — SEE BOTTOM OF FORM FOR CODES — Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical 1 2 3 4 5	ROCK HARDNESS	RECOVERY DATA — CORE RECOVERY % 25 50 75	RECOVERY DATA — R.Q.D. % 25 50 75
1–11		Overburden, not recovered.							
12.0 / 343.0		Grey Blue IntMetaVolc, MA Se, slightly carbonaceous						100	93
								100	99
								100	70
								72	49
		Grey Blue IntMetaVolc, MA Se, qtv veins some pyrite						100	90
								100	96
								100	100
33.0 / 322.0		Grey Blue FelsMetVolc, MA Se, thin qtz veins 2-5cm spacing						100	96
								100	85
								100	96
								100	91
								95	95
								100	76
								96	94
								100	90
48.5 / 306.5								100	83
50.0		Grey Blue IntMetaVolc, MA Se, qtz granoblasts							

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA — SEE BOTTOM OF FORM FOR CODES — Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical 1 2 3 4 5	ROCK HARDNESS	RECOVERY DATA — CORE RECOVERY % 25 50 75	RECOVERY DATA — R.Q.D. % 25 50 75
		(continued from previous page)							
51		305.0 Grey Blue MafMetaVolc, MA Se,						50	25
52								100	85
53								100	73
54									
55								98	60
56									
57								100	0
58								98	77
59									
60									
61								90	55
62									
63									
64								100	74
65									
66									
67								97	82
68									
69									
70								100	92
71									
72								100	62
73									
74								100	80
75									
76								100	72
77									
78								100	91
79									
80									
81								100	39
82									
83								100	57
84									
85								97	78
86									
87		87.0 / 268.0 Grey Green IntMetaVolc, SA Se, few dark qtz crystals, trace diss py						100	70
88									
89									
90									
91								100	86
92									
93									
94		94.7							
95		95.3 / 259.9 White Grey IntMetaVolc, MA se, large qtz vein						100	91
96		Grey Green IntMetaVolc, SA Se,							
97									
98								100	84
99									
100									
101								100	81
102		102.0 / 252.4 White Grey IntMetaVolc, MA Se,							
103									
104		104.0 / 251.0 Grey Green IntMetaVolc, SA Se, few 1-5 cm qtz veins,						100	93
105									
106		106.0 / 249.0 Lt Brown Green IntMetaVolc, MA Pr,							
107		Grey Blue IntMetaVolc, SA Si,							
108									
109								100	81
110									
111									
112								100	84

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
113		(continued from previous page)							
114									
115									
116		116.1							
117		238.9 Black Grey IntMetaVolc, MA Cl, 238.8						100	85
118		Grey Blue IntMetaVolc, SA Se,						100	70
119								100	80
120									
121								100	90
122									
123		123.7						100	66
124		231.3						100	50
125		124.9 Grey Brown IntMetaVolc, SA K, interval with 230.1 potassic alteration, disseminated fine grained biotite.						100	83
126								100	85
127		Grey Green IntMetaVolc, SA Se, prominant fabric/foliation.						100	87
128								100	78
129									
130								0	0
131									
132									
133									
134									
135									
136									
137									
138									
139									
140									
141									
142									
143		143.5						100	85
144		211.5						100	85
145		144.8 Grey White IntMetaVolc, SA Se, both brittle 210.2 and ductile deformation, fully healed.						100	76
146		Grey Green IntMetaVolc, SA Se,						100	88
147								100	82
148								100	89
149								100	91
150								100	91
151								100	89
152								100	88
153								100	92
154									
155									
156									
157									
158									
159									
160									
161									
162									
163									
164									
165									
166									
167									
168									
169									
170									
171									
172									
173									
174									
175									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
176		(continued from previous page)							
176		176.5							
177		178.5 grey green Int Meta Volc, SA Se, strong folliation, few qtz veins, zones with secondary biotite phenocrysts.						100	85
178									
179									
180								100	50
181									
182									
183								100	80
184									
185									
186								100	71.6
187									
188									
189								100	81.6
190									
191									
192								100	80
193									
194									
195								100	80
196									
197									
198								89	36.6
199									
200									
201								100	43.3
202									
203									
204								100	60
205									
206									
207								100	68.3
208									
209									
210								100	85
211									
212									
213								100	98.3
214									
215									
216								100	76.6
217									
218									
219								100	83.3
220									
221									
222								100	76.6
223									
224									
225								100	73.3
226									
227									
228								100	80
229									
230									
231		231.3 123.7 grey green Int Meta Volc, SA Se, same lithology, more frequent quatz veins w/ py, and py veins. Several % sulphides. Few small offset faults.						100	78.3
232									
233									
234								100	91.6
235									
236									
237									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical 1 2 3 4 5	ROCK HARDNESS	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
238		(continued from previous page)						100	78.3
239									
240								100	80
241									
242								100	80
243									
244								100	80
245									
246								100	70
247									
248								98	73.3
249									
250								100	80
251									
252								95	86.6
253									
254								100	86.6
255									
256								100	78.3
257									
258								100	76.6
259									
260								100	78.3
261									
262								100	78.3
263									
264								100	60
265									
266								95	53.3
267									
268								100	73.3
269									
270								100	73.3
271									
272								100	76.6
273									
274								100	75
275									
276								100	86.6
277									
278								100	86.6
279									
280									
281									
282									
283									
284									
285									
286									
287		286.6 687.2 white white Quartz Vein, S Qtz, major quartz vein, with pyrite and trace molybdenite(?).							
288									
289									
290									
291									
292									
293									
294									
295									
296									
297									
298									
299									
300									

287.2 67.8 grey green Int Meta Volc, SA Se, intermediate metamorphosed greenstone volcanics. Very fine grained. Strong foliation (not schistocity). Moderate sulphide %, frequent quatz veins up to several cm thick

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
301								100	97.6
302									
303									
304								100	96.6
305									
306									
307								100	96.6
308									
309									
310								100	93.3
311									
312									
313								100	81.6
314									
315									
316								100	80
317									
318									
319								100	66.6
320		320.0							
321		35.0 grey green Int Meta Volc, SA Se, intermediate metamorphosed greenstone volcanics. Very fine grained. Strong foliation (not schistocity). Trace sulphide, mostly vein hosted, frequent quatz veins up to several cm thick						100	66.6
322									
323									
324								100	30
325									
326									
327								100	30
328									
329									
330								100	60
331									
332									
333		333.0							
334		22.0 grey green Int Meta Volc, SA Se, intermediate metamorphosed greenstone volcanics. Very fine grained. Strong foliation (not schistocity). Moderate sulphide %, frequent quatz veins up to several cm thick						95	53.3
335									
336								100	36.6
337									
338									
339								100	23.3
340		340.0							
341		15.0 grey green Int Meta Volc, SA Se, intermediate metamorphosed greenstone volcanics. Very fine grained. Strong foliation (not schistocity). Trace sulphide, mostly vein hosted, frequent quatz veins up to several cm thick						100	56.6
342									
343									
344								100	53.3
345									
346									
347								95	73.3
348									
349									
350								100	56.6
351									
352									
353								100	75
354									
355									
356								100	53.3
357									
358									
359								100	56.6
360									
361									
362									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-101

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
363		(continued from previous page)						100	63.3
364									
365									
366								100	68.3
367									
368									
369								100	70
370									
371									
372								100	83.3
373									
374									
375								100	78.3
376									
377									
378								100	83.3
379									
380									
381								100	90
382									
383		383.0 -28.0							
384		End of Hole at: 383.0 m							
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425									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

CLIENT: Rainy River Resources	PROJECT NO.: M09559A06
PROJECT: 2010 Open Pit Investigation	DATE HOLE STARTED: FINISHED:
LOCATION: Rainy River, Pit Area	DATUM: UTM NAD-83
DIRECTION AZIMUTH: 180 DIP (from horiz): -80	TOP OF PIPE ELEVATION: 354 m
CO-ORDINATES: E 425788m N 5409563m	GROUND ELEVATION: 355 m
MANUFACTURER'S DRILL DESIGNATION:	TOTAL DEPTH OF HOLE: 363 m
DRILLING CONTRACTOR: Bradley Brothers	DRILLING METHOD SOIL: HQ CORE ROCK: HQ CORE
LOGGED BY: GA	DRILLING FLUID: Water CASED TO: 46.5m
CHECKED BY:	HOLE DIA.: HQ3

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
1–46									
47		Grey blue Int meta volcanics, mod se, Carb veinlets, 2 main sets; slight foliation; shearing evident						100	73.3
48–49									
50								100	42.3

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY (continued from previous page)	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
51									
52									
53					S			100	98.3
54									
55									
56									
57		57.2 / 297.8 Grey blue Int meta volcanics, mod se; chl; carb on joints, mod pronounced foliation; 2 sets at least. Rock breaks along foliation						100	96.3
58									
59									
60					D			100	69
61									
62									
63								100	63.3
64									
65									
66								100	71.6
67									
68		68.0 / 287.0 grey blue felsic meta volcanincs, mod se; chlorite, discontinuities are due to foliations, shown by veinlets; slight mineral alignment parallel to foliation direction						100	80
69									
70									
71								100	97
72									
73									
74								100	85.6
75					D				
76		76.5			B D			100	74.3
77		278.5 grey green streaks felsic meta volcanincs, str se; chl; carb on joints, Chaotic appearance; qtz veins; pyrite; possible contact zone							
78									
79		79.7						100	96.3
80		275.3 white grey QTZ Vein, qtz,							
81		80.4 / 274.6 grey green streaks felsic meta volcanincs, str se; chl; carb on joints, Chaotic appearance; qtz veins; pyrite; possible contact zone						100	97.3
82									
83		83.6							
84		271.4 grey blue Int meta volcanics, mod se; chl,						100	97
85									
86									
87								100	89.6
88									
89									
90					D			100	98.3
91									
92									
93								100	100
94									
95									
96								100	90
97									
98									
99									
100								100	99.3
101									
102									
103		103.7						100	97.6
104		251.3 grey blue with pink streaks Int meta volcanics, mod se; trace k, strongly laminated/foliated							
105									
106								100	100
107		107.5							
108		247.5 / 246.7 grey blue Int meta volcanics, mod se, slightly laminated; qtz eyes present						100	90
109									
110		grey blue Int meta volcanics, str se, as above but laminated and with str. Se alteration							
111									
112									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
113		(continued from previous page)							
113.0 / 242.0		grey blue lnt meta volcanics, mod se, flow structures present. Moderate laminations/foliations. Qtz eyes. Secondary foliations cuts and offsets slightly the flow structures. Shows minor brittle deformation.			S			100	89.6
114									
115									
116								100	96.3
117									
118									
119								100	94.6
120									
121									
122								100	95.3
123					D S				
124									
125								100	88.3
126									
127									
128								100	94
129									
130									
131								100	94
132									
133									
134								100	88
135									
136									
137					D			100	55
138									
139					S				
140								100	90
141									
142									
143								100	80
144									
145									
146								100	84
147.0 / 208.0		grey blue lnt meta volcanics, mod se, as above; with micro scale deformation structures: foliations show micro folding. Suggests ductile deformation phase post metamorphism.							
148								100	86.3
149									
150									
151								100	97
152									
153									
154								100	95.6
155									
156									
157								100	88.6
158									
159									
160								100	87.6
161									
162									
163								100	96.6
164									
165									
166								100	98.3
167									
168									
169									
170								100	86.3
171.0 / 184.0		grey blue lnt meta volcanics, str se, as above; with micro scale deformation structures: foliations show micro folding. Suggests ductile deformation phase post metamorphism.							
172								100	87.3
173									
174									
175									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
176								100	90.6
177									
178								100	86.6
179									
180								100	98.3
181									
182								100	96.6
183									
184								100	98.6
185									
186					J			100	99.3
187									
188								100	89
189									
190								100	97.6
191									
192								100	96
193									
194					S			100	98
195									
196								100	100
197									
198								100	100
199									
200								100	95
201									
202								100	98.3
203									
204								100	88.6
205									
206								100	85.6
207									
208								100	94
209									
210								100	98.3
211									
212								100	88.6
213									
214								100	85.6
215									
216		216.0 / 139.0 grey blue Int meta volcanics, str se, strongly laminated/foliated						100	94
217									
218								52	18.6
219									
220								100	85.3
221									
222								100	85.3
223									
224								63	58.3
225		225.0 / 130.0 grey blue Int meta volcanics, str se, rock broken and fractured. Possible old fault zone?? Veinlets. Core also muddy - drillers could have dropped the boxes and broken the core.							
226									
227									
228									
229									
230									
231									
232		232.5 / 122.5 grey blue Int meta volcanics, mod se, fine grained; slight foliation.							
233									
234									
235									
236		236.0 / 119.0 dark grey blue Int meta volcanics, mod se,							
237									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
238		contains pink feldspars; ductile def. eveident in foliation;							
239									
240									
241		241.4						67	58
242		113.6 grey blue felsic meta volcanincs, mod se, chaotic appearance; qtz eyes; some light and dark banding; qtz veinlets; foliated; contains sulphides						100	86
243									
244									
245									
246								100	90.3
247									
248									
249									
250								100	90
251									
252									
253									
254								100	98.3
255									
256		255.8 99.2							
257		257.2 97.8 grey green lnt meta volcanics, str chl; se, similar to above but with chlorite alteration. Qtz veinlets overprint alteration. i.e extend between rock types.						100	88.3
258									
259								90	82.6
260		grey ble felsic meta volcanincs, mod se, foliated; qtz eyes; sulphides occur in veinlets and individually parallel to foliation.							
261								89	70.6
262									
263									
264								100	96.3
265									
266									
267								100	92
268									
269									
270								100	93.3
271									
272									
273								100	86
274									
275									
276		276.0 79.0 grey blue felsic meta volcanincs, str se, slightly pronounded foliated; micro scale deformation; strong se alteration; laminated						100	93.3
277									
278									
279								100	85.3
280									
281									
282								100	60.6
283									
284									
285								100	96.6
286									
287									
288								100	43.3
289									
290									
291								100	29.3
292									
293									
294								100	81.3
295									
296									
297								100	91
298									
299									
300									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
301								100	95
302								100	89.6
303								100	50
304								100	96.6
305								100	100
306		306.0 49.0 grey blue Int meta volcanics, mod se, med grained; slight foliation 20 deg to CA; carbonaceous; localised quartz veins. Mineral alignment and laminations parallel to foliation. Visible Pyrite, chalco and some sphalerite mineralisation in veins and throughout rock mass.						100	96.6
307								100	100
308								100	100
309								100	98.6
310								100	100
311								100	93
312								100	89
313								100	84
314								100	97.3
315								100	100
316								100	100
317								100	96
318								100	83.3
319								100	91
320								100	100
321								100	92.3
322								100	86.3
323									
324									
325									
326									
327									
328									
329									
330									
331									
332									
333		333.0 22.0 grey blue Int meta volcanics, mod se, as above with dark banding (or lam inations) parallel to foliation; 20 deg to CA. Laminations are typically 1-10mm thick.							
334									
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DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-102

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
363		(continued from previous page)							
364		363.0 End of Hole at: 363.0 m							
365									
366									
367									
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374									
375									
376									
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DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

CLIENT: Rainy River Resources	PROJECT NO.: M09559A06
PROJECT: 2010 Open Pit Investigation	DATE HOLE STARTED: FINISHED:
LOCATION: Rainy River, Pit Area	DATUM: UTM NAD-83
DIRECTION AZIMUTH: 110 DIP (from horiz): -70	TOP OF PIPE ELEVATION: 356 m
CO-ORDINATES: E 425333m N 5409700m	GROUND ELEVATION: 355 m
MANUFACTURER'S DRILL DESIGNATION:	TOTAL DEPTH OF HOLE: 350 m
DRILLING CONTRACTOR: Bradley Brothers	DRILLING METHOD SOIL: HQ CORE ROCK: HQ CORE
LOGGED BY: GA	DRILLING FLUID: Water CASED TO: 30m
CHECKED BY:	HOLE DIA.: HQ3

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
1–30									
31–35		grey blue felsic metavolcanics, mod se; chl, bluish qtz eyes; many veinlets in several directions, genereally qtz with some fe alteration. Veinlets often offset by other veinlets indicating brittle deformation.						100	100
35.5									
36–38		grey green mafic dyke, mod chl, igneous intrusion. Overprinted with qtz veinlets extending through country rock. Contact is sharp and offset by 10mm indicating brittle deformation.						100	100
39.1									
39–40					J			100	98.6
315.6		grey blue felsic metavolcanics, mod se; chl, bluish qtz eyes; many veinlets in several directions, genereally qtz with some fe alteration. Veinlets often offset by other veinlets indicating brittle deformation. Contains sulphides.			J J J			100	99
46–47								100	93.3
47–50		grey green mafic dyke, mod chl, igneous intrusion. Overprinted with qtz veinlets extending through country rock. Contact is						100	100

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
51		sharp and offset by 10mm indicating brittle deformation. Small baked margin evident.							
52		grey blue felsic metavolcanics, mod se, bluish qtz eyes; many veinlets in several directions, genereally qtz with some fe alteration. Veinlets often offset by other veinlets indicating brittle deformation. Contains sulphides.						100	93.3
53									
54								100	98.8
55									
56								100	98.5
57									
58								100	96.6
59									
60									
61								100	94.6
62									
63									
64								100	94.3
65									
66									
67								100	96
68									
69									
70								100	91
71									
72									
73								100	100
74									
75									
76					J			100	100
77									
78									
79								100	98.3
80									
81									
82								100	92
83									
84									
85		85.0 270.0 grey blue felsic metavolcanics, mod se, becomes fine grained wih rare veinlets; weakly pronouncd foliation; sulphides present in matrix and as rare veinlets						100	93.6
86									
87								100	94.3
88									
89									
90									
91								100	95.6
92									
93									
94									
95					J			100	95.3
96									
97									
98								100	100
99									
100									
101								100	100
102									
103									
104					J			100	100
105									
106									
107								100	100
108									
109									
110								100	96.3
111									
112									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
123.0									
232.0		grey blue felsic metavolcanics, mod se, quartz crystal tuff. Qtz phenocrysts; weakly pronounced foliation.			J J			100	96
								100	73.7
								100	99.9
								100	100
								100	95
								100	100
								100	91.6
131.5					D F			100	84
223.5		grey white felsic metavolcanics, mod se, fine to med grained; dark laminations 1-5mm thick; moderately pronounced foliation; contains sulphides.			F F			100	92.6
								100	80
								100	86.6
					D			100	91.6
								100	87.6
								100	86.6
								100	100
								100	95.6
								100	100
								100	98.6
					D			100	100
165.0									
190.0		grey blue intermediate metavolcanics, mod se, dark laminations; well pronounced foliation; alignement of minerals evident; fine grained; sulphides aligned parallel to foliaion.						100	77.6
								100	95
								100	78.3

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
		(continued from previous page)							
176								100	98.3
177									
178									
178.8									
179		176.2 grey grey intermediate metavolcanics, strong se, fault zone?; many veinlets; areas of clay carb; strong foliations; light and dark banding; cut by thick quartz veins			F			100	60
180									
181					F			100	70
182									
183		183.0							
		172.0 dark grey dark grey intermediate metavolcanics, mod se, laminted; dark banding; shows ductile deformation within banding/foliation; fine to med grained						100	94.6
184									
185									
186									
187								100	89.3
188									
189									
190								100	98
191									
192									
193								100	83.3
194									
195									
196								100	100
197									
198									
199								100	82.3
200									
201									
202								100	91
203									
204									
205		205.0							
		150.0			F				
206		206.4 grey blue fault zone, strong se; chl, int meta volcaniics; slickensided surfaces; closely spaced discontinuities; clay carb						100	72.6
		148.6							
207									
208								100	100
209		grey blue intermediate metavolcanics, mod se, fine to med grained; mod pronounced foliation; occasional qtz veinlets cutting the foliation.							
210									
211								100	91.6
212									
213									
214								100	100
215									
216									
217								100	86.6
218									
219									
220								100	98.3
221									
222									
223								100	100
224									
225									
226								100	100
227									
228									
229								100	96.6
230									
231									
232								100	100
233									
234									
235									
236		236.0						100	93.3
		119.0 grey blue intermediate metavolcanics, strong							
237									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
238		(continued from previous page)							
239		se; clay carb, Fault Zone. Broken rock and many fractures parallel to foliation.						100	38
240									
241								100	28
242									
243		243.0						100	90
244		112.0 grey grey intermediate metavolcanics, mod se, fine to med grained; mod pronounced foliation; occasional qtz veinlets cutting the foliation; sulphides						100	100
245									
246								100	85
247									
248								100	100
249									
250								100	90
251									
252								100	96.6
253									
254								100	82.3
255									
256								100	60.6
257									
258								100	95.3
259									
260								100	97
261									
262								100	100
263									
264								100	91.6
265									
266								100	100
267									
268								100	95.6
269									
270								100	82.3
271									
272								100	83.3
273									
274								100	93.6
275									
276								100	98.3
277									
278								100	60
279									
280									
281									
282									
283									
284									
285									
286									
287									
288									
289									
290									
291									
292									
293									
294									
295									
296									
297									
298									
299									
300									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-103

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA: SEE BOTTOM OF FORM FOR CODES; Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA: CORE RECOVERY % 25 50 75	RECOVERY DATA: R.Q.D. % 25 50 75
301		(continued from previous page)							
302								100	85.6
303									
304								100	63.3
305									
306								100	88
307									
308								100	85
309									
310		310.0						100	85
311		45.0 grey blue intermediate metavolcanics, mod se, fine to med grained; occasional qtz veins parallel to foliation; one main mod pronounced foliation; qtz eyes; minerals aligned parallel to foliation; some dark laminations							
312								100	93.3
313									
314								100	94
315									
316								100	89
317									
318								100	98
319									
320								100	97.3
321									
322								100	93.6
323									
324								100	97
325		325.0							
326		30.0 blue grey felsic metavolcanics, mod se; some qtz, as above but less pronouced foliation. Minerals aligned parallel to foliation; contains sulphides; some qtz veins; occaional veinlets cut foliation						100	82
327									
328								100	98.3
329									
330								100	100
331									
332								100	89.3
333									
334								100	93.5
335									
336									
337									
338									
339									
340									
341									
342									
343									
344									
345									
346									
347									
348									
349									
350		350.0							
351		5.0 End of Hole at: 350.0 m							
352									
353									
354									
355									
356									
357									
358									
359									
360									
361									
362									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

CLIENT: Rainy River Resources	PROJECT NO.: M09559A06
PROJECT: 2010 Open Pit Investigation	DATE HOLE STARTED: FINISHED:
LOCATION: Rainy River, Pit Area	DATUM: UTM NAD-83
DIRECTION AZIMUTH: 130 DIP (from horiz): -70	TOP OF PIPE ELEVATION: 356 m
CO-ORDINATES: E 425950m N 5409600m	GROUND ELEVATION: 355 m
MANUFACTURER'S DRILL DESIGNATION:	TOTAL DEPTH OF HOLE: 312 m
DRILLING CONTRACTOR: Bradley Brothers	DRILLING METHOD SOIL: HQ CORE ROCK: HQ CORE
LOGGED BY: BL	DRILLING FLUID: Water CASED TO: 37.5m
CHECKED BY:	HOLE DIA.: HQ3

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial; (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
1–36		overburden, not recovered.							
37		37.5							
38–49		317.5 grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Few quartz veins from 1 to 50+ cm wide. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.			J J J J J J			100 100 100 90	63.2 70 53.3 70
50		49.7							

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical 1 2 3 4 5	ROCK HARDNESS	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
		(continued from previous page)							
51		white white Quartz Vein, F Quartz, Coarse-grained quartz vein. Trace sulphide stringers, mostly py, possibly also rare cpy/sph/moly.						93	70
52									
53								100	75
54									
55		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Few quartz veins from 1 to 50+ cm wide. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	83.3
56									
57									
58								100	90
59									
60									
61								100	70
62									
63		white white Quartz Vein, F Quartz, Coarse-grained quartz vein. Trace sulphide stringers, mostly py, possibly also rare cpy/sph/moly.						100	70
64									
65									
66									
67		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Few quartz veins from 1 to 50+ cm wide. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	53.3
68									
69									
70								100	50
71									
72									
73								100	62.5
74		white white Quartz Vein, F Quartz, Coarse-grained quartz vein. Trace sulphide stringers, mostly py, possibly also rare cpy/sph/moly.						100	72.2
75									
76								95	93.1
77									
78									
79		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Few quartz veins from 1 to 50+ cm wide. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	70
80									
81									
82								100	70
83									
84									
85								100	83.3
86									
87		white white Quartz Vein, F Quartz, Coarse-grained quartz vein. Trace sulphide stringers, mostly py, possibly also rare cpy/sph/moly.						100	81.6
88									
89									
90		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Dearth of quartz veins as above. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	63.3
91									
92									
93									
94								100	78.3
95									
96									
97								100	88.3
98									
99									
100								100	86.6
101									
102									
103								96	86.6
104									
105									
106								100	80
107		white white Quartz Vein, F Quartz, Coarse-grained quartz vein. Trace sulphide stringers, mostly py, possibly also rare cpy/sph/moly.							
108									
109								100	83.3
110									
111									
112		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic.							

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
113		(continued from previous page)							
114		Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Few quartz veins from 1 to 50+ cm wide. Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	83.3
115								100	73.3
116								100	73.3
117								100	50
118								100	76.6
119								100	66.6
120		120.0						100	60
121		235.0 grey green Int Meta Volcanic, MW Se, Dark grey-green intermediate metavolcanic.						100	76.6
122		122.5						100	80
123		232.5 Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						100	60
124								100	80
125								100	71.6
126								100	61.6
127								100	60
128		grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic.						100	68.3
129		Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.						87	11.6
130								0	0
131								100	60
132								96	46.6
133								96	45
134								100	36.6
135									
136									
137									
138									
139									
140									
141									
142									
143									
144									
145									
146									
147									
148									
149									
150									
151									
152									
153									
154									
155									
156		156.2							
157		198.8 grey grey Int Meta Volcanic, MW Se, Interval of stronger weathering and alteration. Few 1-2 cm Se/Carb veins.							
158									
159		159.0							
160		196.0 core loss and depth correction, drill rod count at bit change has depth = 162, measured from surface is 159. Using drill measurement from here.							
161									
162		162.0							
163		193.0 grey green Int Meta Volcanic, SW Se, Dark grey-green intermediate metavolcanic. Fine-grained to locally porphyritic (secondary mafic crystals). Well developed foliation (not schistosity). Small sulphide veins (mostly pyrite, rare cpy/sph/moly(?). Sulphide minerals are mostly vein-hosted, rarely disseminated.							
164									
165									
166									
167									
168									
169									
170									
171									
172									
173									
174									
175									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

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GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
		(continued from previous page)							
176		176.0						100	60
177		179.0 177.1 dark green grey Int Meta Volcanic, SW Se, Very dark green-grey intermediate dacite. Abrupt upper contact (a=25, b=225). Very fine-grained. Weak to no foliation. Calcite veins (0.5-3 mm thick). Vein hosted pyrite, no disseminated sulphides.						100	56.6
178		177.9							
179									
180									
181								100	60
182									
183		grey light green Int Meta Volcanic, SW Se, Light grey/green metamosphosed dacite. Very fine grained, moderate to strong folliation (not schistocity). Few % disseminated sulphides,							
184									
185								100	70
186		186.6 mostly pyrite, rare cpy.							
187		168.4 dark green light green Int Meta Volcanic, MW Chl, Dark green intermediate metavolcanic: dacite, or andesite. Very fine grained. 0-2 % vein-hosted sulphides (pyrite), dropping to trace to 0 % below ~200 m, moderate to strong foliation. Frequent chlorite on fracture surfaces.						90	33.3
188									
189									
190								90	33.3
191									
192									
193								100	70
194									
195									
196								100	40
197									
198									
199								100	60
200									
201									
202								94	65
203									
204									
205								97	25
206									
207									
208								97	36.6
209									
210									
211								93	43.3
212									
213									
214								93	51.6
215									
216									
217								100	38.3
218									
219									
220								100	36.6
221									
222									
223								100	33.3
224									
225									
226								94	26.6
227									
228									
229								100	36.6
230									
231		231.6							
232		123.4 light grey green Int Meta Volcanic, MW Se, Light grey/green metamorphosed dacite. Very fine grained, well developted foliation. Many small qtz/carbonate veins. Weathering/alteration most intense in upper 4 m of unit. Upper contact is 4 cm wide clay						97	40
233									
234									
235								100	60
236									
237									

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA SEE BOTTOM OF FORM FOR CODES Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA CORE RECOVERY % 25 50 75	RECOVERY DATA R.Q.D. % 25 50 75
238		(continued from previous page)							
239		gouge filled fault.(a=25,b=140). Increasing sulphide (py) content with depth. Few large (up to 40 cm) dark green fine grained dacite/andesite clasts, similar to overlying unit.						97	36.6
240									
241								100	45
242									
243									
244								100	46.6
245									
246									
247								97	48.3
248									
249									
250								97	11.6
251									
252									
253								100	40
254									
255									
256								100	70
257									
258									
259								98	35
260									
261									
262								100	60
263									
264									
265								100	45
266									
267									
268								100	56.6
269									
270									
271								100	46.6
272									
273									
274		274.2 80.9						100	66.6
275		275.7 79.3 grey dark green Int Meta Volcanic, MW Chl, Dark green intermediate metavolcanic: dacite, or andesite. Very fine grained. Weak to no foliation. Frequent chlorite on fracture surfaces, rare to trace sulphides.							
276									
277								100	83.3
278		278.5 76.5 light grey green Int Meta Volcanic, MW Se, Light grey/green metamorphosed dacite. Very fine grained, well developted foliation. Many small qtz/carbonate veins. Weathering/alteration most intense in upper 4 m of unit. Upper contact is 4 cm wide clay gouge filled fault.(a=25,b=140). Increasing sulphide (py) content with depth. Few large (up to 40 cm) dark green fine grained dacite/andesite clasts, similar to overlying unit.							
279								100	53.3
280									
281									
282								94	20
283									
284									
285								100	25
286									
287									
288								100	63.3
289									
290									
291								100	93.3
292									
293									
294		293.8 61.2 grey dark green Diabase?, MW Chl, Dark green intermediate metavolcanic: dacite, or andesite. Very fine grained. Weak to no foliation. Frequent chlorite on fracture surfaces, rare to trace sulphides.						100	83.3
295									
296									
297									
298									
299									
300		grey dark green Int Meta Volcanic, MW Chl, Med. Grained, slight foliation; localised flow structures; veinlets.						100	72.8

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

Klohn Crippen Berger

GEOLOGIC LOG OF DRILL HOLE NO.: KCB-104

DEPTH (m)	SYMBOL	LITHOLOGY	PIEZOMETER DETAILS	HYDRAULIC CONDUCTIVITY CM/SEC 10-6 10-4 10-2	DISCONTINUITY DATA — SEE BOTTOM OF FORM FOR CODES — Dip Angle 30 60	ROCK STRENGTH BASED ON POINT LOAD TEST (MPa) (a)=axial: (d)=diametrical	ROCK HARDNESS 1 2 3 4 5	RECOVERY DATA — CORE RECOVERY % 25 50 75	RECOVERY DATA — R.Q.D. % 25 50 75
		(continued from previous page)							
304.3									
50.7		grey green locallly purple Int Meta Volcanic, str Chl + ep?, chloritic, chaotic, breccia, purple tinges, strong alteration; veinlets.			J			100	31.5
					S			98	66.3
								100	63.3
								100	50.6
312.0									
43.0		End of Hole at: 312.0 m			J				

DISCONTINUITY CODES: B: BEDDING D: DRILL BRK F: FAULT G: GNEISS'TY J: JOINT M: SCHIST'TY S: SHEAR T: TENSION CRK

CORE LOSS FRACTURED/BROKEN CORE DIP ANGLES MEASURED WITH RESPECT TO

KCBL_ROCK-SI 100720 CORE LOGS.GPJ ROCK-LOG.GDT 11/21/10

TEST HOLE LOG

STARTED: May 11, 2010 **FINISHED:** May 12, 2010
DRILL METHOD: Washbore
GROUND ELEV. (m): 358.00
COORDINATES (m): N 5410646 E 425815

Su - kPa: 20 60 100 140 180
VANE PEAK ◆ REMOLD ◇ FIELD ■ LAB □ ▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
0					**SILTY CLAY (CH)** high plasticity, some grey mottling, moist, brown		
1		D	1				
2							
3		D	2		with some medium gravels, well rounded, black red		
4							
4		D	3				
5							
6							
6		U	1		becoming grey		
7							
7		D	4				
8							
8.80							
349.20					**SAND (SW)** well graded, fine to medium sand, wet, grey and black		
9		D	5				
10							
10.00							

Continued Next Page

Klohn Crippen Berger

PROJECT NO.: M09559A06
PROJECT: Rainy River Mine Waste and Geotech.
LOCATION: Richardson Township, Ontario
LOGGED BY: ARD **CHECKED BY:**
SHEET 1 **OF** 3 **HOLE NO.:** BH10-04

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 11, 2010 **FINISHED:** May 12, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 358.00

COORDINATES (m): N 5410646 E 425815

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
348.00					Alternating layers of **SAND (SW) and SILTY CLAY (CH)** Sand is well graded, fine to medium, wet, grey and black, 10 cm thick. Clay is high plasticity, grey, moist, 10 cm thick.	
11	3,1,8,8	D	6			
12		D	7			
13						
14		U	2			
					cobble	
15	7,6,8	D	8		with some fine to medium gravels, sub-rounded, white, grey	
16						
17		D	9			
18		D	10			
19						
20					20.00	

Continued Next Page

Su - kPa

20 60 100 140 180

VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 3 **HOLE NO.:** BH10-04

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 11, 2010 **FINISHED:** May 12, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 358.00

COORDINATES (m): N 5410646 E 425815

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
		D	11		338.00 Alternating layers of **SAND (SW) and SILTY CLAY (CH)** Sand is well graded, fine to medium, wet, grey and black, 10 cm thick. Clay is high plasticity, grey, moist, 10 cm thick. Some fine to medium gravels, sub-rounded, white, grey. 21.50	
21					336.50 **GRAVEL (GP)** poorly sorted, angular, wet, maximum particle 3 cm 22.00	
22	24,30,31	D	12		336.00 **SAND (SP)** poorly sorted, rounded, wet 22.50	
					335.50 **SILTY CLAY (CH)** high plasticity, grey 23.00	
23	16,17,29,50	D	13		335.00 23.25 **SILT (ML)** low plasticity, grey 334.75	
24					End of Hole at 23.26 m Refusal on cobbles	
25						
26						
27						
28						
29						
30						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 3 **OF** 3 **HOLE NO.:** BH10-04

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 12, 2010 **FINISHED:** May 13, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 373.00

COORDINATES (m): N 5411993 E 426400

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, moist, brown, some fine to coarse sand, sub-rounded, white and black, moist	
1		D	1			
2						
3		D	2			
4					becoming grey	
5		D	3			
6		U	4			
7						
8		D	5			
9						
10		D	6		10.00	

Continued Next Page

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2
★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 2 **HOLE NO.:** BH10-05

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 12, 2010 **FINISHED:** May 13, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 373.00

COORDINATES (m): N 5411993 E 426400

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					363.00 **SILTY CLAY (CH)** high plasticity, moist, grey, some fine to coarse sand, sub-rounded, white and black, moist	
					10.50	
		D	7		362.50 **SILTY SAND (SM)** fine sand, wet, grey, fine to coarse silt, non plastic	
11					11.27	
					361.73	
					End of Hole at 11.27 m	
					Refusal on probable bedrock	
12						
13						
14						
15						
16						
17						
18						
19						
20						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 2 **HOLE NO.:** BH10-05

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 14, 2010 **FINISHED:** May 14, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 375.50

COORDINATES (m): N 5411494 E 426904

DESCRIPTION OF MATERIALS

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, brown, moist, some fine to coarse sand, sub-rounded, some fine gravel, sub-rounded	
1		D	1			
2						
3		D	2		becoming grey	
4						
5		D	3			
6		D	4			
6.70 / 368.80					**SANDY GRAVEl** maximum particle size 3 cm, fine to medium gravel, fine to medium sand	
7.16 / 368.34					End of Hole at 7.16 m Refusal on probable bedrock	
7						
8						
9						
10						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2
★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 1 **HOLE NO.:** BH10-06

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 15, 2010 **FINISHED:** May 16, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5411633 E 424605

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, moist, grey, some fine to coarse sand, sub-rounded	
3		D	2		some gravel layers, fine to medium at 30 cm intervals, maximum particle size 3 cm, sub-rounded	
7		U	1			
10					10.00	

Continued Next Page

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 3 **HOLE NO.:** BH10-07

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 15, 2010 **FINISHED:** May 16, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5411633 E 424605

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS
340.50					**SILTY CLAY (CH)** high plasticity, moist, grey, some fine to coarse sand, sub-rounded. Some gravel layers, fine to medium at 30 cm intervals, maximum particle size 3 cm, sub-rounded
11					
12		D	7		
13					
13		D	8		
14					
15					
16					
16		D	9		
17					
17	2,3,2,4	D	10		
18					
19					
19		U	1		
20					
20.00					

Continued Next Page

INSTRUMENT DETAILS

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 3 **HOLE NO.:** BH10-07

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 15, 2010 **FINISHED:** May 16, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5411633 E 424605

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					330.50 **SILTY CLAY (CH)** high plasticity, moist, grey, some fine to coarse sand, sub-rounded. Some gravel layers, fine to medium at 30 cm intervals, maximum particle size 3 cm, sub-rounded	
21		D	11			
22		D	12			
23						
24		D	13			
25	12,15,19,24	D	14		25.50 325.00 **SANDY SILT (ML)** low plasticity, fine to coarse silt, fine sand, wet, grey	
					25.80 324.70 **SILTY CLAY (CL)** varves at 3 cm intervals, clay varves are 5 mm, low plasticity, dark grey	
26						
27					End of Hole at 26.60 m	
28						
29						
30						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 3 **OF** 3 **HOLE NO.:** BH10-07

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 27, 2010 **FINISHED:** May 28, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 357.50

COORDINATES (m): N 5411756 E 423975

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, brown, moist with grey mottling, some fine to coarse sand	
1		D	1			
2					becoming grey	
3		D	2			
4		D	3			
5						
6		D	4			
7						
8		U	1			
9		D	5			
10						

Continued Next Page

Su - kPa
20 60 100 140 180
VANE PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 2 **HOLE NO.:** BH10-08

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 27, 2010 **FINISHED:** May 28, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 357.50

COORDINATES (m): N 5411756 E 423975

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
		D	6		**SILTY CLAY (CH)** high plasticity, grey, moist, some fine to coarse sand	
11						
12		D	7			
13						
					13.60 / 343.90 **VARVED CLAY** Clay (CH) is high plasticity, dark grey, 5 mm layers. Silt (ML) is low plasticity, grey, 10 mm layers.	
		U	2			
14						
					15.00 / 342.50 **SAND (SP)** fine sand, grey, wet, well rounded	
15		D	9			
16						
					16.50 / 341.00	
	12,17,50	D	10		16.80 / 340.70 **SANDY GRAVEL (GW)** fine to coarse, sub-angular, wet, grey, sand is fine to coarse, sub-angular, wet, grey	
17					End of Hole at 16.80 m	
					Refusal on cobbles	
18						
19						
20						

Su - kPa: 20, 60, 100, 140, 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

VANE REMOLD ◇ FIELD □ LAB △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06	
PROJECT: Rainy River Mine Waste and Geotech.	
LOCATION: Richardson Township, Ontario	
LOGGED BY: ARD	**CHECKED BY:**
SHEET 2 **OF** 2	**HOLE NO.:** BH10-08

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 29, 2010 **FINISHED:** May 29, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 367.50

COORDINATES (m): N 5412736 E 423950

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					SILTY CLAY (CH) high plasticity, brown, wet	
					0.50 / 367.00 **SANDY GRAVEL (GW)** well graded, fine to coarse, angular, black, sand is fine to coarse sub-angular	
1	12,22,23,28	D	1			
2					2.20 / 365.30 **BEDROCK**	
					End of Hole at 2.20 m	
3					3.72 / 363.78	
4						
5						
6						
7						
8						
9						
10						

Su - kPa

20 60 100 140 180

VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.:	M09559A06
PROJECT:	Rainy River Mine Waste and Geotech.
LOCATION:	Richardson Township, Ontario
LOGGED BY:	ARD **CHECKED BY:**
SHEET 1 **OF** 1	**HOLE NO.:** BH10-09

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 29, 2010 **FINISHED:** May, 30, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5410003 E 425995

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, some fine sand, brown	
1		D	1			
2						
3		D	2			
4					becoming grey	
5		D	3			
6						
7						
8		U	1			
9						
10		D	5			

Continued Next Page

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 4 **HOLE NO.:** BH10-10

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 29, 2010 **FINISHED:** May, 30, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5410003 E 425995

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					10.20 **SILTY CLAY (CH)** high plasticity, some fine sand, grey	
					340.30 **SILTY SAND (SM)** fine, moist, grey, silt is low plasticity, with some gravels, sub-angular, maximum particle size 1 cm	
		D	6			
11						
12	8,9,10	D	7			
13						
					13.50	
	5,4,6,8	D	8		337.00 **SILTY CLAY (CH)** high plasticity, grey moist, some fine to coarse sand and gravel, sub-angular	
14						
15					with some silt	
16						
		D	10		attempted undisturbed sample - no return	
17						
18		U	2			
19						
		D	11			
20						

Continued Next Page

Su - kPa

20 60 100 140 180

VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 4 **HOLE NO.:** BH10-10

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: May 29, 2010 **FINISHED:** May, 30, 2010
DRILL METHOD: Washbore
GROUND ELEV. (m): 350.50
COORDINATES (m): N 5410003 E 425995

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21		D	12	**SILTY CLAY (CH)** high plasticity, grey moist, some fine to coarse sand and gravel, sub-angular	
22					
23					
24		D	13		
25				25.30	
				325.20 **SILTY SAND (SM)** fine, grey, moist	
26	8,14,23	D	14		
27	8,7,8,9	D	15	with some high plasticity clay and some gravels, sub-angular	
28				28.30	
				322.20 **SILTY CLAY(CH)** high plasticity, grey, moist, with some fine to coarse sand and fine gravel	
29	5,7,7,9	D	16		
30				Continued Next Page	

Su - kPa
20 60 100 140 180
VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06
PROJECT: Rainy River Mine Waste and Geotech.
LOCATION: Richardson Township, Ontario
LOGGED BY: ARD **CHECKED BY:**
SHEET 3 **OF** 4 **HOLE NO.:** BH10-10

TEST HOLE LOG

STARTED: May 29, 2010 **FINISHED:** May, 30, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 350.50

COORDINATES (m): N 5410003 E 425995

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
	18,22,31	D	17		**SILTY CLAY(CH)** high plasticity, grey, moist, with some fine to coarse sand and fine gravel. Driller reported increased resistance	
31		D	18			
32					32.60 / 317.90 **GRAVELLY SILT (ML)** low plasticity, grey,, gravel is angular, maximum particle size 2.5 cm with some fine sand	
33		D	19			
34					34.10 / 316.40 End of Hole at 34.10 m. Refusal on bedrock or boulders	
35						
36						
37						
38						
39						
40						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 4 **OF** 4 **HOLE NO.:** BH10-10

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 1, 2010 **FINISHED:** June 2, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.00

COORDINATES (m): N 5409864 E 424735

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plastcity, moist, brown sand fine to course sand, sub-angular, some fine gravel, sub-angular	
1		D	1			
2						
3		D	2		becoming grey	
4					4.20 344.80 **SILTY CLAY (CH)** high plasticity, grey, moist, some fine sand	
5		D	3			
6		D	4			
7						
8		D	5			
9		U	1			
10					Continued Next Page	

Su - kPa
20 60 100 140 180
VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 4 **HOLE NO.:** BH10-11

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 1, 2010 **FINISHED:** June 2, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.00

COORDINATES (m): N 5409864 E 424735

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					SILTY CLAY (CH) high plasticity, grey, moist, some fine sand	
		D	6			
11						
12		D	7			
13						
		D	8			
14						
15		D	9			
16						
		D	10			
17						
18						
19						
		D	11			
20						

Continued Next Page

Su - kPa

20 60 100 140 180

VANE FIELD LAB
PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 4 **HOLE NO.:** BH10-11

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 1, 2010 **FINISHED:** June 2, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.00

COORDINATES (m): N 5409864 E 424735

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21		U	2		**SILTY CLAY (CH)** high plasticity, grey, moist, some fine sand	
22		D	12			
23						
24		D	13			
25						
26		D	14			
27		D	15		26.70 322.30 **SILTY SAND (SM)** fine, grey, wet, silt is non plastic, grey, wet	
28					28.10 320.90 **SAND AND GRAVEL (SW/GW)** sand is fine to coarse, subangular, gravel is fine, angular, some non plastic silt	
29		D	16			
30					Continued Next Page	

Su - kPa: 20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2
REMOLD ◇ □ △ P.PEN/2
★ % FINES ● SPT N

W_P% W% W_L%
20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 3 **OF** 4 **HOLE NO.:** BH10-11

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 1, 2010 **FINISHED:** June 2, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.00

COORDINATES (m): N 5409864 E 424735

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					30.17 / 318.83 **SAND AND GRAVEL (SW/GW)** sand is fine to coarse, subangular, gravel is fine, angular, some non plastic silt	
					End of Hole at 30.17 m	
					Refusal on boulder or bedrock	

Su - kPa
20 60 100 140 180
VANE PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

31 32 33 34 35 36 37 38 39 40

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 4 **OF** 4 **HOLE NO.:** BH10-11

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 2, 2010 **FINISHED:** June 3, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 351.50

COORDINATES (m): N 5410568 E 424015

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** brown, high plasticity, some gravel, maximum particle size 1 cm, sub-angular	
1		D	1			
2						
3		D	2			
4					becoming grey	
		D	3			
5						
6		D	4			
7						
		D	5			
8						
9		D	6			
10						

Continued Next Page

Su - kPa: 20, 60, 100, 140, 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2
REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20, 40, 60, 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 3 **HOLE NO.:** BH10-12

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 2, 2010 **FINISHED:** June 3, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 351.50

COORDINATES (m): N 5410568 E 424015

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
		D	7		**SILTY CLAY (CH)** grey, high plasticity, some gravel, maximum particle size 1 cm, sub-angular	
11						
12		D	8			
13						
		D	9			
14						
15		D	10			
16						
		D	11		16.60 334.90 **SILTY SAND (SM)** fine, grey, wet, silt is non plastic	
17						
18					18.00 333.50 **BEDROCK**	
19						
20					Continued Next Page	

Su - kPa
20 60 100 140 180
VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 3 **HOLE NO.:** BH10-12

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 2, 2010 **FINISHED:** June 3, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 351.50

COORDINATES (m): N 5410568 E 424015

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
21					**BEDROCK**	
22						
					22.70 / 328.80	
23					End of Hole at 22.70 m Bedrock at 18.5 m 1 inch PVC at 19.5 m	
24						
25						
26						
27						
28						
29						
30						

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

× – – – – o – – – – ×

20 40 60 80

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 3 **OF** 3 **HOLE NO.:** BH10-12

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 3, 2010 **FINISHED:** June 4, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.50

COORDINATES (m): N 5409311 E 425433

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
0					**SILTY CLAY (CH)** high plasticity, brown, some fine sand, moist		
1		D	1				
2							
3		D	2		becoming grey		
4							
5		D	3				
6		D	4		artesian conditions encountered		
7							
8		D	5				
9		D	6				
10							

Su - kPa
20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2
△ P.PEN/2
★ % FINES ● SPT N

W_P% W% W_L%
20 40 60 80

Continued Next Page

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 2 **HOLE NO.:** BH10-13

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 3, 2010 **FINISHED:** June 4, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.50

COORDINATES (m): N 5409311 E 425433

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					SILTY CLAY (CH) high plasticity, grey, some fine sand, moist	
		D	7		increasing fine sand, some gravels, sub-angular	
11						
12	6,6,5,7	D	8			
13					13.00 336.50 **SILTY SAND (SM)** fine, grey, wet 13.60	
		D	9		335.90 **SANDY GRAVEL (GP)** poorly graded, fine, sand is fine to coarse, with some silt	
14						
15	8,8,9,11	D	10		increasing silt content	
16						
	7,7,9,7	D	11		16.80 332.70 **SILTY CLAY (CH)** high plasticity, grey, moist	
17					17.80	
18	13,17,14,18	D	12		331.70 **SAND (SW)** fine to coarse, moist, sub-angular, some gravel, angular, maximum aprticle size 2 cm, some silt, low plasticity, grey	
					Clay lens at 18.3 - 18.35 m, high plasticity, grey	
19					19.50 330.00	
20					End of Hole at 19.50 m	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 2 **HOLE NO.:** BH10-13

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 5, 2010 **FINISHED:** June 5, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 347.00

COORDINATES (m): N 5408924 E 425168

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT	DETAILS
1		D	1		**SILTY CLAY (CH)** high plasticity, moist, brown, sand is fine to coarse, angular, brown, some non plastic silt, brown		
2							
3		D	2		becoming grey with some coarse gravel, subangular		
4							
		D	3		decreasing sand and gravel content		
5							
6		D	4				
7							
		U	1				
8							
9		D	5				
10					Continued Next Page		

Su - kPa

20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2

REMOLD ◇ □ △ P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 1 **OF** 3 **HOLE NO.:** BH10-14

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 5, 2010 **FINISHED:** June 5, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 347.00

COORDINATES (m): N 5408924 E 425168

Su - kPa: 20 60 100 140 180

VANE PEAK ◆ FIELD ■ LAB ▲ UC/2
VANE REMOLD ◇ FIELD □ LAB △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
		D	6		**SILTY CLAY (CH)** high plasticity, moist, brown, sand is fine to coarse, angular, brown, some non plastic silt, brown	
11						
12		D	7			
13						
		D	8			
14						
15		D	9			
16						
		D	10			
17						
					17.80	
18	9,5,17,16	D	11		329.20 **SANDY GRAVEL (GW)** fine to coarse gravel, sub-angular, maximum particle size 3 cm, sand is fine to coarse, sub-angular	
19						
20	10,15,18,22	D	12			

Continued Next Page

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 3 **HOLE NO.:** BH10-14

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 5, 2010 **FINISHED:** June 5, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 347.00

COORDINATES (m): N 5408924 E 425168

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
					SANDY GRAVEL (GW) fine to coarse gravel, sub-angular, maximum particle size 3 cm, sand is fine to coarse, sub-angular	
20.40					326.60	
					End of Hole at 20.40 m	
					Refusal on bedrock or boulders	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ ■ ▲UC/2

FIELD REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

PROJECT NO.:	M09559A06
PROJECT:	Rainy River Mine Waste and Geotech.
LOCATION:	Richardson Township, Ontario
LOGGED BY:	ARD **CHECKED BY:**
SHEET 3 **OF** 3	**HOLE NO.:** BH10-14

Klohn Crippen Berger

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 6, 2010 **FINISHED:** June 7, 2010
DRILL METHOD: Washbore
GROUND ELEV. (m): 349.50
COORDINATES (m): N 5409401 E 425244

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
0					**SILTY CLAY (CH)** high plasticity, brown, some fine sand	
2		D	1			
3		D	2		becoming grey	
4						
5		D	3			
6						
7		D	4			
8						
9	4,4,3,1	D	5		sand in return water	
10			6			

Continued Next Page

Su - kPa
20 60 100 140 180
VANE PEAK ◆ FIELD ■ LAB
REMOLD ◇ □
▲ UC/2 △ P.PEN/2
★ % FINES ● SPT N
W_P% W% W_L%
20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06
PROJECT: Rainy River Mine Waste and Geotech.
LOCATION: Richardson Township, Ontario
LOGGED BY: ARD **CHECKED BY:**
SHEET 1 **OF** 2 **HOLE NO.:** BH10-15

KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

TEST HOLE LOG

STARTED: June 6, 2010 **FINISHED:** June 7, 2010

DRILL METHOD: Washbore

GROUND ELEV. (m): 349.50

COORDINATES (m): N 5409401 E 425244

DEPTH (m)	SPT BLOWS PER 0.15m	SAMPLE TYPE	SAMPLE No.	SYMBOL	DESCRIPTION OF MATERIALS	INSTRUMENT DETAILS
		D	7		**SILTY CLAY (CH)** high plasticity, brown, some fine sand	
11					10.80 338.70 **SAND** fine to coarse, some silt, wet 11.30	
					338.20 **SILTY CLAY (CH)** high plasticity, grey, some fine sand	
12	6,5,6,6	D	8			
13						
		D	9			
14						
15		D	10			
16						
		D	11			
17						
					17.90	
18		D	12		331.60 **SANDY SILT (ML)** low plasticity, grey, sand is fine to coarse, well graded	
19	34,29	D	13		19.20 330.30	
					End of Hole at 19.20 m	
20					Refusal on bedrock or boulders	

Su - kPa

20 60 100 140 180

VANE PEAK ◆ ■ ▲UC/2
REMOLD ◇ □ △P.PEN/2

★ % FINES ● SPT N

W_P% W% W_L%

20 40 60 80

Klohn Crippen Berger

PROJECT NO.: M09559A06

PROJECT: Rainy River Mine Waste and Geotech.

LOCATION: Richardson Township, Ontario

LOGGED BY: ARD **CHECKED BY:**

SHEET 2 **OF** 2 **HOLE NO.:** BH10-15

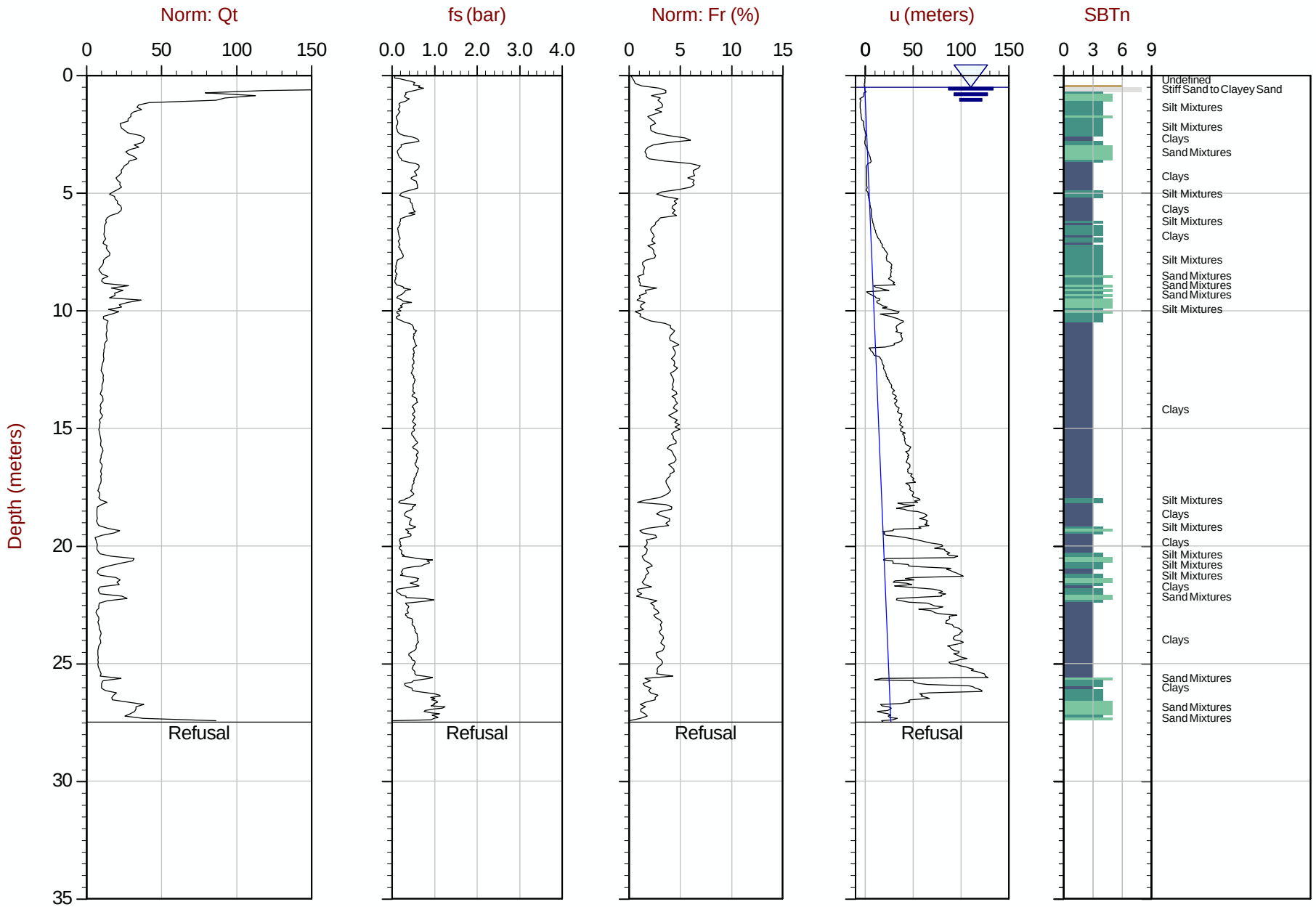
KCBL_TEST_HOLE-SI M09559A06 DRILLHOLE LOGS.GPJ KC_DATA.GDT 19/10/10

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:08:10 11:02
Site: MWaG

Sounding: CPT-10-01
Cone: 268:T1500F15U500



Max Depth: 27.500 m / 90.22 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP01.COR

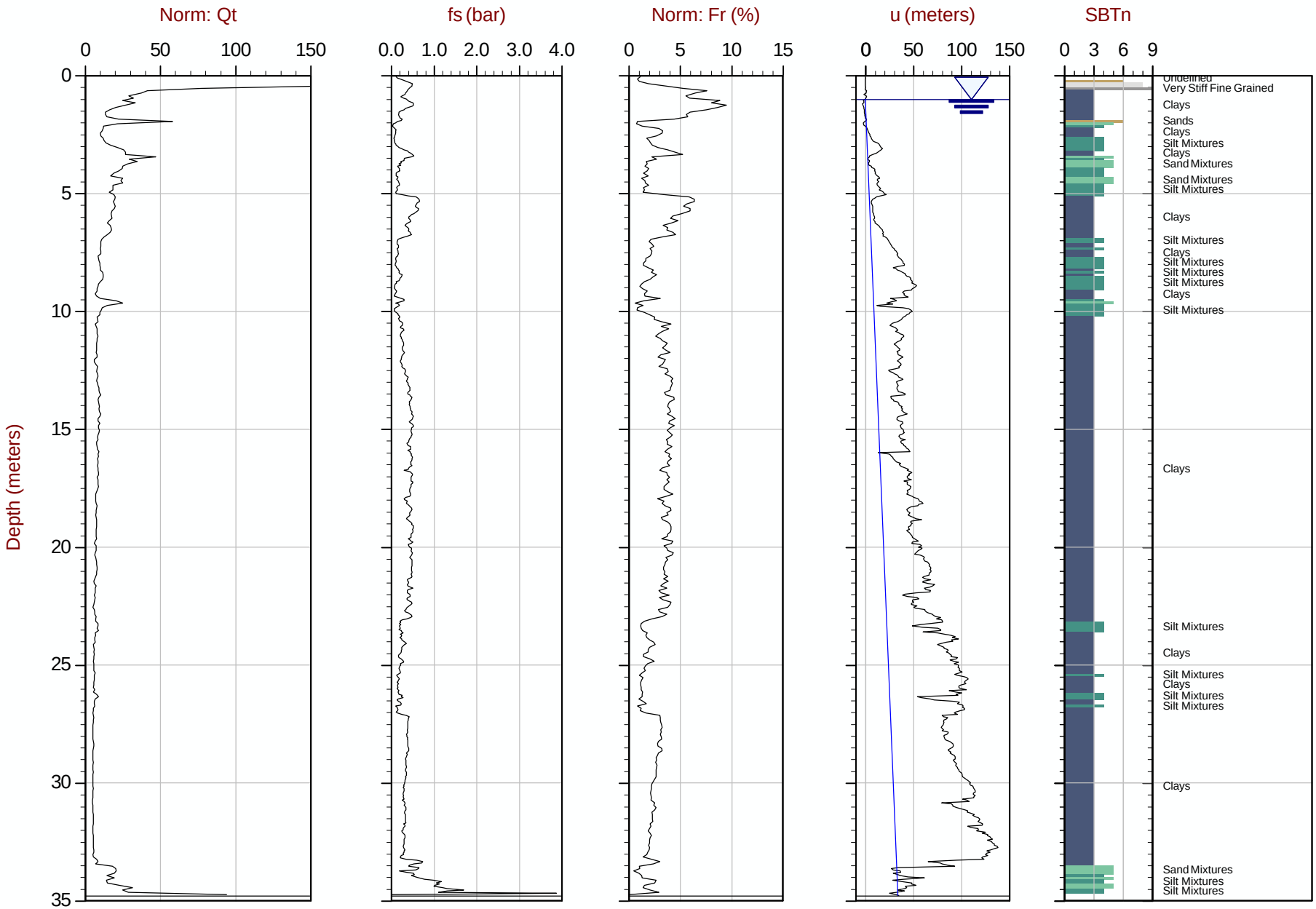
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409780.629 E: 424748.065 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:08:10 15:15
Site: MWaG

Sounding: CPT-10-02
Cone: 268:T1500F15U500



Max Depth: 34.800 m / 114.17 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP02.COR

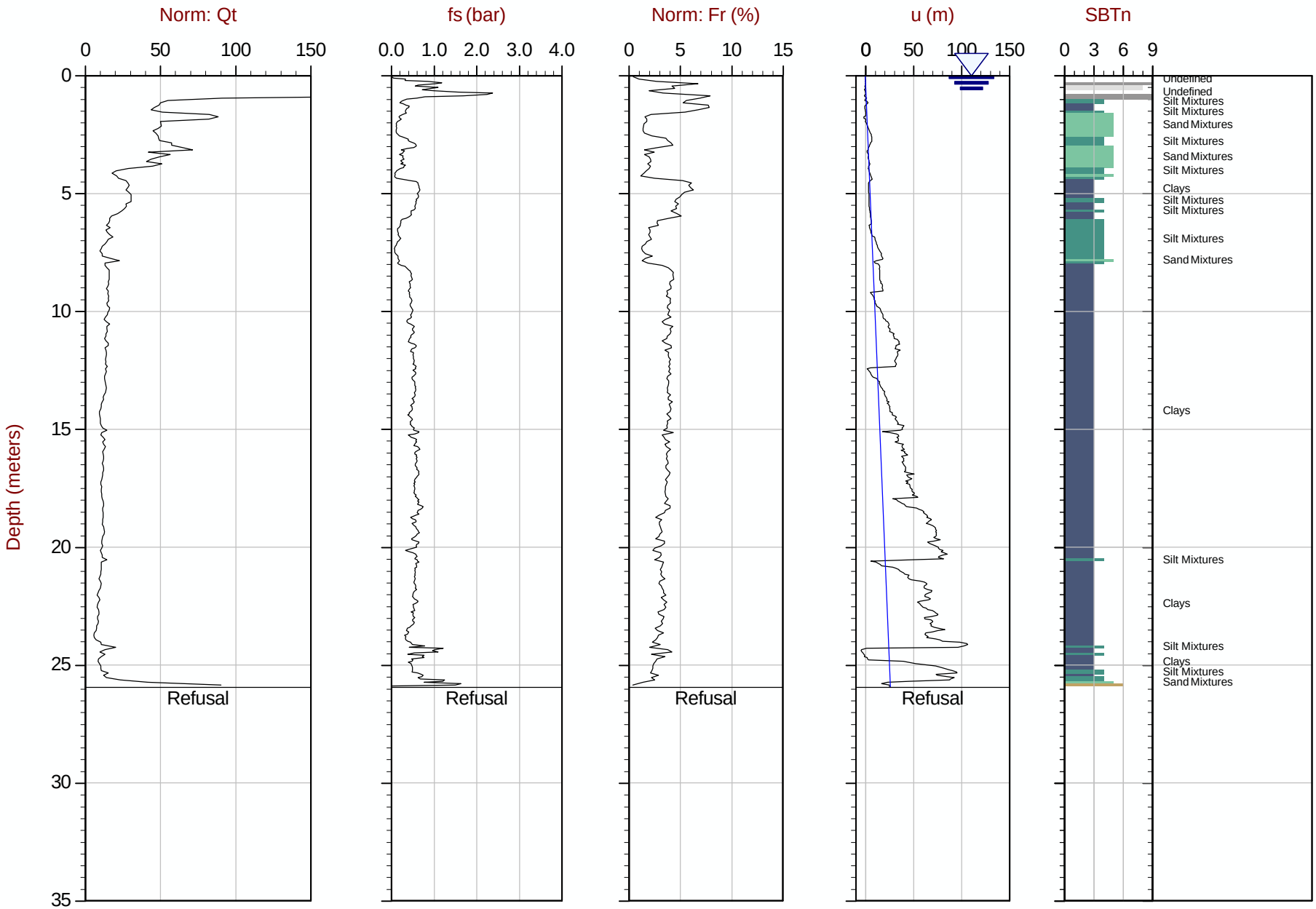
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410164.770 E: 425534.827 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:09:10 08:25
Site: Mine Pit

Sounding: CPT-10-03
Cone: 268:T1500F15U500



Max Depth: 25.950 m / 85.14 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP03.COR

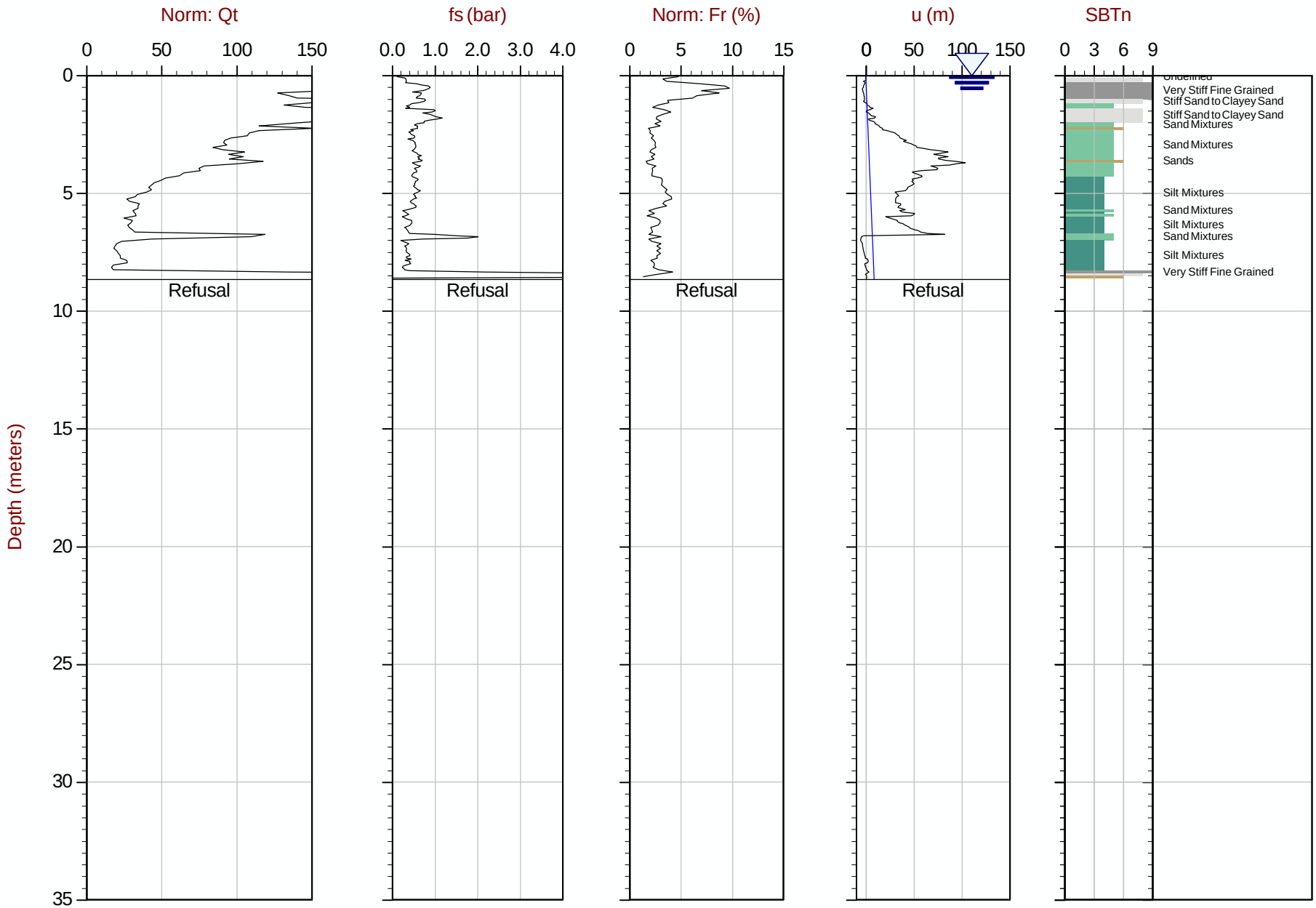
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409800.301 E: 425492.047 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:09:10 16:27
Site: Mine Pit

Sounding: CPT-10-04
Cone: 268:T1500F15U500



Max Depth: 8.650 m / 28.38 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP04.COR

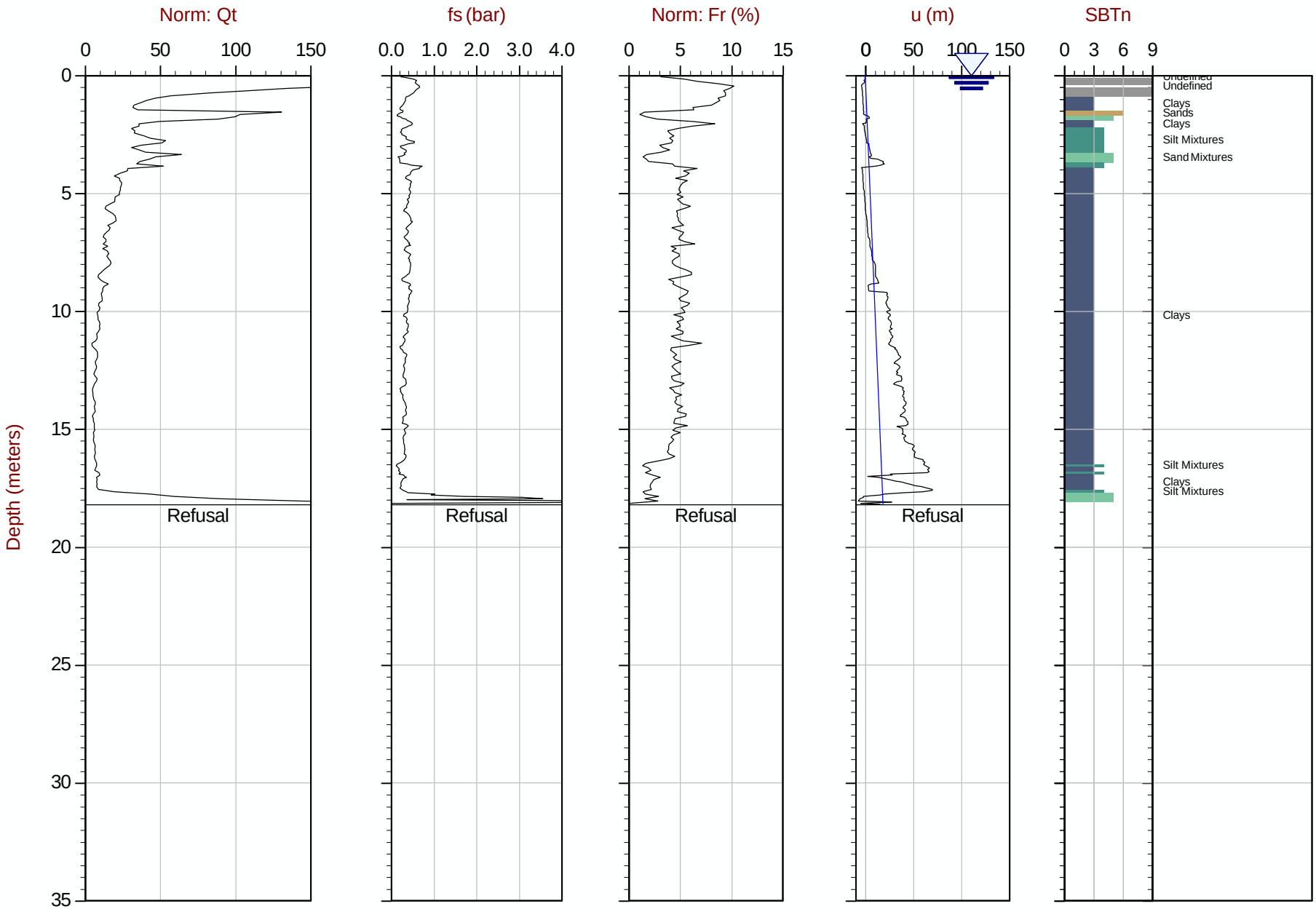
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409584.573 E: 426248.812 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:10:10 09:14
Site: Overburden 30

Sounding: CPT-10-05
Cone: 268:T1500F15U500



Max Depth: 18.200 m / 59.71 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP05.COR

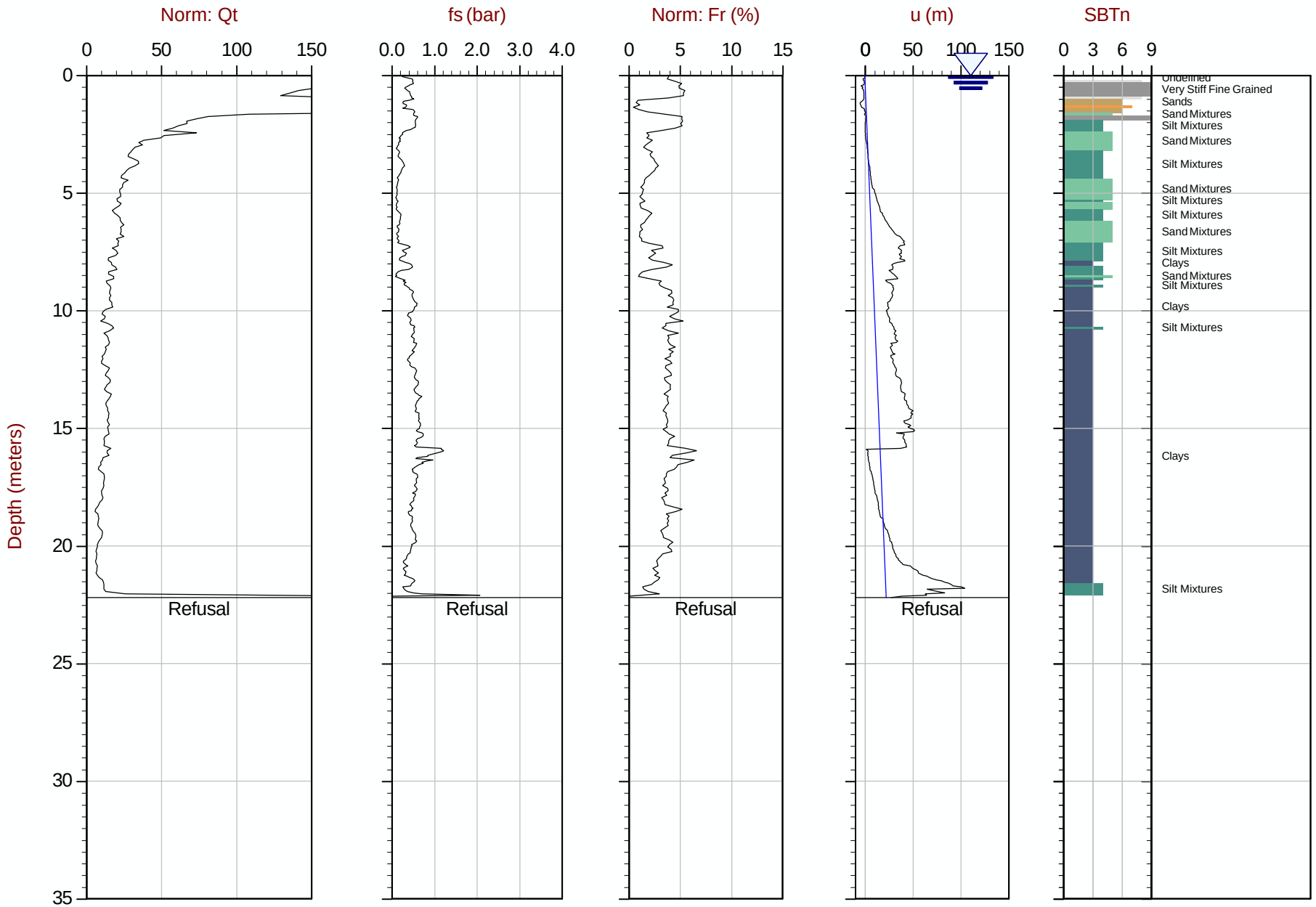
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5408931.247 E: 427320.442 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:10:10 13:26
Site: Overburden 30

Sounding: CPT-10-06
Cone: 268:T1500F15U500



Max Depth: 22.200 m / 72.83 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP06.COR

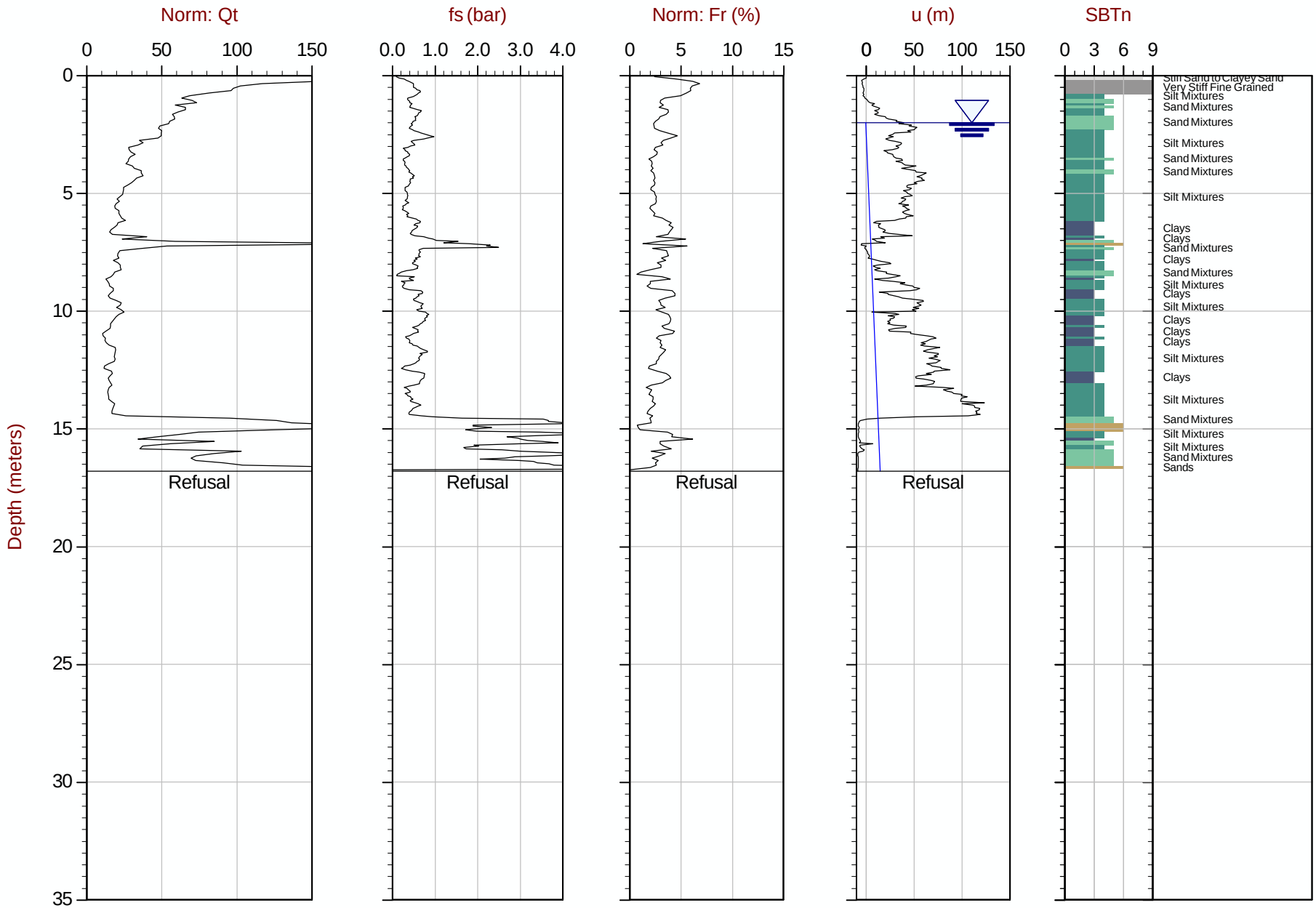
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409077.880 E: 427729.727 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:10:10 13:26
Site: Overburden 30

Sounding: CPT-10-07
Cone: 268:T1500F15U500



Max Depth: 16.800 m / 55.12 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP07.COR

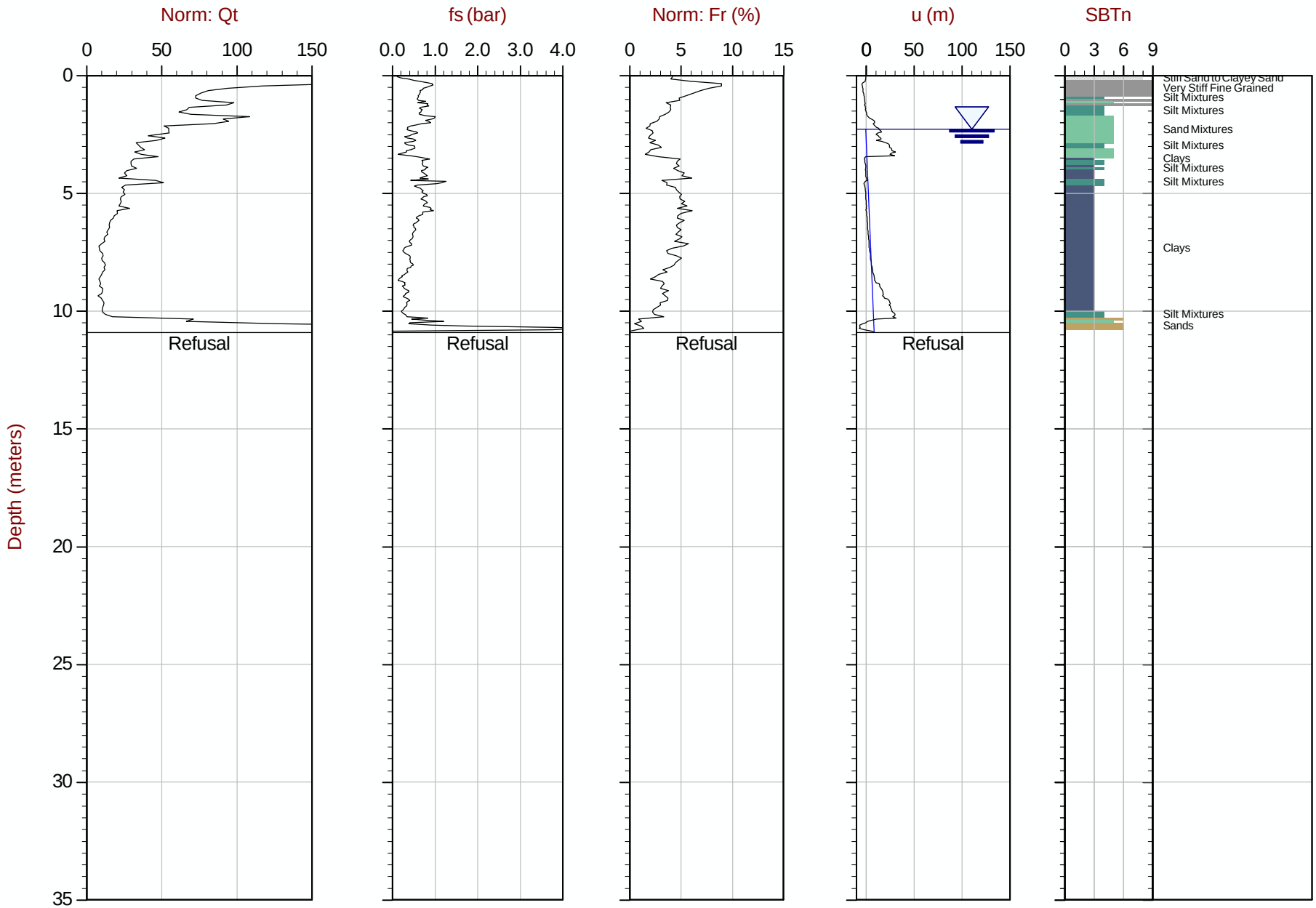
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409304.313 E: 427130.790 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:11:10 08:55
Site: Overburden 30

Sounding: CPT-10-08
Cone: 268:T1500F15U500



Max Depth: 10.900 m / 35.76 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP08.COR

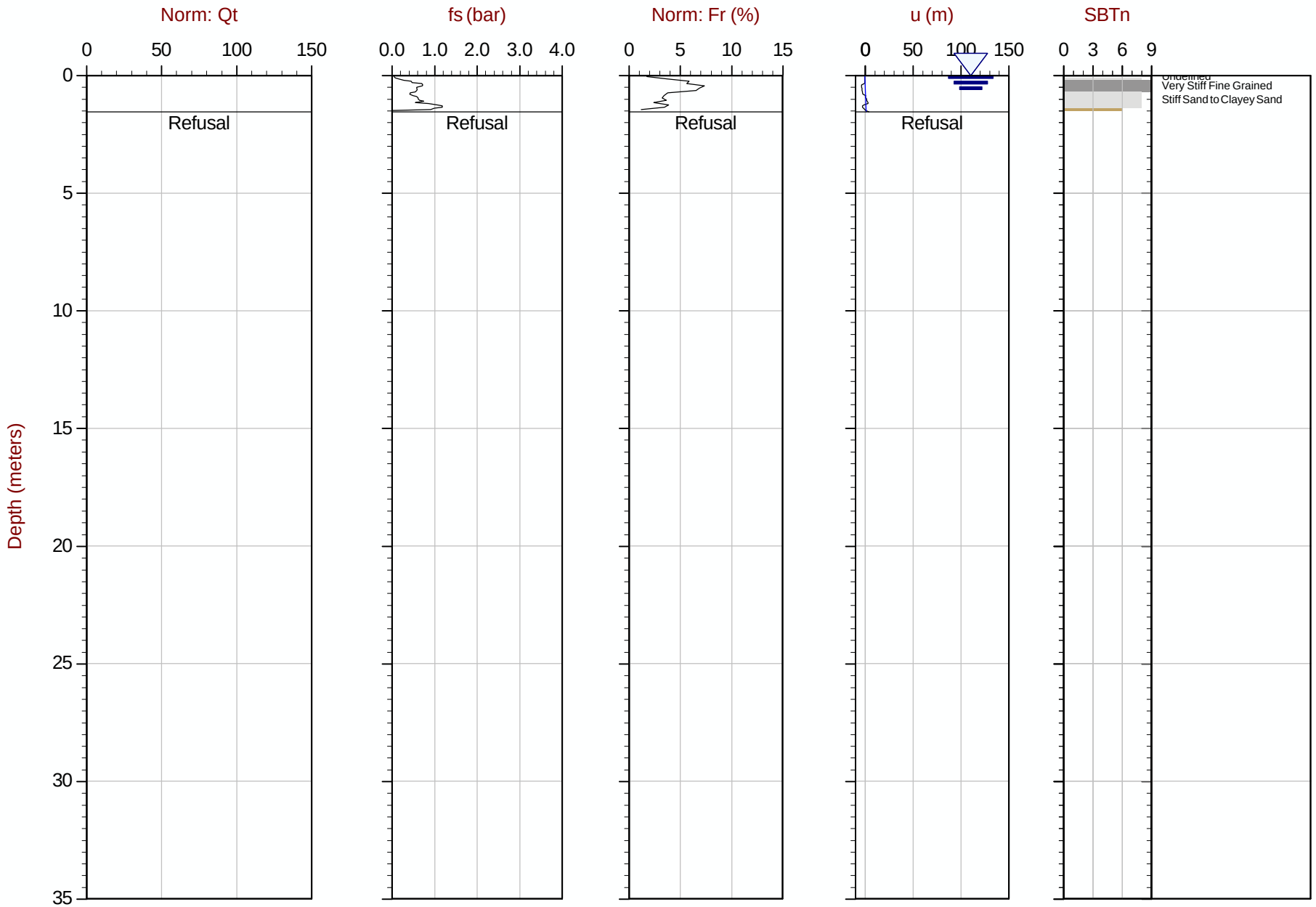
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5408548.906 E: 427084.230 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:11:10 10:21
Site: Plant Sites

Sounding: CPT-10-09
Cone: 268:T1500F15U500



Max Depth: 1.550 m / 5.09 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP09.COR

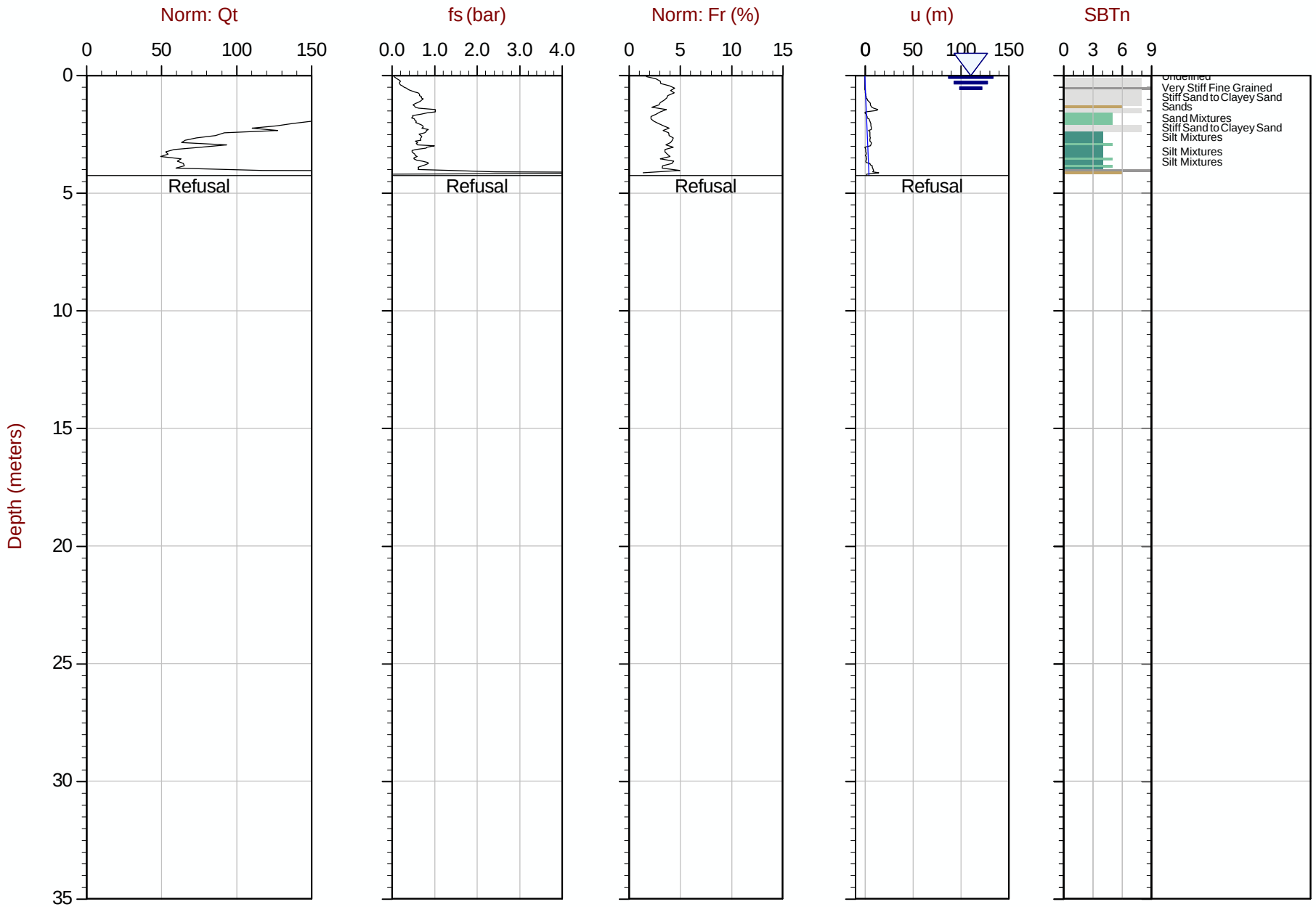
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410250.353 E: 426487.549 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:11:10 10:58
Site: Plant Sites

Sounding: CPT-10-10
Cone: 268:T1500F15U500



Max Depth: 4.250 m / 13.94 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP10.COR

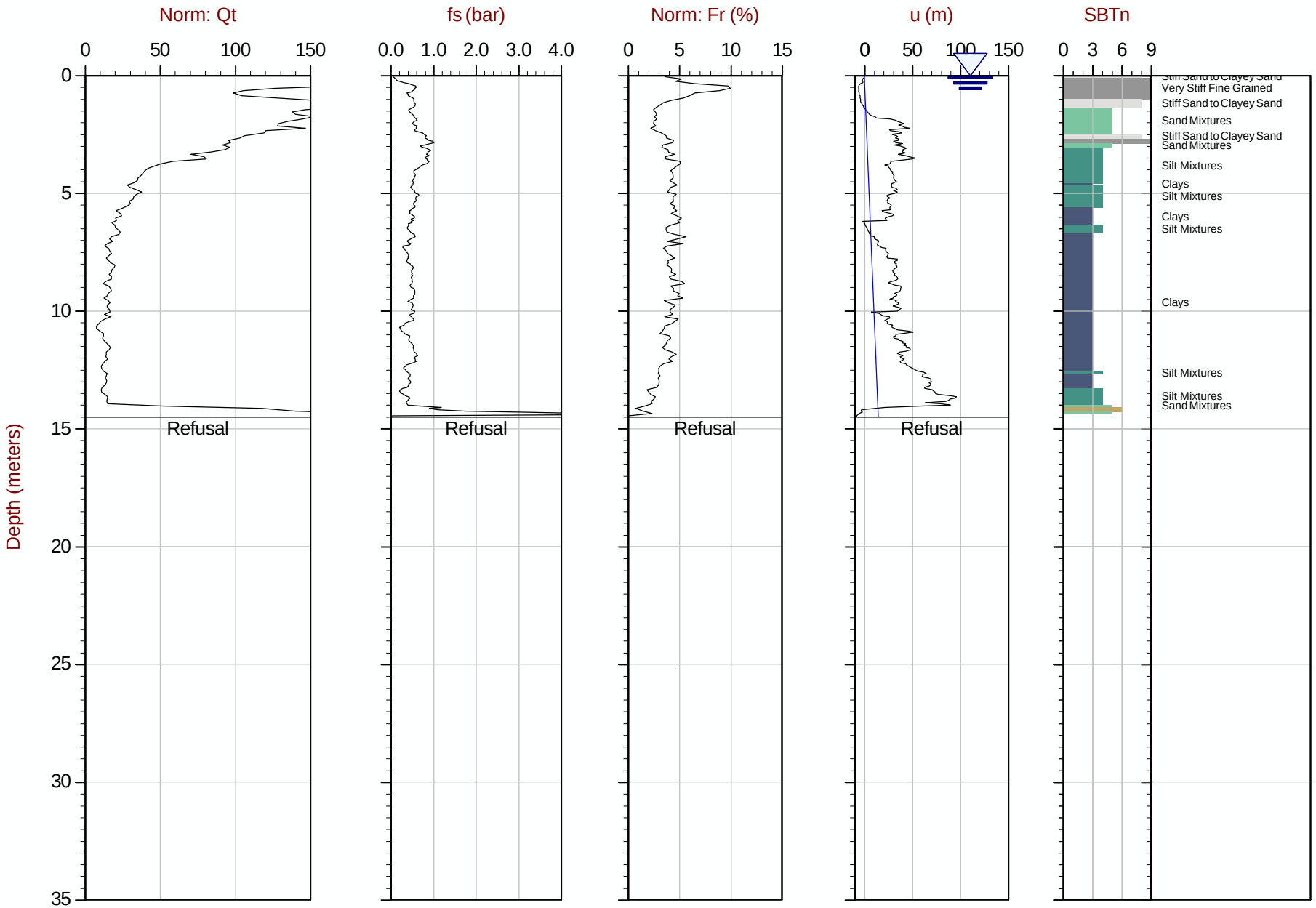
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410285.621 E: 426623.778 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:11:10 13:27
Site: Plant Sites

Sounding: CPT-10-11
Cone: 268:T1500F15U500



Max Depth: 14.500 m / 47.57 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP11.COR

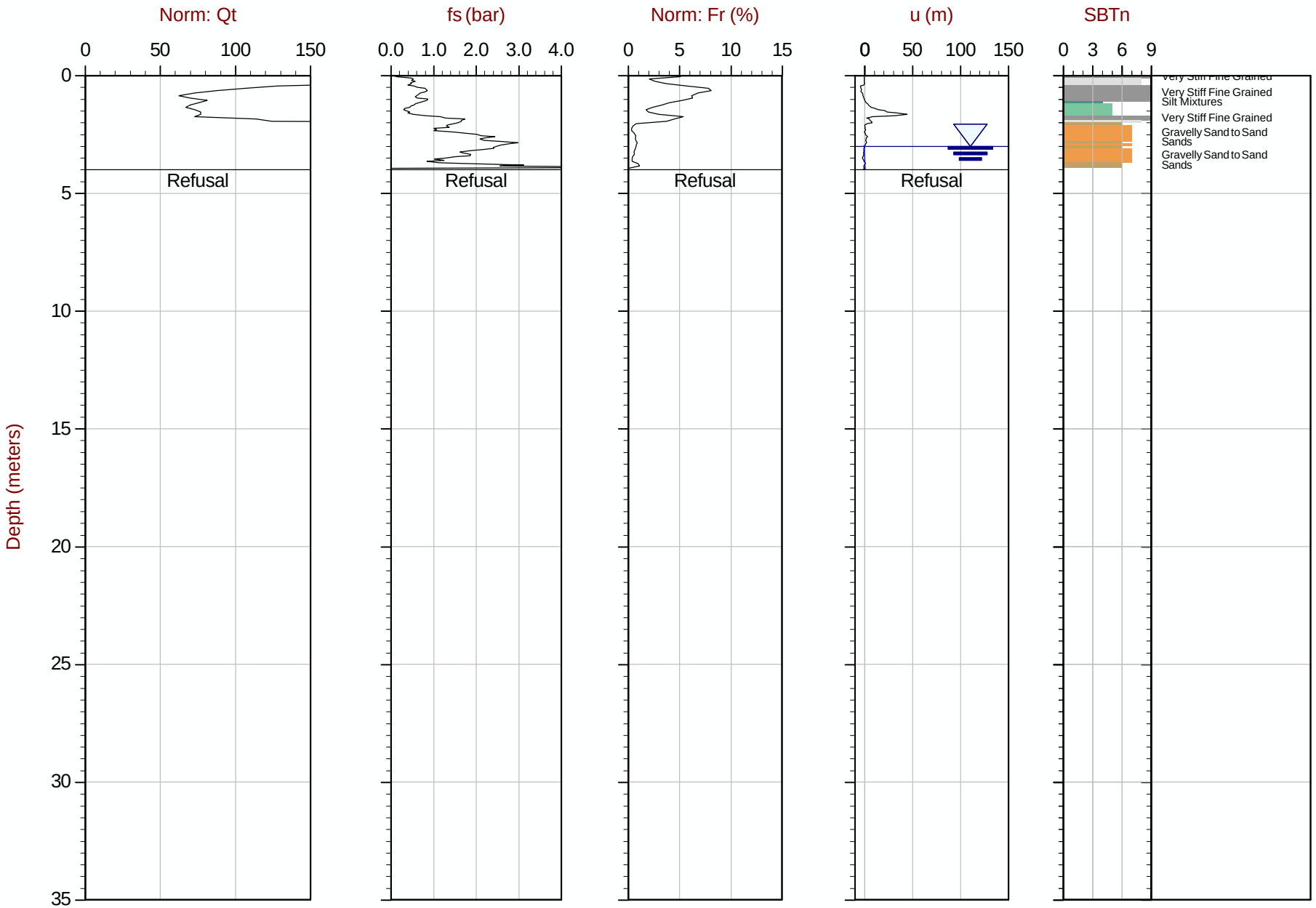
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410167.875 E: 426700.510 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:12:10 08:33
Site: Waste Rock Dump

Sounding: CPT-10-12
Cone: 268:T1500F15U500



Max Depth: 4.000 m / 13.12 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP12.COR

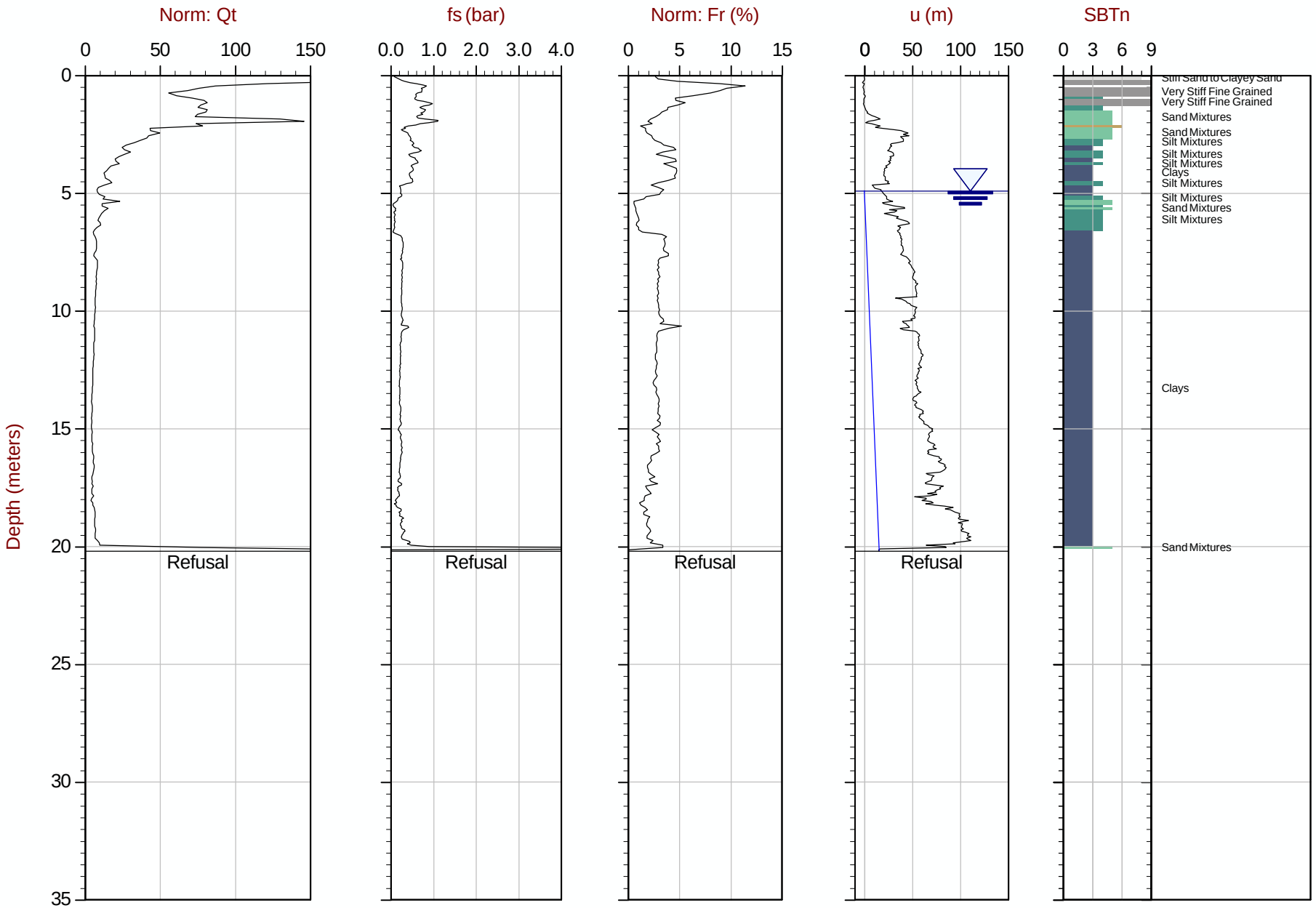
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410968.348 E: 426843.098 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:12:10 09:42
Site: Waste Rock Dump

Sounding: CPT-10-13
Cone: 268:T1500F15U500



Max Depth: 20.200 m / 66.27 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP13.COR

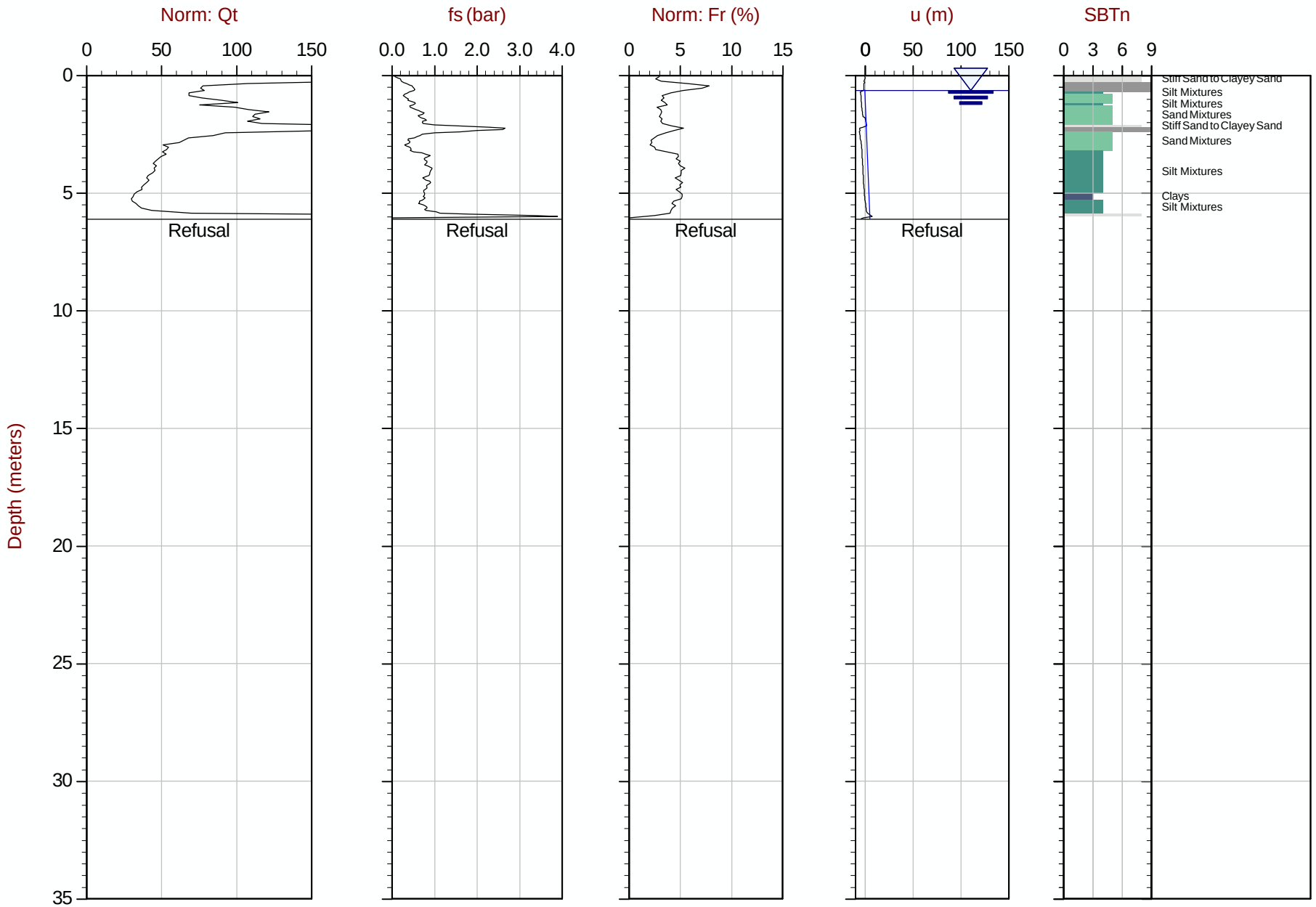
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411252.324 E: 426384.568 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:12:10 16:01
Site: Waste Rock Dump

Sounding: CPT-10-14
Cone: 268:T1500F15U500



Max Depth: 6.100 m / 20.01 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP14.COR

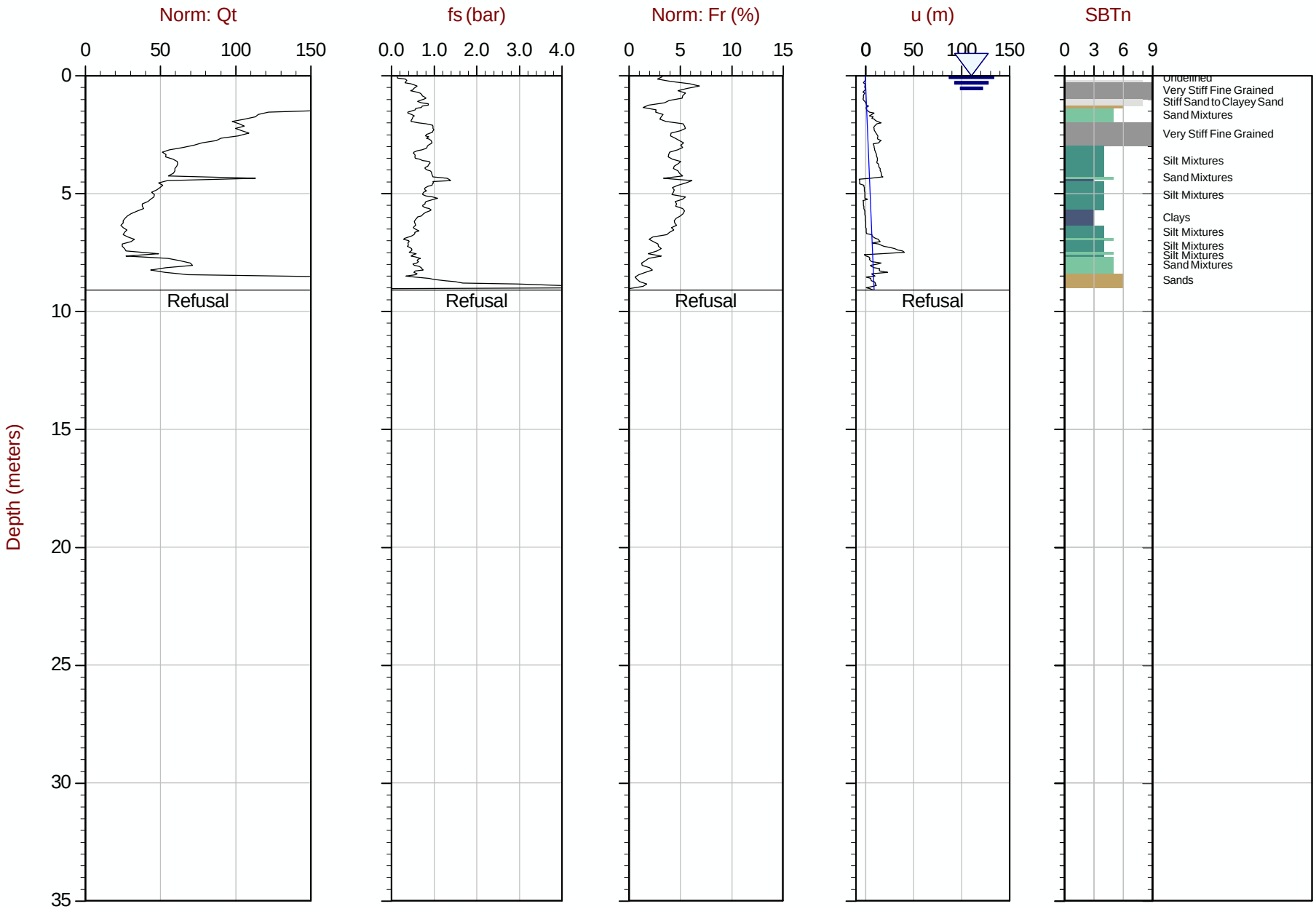
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411512.872 E: 426862.463 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:13:10 08:53
Site: Waste Rock Dump

Sounding: CPT-10-15
Cone: 268:T1500F15U500



Max Depth: 9.100 m / 29.86 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP15.COR

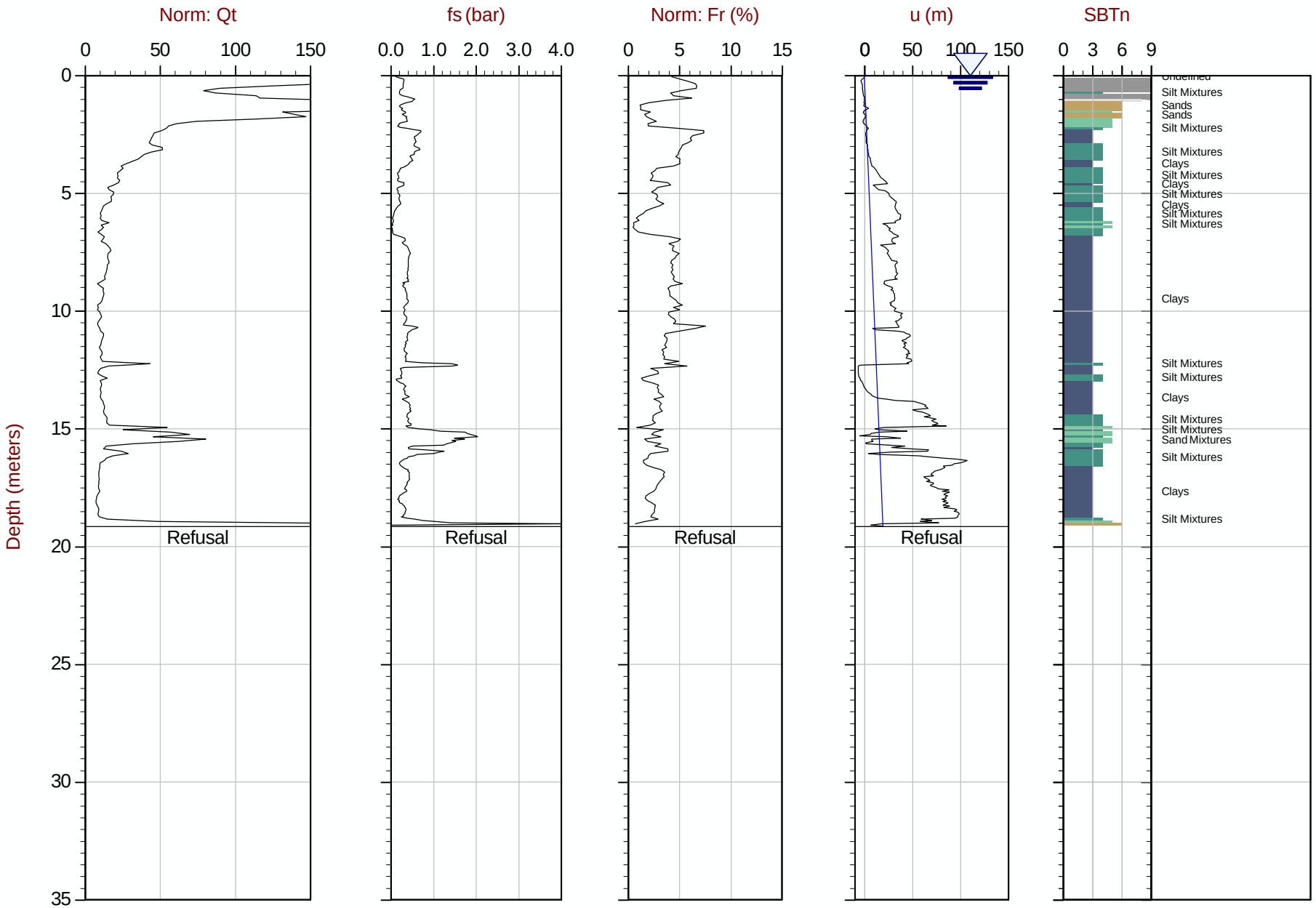
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411917.674 E: 426375.003 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:13:10 13:01
Site: Waste Rock Dump

Sounding: CPT-10-16
Cone: 268:T1500F15U500



Max Depth: 19.150 m / 62.83 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP16.COR

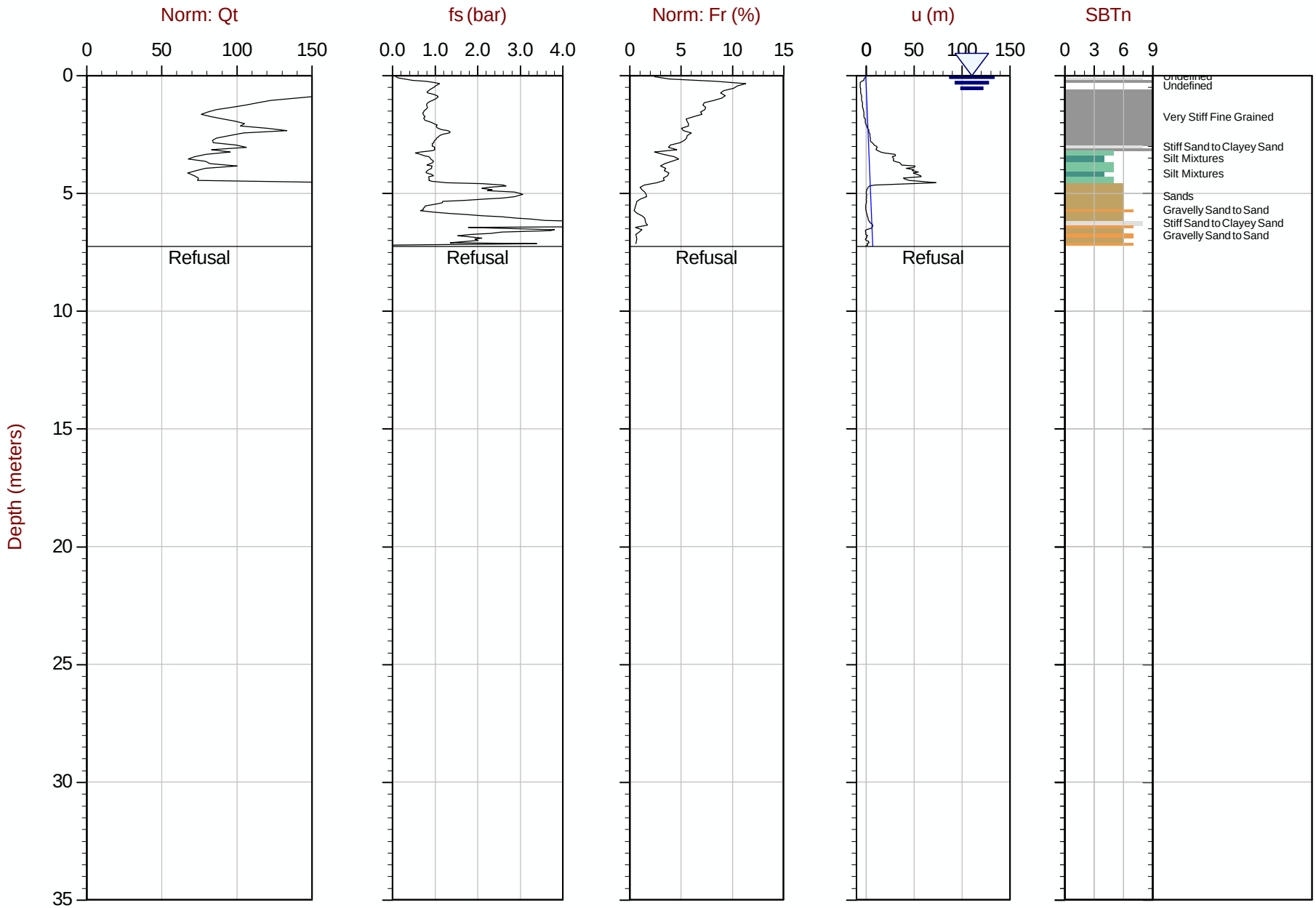
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5409308.244 E: 425429.209 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:14:10 11:39
Site: Tailings Facili

Sounding: CPT-10-17
Cone: 268:T1500F15U500



Max Depth: 7.250 m / 23.79 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP17.COR

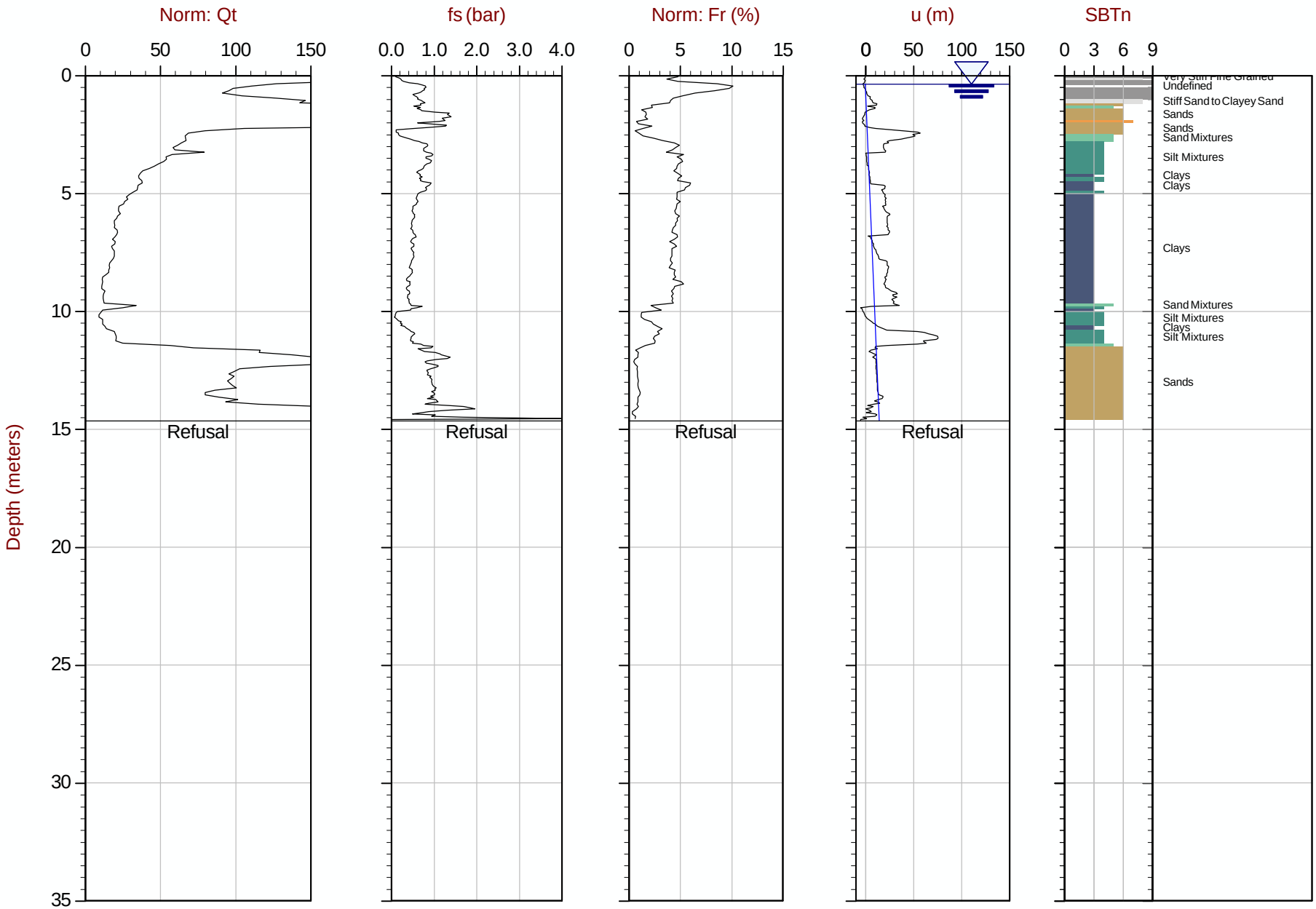
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411400.082 E: 425443.691 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:14:10 13:01
Site: Tailings Facili

Sounding: CPT-10-18
Cone: 268:T1500F15U500



Max Depth: 14.650 m / 48.06 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP18.COR

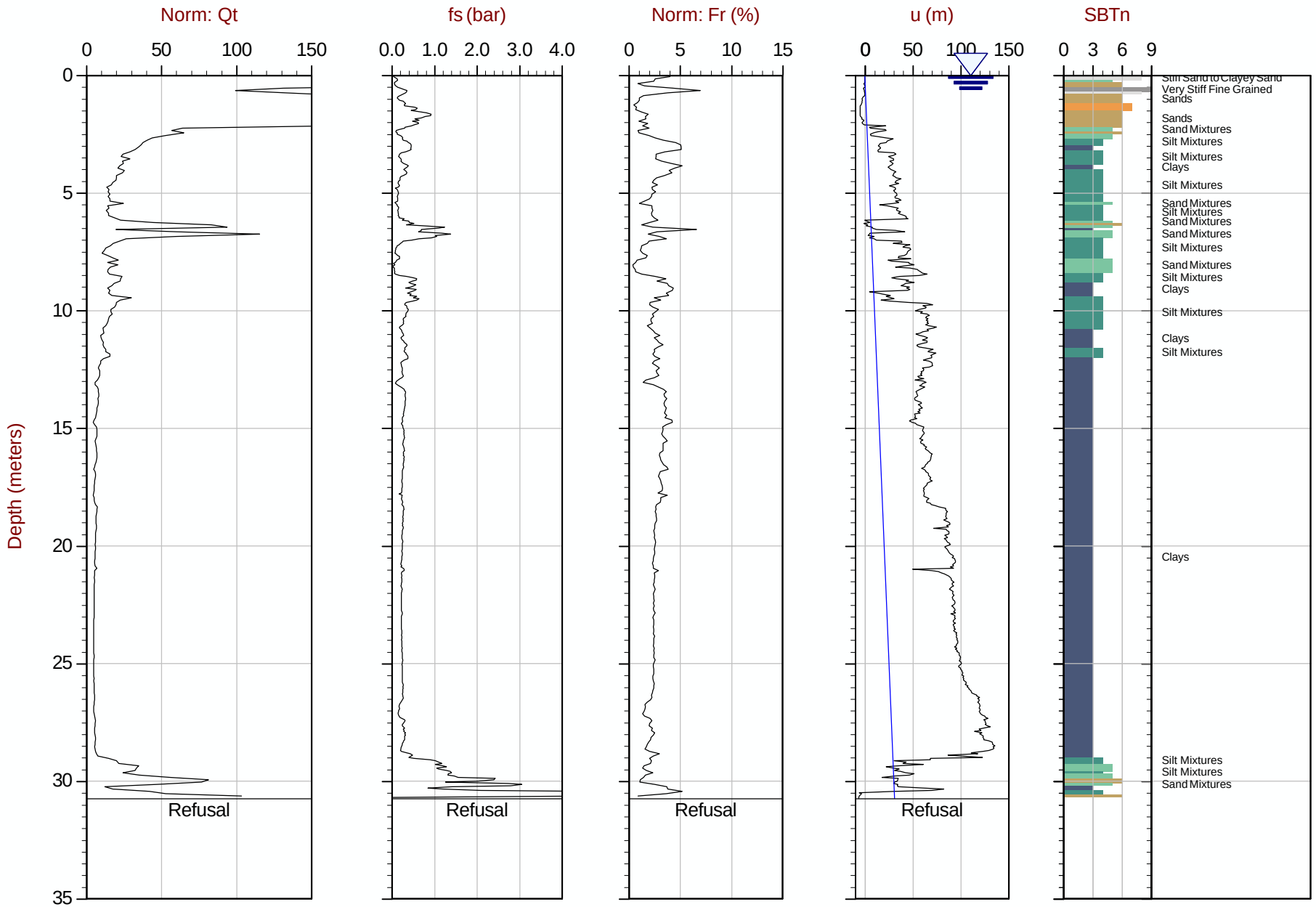
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411857.632 E: 424763.831 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:14:10 16:44
Site: Tailings Facili

Sounding: CPT-10-19
Cone: 268:T1500F15U500



Max Depth: 30.750 m / 100.88 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP19.COR

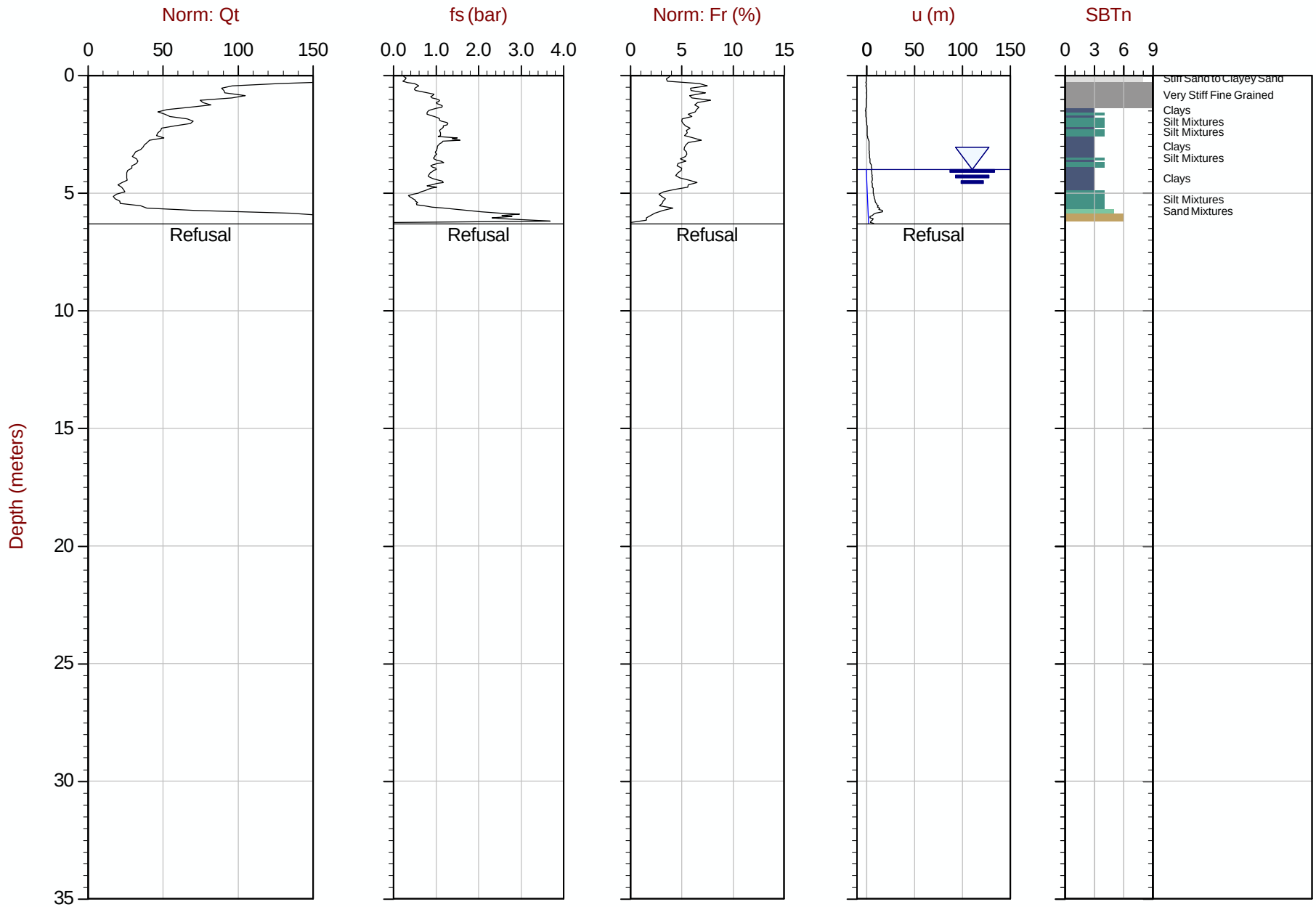
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411497.067 E: 424432.469 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:15:10 10:56
Site: Tailings Facili

Sounding: CPT-10-20
Cone: 268:T1500F15U500



Max Depth: 6.300 m / 20.67 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP20.COR

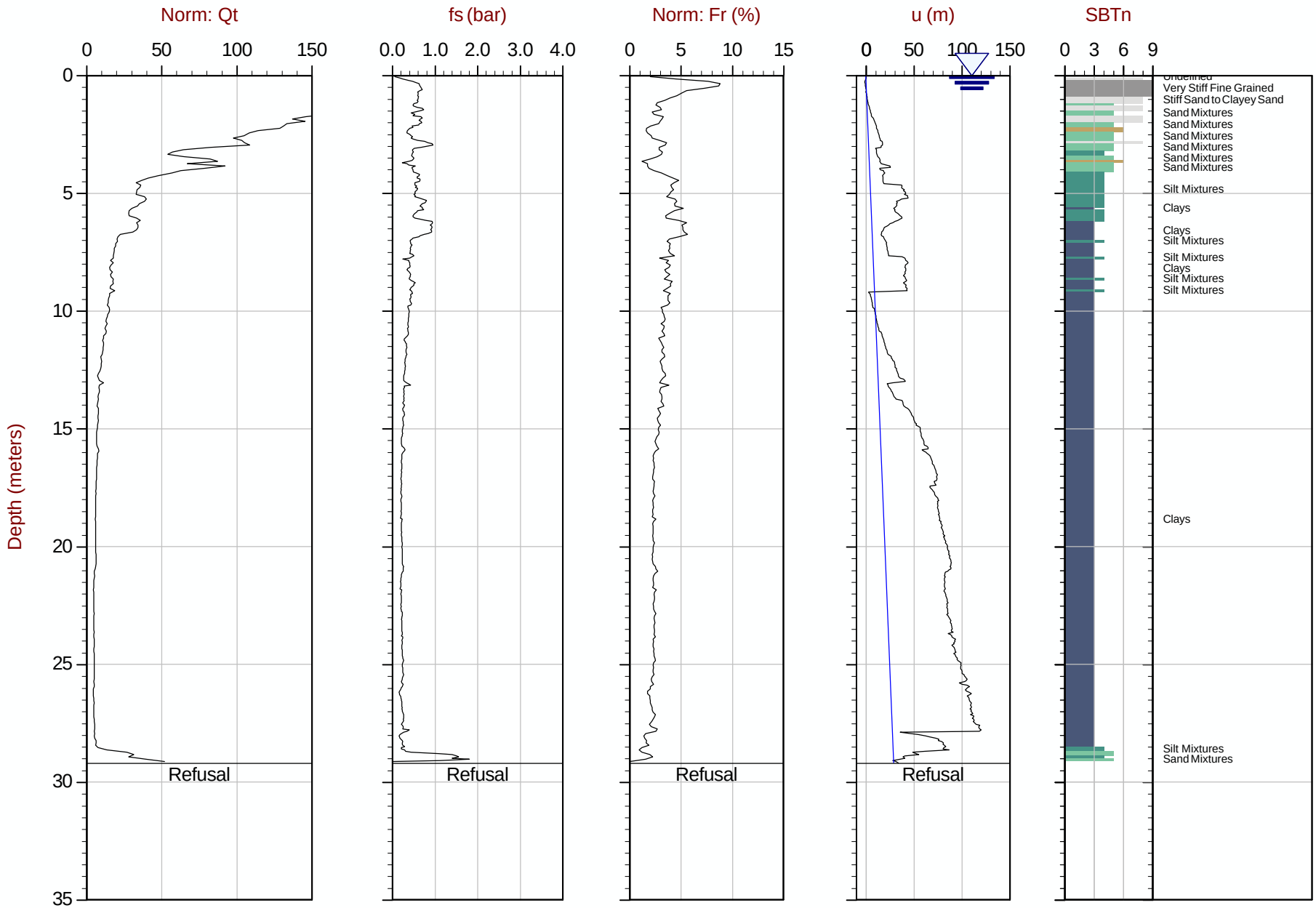
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5412837.646 E: 423824.671 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:15:10 11:41
Site: Tailings Facili

Sounding: CPT-10-21
Cone: 268:T1500F15U500



Max Depth: 29.200 m / 95.80 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP21.COR

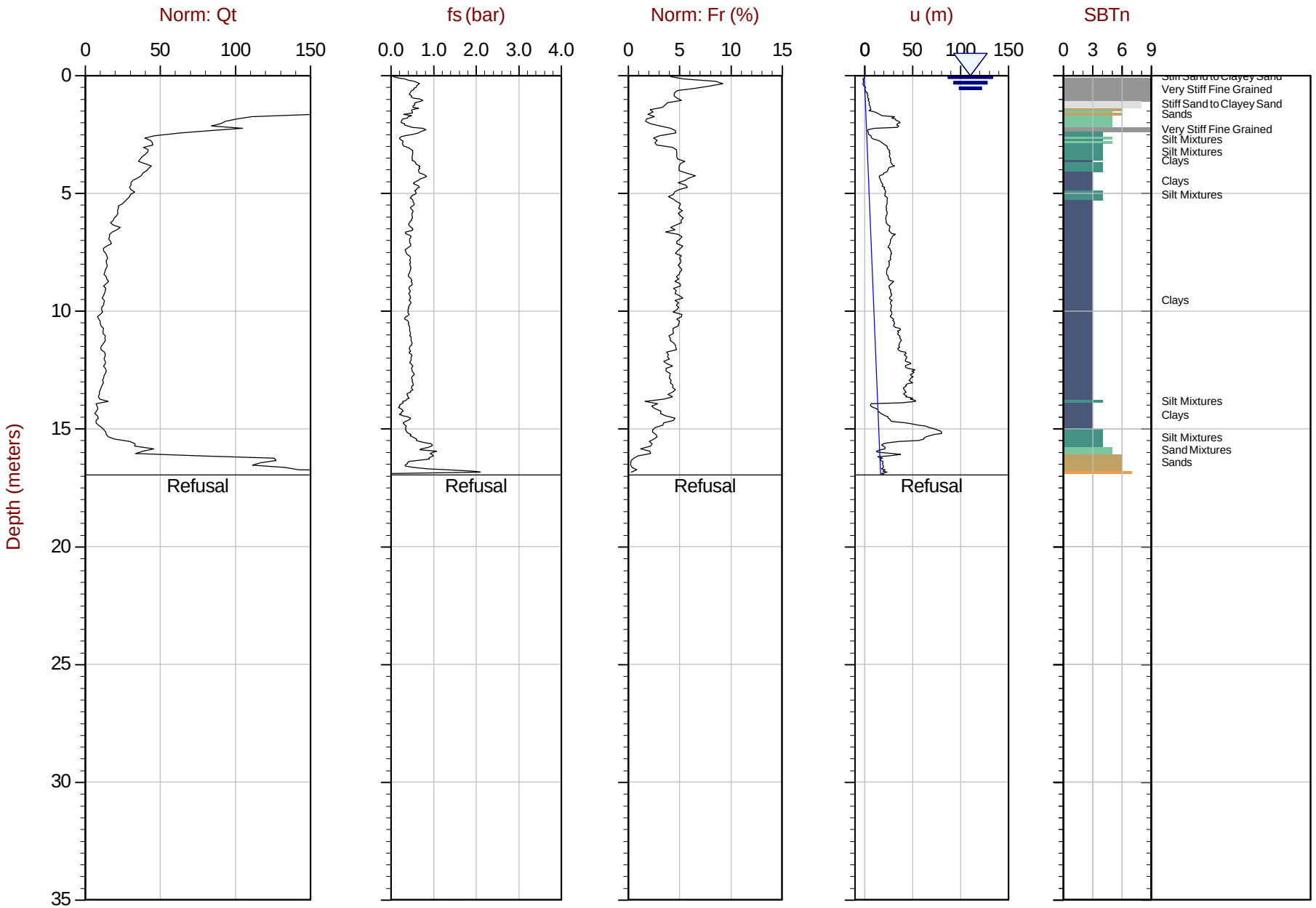
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5412333.408 E: 423569.583 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:15:10 16:23
Site: Tailings Facili

Sounding: CPT-10-22
Cone: 268:T1500F15U500



Max Depth: 16.950 m / 55.61 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP22.COR

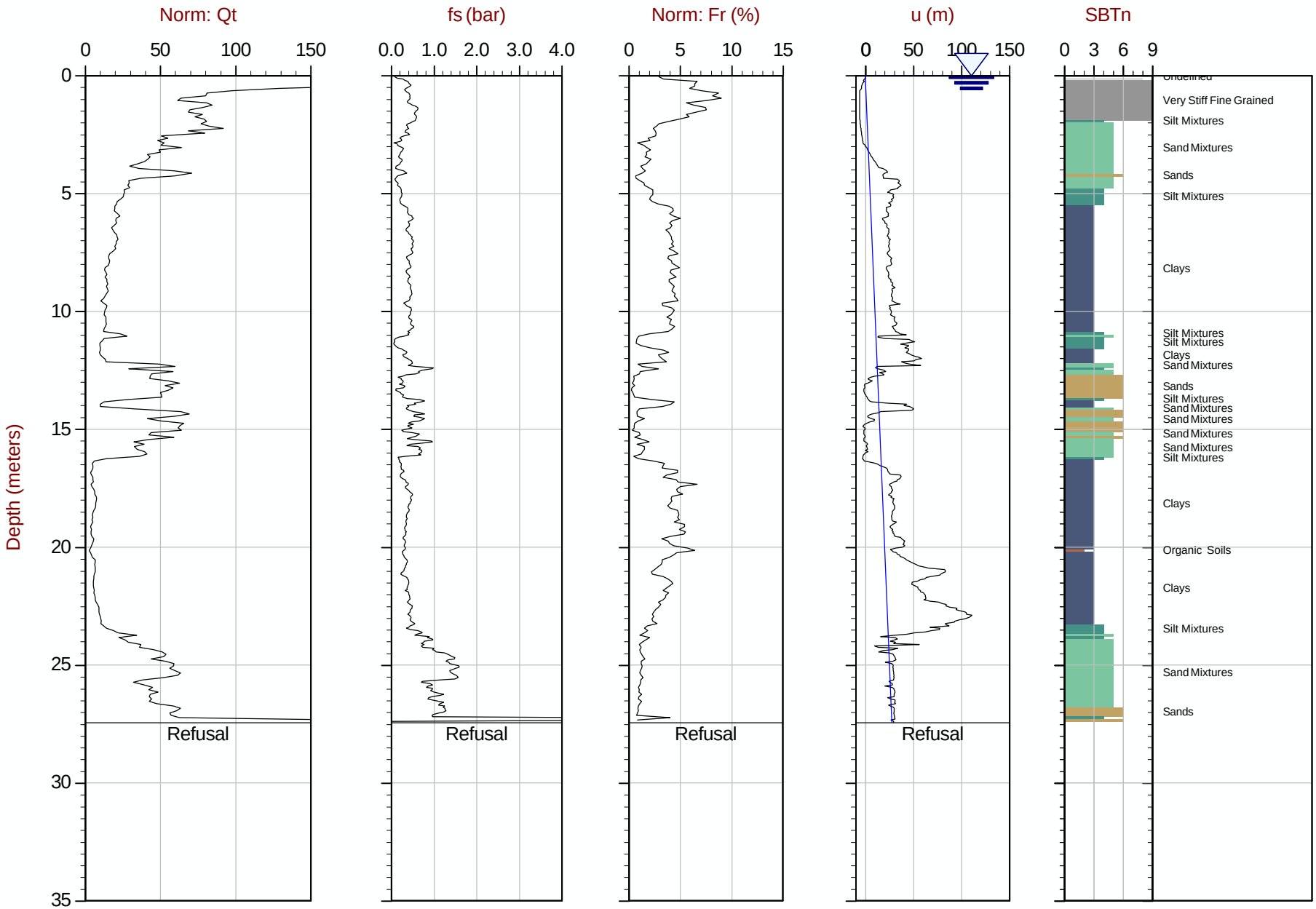
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5411458.913 E: 423967.265 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:16:10 09:27
Site: Tailings Facili

Sounding: CPT-10-23
Cone: 268:T1500F15U500



Max Depth: 27.450 m / 90.06 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP23.COR

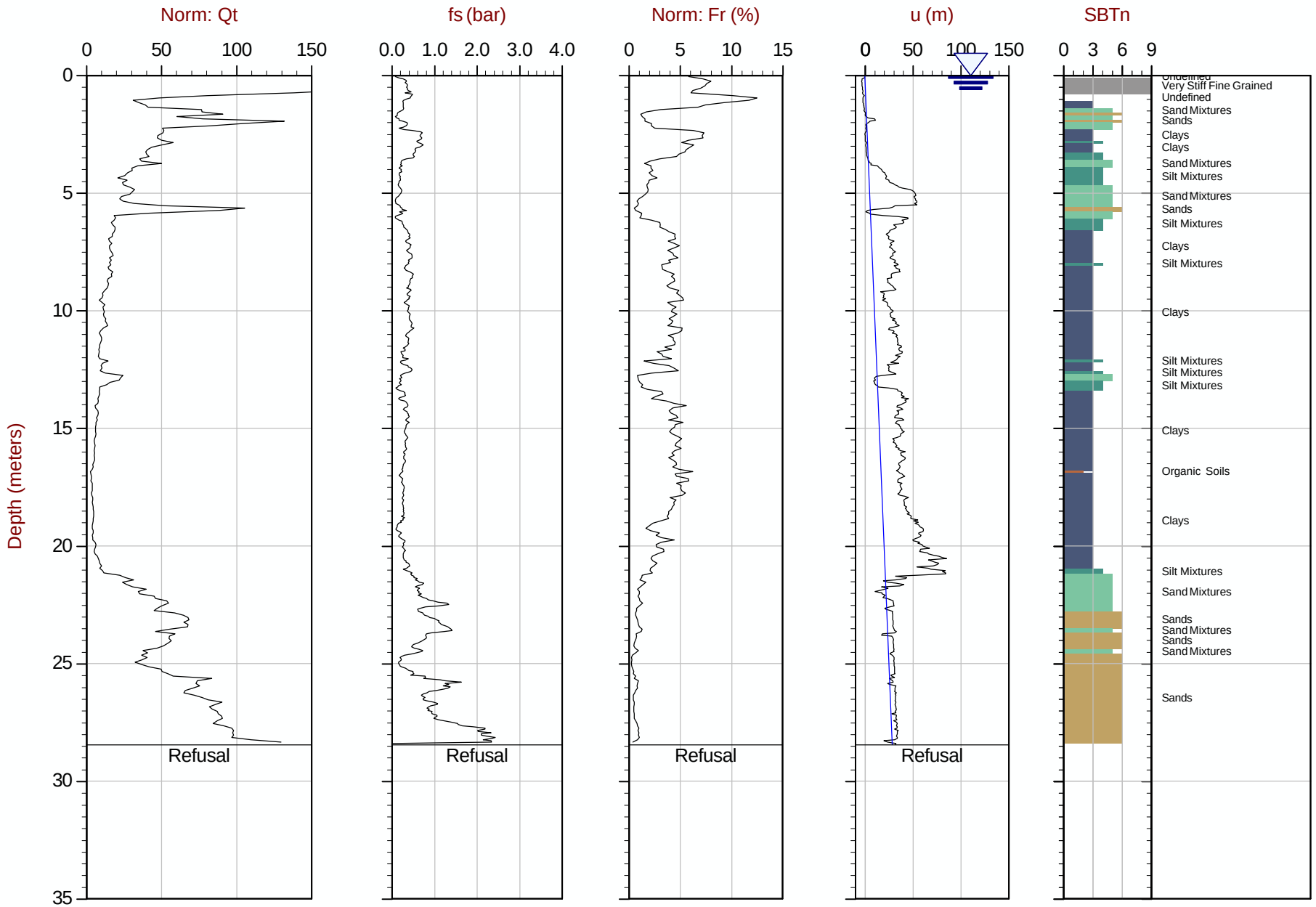
SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410987.933 E: 423718.701 Elev: 0.000

CONETEC

Klohn Crippen Berger

Job No: 10-731
Date: 05:16:10 11:02
Site: Tailings Facili

Sounding: CPT-10-24
Cone: 268:T1500F15U500



Max Depth: 28.450 m / 93.34 ft
Depth Inc: 0.050 m / 0.164 ft

File: 731CP24.COR

SBT: Lunne, Robertson and Powell, 1997
Coords: N: 5410934.880 E: 424076.309 Elev: 0.000

APPENDIX II - 2

Groundwater Levels

Location	NR06-115	NR08-287	NR07-151	NR06-104	NR07-190	NR96-28	NR08-278	NR96-64	NR08-257	NR08-246	RR09-213A	NR04-03	NR05-14	NR06-107	NR06-116	NR06-126	NR06-21	NR06-34	NR06-53	NR06-77	NR06-79	NR07-141	NR07-163	NR07-169	NR07-207	NR07-208	NR08-244	NR08-249	NR08-268	NR08-281	NR08-283	NR08-296	NR08-302	NR96-11
Ground Elevation	357	361	351	354	351	354	351	364	358	350	350	352	350	355	356	355	354	350	359	359	352	352	360	358	351	351	359	359	360	350	360	366	350	352
Stickup	0.36	0.18	0.21	0.13	0.30	0.45	0.53	0.29	0.28	0.59	0.27	0.30	0.30	0.26	0.30	0.11	0.30	0.30	0.42	0.30	0.30	0.30	0.30	0.30	0.30	0.26	0.30	0.30	0.30	0.27	0.40	0.30	0.30	0.30
Date	Water Elevation (masl)																																	
5/7/2009	352.01	-	-	352.03	-	350.90	350.33	352.95	352.95	-	-	352.30	Art	350.89	350.32	352.22	350.17	Art	354.45	354.66	Art	349.94	358.20	352.16	350.25	351.26	352.93	354.86	360.30	Art	356.90	366.30	Art	351.09
7/3/2009	350.64	357.48	350.88	-	350.79	-	350.19	353.95	353.65	348.96	-	-	-	349.65	-	353.32	-	-	353.46	-	-	-	-	-	-	350.76	-	-	-	Art	355.50	-	-	-
8/18/2009	-	356.28	350.85	351.42	350.38	350.28	350.24	352.22	352.59	350.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/25/2009	350.87	355.94	350.96	351.51	350.43	350.39	350.24	352.24	352.58	350.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/1/2009	350.94	356.26	350.90	351.51	350.45	350.36	350.17	352.25	352.58	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/8/2009	350.78	355.93	350.90	351.44	350.25	350.35	349.85	352.77	352.57	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/15/2009	350.69	355.77	350.76	351.37	350.22	350.83	349.85	352.27	352.57	350.56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/22/2009	349.70	355.53	350.44	350.79	350.29	349.74	349.80	352.11	352.52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/29/2009	350.12	355.38	350.40	350.96	350.27	349.96	349.93	352.11	352.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/6/2009	350.38	355.32	350.52	351.16	350.43	350.12	350.05	352.15	352.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/13/2009	350.42	355.13	350.46	351.16	350.43	350.06	350.07	352.13	352.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/20/2009	350.11	355.06	350.21	350.63	350.08	349.64	349.78	352.05	352.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/27/2009	349.24	354.94	350.11	350.47	349.94	349.61	349.61	352.00	352.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/3/2009	349.42	355.00	350.13	350.76	350.18	349.63	349.65	352.07	352.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/11/2009	349.48	355.19	350.32	350.95	350.26	349.87	349.76	352.45	352.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/26/2009	-	-	-	-	-	-	-	-	-	-	351.70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/22/2009	350.74	355.56	350.74	351.33	350.45	350.47	350.04	352.70	352.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/30/2009	350.83	355.49	350.86	351.52	350.51	350.60	350.13	352.81	352.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/5/2010	350.83	355.44	350.89	351.52	350.51	351.90	349.72	352.84	352.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/19/2010	350.79	355.36	350.86	351.59	350.47	350.74	349.66	352.81	352.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/26/2010	350.83	355.32	350.88	351.47	350.51	350.57	349.62	352.80	352.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/5/2010	350.20	355.06	350.52	351.07	351.08	350.07	349.41	352.60	352.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/11/2010	350.24	355.13	350.32	350.95	350.02	349.86	349.47	352.25	351.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/19/2010	349.87	354.86	350.17	350.76	349.94	349.63	349.25	352.06	352.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/26/2010	349.84	354.98	350.10	350.70	349.77	349.65	349.35	352.07	351.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/5/2010	349.75	354.91	350.02	350.61	349.73	349.57	349.29	352.01	351.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/12/2010	350.13	354.94	350.30	350.88	350.26	349.91	349.31	352.00	351.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/19/2010	350.40	355.40	350.98	351.42	350.46	350.34	349.68	352.55	352.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/26/2010	350.44	355.77	351.11	351.52	350.50	350.45	349.98	352.06	352.36	350.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/2/2010	350.46	355.98	351.16	351.55	350.45	350.49	349.95	352.96	352.41	350.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/9/2010	349.53	356.11	350.78	351.00	350.34	349.64	349.79	352.29	352.03	348.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/16/2010	349.26	356.13	350.39	350.98	350.10	349.37	349.56	352.09	351.95	348.31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/23/2010	348.67	356.24	350.05	350.46	349.90	349.09	349.30	351.98	351.88	347.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/30/2010	348.90	356.42	350.26	351.21	350.14	349.57	349.55	352.34	352.43	348.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/7/2010	348.65	356.78	350.59	351.22	350.18	349.88	349.53	352.34	352.42	347.93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/15/2010	349.67	357.59	350.57	351.35	350.36	349.91	349.71	352.45	352.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/21/2010	349.97	357.71	350.71	351.07	350.26	349.62	349.69	352.34	352.02	348.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/28/2010	350.47	358.22	351.12	351.42	350.46	349.97	349.80	352.51	352.19	349.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/4/2010	350.93	358.37	350.89	351.30	350.26	349.83	349.26	352.31	352.10	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/11/2010	351.49	359.27	Art	351.47	350.61	350.37	349.73	353.26	352.23	349.39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/18/2010	351.43	359.62	351.11	352.05	350.36	350.49	349.56	353.15	352.45	349.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/26/2010	351.18	359.45	Art	351.80	350.59	350.22	349.82	353.15	352.46	350.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/3/2010	352.40	359.28	Art	352.38	351.02	351.05	349.89	353.05	351.94	350.23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/10/2010	352.52	359.45	351.09	352.24	350.55	350.67	349.78	353.04	351.91	350.24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/17/2010	352.42	358.77	-	351.92	349.64	350.38	349.85	352.75	352.22	350.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/31/2010	-	358.55	-	-	350.07	350.17	349.58	352.57	351.67	350.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/7/2010	-	357.78	-	-	350.00	350.08	349.51	352.46	351.74	350.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/14/2010	-	357.38	-	-	349.97	349.83	349.42	352.31	351.59	350.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/21/2010	-	357.00	-	-	349.90	349.77	349.52	351.78	351.56	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/29/2010	-	357.56	-	-	349.94	350.03	349.44	352.52	352.10	350.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/4/2010	-	356.47	-	-	350.16	350.02	349.42	352.55	352.07	350.36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/11/2010	-	356.31	-	-	349.97	349.79	-	352.65	351.58	350.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/18/2010	-	356.24	-	-	350.07	349.76	-	351.82	-	350.38	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/26/2010	-	356.36	-	-	350.39	349.96	-	351.77	-	350.36	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/3/2010	-	356.61	-	-	350.01	349.47	-	352.23	-	349.20	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/10/2010	-	356.48	-	-	350.07	349.45	-	352.09	-	348.91	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/17/2010	-	356.57	-	-	348.82	349.34	-	352.46	-	348.90	Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/24/2010	-	356.40	-	-	349.46	349.24	-	352.15	-	348.97	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/31/2010	-	356.54	-	-	349.99	349.17	-	351.87	-	348.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/7/2010	-	356.25	-	-	349.92	349.16	-	351.88	-	349.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/14/2010	-	356.26	-	-	349.80	349.10	-	351.84	-	348.92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/21/2010	-	356.05	-	-	349.86	349.35	-	351.50	-	349.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11/28/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/5/2010	-	356.11	-	-	349.94	349.69	-	351.50	-	350.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: 'Art' specifies flowing artesian conditions, so water level was not measured.

Location	BH10-09A	BH10-09B	BH10-08A	BH10-08B	BH10-07A	BH10-07B	BH10-05	BH10-06	BH10-12A	BH10-12B	BH10-11A	BH10-11B	BH10-14	BH10-13	BH10-15	BH10-10A	BH10-10B	RR09-213B	RR09-214A	RR09-214B	RR09-215A	RR09-215B	TW10-01	TW10-02	TW10-03	TW10-04
Ground Elevation	367.5	367.5	357	357	353	353	373	375.5	352	352	349	349	347	350	350	351	351	350	348	348	348	348	349	349	348	348
Stickup	0.55	0.52	0.70	0.74	0.93	1.04	1.00	1.05	0.85	0.85	0.88	0.93	0.85	0.93	0.80	0.86	0.89	0.20	0.20	0.20	0.20	0.20	0.45	0.64	1.43	1.30
Date	Water Elevation (masl)																									
11/26/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350.20	349.50	348.00	349.17	348.00	-	-	-	-
5/31/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349.15	-	-	-
6/1/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349.04	-	-
6/2/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349.13	-
6/3/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349.2
9/18/2010	366.36	366.36	356.62	356.89	Art	354.04	372.61	374.45	Art	350.28	349.80	349.41	Art	349.43	349.10	351.70	351.87	-	-	-	-	-	-	-	-	-
9/26/2010	366.68	366.67	356.72	356.80	Art	354.04	372.87	374.73	Art	351.35	349.81	349.43	Art	349.66	349.13	351.86	351.76	-	-	-	-	-	-	-	-	-
10/3/2010	366.47	366.47	356.59	356.83	Art	354.04	372.73	375.24	Art	350.85	349.83	349.46	Art	349.50	349.12	351.86	351.86	-	-	-	-	-	-	-	-	-
10/10/2010	367.43	366.43	356.41	356.85	Art	354.04	372.62	375.28	Art	350.64	349.73	349.46	Art	349.59	349.01	351.86	351.84	-	-	-	-	-	-	-	-	-
10/17/2010	366.36	366.36	356.28	356.86	Art	354.04	372.45	375.25	Art	350.50	349.79	349.46	Art	349.60	349.05	351.86	351.83	-	-	-	-	-	-	-	-	-
10/24/2010	366.41	366.33	356.22	356.86	Art	354.04	372.78	375.26	Art	350.39	349.79	349.47	Art	349.80	349.05	Art	351.84	-	-	-	-	-	-	-	-	-
10/31/2010	366.45	366.38	356.69	356.86	Art	354.04	372.84	375.89	Art	350.57	349.79	349.48	Art	349.96	349.10	Art	351.88	-	-	-	-	-	-	-	-	-
11/7/2010	366.42	366.43	356.55	356.85	Art	354.04	372.80	375.90	Art	350.57	349.80	349.50	Art	349.96	349.06	351.86	351.89	-	-	-	-	-	-	-	-	-
11/14/2010	366.45	366.45	356.45	356.87	Art	Ice	372.75	375.80	Art	350.50	349.80	349.53	Art	349.61	349.37	Ice	Ice	-	-	-	-	-	-	-	-	-
11/21/2010	366.44	366.38	356.32	356.87	Art	Ice	372.71	Ice	Art	350.43	Ice	Ice	Art	349.75	-	Ice	Ice	-	-	-	-	-	-	-	-	-
11/28/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/5/2010	366.54	366.65	356.36	356.87	Art	Ice	372.74	Ice	Art	350.43	Ice	Ice	Ice	349.77	-	Ice	Ice	-	-	-	-	-	-	-	-	-

Note: 'Art' specifies flowing artesian conditions, so water level was not measured; 'Ice' specifies that water in the well was frozen.

APPENDIX II - 3

Hydraulic Conductivity Analyses

Klohn Crippen Berger

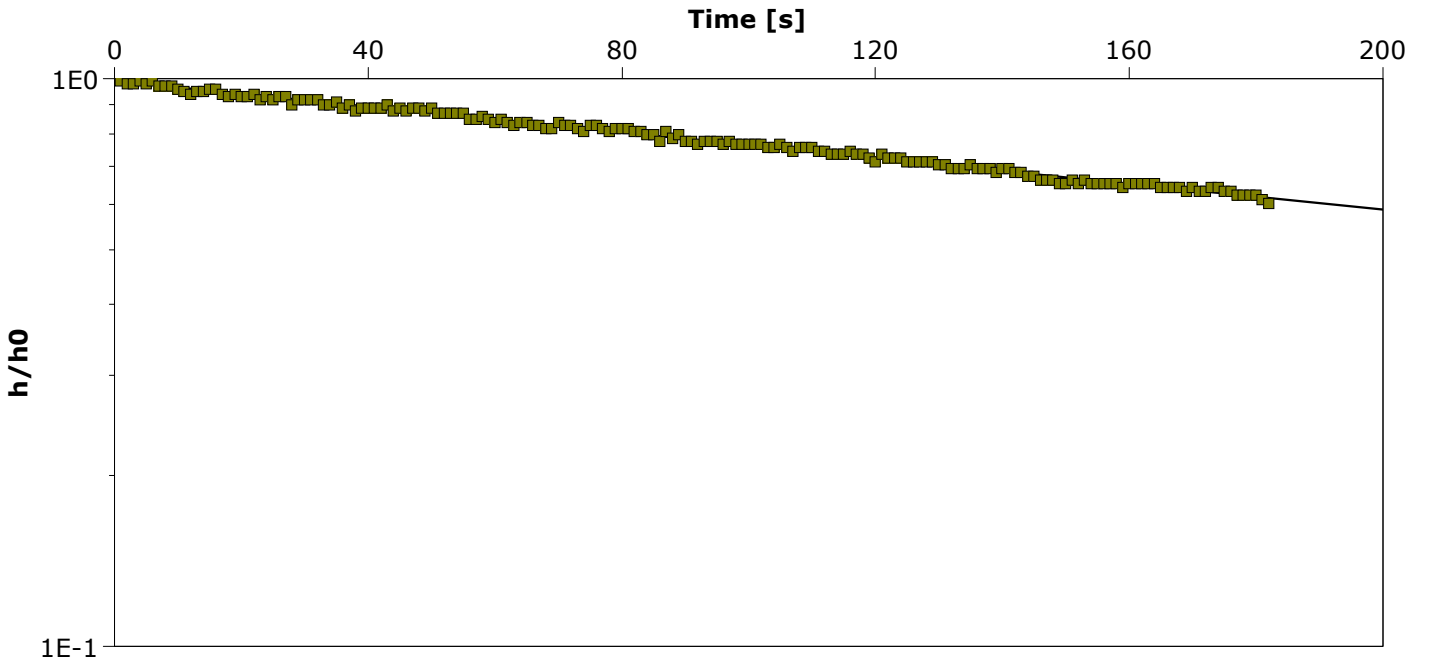
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 04-03	Test Well: NR04-03
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 170.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR04-03	1.09×10^{-7}	

Klohn Crippen Berger

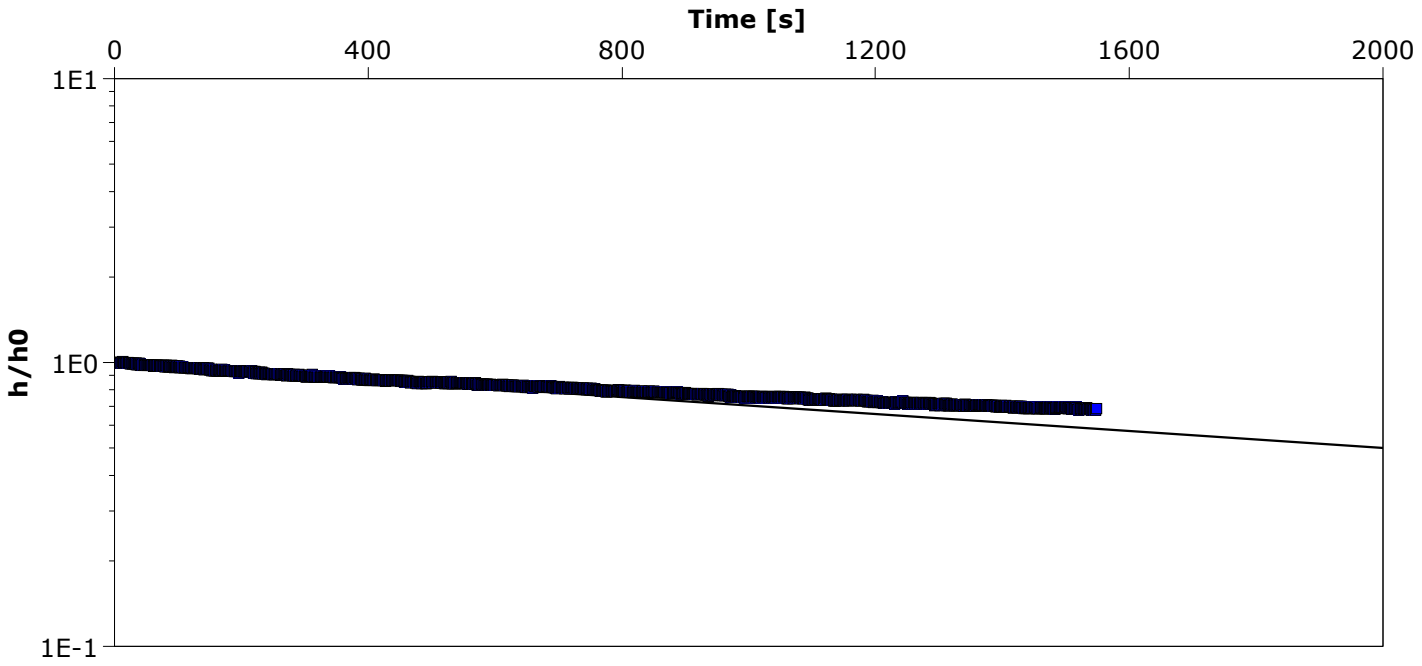
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 06-104	Test Well: NR06-104
Test Conducted by: JEM		Test Date: 5/6/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/16/2010
Aquifer Thickness: 397.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR06-104	5.96×10^{-9}	

Klohn Crippen Berger

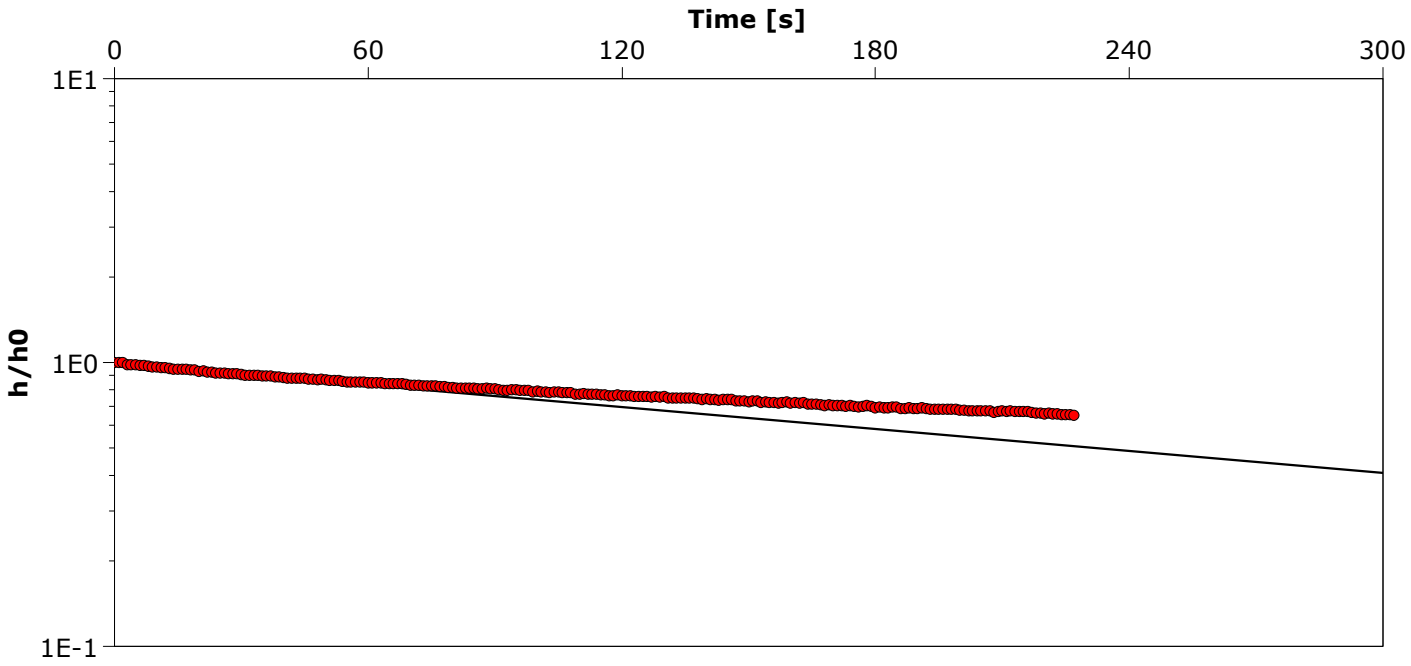
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 06-107	Test Well: NR06-107
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/16/2010
Aquifer Thickness: 265.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR06-107	7.27×10^{-8}	

Klohn Crippen Berger

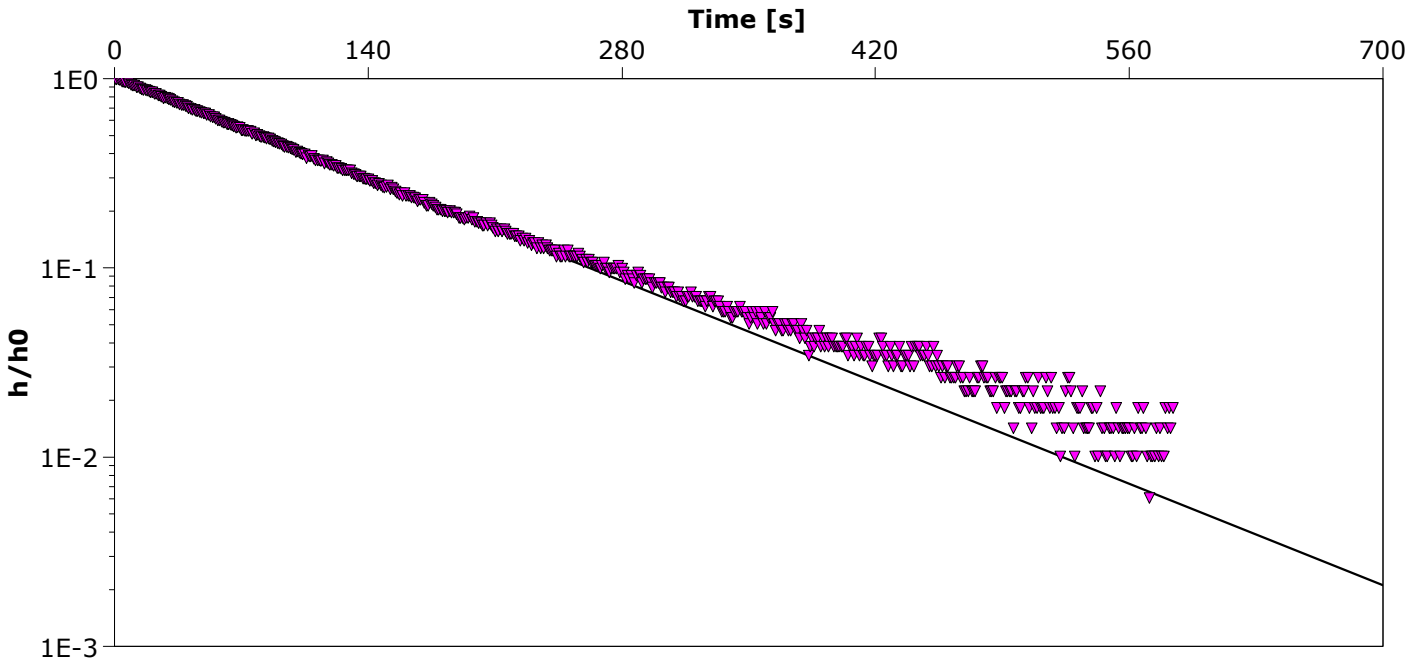
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 06-21	Test Well: NR06-21
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 311.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR06-21	2.03×10^{-7}	

Klohn Crippen Berger

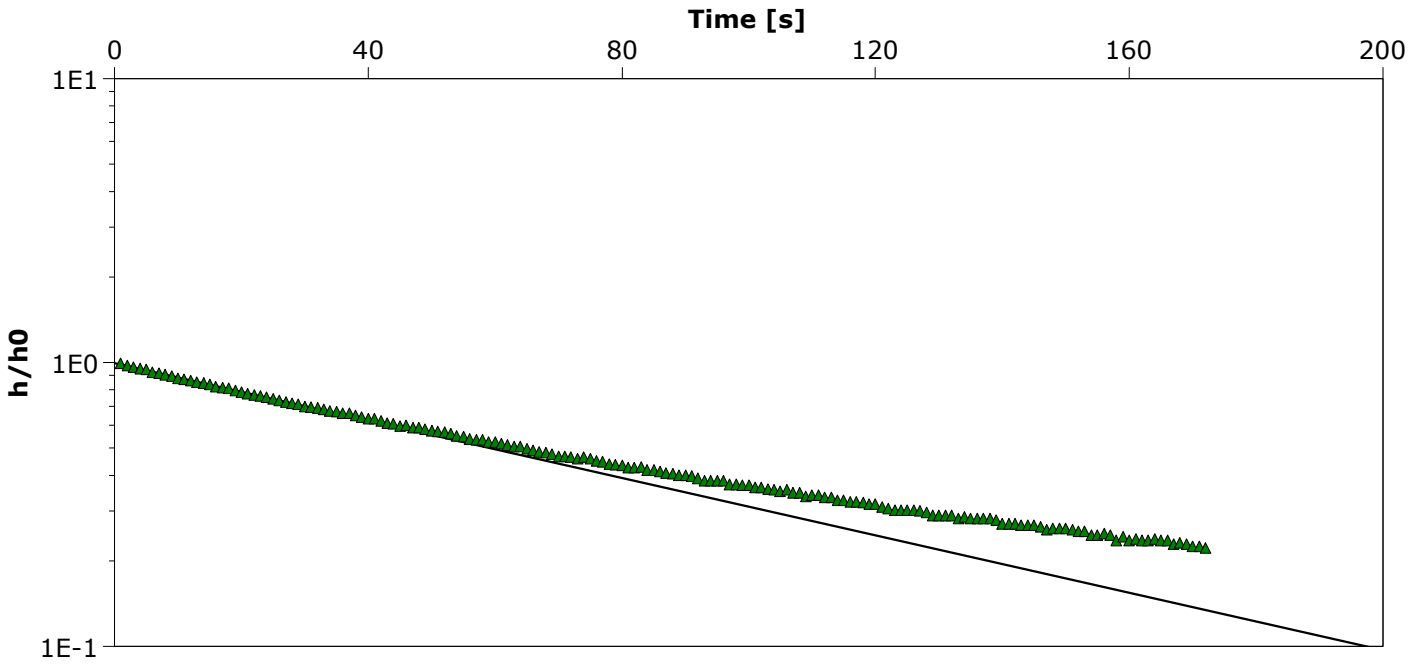
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 07-141	Test Well: NR07-141
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 265.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR07-141	2.86×10^{-7}	

Klohn Crippen Berger

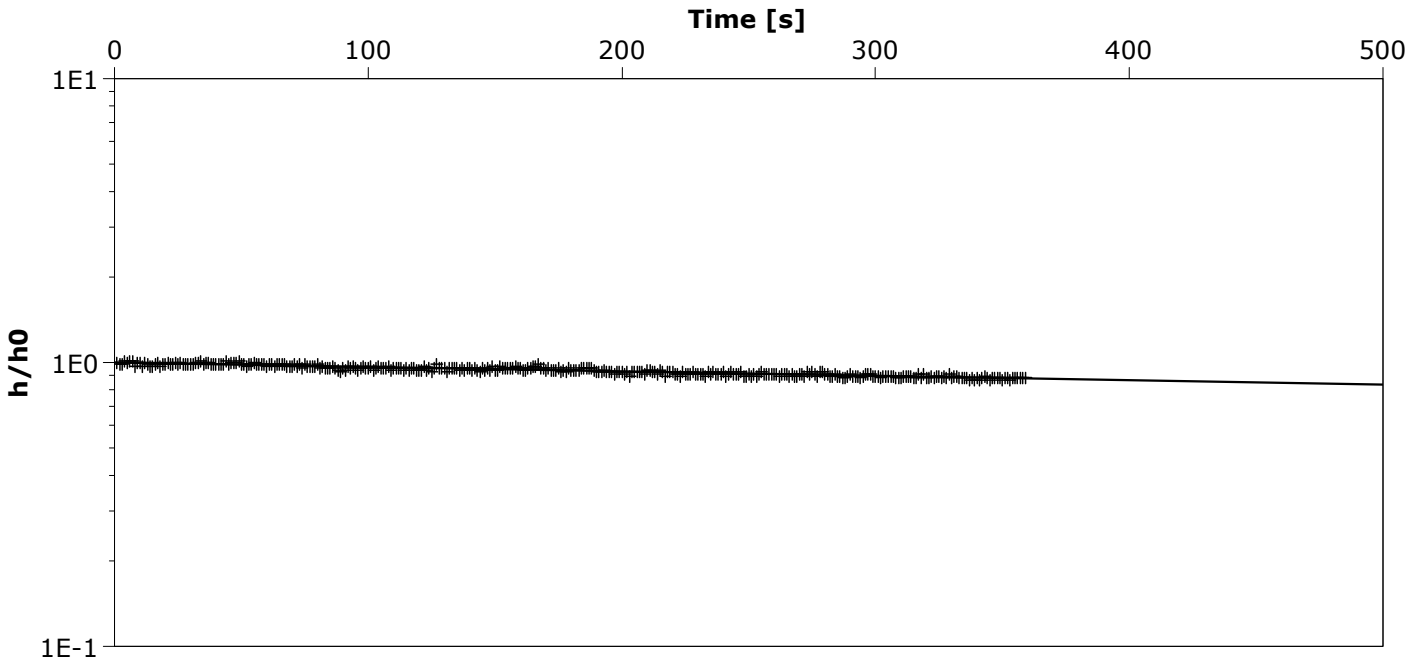
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 07-208	Test Well: NR07-208
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 263.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR07-208	1.02×10^{-8}	

Klohn Crippen Berger

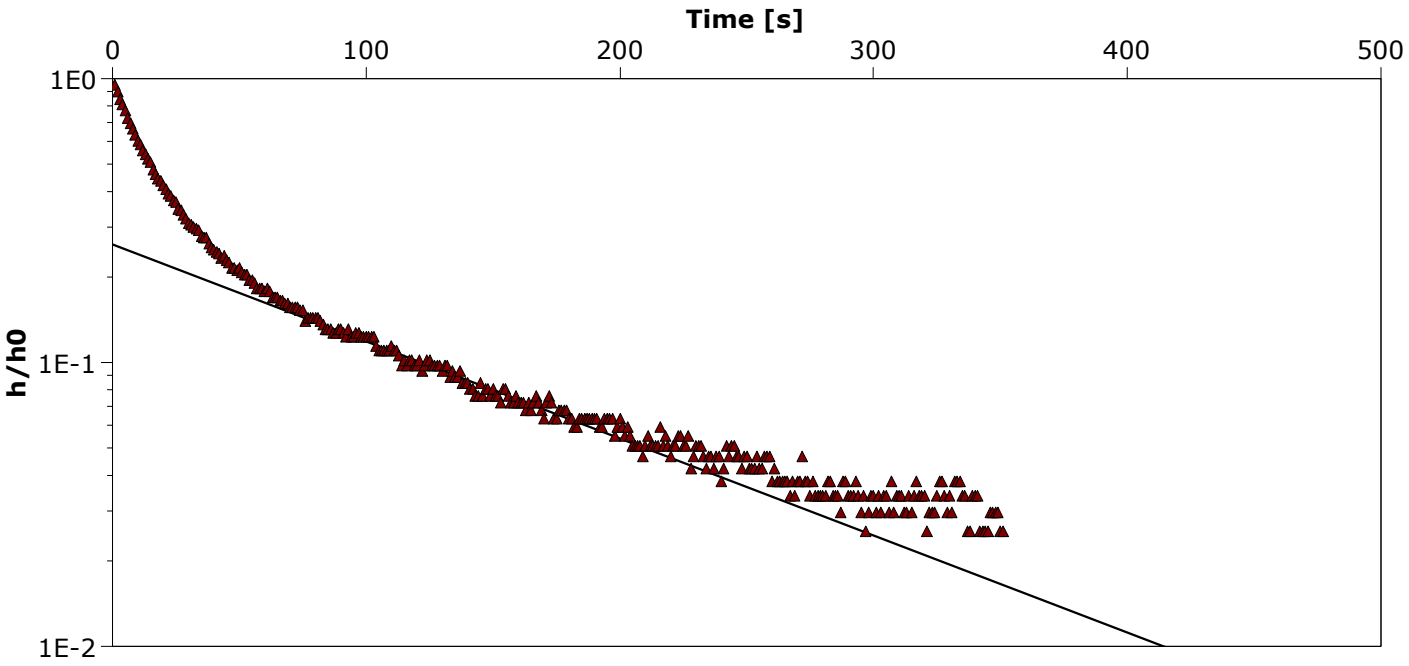
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 08-257	Test Well: NR08-257
Test Conducted by: JEM		Test Date: 5/8/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 713.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR08-257	8.76×10^{-8}	

Klohn Crippen Berger

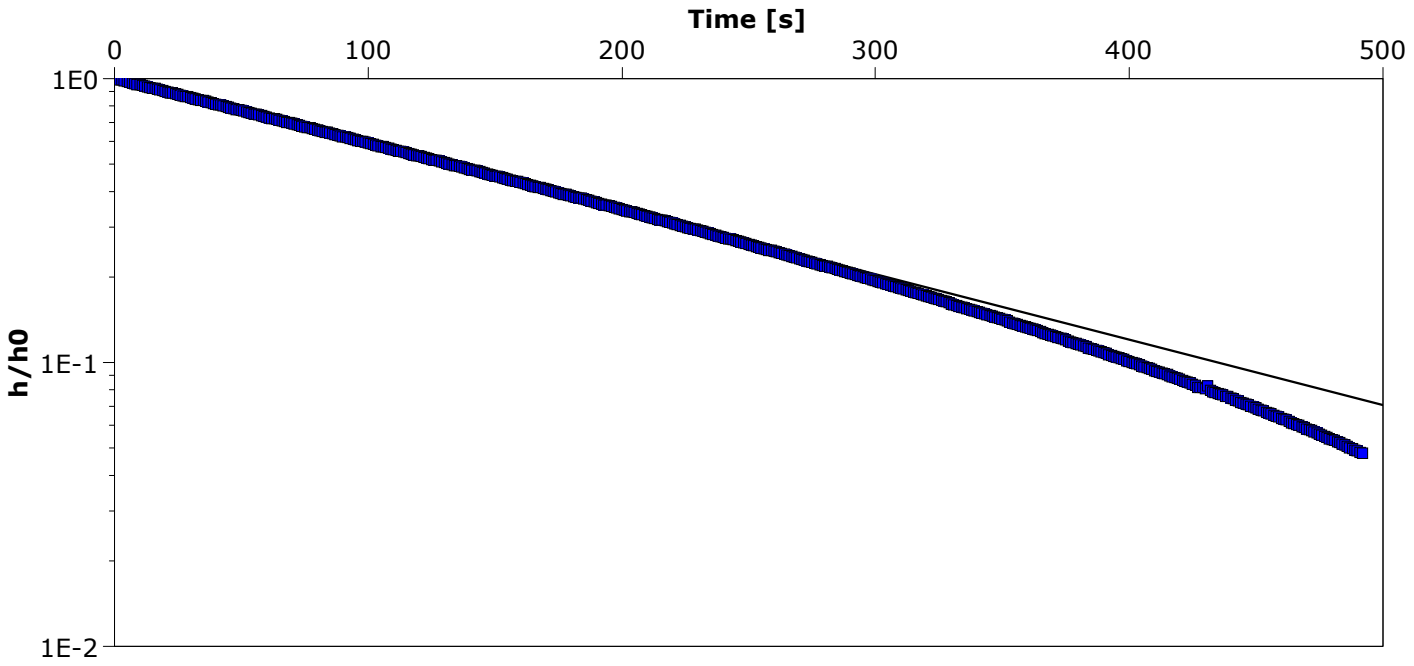
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 09-213A	Test Well: RR09-213A
Test Conducted by: TJ		Test Date: 11/25/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/14/2009
Aquifer Thickness: 10.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
RR09-213A	7.73×10^{-7}	

Klohn Crippen Berger

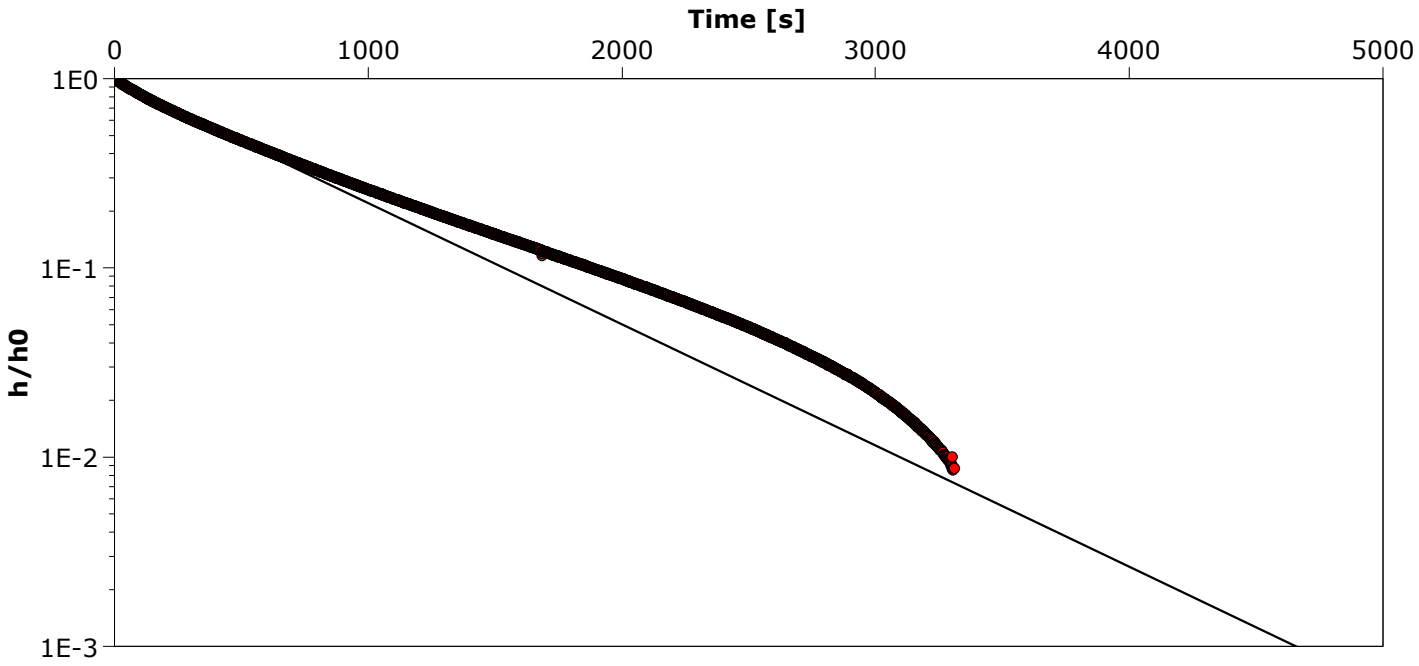
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 09-213B	Test Well: RR09-213B
Test Conducted by: TJ		Test Date: 11/25/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/14/2009
Aquifer Thickness: 41.50 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
RR09-213B	2.15×10^{-7}	

Klohn Crippen Berger

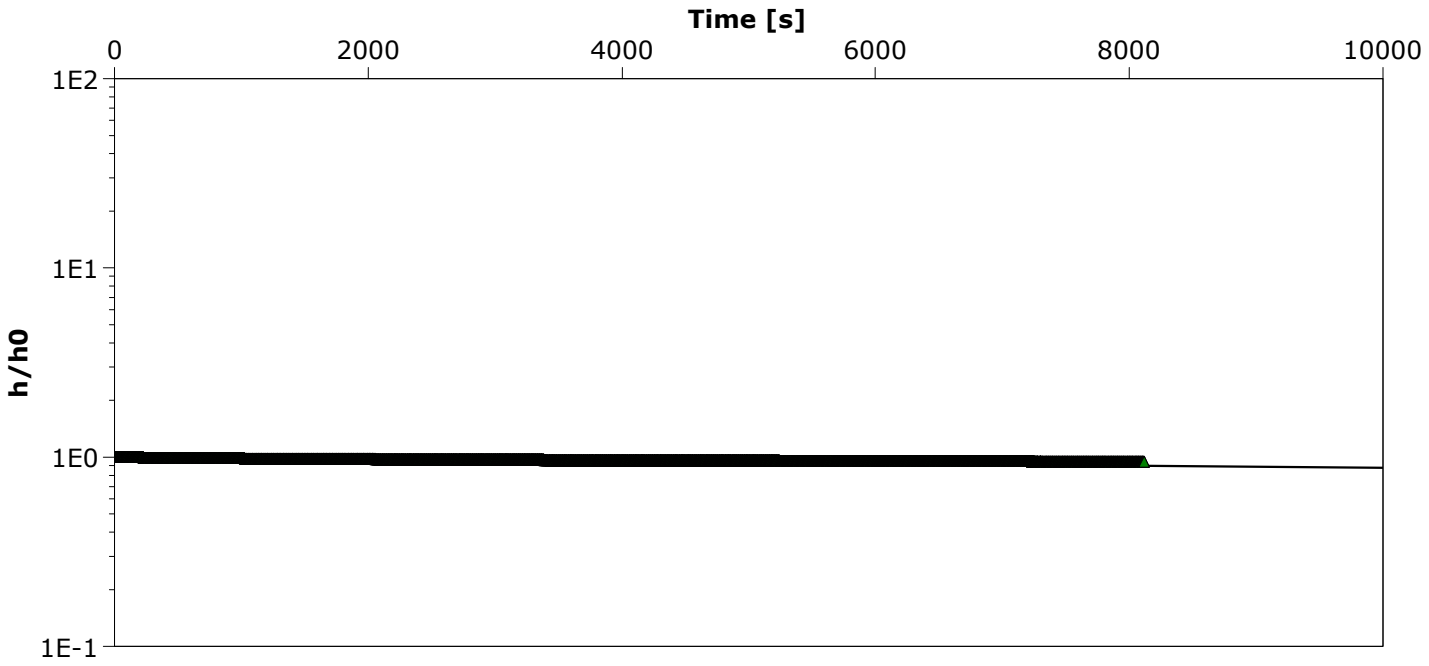
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 09-214B	Test Well: RR09-214B
Test Conducted by: TJ		Test Date: 11/26/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/14/2009
Aquifer Thickness: 30.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
RR09-214B	1.88×10^{-9}	

Klohn Crippen Berger

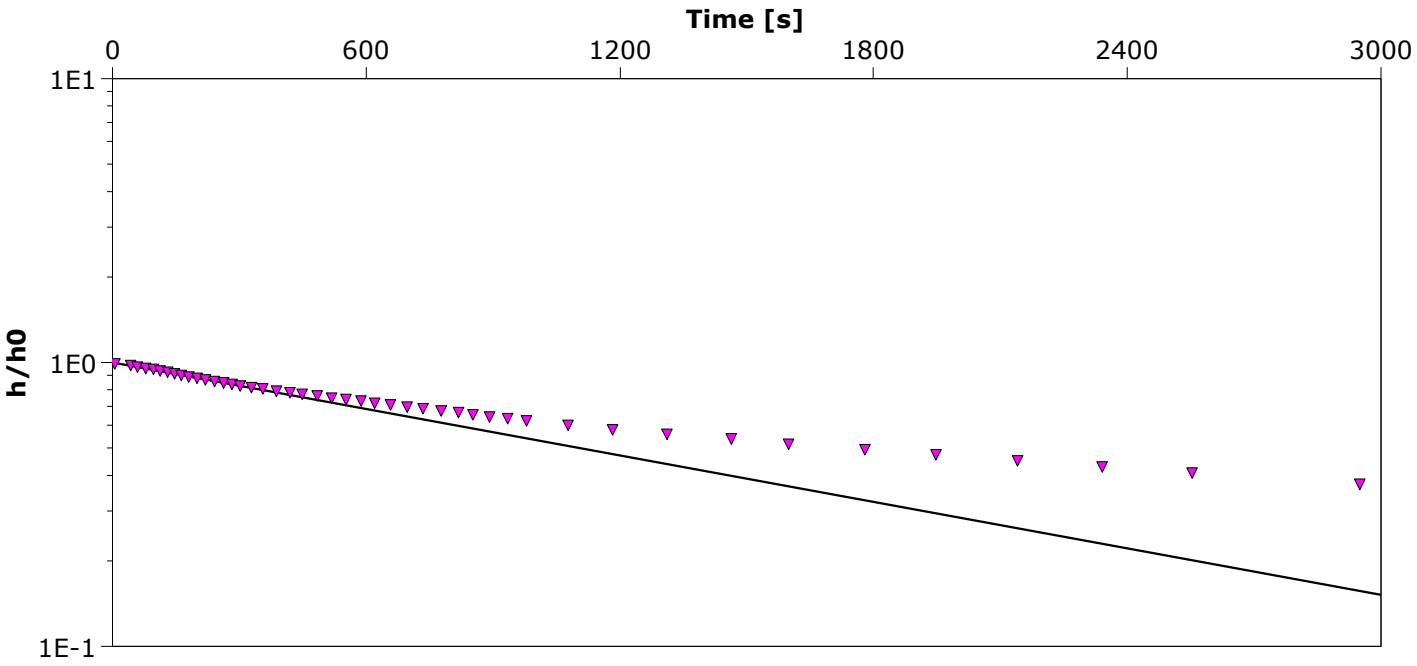
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 09-215B	Test Well: RR09-215B
Test Conducted by: TJ		Test Date: 11/26/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/14/2009
Aquifer Thickness: 21.30 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
RR09-215B	9.16×10^{-8}	

Klohn Crippen Berger

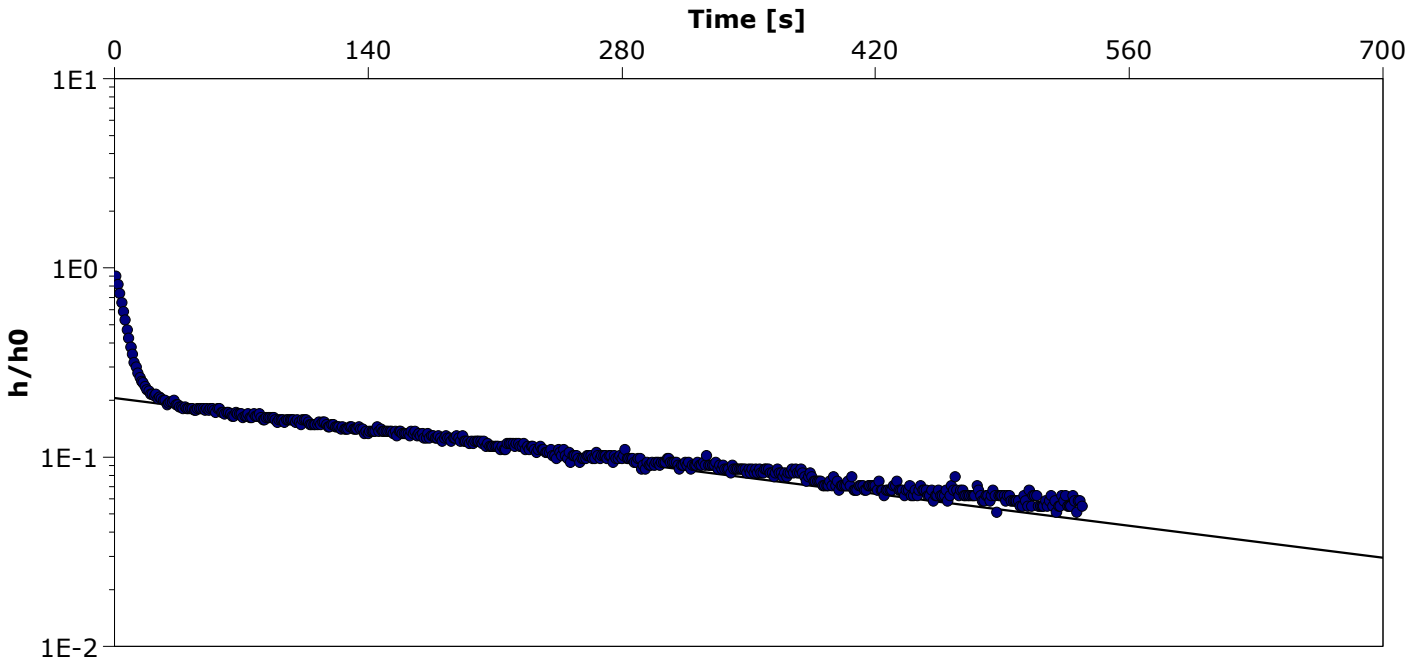
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: 96-64	Test Well: NR96-64
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 181.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
NR96-64	8.69×10^{-8}	

Klohn Crippen Berger

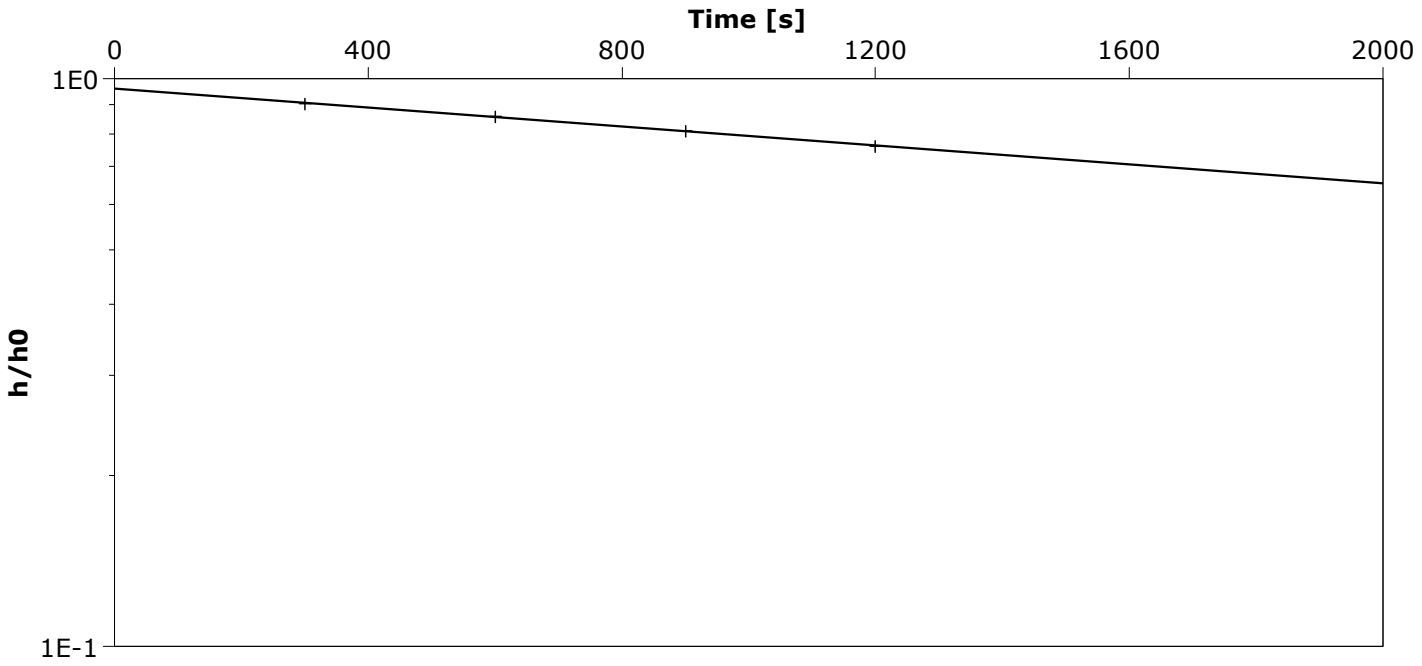
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 1	Test Well: A09-01
Test Conducted by: JEM		Test Date: 5/6/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 20.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-01	2.88×10^{-7}	

Klohn Crippen Berger

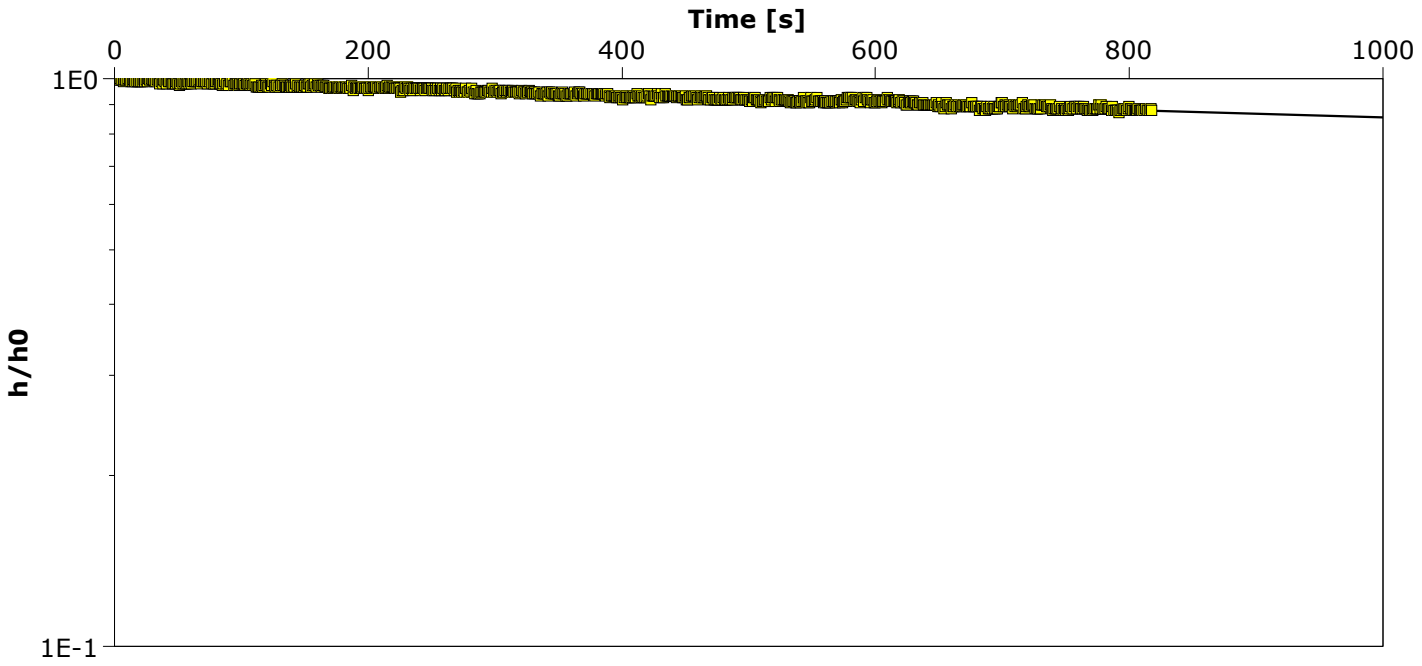
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 2	Test Well: A09-02
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 20.00 m		

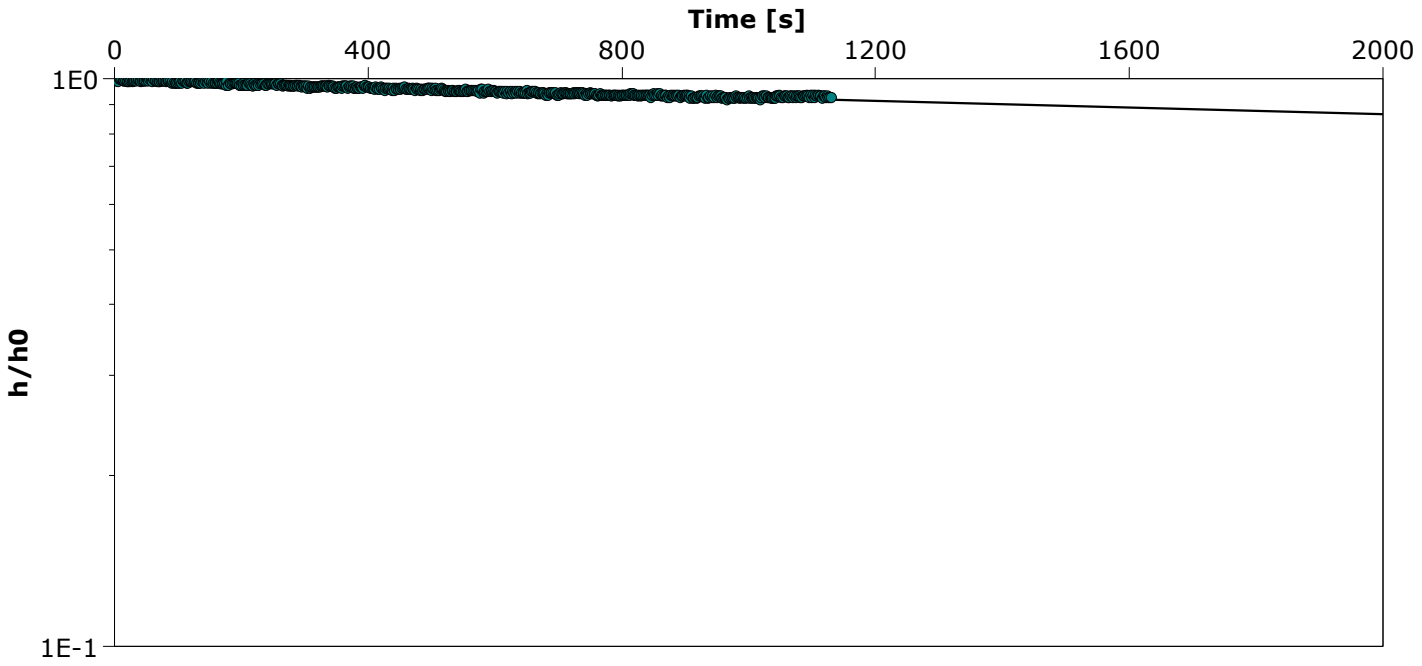


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-02	1.70×10^{-7}	

Klohn Crippen Berger	**Slug Test Analysis Report**
	Project: Rainy River Baseline Study
	Number: M09559A04
	Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 3	Test Well: A09-03
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/27/2009
Aquifer Thickness: 20.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-03	5.64×10^{-8}	

Klohn Crippen Berger

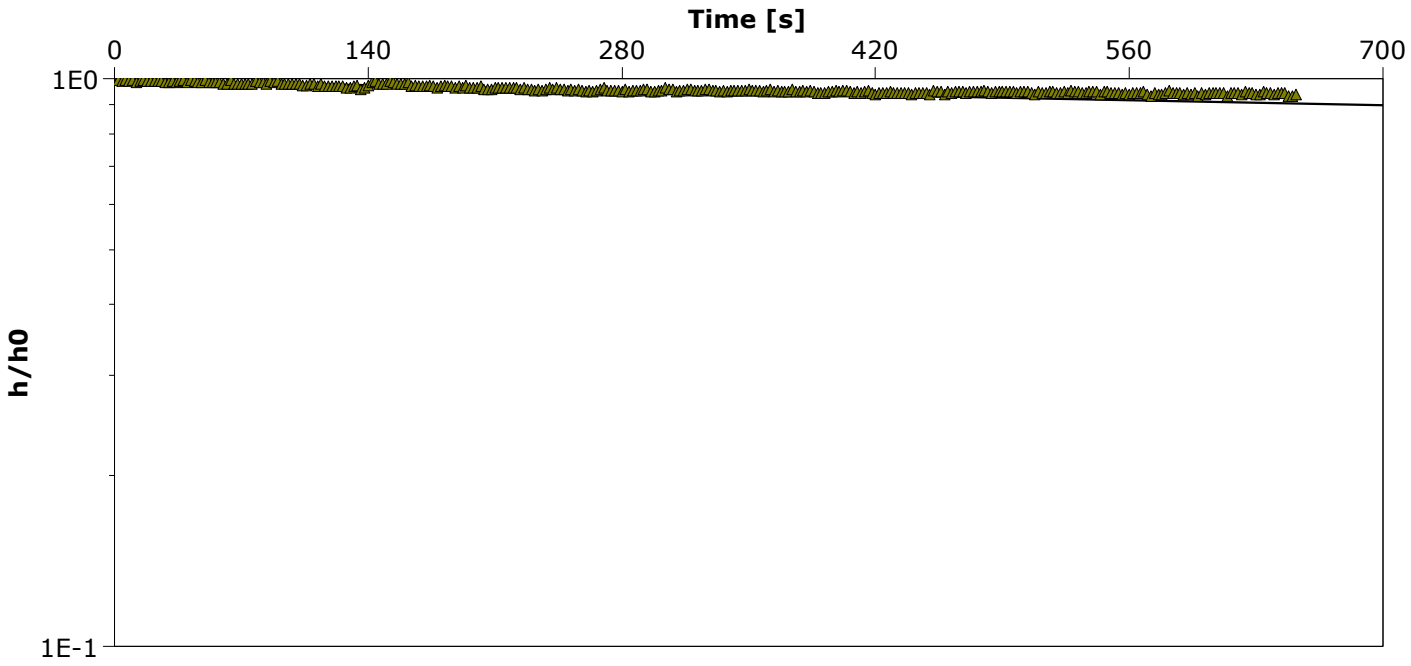
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 4	Test Well: A09-04
Test Conducted by: JEM		Test Date: 5/7/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/27/2009
Aquifer Thickness: 20.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-04	1.23×10^{-7}	

Klohn Crippen Berger

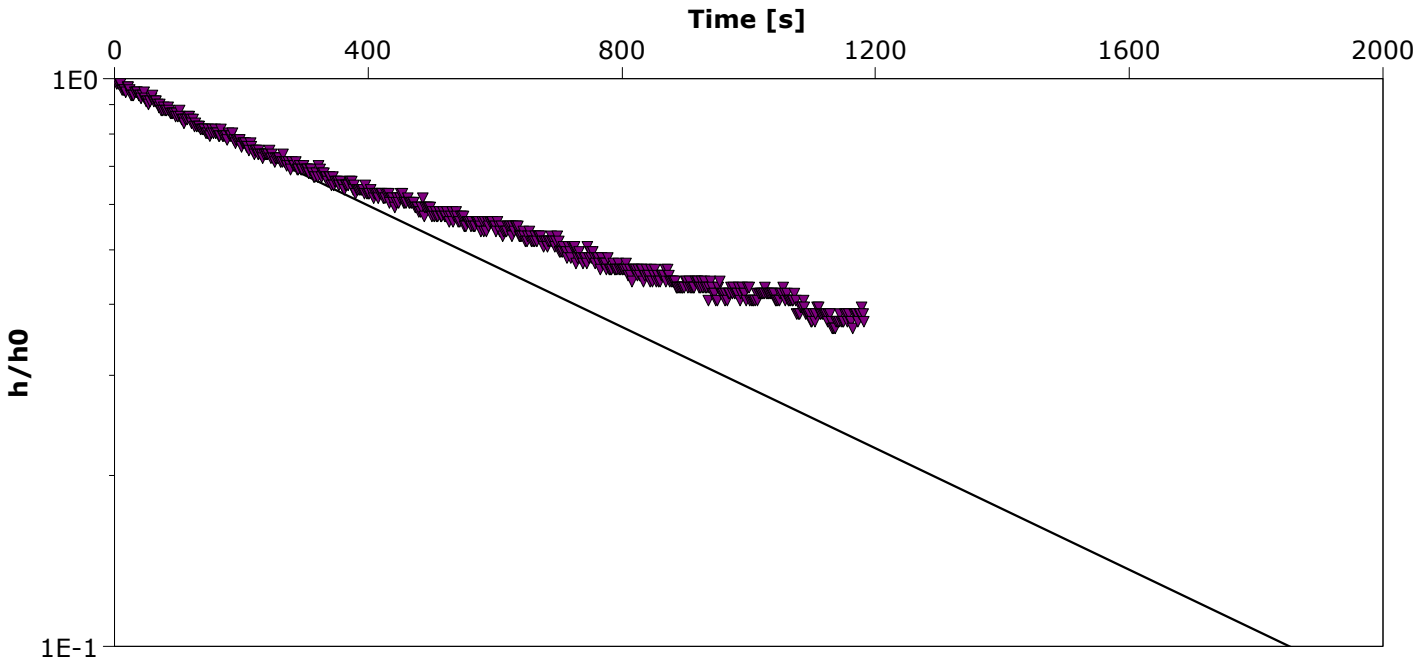
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 5	Test Well: A09-05
Test Conducted by: JEM		Test Date: 5/8/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/27/2009
Aquifer Thickness: 20.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-05	1.01×10^{-6}	

Klohn Crippen Berger

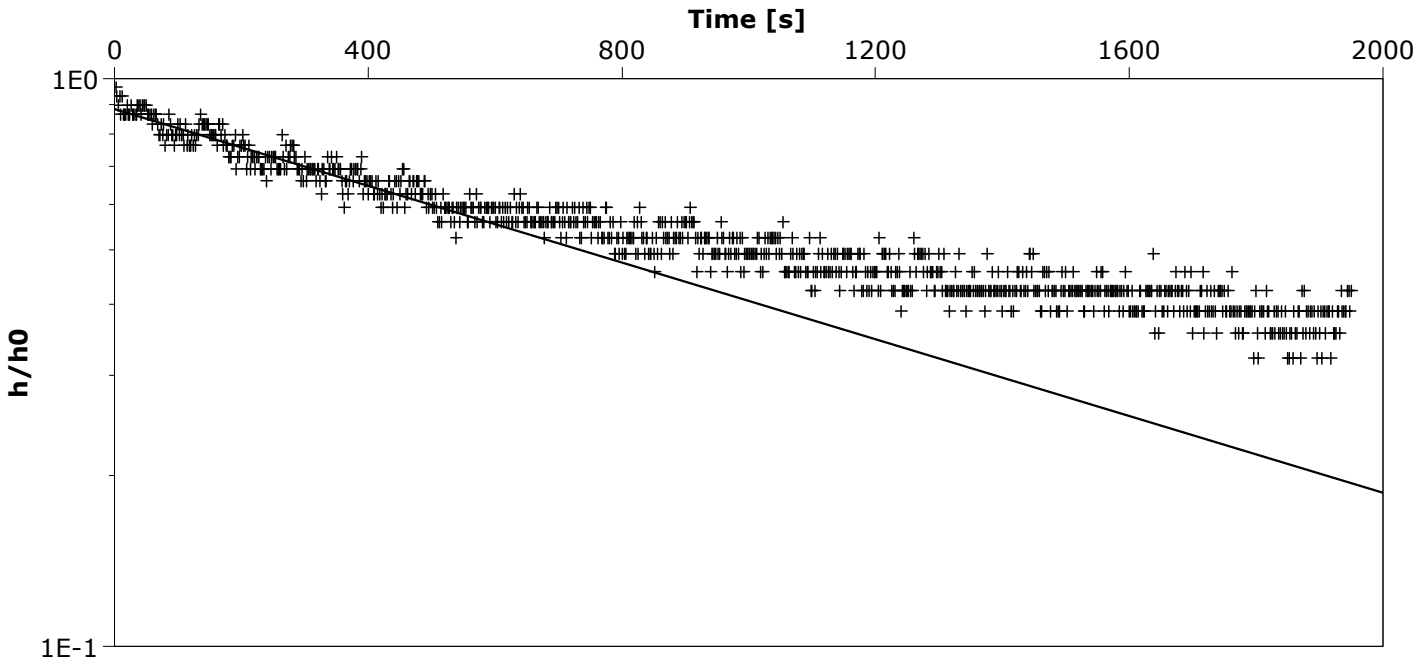
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 6	Test Well: A09-06
Test Conducted by: JEM		Test Date: 5/8/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/27/2009
Aquifer Thickness: 20.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-06	6.91×10^{-7}	

Klohn Crippen Berger

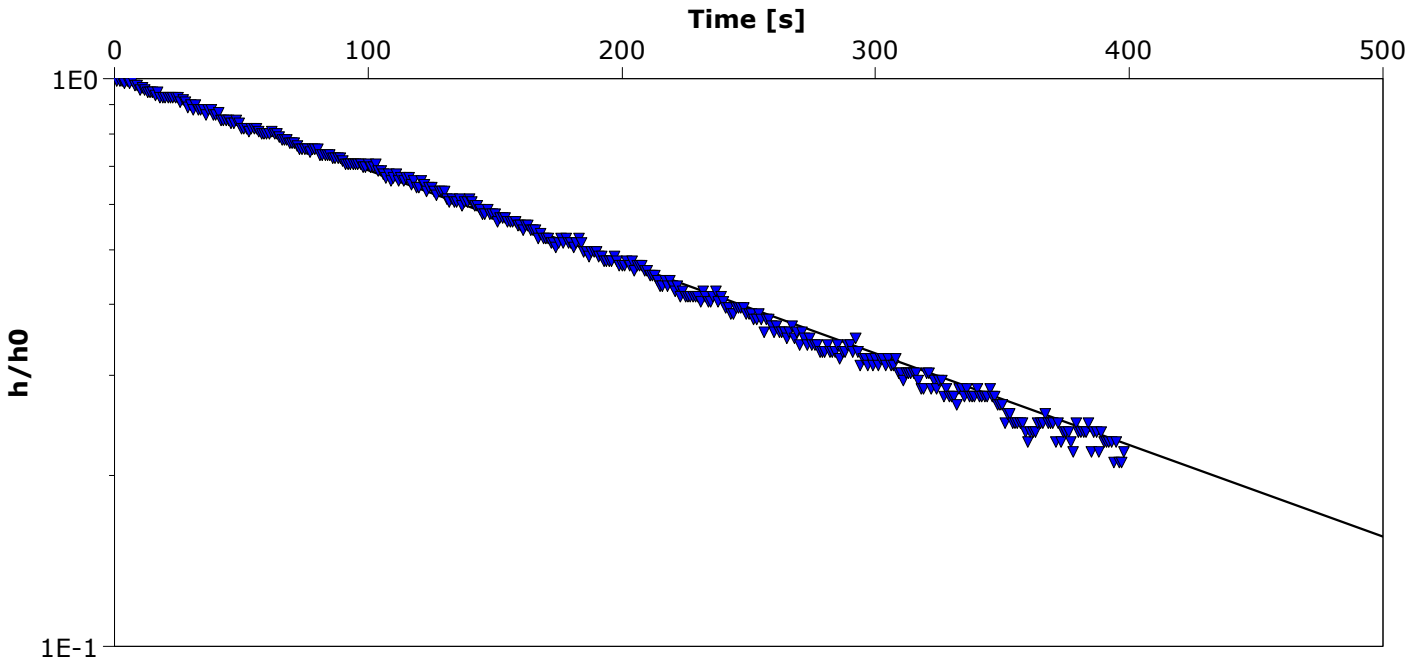
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: Auger 7	Test Well: A09-07
Test Conducted by: JEM		Test Date: 5/8/2009
Analysis Performed by: JEM	New analysis 1	Analysis Date: 7/16/2009
Aquifer Thickness: 20.00 m		

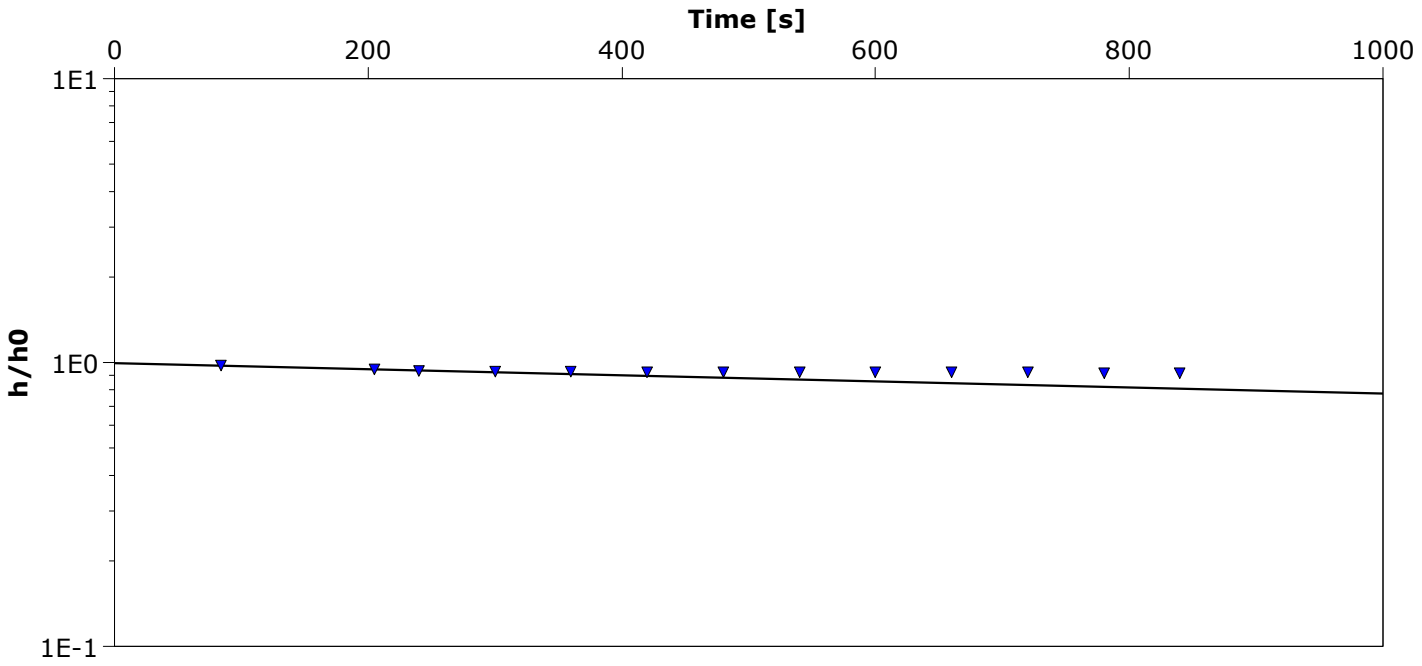


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
A09-07	3.61×10^{-6}	

Klohn Crippen Berger	**Slug Test Analysis Report**
	Project: Rainy River Baseline Study
	Number: M09559A04
	Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-04	Test Well: BH10-04
Test Conducted by: AD		Test Date: 6/7/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness: 12.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-04	3.59×10^{-8}	

Klohn Crippen Berger

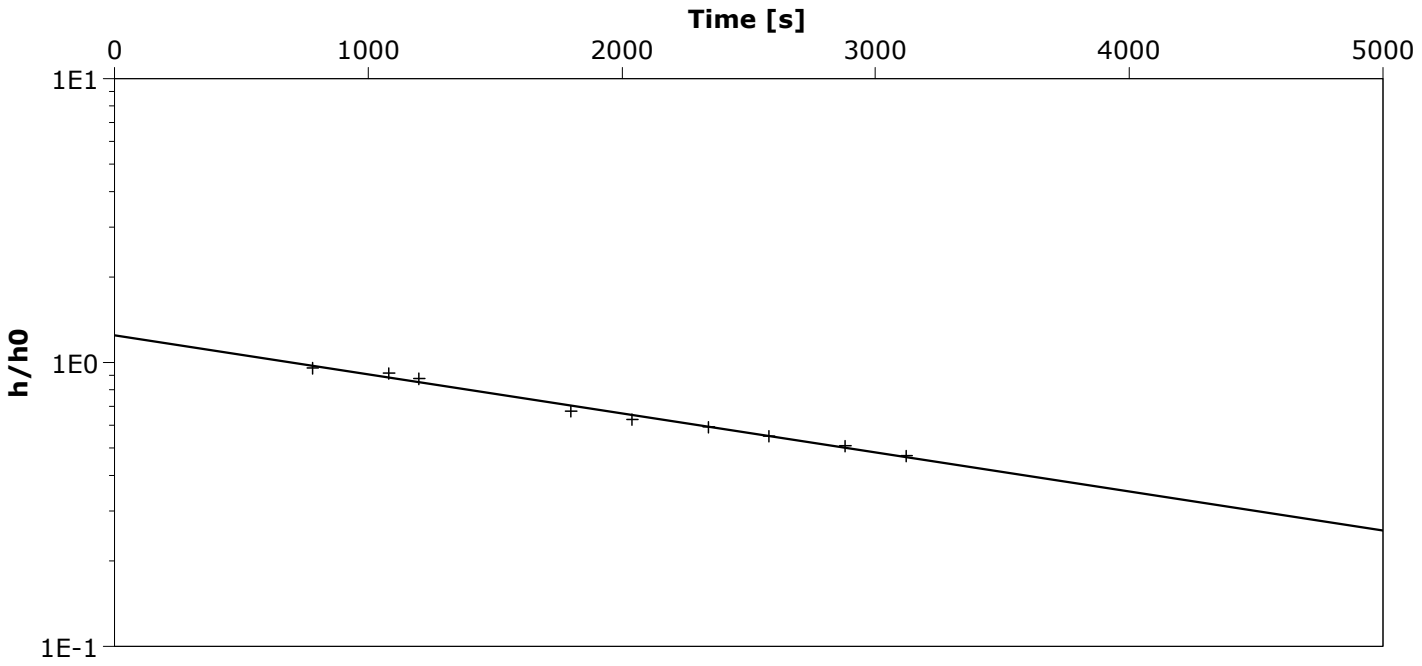
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-07A	Test Well: BH10-07A
Test Conducted by: AD		Test Date: 6/6/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness: 10.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-07A	4.69×10^{-8}	

Klohn Crippen Berger

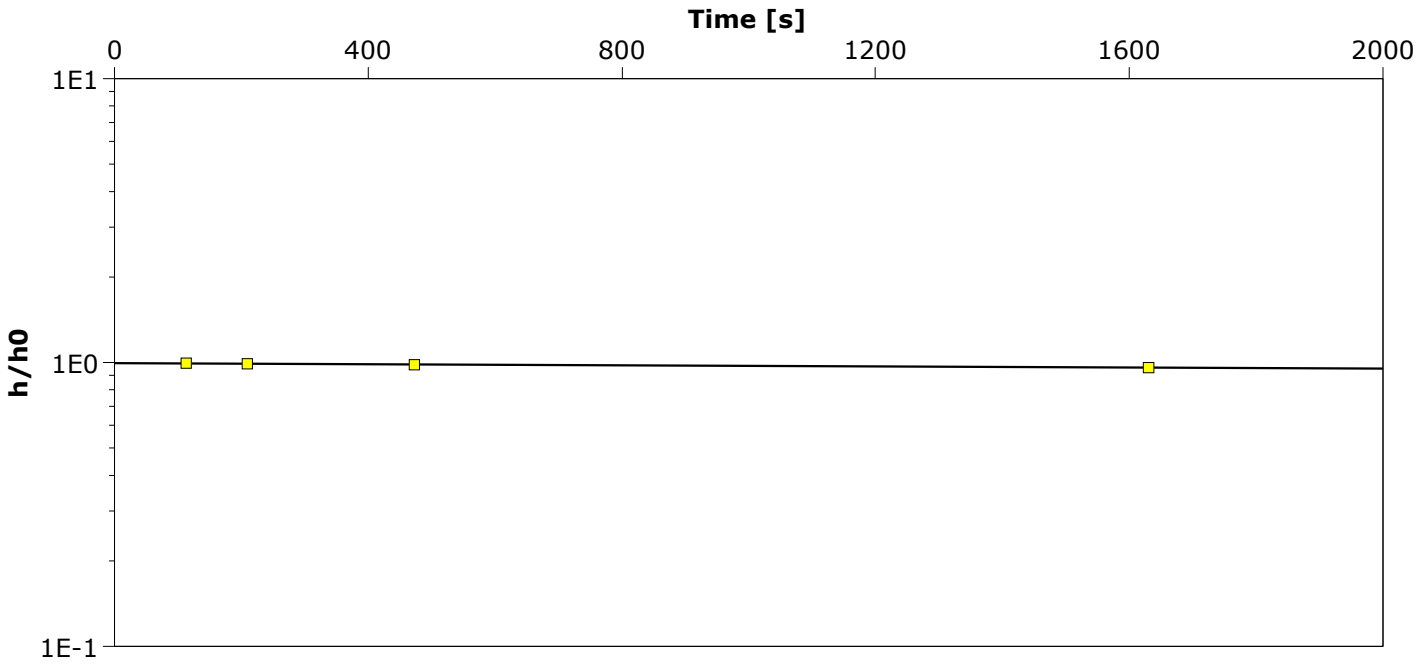
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-07B	Test Well: BH10-07B
Test Conducted by: AD		Test Date: 6/6/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness:		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-07B	3.46×10^{-9}	

Klohn Crippen Berger

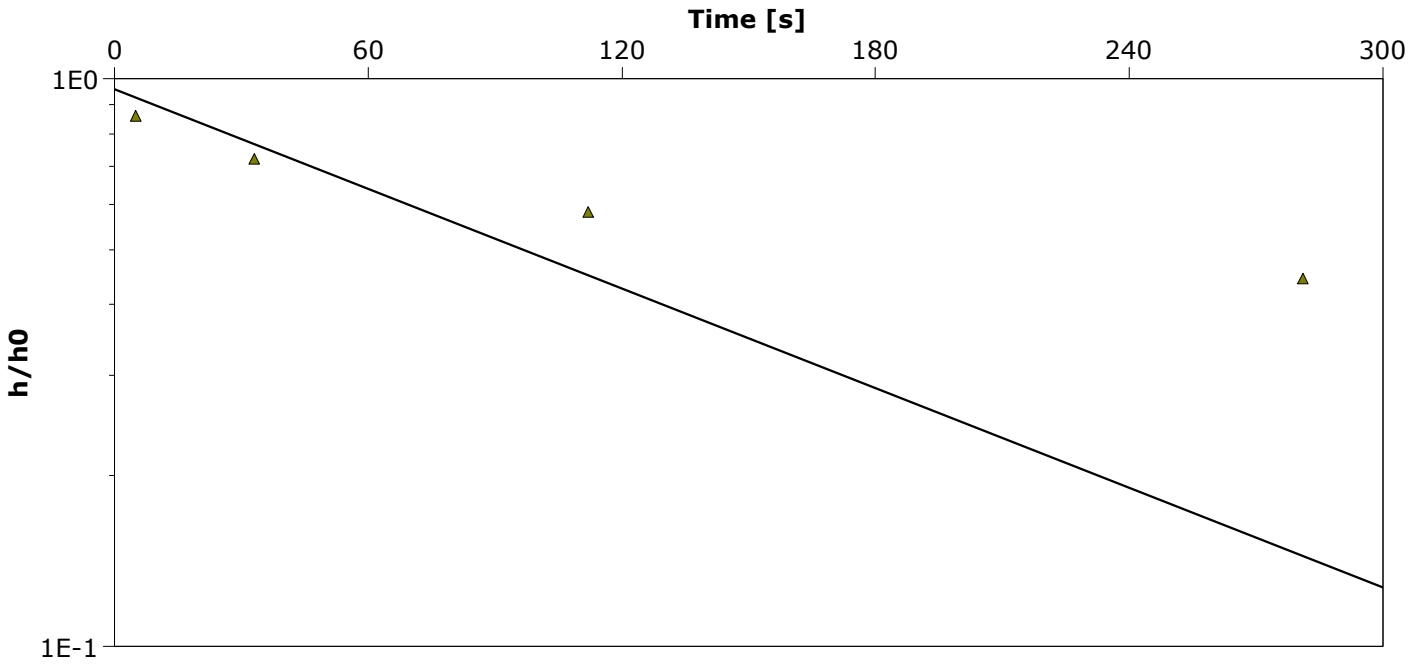
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-09A	Test Well: BH10-09A
Test Conducted by: AD		Test Date: 6/7/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness: 1.70 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-09A	1.74×10^{-6}	

Klohn Crippen Berger

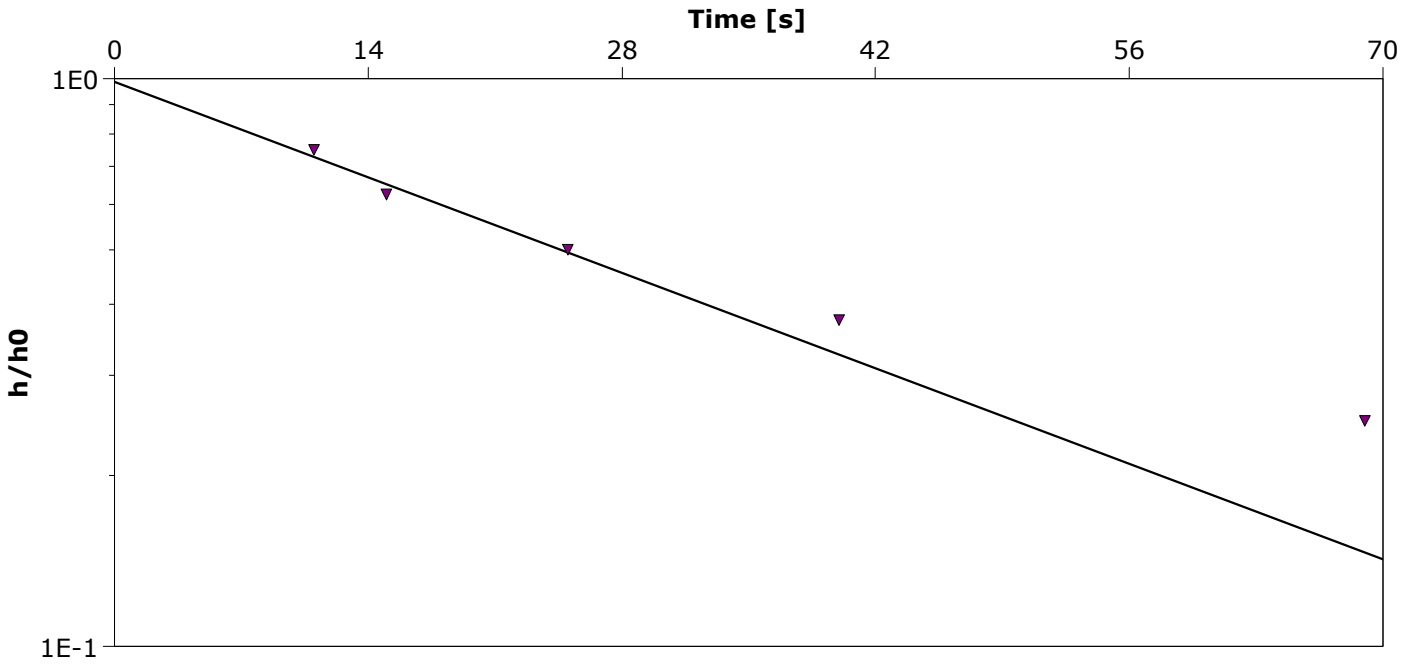
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-09B	Test Well: BH10-09B
Test Conducted by: AD		Test Date: 6/7/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness: 1.70 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-09B	7.14×10^{-6}	

Klohn Crippen Berger

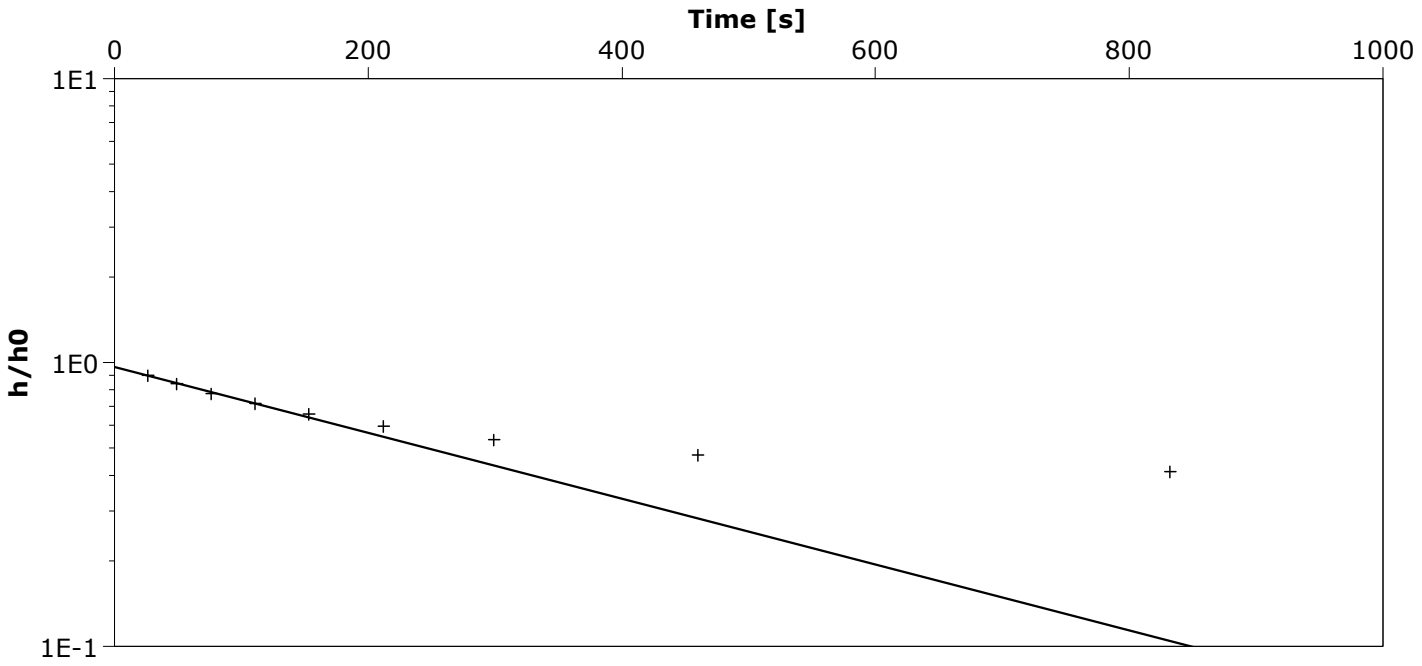
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-11A	Test Well: BH10-11A
Test Conducted by: AD		Test Date: 6/3/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/18/2010
Aquifer Thickness: 5.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-11A	3.95×10^{-7}	

Klohn Crippen Berger

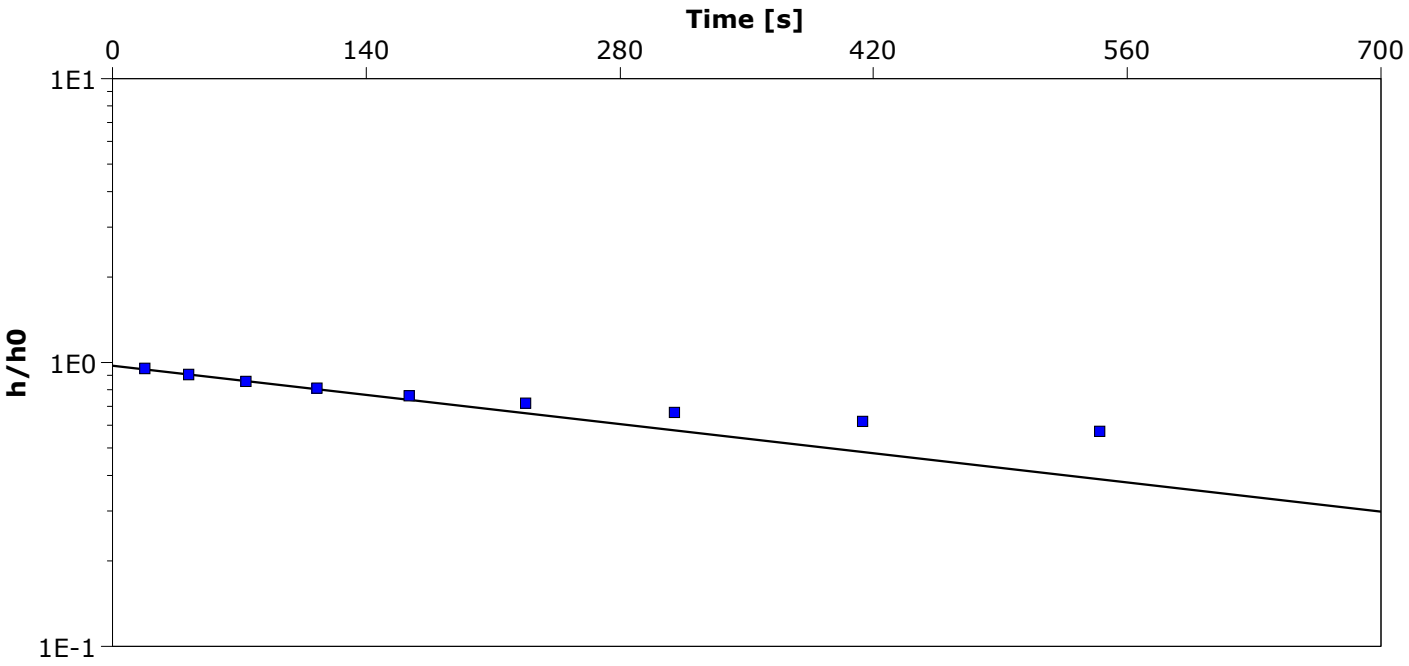
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-11B	Test Well: BH10-11B
Test Conducted by: AD		Test Date: 6/4/2010
Analysis Performed by: AD	New analysis 1	Analysis Date: 11/18/2010
Aquifer Thickness: 27.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-11B	2.50×10^{-7}	

Klohn Crippen Berger

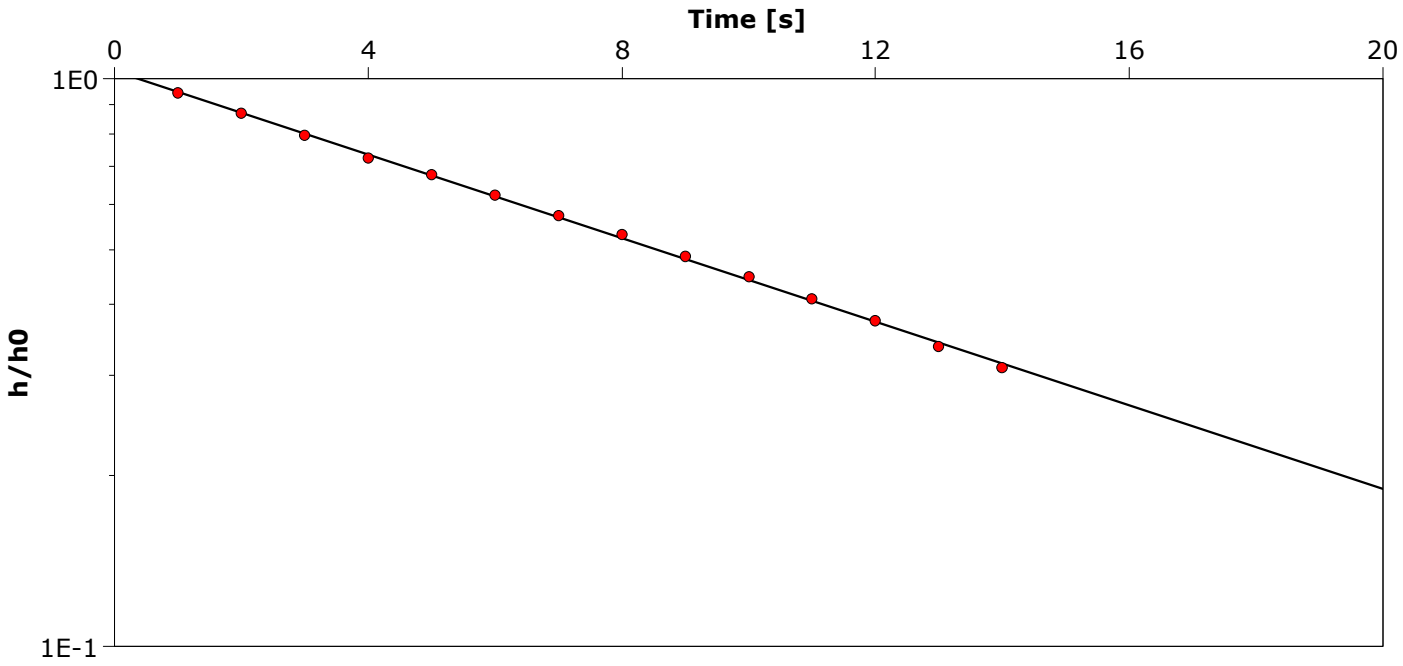
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-12A	Test Well: BH10-12A
Test Conducted by: AD		Test Date: 6/7/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/18/2010
Aquifer Thickness: 3.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-12A	1.25×10^{-5}	

Klohn Crippen Berger

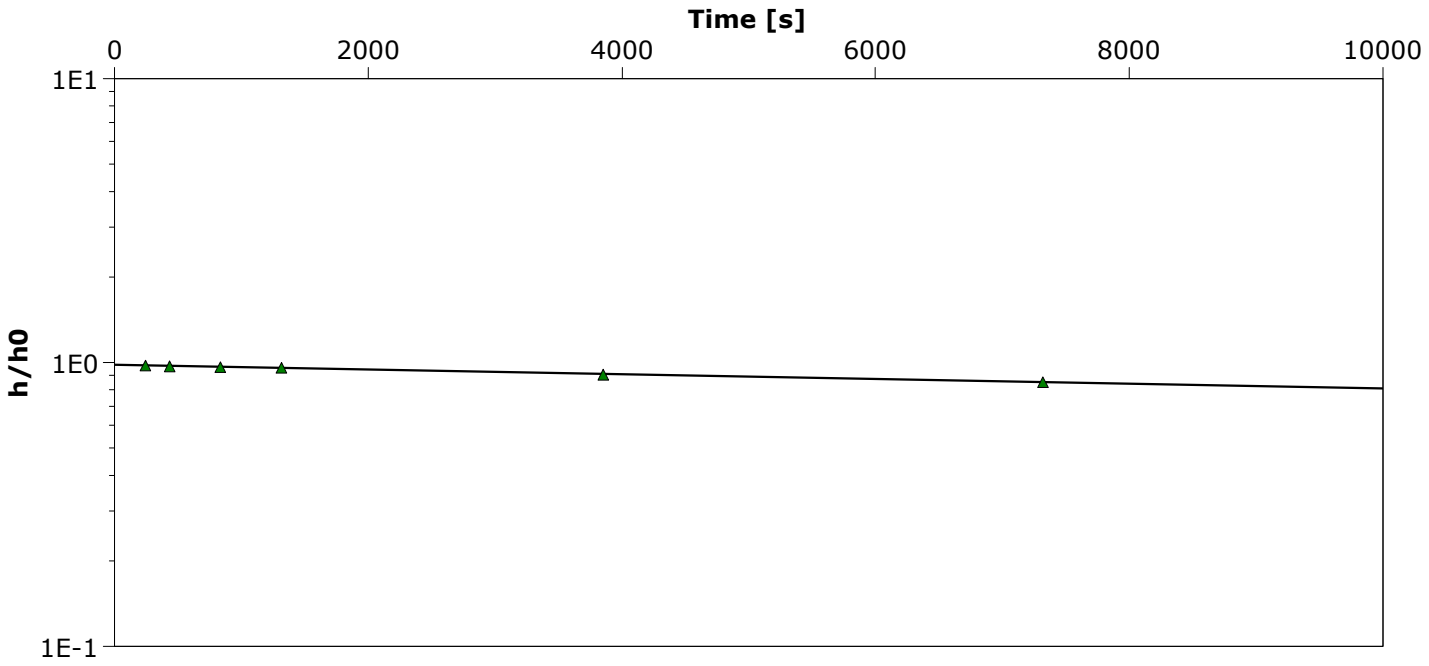
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-12B	Test Well: BH10-12B
Test Conducted by: AD		Test Date: 6/5/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/18/2010
Aquifer Thickness: 17.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-12B	2.82×10^{-9}	

Klohn Crippen Berger

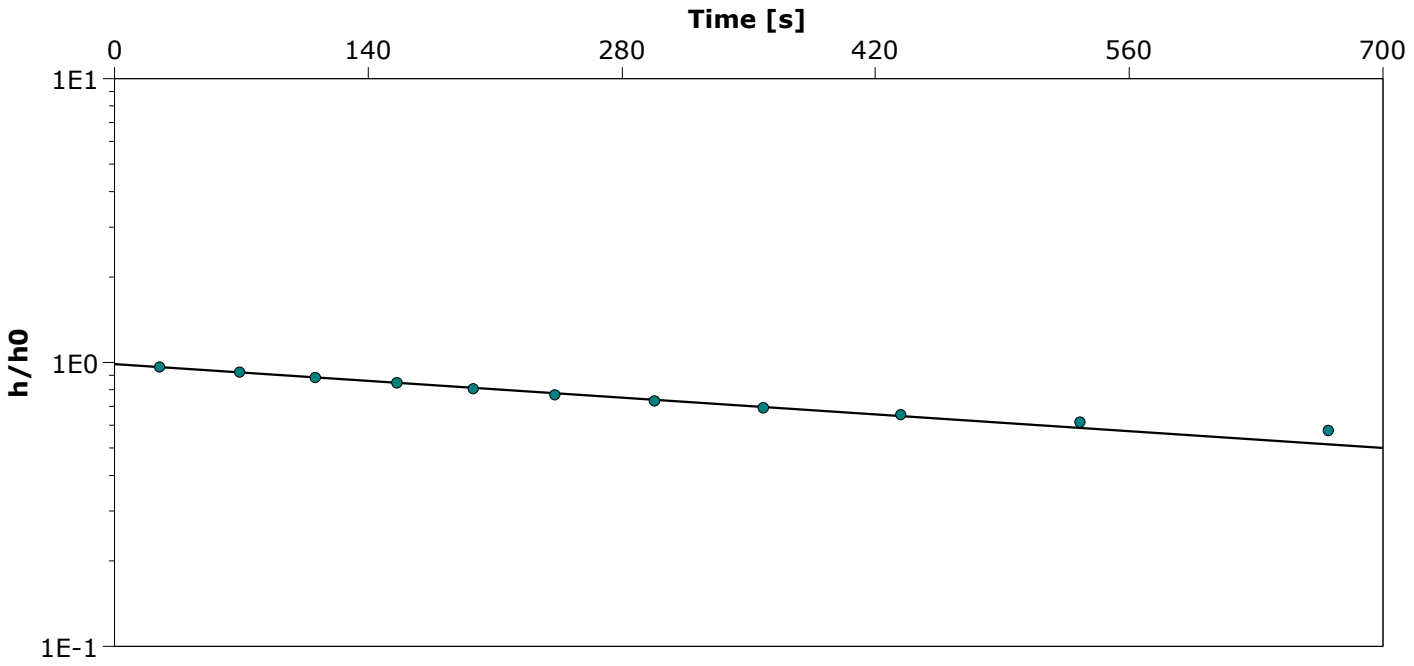
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: BH10-13	Test Well: BH10-13
Test Conducted by: AD		Test Date: 6/7/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/17/2010
Aquifer Thickness: 3.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
BH10-13	2.26×10^{-7}	

Klohn Crippen Berger

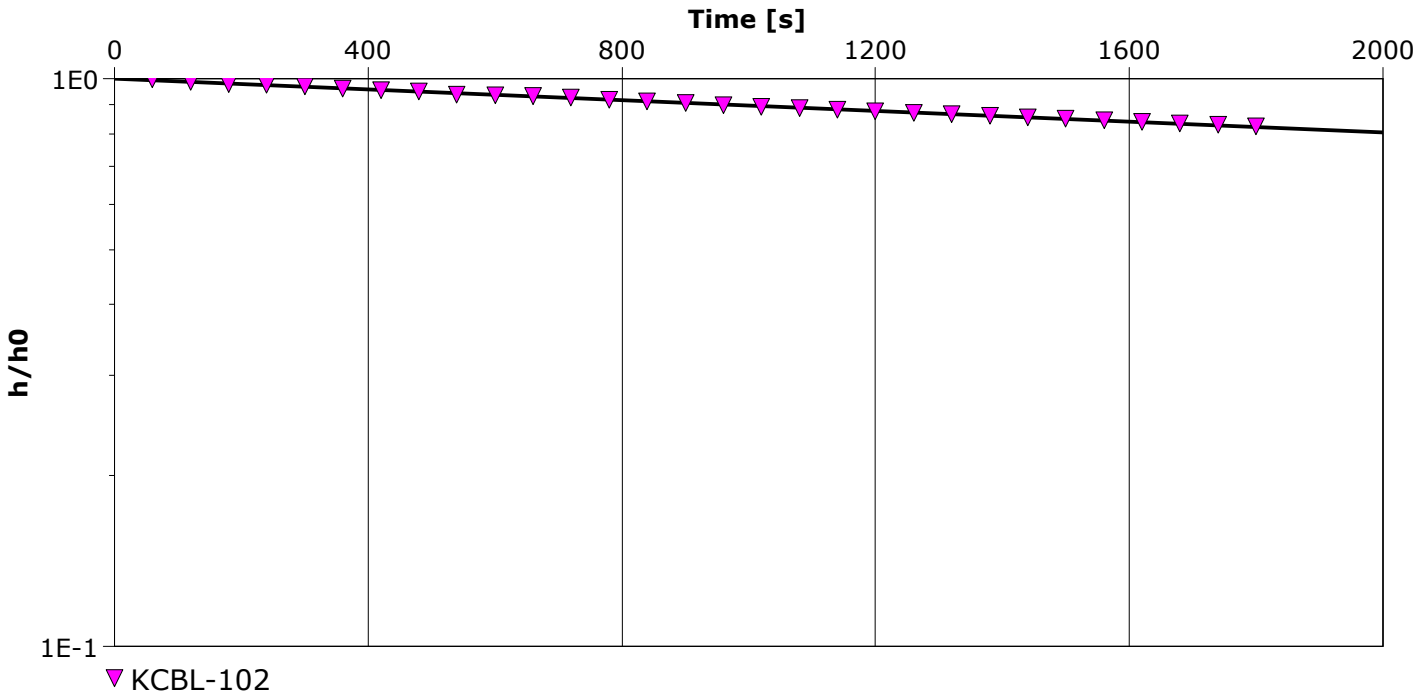
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: KCBL-102	Test Well: KCBL-102
Test Conducted by: GA		Test Date: 5/16/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/8/2010
Aquifer Thickness: 69.70 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
KCBL-102	1.38×10^{-8}	

Klohn Crippen Berger

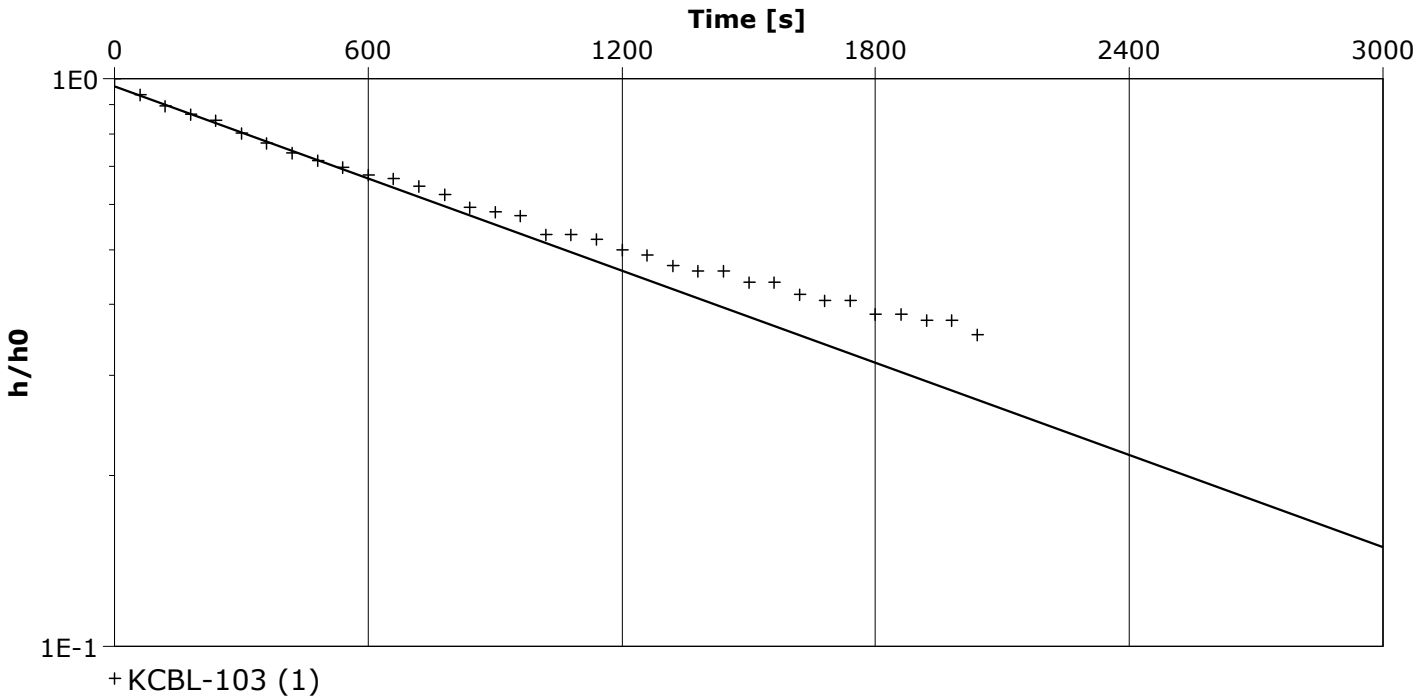
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: KCBL-103 1	Test Well: KCBL-103 (1)
Test Conducted by: GA		Test Date: 5/18/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/8/2010
Aquifer Thickness: 28.60 m		

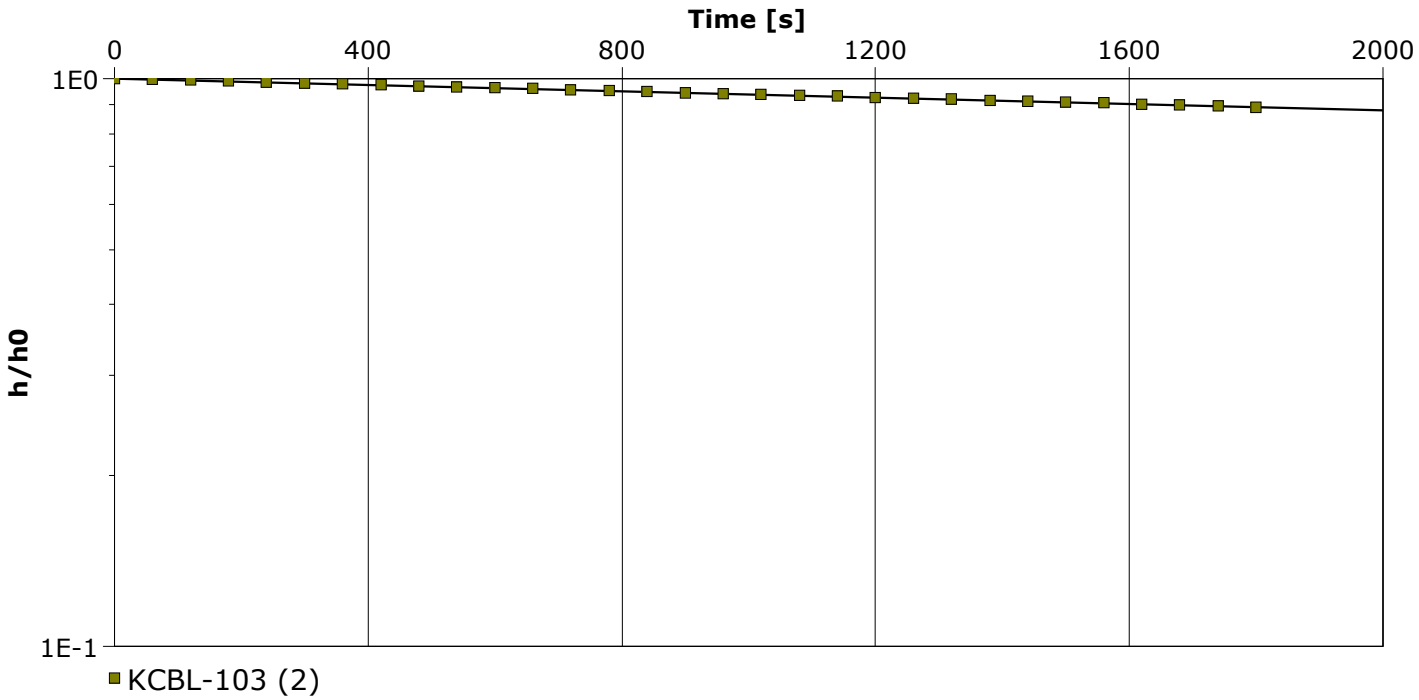


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
KCBL-103 (1)	1.69×10^{-7}	

Klohn Crippen Berger	**Slug Test Analysis Report**
	Project: Rainy River Baseline Study
	Number: M09559A04
	Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: KCBL-103 2	Test Well: KCBL-103 (2)
Test Conducted by: GA		Test Date: 5/19/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 12/8/2010
Aquifer Thickness: 324.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
KCBL-103 (2)	2.12×10^{-9}	

Klohn Crippen Berger

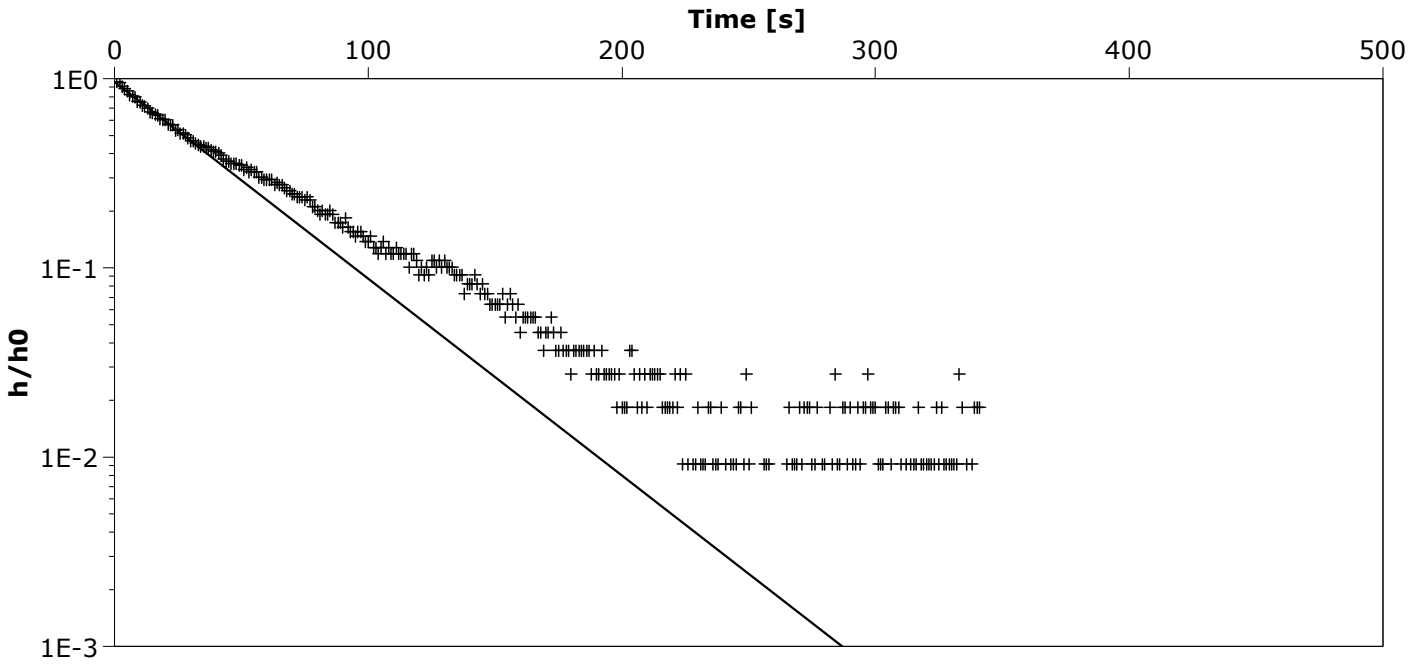
Slug Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: TW10-01	Test Well: TW10-01
Test Conducted by: KP		Test Date: 6/5/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/16/2010
Aquifer Thickness: 3.05 m		

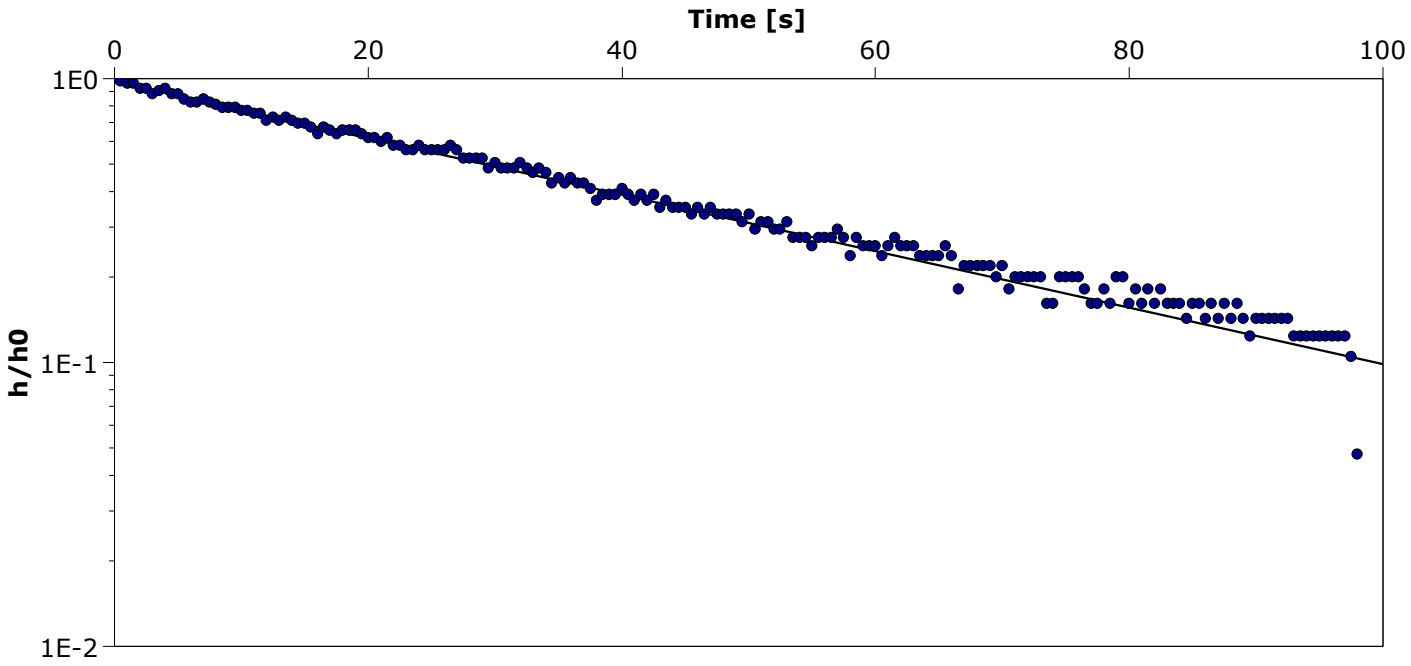


Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
TW10-01	1.82×10^{-4}	

Klohn Crippen Berger	**Slug Test Analysis Report**
	Project: Rainy River Baseline Study
	Number: M09559A04
	Client: Rainy River Resources

Location: Richardson Township, Ontario	Slug Test: TW10-03	Test Well: TW10-03
Test Conducted by: KP		Test Date: 6/8/2010
Analysis Performed by: JEM	New analysis 1	Analysis Date: 11/16/2010
Aquifer Thickness: 3.00 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
TW10-03	1.84×10^{-4}	

PACKER TEST CALCULATION SHEET

Klohn Crippen Berger

PROJECT	**RAINY RIVER RESOURCES**	**PROJECT NO.**	M09559A06	**DATE**	16-May-10

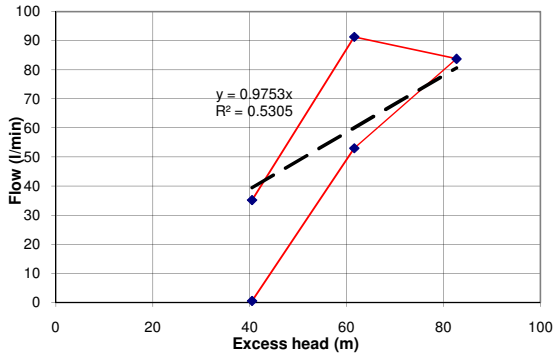
Drill Hole ID	**DH-10-4**	True depth to ground water	17.9 m
Hole Plunge	90 deg	Gauge height above ground	1.5 m
Test Interval from	55.9 m to 76.25 m	Ground surface elevation	m
Test length	20.35 m	Static Head = (true gauge height (m) + groundwater depth (m)) x 9.81	190.31 kPa
Hole diameter	0.1143 m		

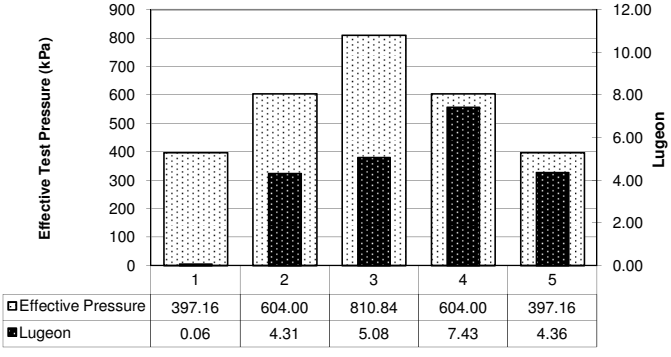
Gauge Pressure (psi)	Net Test Pressure (kPa)	Water Loss											Average flow (l/min)	Take (l/min/m)	Lugeon	Permeability (m/s)
30	397.16	Time (mins)	1	2	3	4	5	6	7	8	9	10	0.5	0.02	0.06	9.46E-09
		Flow (m3) from	0.500	0.501	0.502	0.503	0.504									
		Flow (m3) to	0.501	0.502	0.503	0.504	0.505									
		Take (m3/min)	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	1	1	1	1	1	0	0	0	0	0				
60	604.00	Time (mins)	1	2	3	4	5	6	7	8	9	10	53.0	2.60	4.31	6.59E-07
		Flow (m3) from	1.160	1.266	1.374	1.478	1.584									
		Flow (m3) to	1.266	1.374	1.478	1.584	1.690									
		Take (m3/min)	0.106	0.108	0.104	0.106	0.106	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	106	108	104	106	106	0	0	0	0	0				
90	810.84	Time (mins)	1	2	3	4	5	6	7	8	9	10	83.8	4.12	5.08	7.76E-07
		Flow (m3) from	2.46	2.595	2.727	2.862	2.995									
		Flow (m3) to	2.595	2.727	2.862	2.995	3.13									
		Take (m3/min)	0.135	0.132	0.135	0.133	0.135	0	0	0	0	0				
		Take (l/min)	135	132	135	133	135	0	0	0	0	0				
60	604.00	Time (mins)	1	2	3	4	5	6	7	8	9	10	91.3	4.49	7.43	1.14E-06
		Flow (m3) from	3.8	3.91	4.018	4.13	4.236									
		Flow (m3) to	3.91	4.018	4.13	4.236	4.348									
		Take (m3/min)	0.11	0.108	0.112	0.106	0.112	0	0	0	0	0				
		Take (l/min)	110	108	112	106	112	0	0	0	0	0				
30	397.16	Time (mins)	1	2	3	4	5	6	7	8	9	10	35.2	1.73	4.36	6.66E-07
		Flow (m3) from	4.530	4.604	4.673	4.740	4.811									
		Flow (m3) to	4.604	4.673	4.740	4.811	4.882									
		Take (m3/min)	0.074	0.069	0.067	0.071	0.071	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	74	69	67	71	71	0	0	0	0	0				

Test Pressure = Gauge pressure + static head - friction losses. **Note: friction losses ignored for this calculation.**

One Lugeon = 1 litre per minute per metre at a pressure of 10 bars.

K = Flow x ln(2 x Test Length/Hole diameter) / (2 x pi xTest length x Net head of water table at centre of test section) **Ref. Hoek and Bray**





	1	2	3	4	5
Effective Pressure	397.16	604.00	810.84	604.00	397.16
Lugeon	0.06	4.31	5.08	7.43	4.36

Approximate Permeability (m/s)

Min k =	9.5E-09
Max k =	1.1E-06
Mean K =	3.3E-07
Best Fit k =	1.3E-06

Flow Type Interpretation

Laminar	Yes
Turbulant	No
Washout	No
Swelling	No
Hydrofracturing	No

Comments

Ran out of water during third and fourth stage of test.

PACKER TEST CALCULATION SHEET

Klohn Crippen Berger

PROJECT	RAINY RIVER RESOURCES	**PROJECT NO.** M09559A06	**DATE** 21-May-10

Drill Hole ID KCBL_104

Hole Plunge 75 deg

Test Interval from 59.1 m to 61 m

Test length 1.9 m

Hole diameter 0.1143 m

True depth to ground water 0 m

Gauge height above ground 0.9 m

Ground surface elevation 355 m

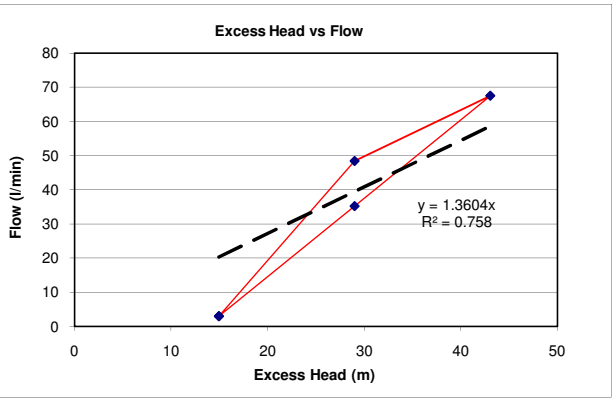
Static Head 8.83 kPa
= (true gauge height (m) + groundwater depth (m)) x 9.81

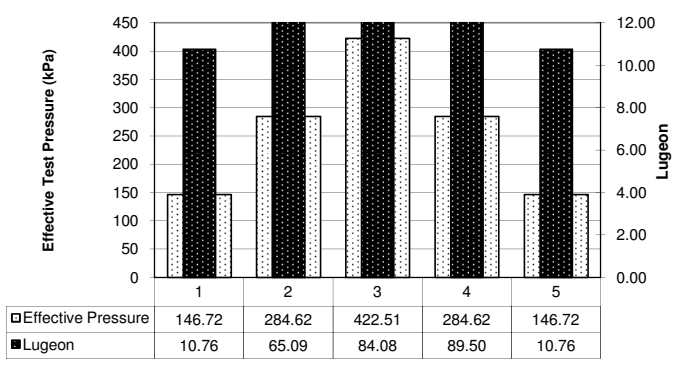
Gauge Pressure (psi)	Net Test Pressure (kPa)	Water Loss											Average flow (l/min)	Take (l/min/m)	Lugeon	Permeability (m/s)
20	146.72	Time (mins)	1	2	3	4	5	6	7	8	9	10	3.0	1.58	10.76	9.96E-07
		Flow (m3) from	0.036	0.039	0.042	0.045	0.048									
		Flow (m3) to	0.039	0.042	0.045	0.048	0.051									
		Take (m3/min)	0.003	0.003	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	3	3	3	3	3	0	0	0	0	0				
40	284.62	Time (mins)	1	2	3	4	5	6	7	8	9	10	35.2	18.53	65.09	6.02E-06
		Flow (m3) from	0.075	0.110	0.145	0.180	0.215									
		Flow (m3) to	0.110	0.145	0.180	0.215	0.251									
		Take (m3/min)	0.035	0.035	0.035	0.035	0.036	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	35	35	35	35	36	0	0	0	0	0				
60	422.51	Time (mins)	1	2	3	4	5	6	7	8	9	10	67.5	35.53	84.08	7.78E-06
		Flow (m3) from	0.078	0.145	0.212	0.281	0.349	0.413								
		Flow (m3) to	0.145	0.212	0.281	0.349	0.413	0.483								
		Take (m3/min)	0.067	0.067	0.069	0.068	0.064	0.07	0	0	0	0				
		Take (l/min)	67	67	69	68	64	70	0	0	0	0				
40	284.62	Time (mins)	1	2	3	4	5	6	7	8	9	10	48.4	25.47	89.50	8.28E-06
		Flow (m3) from	0.034	0.083	0.131	0.18	0.226									
		Flow (m3) to	0.083	0.131	0.18	0.226	0.276									
		Take (m3/min)	0.049	0.048	0.049	0.046	0.05	0	0	0	0	0				
		Take (l/min)	49	48	49	46	50	0	0	0	0	0				
20	146.72	Time (mins)	1	2	3	4	5	6	7	8	9	10	3.0	1.58	10.76	9.96E-07
		Flow (m3) from	0.036	0.039	0.042	0.045	0.048									
		Flow (m3) to	0.039	0.042	0.045	0.048	0.051									
		Take (m3/min)	0.003	0.003	0.003	0.003	0.003	0.000	0.000	0.000	0.000	0.000				
		Take (l/min)	3	3	3	3	3	0	0	0	0	0				

Test Pressure = Gauge pressure + static head - friction losses. **Note: friction losses ignored for this calculation.**

One Lugeon = 1 litre per minute per metre at a pressure of 10 bars.

K = Flow x ln(2 x Test Length/Hole diameter) / (2 x pi xTest length x Net head of water table at centre of test section) **ref. Hoek and Bray**





	1	2	3	4	5
Effective Pressure	146.72	284.62	422.51	284.62	146.72
Lugeon	10.76	65.09	84.08	89.50	10.76

Approximate Permeability (m/s)

Min k =	1.0E-06
Max k =	8.3E-06
Mean K =	3.3E-06
Best Fit K =	6.8E-06

Flow Type Interpretation

Laminar	Yes
Turbulant	No
Washout	No
Swelling	No
Hydrofracturing	No

Comments

Ran out of water during stage 5 of test. Used results from stage 1 to estimate k.

Klohn Crippen Berger

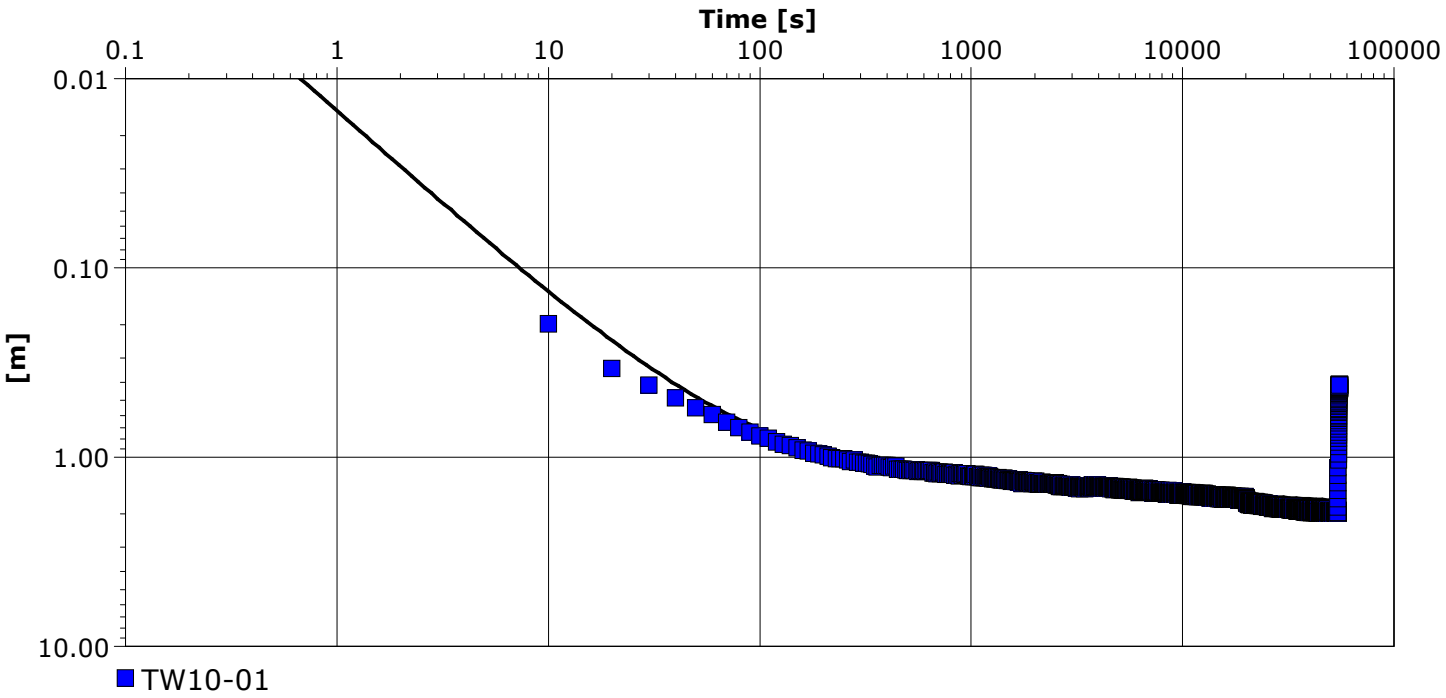
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-01 Test 1	Pumping Well: TW10-01
Test Conducted by: KP		Test Date: 6/1/2010
Analysis Performed by: JEM	Theis Drawdown	Analysis Date: 11/22/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 4.8 [U.S. gal/min]	



Calculation using Agarwal skin

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Skin factor	Radial Distance to PW [m]	
TW10-01	2.09×10^{-4}	6.96×10^{-5}	1.00×10^{0}	0.08	

Klohn Crippen Berger

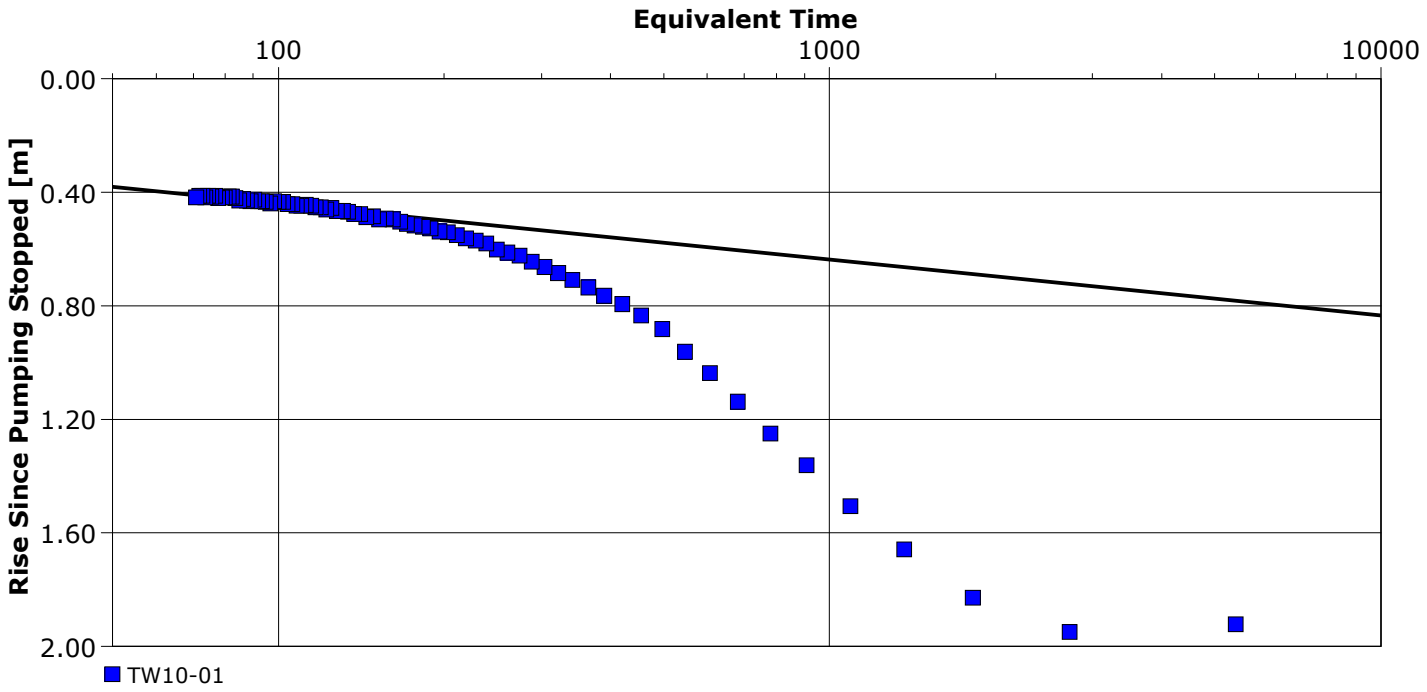
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-01 Test 1	Pumping Well: TW10-01
Test Conducted by: KP		Test Date: 6/1/2010
Analysis Performed by: JEM	Theis Recovery	Analysis Date: 11/27/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 4.8 [U.S. gal/min]	



Calculation using Theis & Jacob

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Skin factor	Radial Distance to PW [m]	
TW10-01	2.82×10^{-4}	9.39×10^{-5}	1.00×10^{0}	0.08	

Klohn Crippen Berger

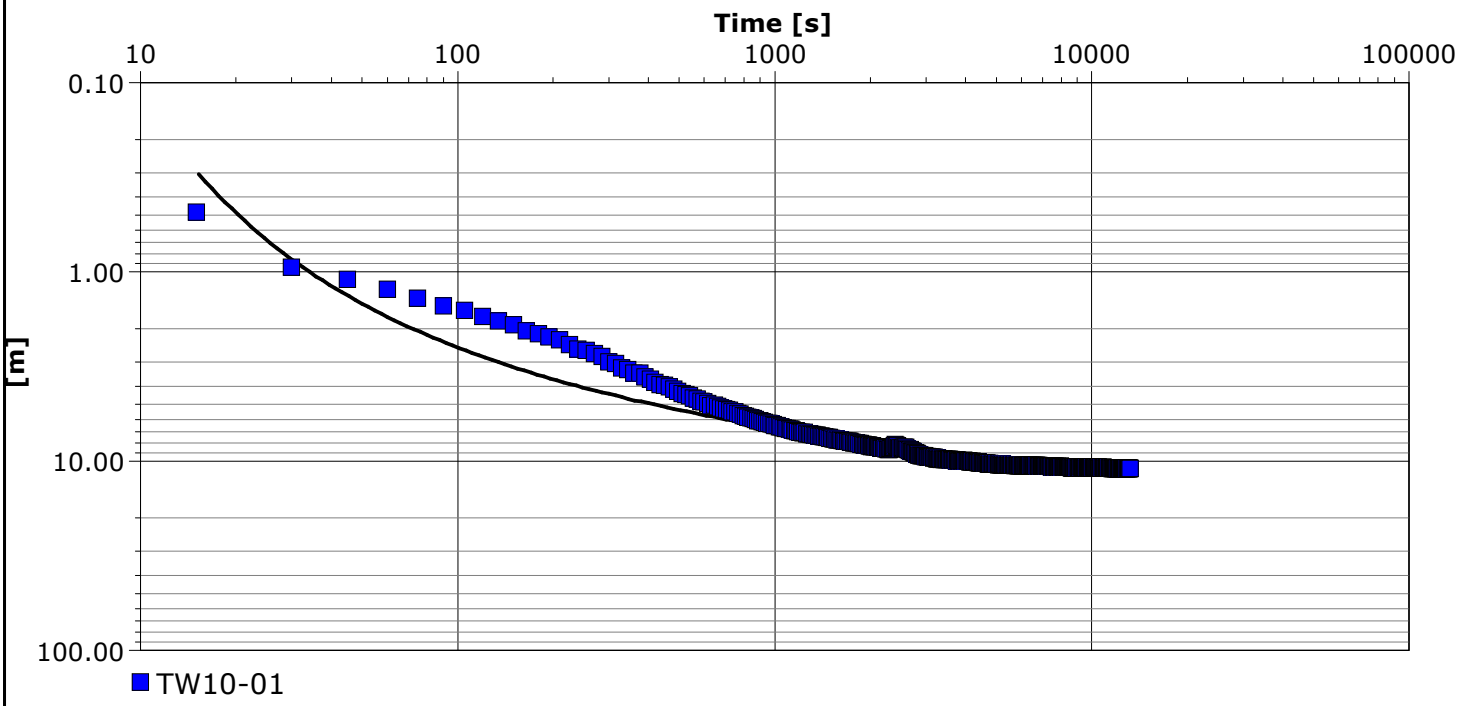
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-01 Test 2	Pumping Well: TW10-01
Test Conducted by: KP		Test Date: 6/2/2010
Analysis Performed by: JEM	Theis Drawdown	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge Rate: 7 [U.S. gal/min]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
TW10-01	1.81×10^{-5}	6.02×10^{-6}	1.98×10^{-1}	0.08	

Klohn Crippen Berger

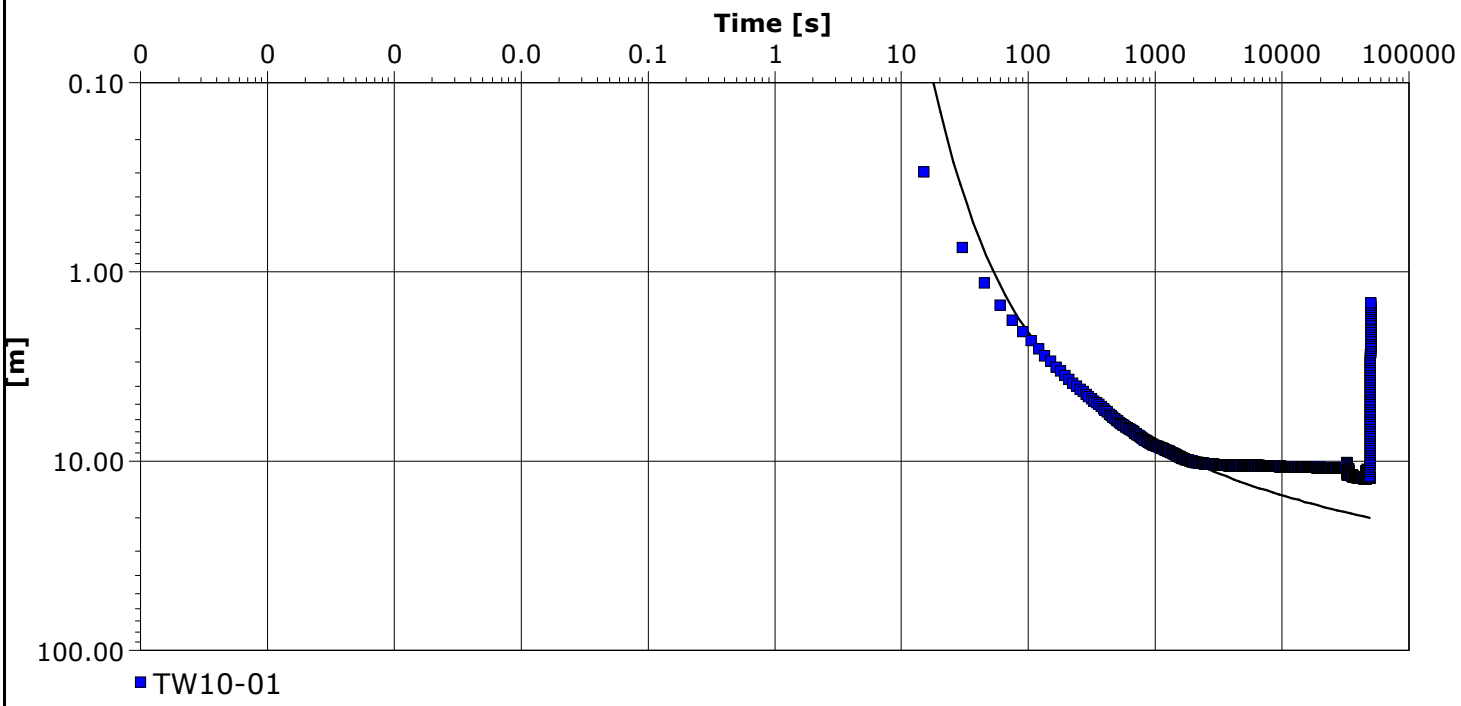
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-01 Test 3	Pumping Well: TW10-01
Test Conducted by: KP		Test Date: 6/3/2010
Analysis Performed by: JEM	Theis Drawdown	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 8 [U.S. gal/min]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
TW10-01	1.30×10^{-5}	4.35×10^{-6}	3.20×10^{-1}	0.08	

Klohn Crippen Berger

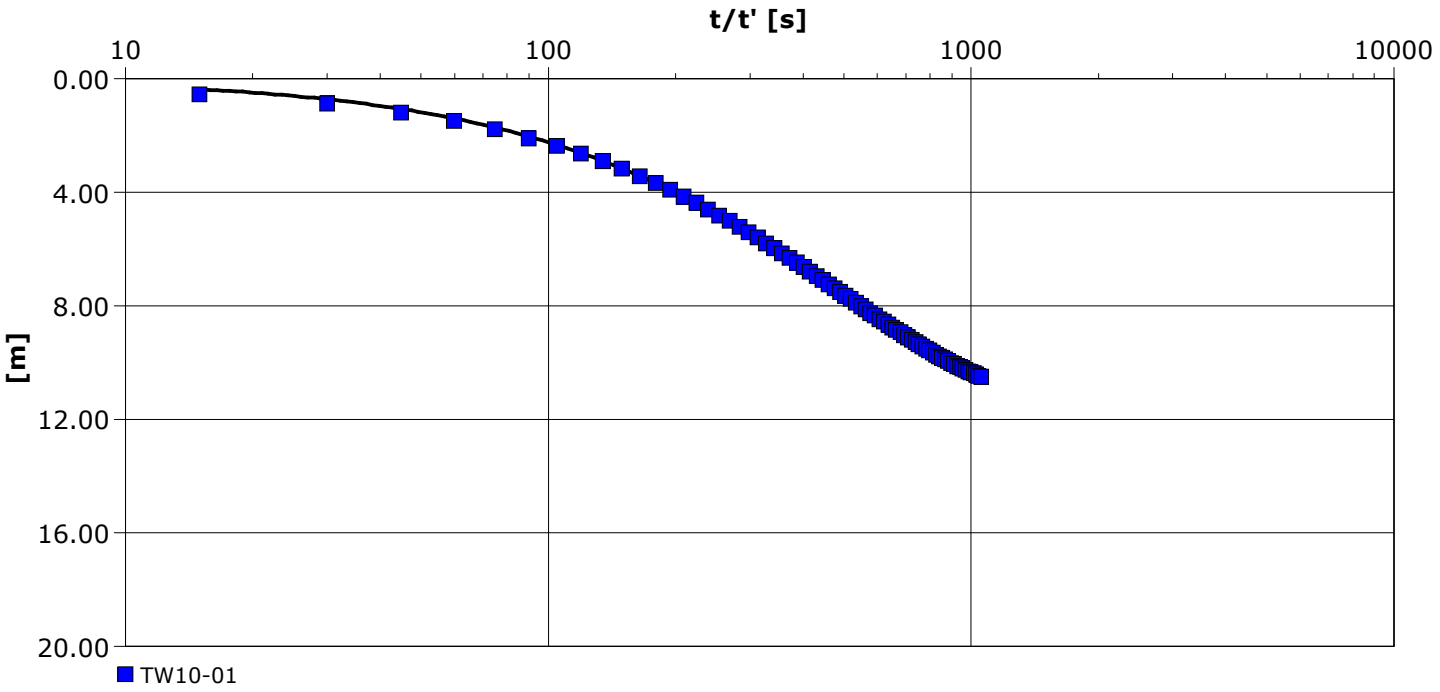
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-01 Test 3	Pumping Well: TW10-01
Test Conducted by: KP		Test Date: 6/3/2010
Analysis Performed by: JEM	Agarwal Recovery	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 8 [U.S. gal/min]	



Calculation using AGARWAL + Agarwal skin

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Skin factor	Radial Distance to PW [m]	
TW10-01	7.76×10^{-6}	2.59×10^{-6}	1.00×10^{0}	0.08	

Klohn Crippen Berger

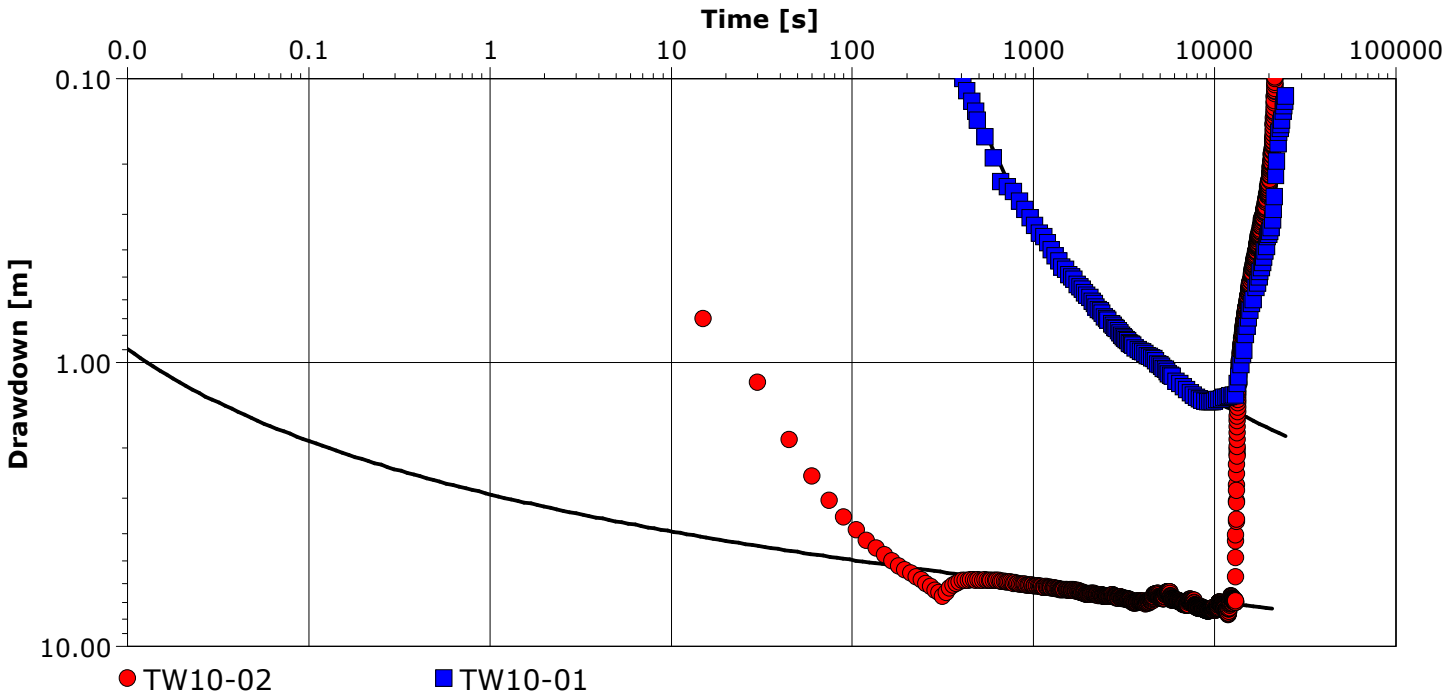
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-02 Pumping Test	Pumping Well: TW10-02
Test Conducted by: KP		Test Date: 6/7/2010
Analysis Performed by: JEM	Theis Drawdown	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 25 [U.S. gal/min]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
TW10-02	2.82×10^{-4}	9.39×10^{-5}	1.36×10^{-4}	0.08	
TW10-01	2.37×10^{-4}	7.91×10^{-5}	2.03×10^{-4}	46.04	
Average	2.60×10^{-4}	8.65×10^{-5}	1.70×10^{-4}		

Klohn Crippen Berger

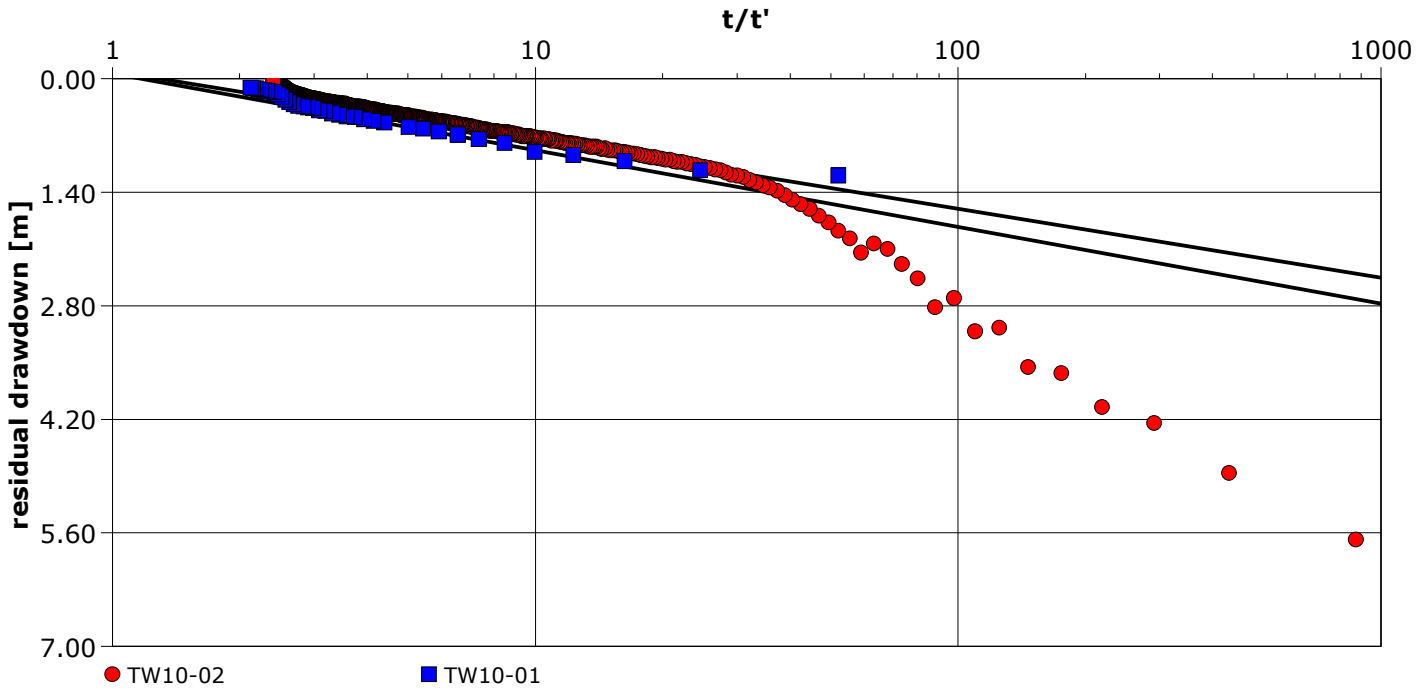
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-02 Pumping Test	Pumping Well: TW10-02
Test Conducted by: KP		Test Date: 6/7/2010
Analysis Performed by: JEM	Theis Recovery	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 25 [U.S. gal/min]	



Calculation using Theis & Jacob

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
TW10-02	3.05×10^{-4}	1.02×10^{-4}	0.08	
TW10-01	3.40×10^{-4}	1.13×10^{-4}	46.04	
Average	3.22×10^{-4}	1.07×10^{-4}		

Klohn Crippen Berger

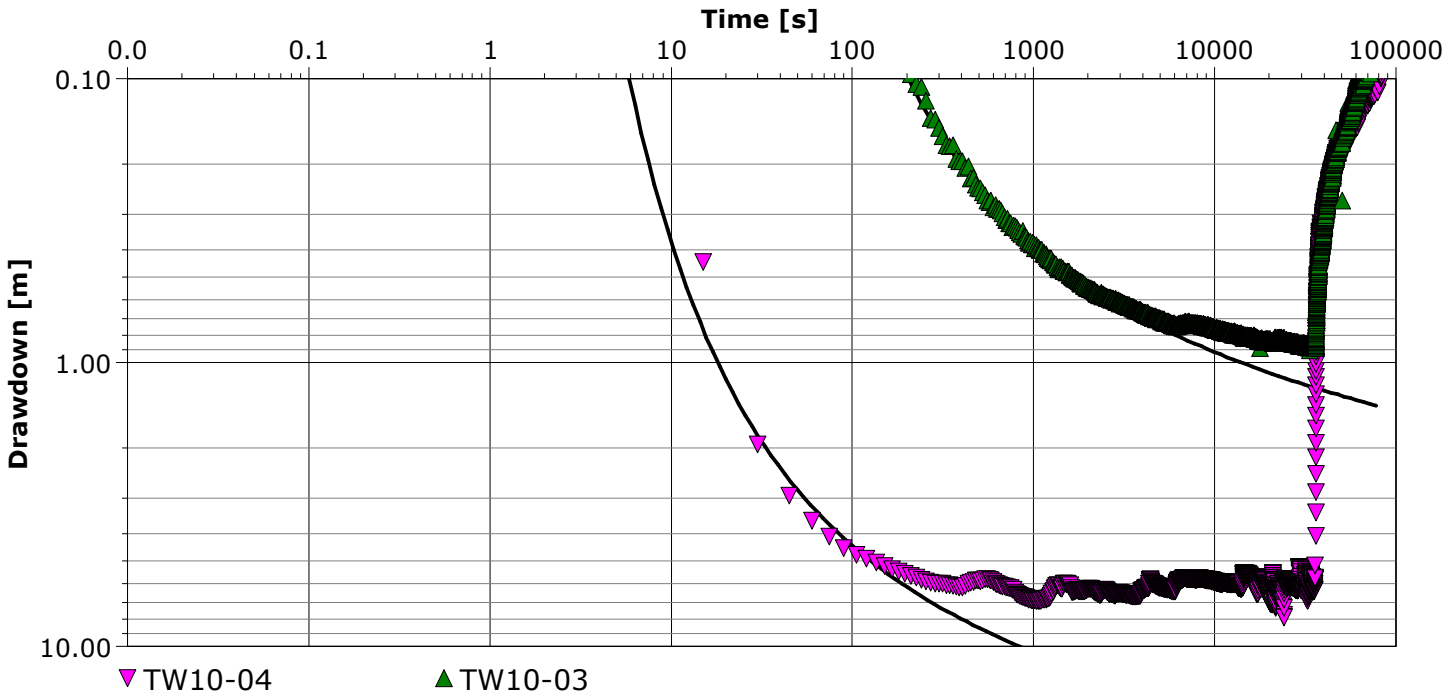
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-04 Pumping Test	Pumping Well: TW10-04
Test Conducted by: KP		Test Date: 6/6/2010
Analysis Performed by: JEM	Theis Drawdown	Analysis Date: 11/22/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 25 [U.S. gal/min]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
TW10-04	4.51×10^{-5}	1.50×10^{-5}	3.50×10^{-1}	0.08	
TW10-03	5.13×10^{-4}	1.71×10^{-4}	8.73×10^{-5}	56.01	
Average	2.79×10^{-4}	9.30×10^{-5}	1.75×10^{-1}		

Klohn Crippen Berger

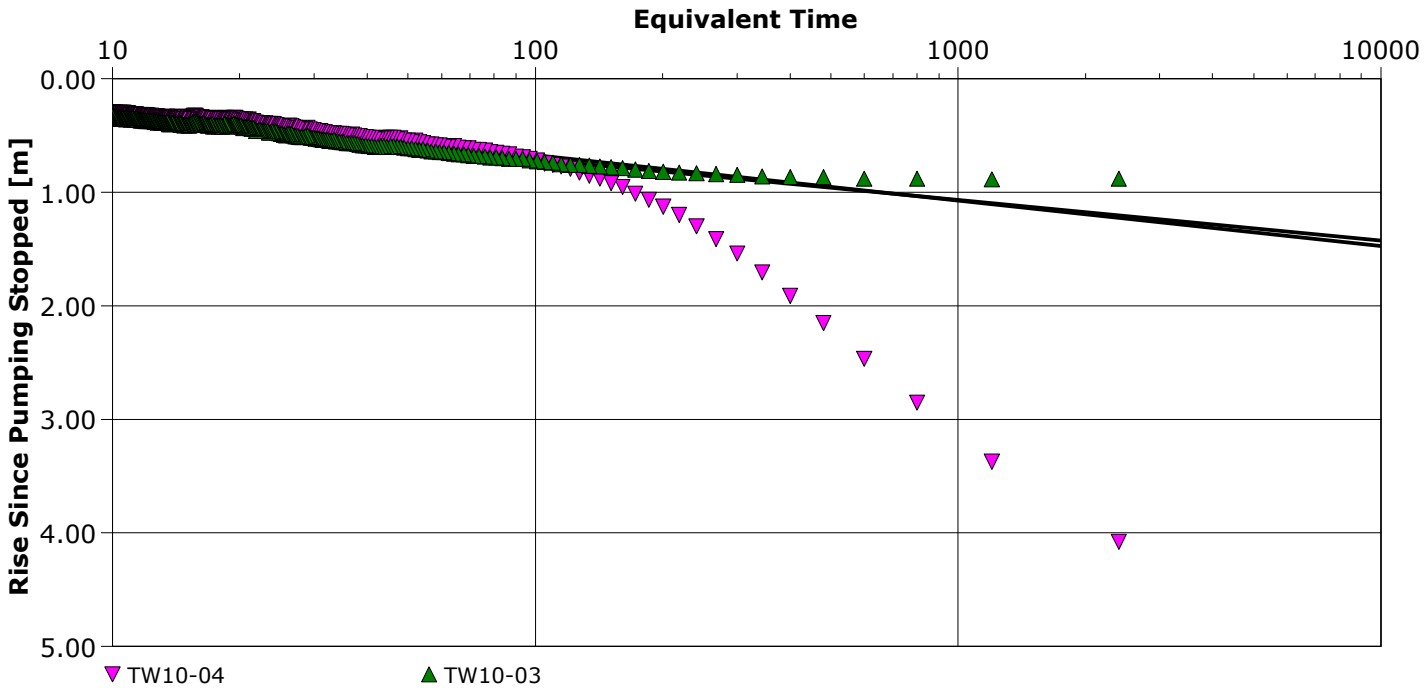
Pumping Test Analysis Report

Project: Rainy River Baseline Study

Number: M09559A04

Client: Rainy River Resources

Location: Richardson Township, ON	Pumping Test: TW10-04 Pumping Test	Pumping Well: TW10-04
Test Conducted by: KP		Test Date: 6/6/2010
Analysis Performed by: JEM	Theis Recovery	Analysis Date: 11/28/2010
Aquifer Thickness: 3.00 m	Discharge: variable, average rate 25 [U.S. gal/min]	



Calculation using Theis & Jacob

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Skin factor	Radial Distance to PW [m]	
TW10-04	7.23×10^{-4}	2.41×10^{-4}	1.00×10^{0}	0.08	
TW10-03	8.07×10^{-4}	2.69×10^{-4}	1.00×10^{0}	56.01	
Average	7.65×10^{-4}	2.55×10^{-4}	1.00×10^{0}		

APPENDIX III - 1

Groundwater Quality Results

			pH	Conductivity	TDS	TSS	Turbidity	Colour	Total Ammonia (N)	Total Kjeldahl Nitrogen (TKN)	Dissolved Chloride (Cl)	Fluoride (F-)	Orthophosphate (P)	Nitrate (N)	Nitrite (N)	Nitrate + Nitrite	Dissolved Sulphate (SO4)	Alkalinity (Total as CaCO3)	Acidity as CaC03	Total Cyanide (CN)	WAD Cyanide	Total BOD	Total COD
Guidelines for Canadian Drinking Water Quality			6.5-8.5		500		0.3				250	1.5		10			500			0.2			
OPWQO Aquatic Life Criteria			6.5-8.5																	0.005			
CCME Aquatic Life Criteria			6.5-9						0.35-73			0.12		2.9	0.2					0.005			
Sample ID	**Location**	**Sample Date**		uS/cm	mg/L	mg/L	NTU	TCU	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GW-1		7/5/2009	7.9	789	505	34	44	-	0.35	-	47	0.2	ND	ND	ND	ND	6	342	20	ND	-	29	56
GW-2		7/5/2009	8	810	515	39	170	-	0.48	-	38	0.2	ND	ND	ND	ND	11	387	16	ND	-	8	28
GW-3	**NR08-240**	7/5/2009	7.5	1660	1030	19	31	-	0.23	-	420	ND	0.01	ND	ND	ND	1	118	22	ND	-	20	43
	NR08-240	6/3/2010	8.6	895	566	-	0.5	2	ND	0.2	210	ND	ND	ND	ND	ND	ND	72	N/A	ND		53	75
	NR08-240	9/9/2010	7.7	961	610	-	63	ND		0.3	83	0.2	ND	ND	ND	ND	29	368	44	ND		ND	ND
GW-4	**NR09-367**	7/5/2009	7.9	819	526	54	64	-	0.26	-	11	0.3	ND	ND	ND	ND	17	425	32	ND	-	14	34
	NR09-367	6/3/2010	7.9	790	496	-	21	3	0.14	0.3	16	0.2	ND	ND	ND	ND	26	391	44	ND	0.0006	ND	10
	NR09-367	9/8/2010	7.8	840	542	-	200	ND	0.13	0.3	39	0.2	ND	ND	ND	ND	-	380	-	ND	-	ND	9
GW-5	**RR09-213A**	11/25/2009	7.7	780	510	1300	120	-	0.52	-	8	0.2	ND	ND	ND	ND	33	388	36	ND	-	-	15
	RR09-213A	6/3/2010	7.9	774	466	-	94	3	0.26	0.7	7	0.2	ND	ND	ND	ND	27	397	38	ND	ND	ND	23
	RR09-213A	9/9/2010	7.7	790	514	-	55	ND	0.19	0.4	8	0.2	ND	ND	ND	ND	-	404	-	ND	-	ND	5
GW-6	**RR09-213B**	11/25/2009	7.7	828	550	1100	2200	-	0.76	-	7	0.2	ND	ND	ND	ND	79	368	22	ND	-	-	76
GW-7	**RR09-214A**	11/26/2009	7.6	775	510	3	4.8	ND	0.37	-	6	0.2	ND	ND	ND	ND	26	394	36	ND	-	-	9
	RR09-214A	6/8/2010	7.9	762	490	-	20	-	0.16	0.3	5	0.2	ND	ND	ND	ND	25	393	24	ND	ND	ND	11
	RR09-214	9/9/2010	7.7	769	494	-	19	ND	0.15	0.3	6	0.2	ND	ND	ND	ND	-	395	-	ND	-	ND	ND
GW-8	**RR09-215A**	11/26/2009	7.8	777	505	6	1.8	-	0.45	-	3	0.2	ND	ND	ND	ND	33	399	26	ND	-	-	10
GW-9	**RR09-215B**	11/26/2009	7.6	914	600	113000	24000	-	0.74	-	17	0.2	ND	ND	0.05	ND	100	385	32	ND	-	-	1000
GW-10	**NR09-428**	6/3/2010	8.0	791	470	-	47	3	0.22	0.4	14	0.2	ND	ND	ND	ND	26	400	46	ND		ND	11
	NR09-428	9/9/2010	7.8	813	524	-	94	ND	0.22	0.4	18	0.2	ND	ND	ND	ND	-	400	-	ND	-	ND	5
GW-11	**BH10-04**	9/9/2010	7.9	803	520	-	360000	ND	0.49	39	4	0.3	ND	0.01	ND	ND	-	382	-	ND	-	41	1900
GW-12	**BH10-05**	9/9/2010	7.8	1080	690	-	720	2	0.2	7	2	0.3	ND	ND	ND	ND	-	496	-	ND	-	ND	270
GW-13	**BH10-7A**	9/8/2010	7.8	649	410	-	650	ND	0.32	2	2	0.1	ND	ND	ND	ND	-	313	-	ND	-	ND	43
GW-14	**BH10-11A**	9/9/2010	7.9	735	470	-	75000	2	0.39	7	3	0.2	ND	ND	ND	ND	-	386	-	ND	-	ND	200
GW-15	**BH10-12A**	6/8/2010	7.8	765	490	-	21	ND	0.22	0.4	3	0.2	ND	ND	ND	ND	31	390	22	ND	ND	ND	12
	BH10-12A	9/8/2010	7.7	768	484	-	57	ND	0.2	0.3	4	0.2	ND	ND	ND	ND	-	395	-	ND	-	ND	ND
GW-16	**BH10-14**	9/9/2010	7.8	816	520	-	31	ND	0.28	0.4	6	0.2	ND	ND	ND	ND	-	427	-	ND	-	ND	6
RRW-5		08/16/2007	7.6	639	-	6	-	-	0.09	-	-	-	-	-	-	-	26.2	395	32	ND	-	-	-
RRW-10	**NR06-26**	08/16/2007	7.9	678	-	20	-	-	0.29	-	-	-	-	-	-	-	21.7	421	40	ND	-	-	-
RRW-11	**NR96-63**	08/16/2007	7.7	666	-	14	-	-	0.16	-	-	-	-	-	-	-	19.7	415	42	ND	-	-	-
RRW-12	**NR06-113**	08/16/2007	7.7	689	-	4	-	-	0.14	-	-	-	-	-	-	-	24.3	423	36	ND	-	-	-

			DOC	TOC	Total Coliform (Confirmed)	E. Coli	Heterotrophic Plate Count	D./T. Aluminum (Al)	D./T. Antimony (Sb)	D./T. Arsenic (As)	D./T. Barium (Ba)	D./T. Beryllium (Be)	D./T. Bismuth (Bi)	D./T. Boron (B)	D./T. Cadmium (Cd)	D./T. Calcium (Ca)	D./T. Chromium (Cr)	D./T. Cobalt (Co)	D./T. Copper (Cu)	D./T. Iron (Fe)	D./T. Lead (Pb)	D./T. Lithium (Li)
Guidelines for Canadian Drinking Water Quality					0	0		0.1	0.006	0.01	1				0.005		0.05		1	0.3	0.01	
OPWQO Aquatic Life Criteria						100		0.075	0.02	0.1		0.011-1.1			0.0001-0.0005		0.001	0.0009	0.005	0.3	0.001-0.005	
CCME Aquatic Life Criteria										0.05					0.000017		0.001		0.002-0.004	0.3	0.001-0.007	
Sample ID	**Location**	**Sample Date**	mg/L	mg/L	Col./100 mL	Col./100 mL	Col./1 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GW-1		7/5/2009	18.5	19.7	<1	<1	<1	ND	ND	ND	1.100	ND	ND	0.073	ND	78	ND	ND	ND	ND	ND	0.04
GW-2		7/5/2009	6.8	7.2	-	-	-	ND	ND	ND	0.720	ND	ND	0.17	ND	89	ND	ND	ND	ND	ND	0.021
GW-3	**NR08-240**	7/5/2009	13.4	12.5	<1	<1	<1	ND	ND	ND	0.031	ND	ND	0.29	ND	67	ND	ND	ND	ND	ND	0.017
	NR08-240	6/3/2010	-	34.7	-	-	-	ND	ND	ND	0.031	ND	ND	0.15	ND	13	ND	ND	ND	ND	ND	0.022
	NR08-240	9/9/2010		1.8	-	-	-	ND	ND	0.002	0.076	ND	ND	0.091	ND	100	ND	ND	ND	4.4	ND	0.023
GW-4	**NR09-367**	7/5/2009	9.4	10.6	<1	<1	<1	0.005	ND	ND	0.067	ND	ND	0.076	ND	92	ND	ND	ND	ND	ND	0.039
	NR09-367	6/3/2010		2.9	-	-	-	ND	ND	0.003	0.063	ND	ND	0.075	ND	95	ND	ND	ND	2.6	ND	0.035
	NR09-367	9/8/2010		2.2	-	-	-	ND	ND	0.005	0.065	ND	ND	0.081	ND	97	ND	ND	ND	3.3	ND	0.031
GW-5	**RR09-213A**	11/25/2009	-	3.5	-	-	-	ND	0.011	0.005	0.062	ND	ND	0.097	0.001	91	ND	0.0052	0.006	ND	ND	0.034
	RR09-213A	6/3/2010	-	3.6	-	-	-	0.007	0.0018	0.008	0.057	ND	ND	0.078	ND	93	ND	0.0011	ND	1.7	ND	0.034
	RR09-213A	9/9/2010		2.5	-	-	-	ND	0.0005	0.008	0.056	ND	ND	0.08	ND	94	ND	0.0008	ND	2	ND	0.032
GW-6	**RR09-213B**	11/25/2009	-	5.5	-	-	-	0.04	ND	0.017	0.058	ND	ND	0.54	ND	92	ND	0.0013	0.001	ND	ND	0.092
GW-7	**RR09-214A**	11/26/2009	-	2.4	-	-	-	ND	0.0006	0.004	0.090	ND	ND	0.09	ND	95	ND	0.0011	ND	1.2	ND	0.033
	RR09-214A	6/8/2010	-	2.5	-	-	-	ND	0.0009	0.006	0.082	ND	ND	0.072	ND	92	ND	0.0012	ND	1.9	ND	0.032
	RR09-214	9/9/2010		2.3	-	-	-	ND	ND	0.006	0.079	ND	ND	0.072	ND	94	ND	0.0038	ND	2	ND	0.031
GW-8	**RR09-215A**	11/26/2009	-	2.2	-	-	-	0.044	ND	0.01	0.074	ND	ND	0.1	ND	99	ND	0.0016	0.002	0.76	ND	0.034
GW-9	**RR09-215B**	11/26/2009	-	42.9	-	-	-	0.006	ND	0.005	0.095	ND	ND	0.61	ND	84	ND	0.0013	0.004	ND	ND	0.1
GW-10	**NR09-428**	6/3/2010	-	3.6	-	-	-	0.005	0.0006	0.011	0.037	ND	ND	0.13	ND	100	ND	ND	ND	5.2	ND	0.031
	NR09-428	9/9/2010		2.6	-	-	-	ND	ND	0.01	0.041	ND	ND	0.12	ND	99	ND	ND	ND	7.7	ND	0.027
GW-11	**BH10-04**	9/9/2010		342	-	-	-	0.008	ND	0.004	0.065	ND	ND	0.17	ND	77	ND	ND	ND	ND	ND	0.068
GW-12	**BH10-05**	9/9/2010			-	-	-	ND	0.0005	0.002	0.066	ND	ND	0.14	ND	120	ND	0.0012	ND	ND	ND	0.088
GW-13	**BH10-7A**	9/8/2010		2.3	-	-	-	ND	ND	0.015	0.078	ND	ND	0.14	ND	75	ND	ND	ND	0.47	ND	0.039
GW-14	**BH10-11A**	9/9/2010		4.9	-	-	-	0.006	ND	0.009	0.090	ND	ND	0.08	ND	93	ND	ND	ND	1.2	ND	0.034
GW-15	**BH10-12A**	6/8/2010		2.8	-	-	-	0.014	0.0005	0.008	0.060	ND	ND	0.064	ND	93	ND	ND	ND	3.3	ND	0.03
	BH10-12A	9/8/2010		2.1	-	-	-	0.3	ND	0.009	0.071	ND	ND	0.069	ND	95	ND	ND	ND	4.1	ND	0.032
GW-16	**BH10-14**	9/9/2010		2.6	-	-	-	0.009	ND	0.016	0.082	ND	ND	0.11	ND	100	ND	ND	ND	2.5	ND	0.034
RRW-5		08/16/2007	-	-	-	-	-	0.01	ND	0.005	0.080	ND	ND	0.06	ND	74.1	ND	ND	ND	2.42	ND	-
RRW-10	**NR06-26**	08/16/2007	-	-	-	-	-	ND	ND	0.006	0.090	ND	ND	0.12	ND	76.4	ND	ND	ND	8.72	ND	-
RRW-11	**NR96-63**	08/16/2007	-	-	-	-	-	ND	ND	0.011	0.080	ND	ND	0.06	ND	81.5	ND	ND	ND	6.49	ND	-
RRW-12	**NR06-113**	08/16/2007	-	-	-	-	-	ND	ND	0.007	0.070	ND	ND	0.07	ND	80.2	ND	ND	ND	2.45	ND	-

			D./T. Magnesium (Mg)	D./T. Manganese (Mn)	Mercury (Hg)	D./T. Molybdenum (Mo)	D./T. Nickel (Ni)	D./T. Phosphorus (P)	D./T. Potassium (K)	D./T. Selenium (Se)	D./T. Silicon (Si)	D./T. Silver (Ag)	D./T. Sodium (Na)	D./T. Strontium (Sr)	D./T. Tellurium (Te)	D./T. Thallium (Tl)	D./T. Thorium (Th)	D./T. Tin (Sn)	D./T. Titanium (Ti)	D./T. Tungsten (W)	D./T. Uranium (U)	D./T. Vanadium (V)	D./T. Zinc (Zn)	D./T. Zirconium (Zr)
Guidelines for Canadian Drinking Water Quality				0.05	0.001					0.01			200								0.02		5	
OPWQO Aquatic Life Criteria					0.0002	0.04	0.025			0.1		0.0001				0.0003					0.005	0.006	0.02	
CCME Aquatic Life Criteria					0.000004	0.073	0.025-0.15			0.001		0.0001				0.0008							0.03	
Sample ID	**Location**	**Sample Date**	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GW-1		7/5/2009	39	0.13	ND	0.012	ND	ND	6.1	ND	6.2	ND	27	0.58	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND
GW-2		7/5/2009	39	0.17	ND	0.002	ND	ND	6.6	ND	5.4	ND	25	0.91	ND	ND	ND	ND	ND	ND	0.035	ND	ND	ND	ND
GW-3	**NR08-240**	7/5/2009	41	0.16	ND	0.002	ND	ND	4.4	ND	0.27	ND	200	1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	NR08-240	6/3/2010	40	0.023	ND	0.06	ND	ND	4.7	ND	0.064	ND	100	0.11	ND	ND	ND	ND	ND	ND	0.001	ND	ND	ND	ND
	NR08-240	9/9/2010	41	0.11	ND	0.003	ND	ND	4.7	ND	8.3	ND	35	0.75	ND	ND	ND	ND	ND	ND	0.001	0.0007	ND	ND	ND
GW-4	**NR09-367**	7/5/2009	46	0.17	ND	0.008	ND	ND	11	ND	7.3	ND	17	0.42	ND	ND	ND	ND	ND	ND	0.031	ND	ND	ND	ND
	NR09-367	6/3/2010	46	0.14	ND	0.003	ND	ND	3.9	ND	11	ND	14	0.46	ND	ND	ND	ND	ND	ND	0.001	0.0004	ND	ND	ND
	NR09-367	9/8/2010	43	0.14	ND	0.004	ND	ND	3.7	ND	10	ND	16	0.44	ND	ND	ND	ND	ND	ND	0.001	0.0005	ND	ND	ND
GW-5	**RR09-213A**	11/25/2009	41	0.19	ND	0.004	0.008	ND	4.3	ND	8.6	ND	21	0.42	ND	ND	ND	ND	ND	ND	ND	0.0015	ND	0.046	ND
	RR09-213A	6/3/2010	43	0.20	ND	0.003	ND	ND	3.5	ND	9.6	ND	14	0.45	ND	ND	ND	ND	ND	ND	ND	0.0007	ND	0.02	ND
	RR09-213A	9/9/2010	42	0.20	ND	0.003	ND	ND	3.3	ND	9.4	ND	13	0.43	ND	ND	ND	ND	ND	ND	0.0005	ND	0.011	ND
GW-6	**RR09-213B**	11/25/2009	34	0.17	ND	0.004	0.002	ND	4.1	ND	9.6	ND	50	0.55	ND	ND	ND	ND	ND	ND	0.014	ND	0.017	ND
GW-7	**RR09-214A**	11/26/2009	45	0.15	ND	0.004	0.003	ND	4.8	ND	10	ND	14	0.37	ND	ND	ND	ND	ND	ND	0.002	0.0014	ND	0.005	ND
	RR09-214A	6/8/2010	42	0.14	ND	0.005	0.001	ND	4.6	ND	9.2	ND	14	0.38	ND	ND	ND	ND	ND	ND	0.002	0.0014	ND	ND	ND
	RR09-214	9/9/2010	40	0.15	ND	0.005	0.002	ND	4.4	ND	8.9	ND	13	0.37	ND	ND	ND	ND	ND	ND	ND	0.0011	ND	ND	ND
GW-8	**RR09-215A**	11/26/2009	42	0.14	ND	0.003	0.004	ND	5	ND	9.8	ND	15	0.38	ND	ND	ND	ND	ND	ND	0.003	0.0014	ND	ND	ND
GW-9	**RR09-215B**	11/26/2009	44	0.21	0.0002	0.006	0.003	ND	4.9	ND	8.6	ND	56	0.45	ND	ND	ND	ND	ND	ND	0.017	0.017	0.003	ND	ND
GW-10	**NR09-428**	6/3/2010	41	0.22		0.003	ND	ND	4.1	ND	8.3	ND	20	0.64	ND	ND	ND	ND	ND	ND	0.008	0.0002	ND	ND	ND
	NR09-428	9/9/2010	39	0.24	ND	0.003	ND	ND	3.5	ND	8.3	ND	20	0.59	ND	ND	ND	ND	ND	ND	0.002	0.0002	ND	ND	ND
GW-11	**BH10-04**	9/9/2010	38	0.21	ND	0.016	0.001	ND	4.7	ND	7.9	ND	44	0.48	ND	ND	ND	ND	ND	ND	ND	0.0063	ND	ND	ND
GW-12	**BH10-05**	9/9/2010	76	0.12	ND	0.01	0.005	ND	21	ND	12	ND	20	0.66	ND	ND	ND	ND	ND	ND	0.007	0.019	0.002	ND	ND
GW-13	**BH10-7A**	9/8/2010	24	0.25	ND	0.003	ND	ND	3.6	ND	9.6	ND	15	0.39	ND	ND	ND	ND	ND	ND	0.003	0.0032	ND	ND	ND
GW-14	**BH10-11A**	9/9/2010	37	0.2	ND	0.004	ND	ND	4.5	ND	10	ND	11	0.45	ND	ND	ND	ND	ND	ND	ND	0.0013	ND	ND	ND
GW-15	**BH10-12A**	6/8/2010	41	0.15	ND	0.004	ND	ND	4.9	ND	11	ND	11	0.37	ND	ND	ND	ND	ND	ND	0.002	0.0006	ND	0.015	ND
	BH10-12A	9/8/2010	40	0.15	ND	0.002	ND	ND	4.8	ND	11	ND	10	0.34	ND	ND	ND	ND	0.025	ND	0.0002	ND	ND	ND	ND
GW-16	**BH10-14**	9/9/2010	43	0.19	ND	0.004	ND	ND	5	ND	10	ND	18	0.51	ND	ND	ND	ND	ND	ND	0.0008	ND	ND	ND	ND
RRW-5		08/16/2007	37.9	0.13	ND	0.004	0.003	-	4	ND	10.4	ND	-	0.285	-	ND	-	ND	ND	ND	ND	ND	ND	0.004	ND
RRW-10	**NR06-26**	08/16/2007	36.7	0.18	ND	0.005	0.003	-	4	ND	10	ND	-	0.522	-	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
RRW-11	**NR96-63**	08/16/2007	36.6	0.349	ND	0.002	0.004	-	2	ND	11.4	ND	-	0.328	-	ND	-	ND	ND	ND	ND	ND	ND	ND	ND
RRW-12	**NR06-113**	08/16/2007	37.2	0.241	ND	0.002	0.004	-	2	ND	10.4	ND	-	0.326	-	ND	-	ND	ND	ND	ND	ND	ND	0.007	ND

APPENDIX III - 2

RDP Calculations

Sampling Date		9/8/2010				
	Units	DL	5xDL	BH10-12A	BH10-20	RPD
Calculated Parameters						
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	1	5	393	388	**1%**
Carb. Alkalinity (calc. as CaCO3)	mg/L	1	5	2	2	**N/A**
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	1	5	ND	ND	**N/A**
Inorganics						
Acidity as CaC03	mg/L	10	50	44	38	**N/A**
Total Ammonia-N	mg/L	0.05	0.25	0.20	0.20	**N/A**
Total BOD	mg/L	2	10	ND	ND	**N/A**
Total Chemical Oxygen Demand (COD)	mg/L	4	20	ND	6	**N/A**
Colour	TCU	2	10	ND	ND	**N/A**
Conductivity	umho/cm	1	5	768	769	**0%**
Total Dissolved Solids	mg/L	10	50	484	490	**1%**
Fluoride (F-)	mg/L	0.1	0.5	0.2	0.2	**N/A**
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	0.5	0.3	0.3	**N/A**
Total Organic Carbon (TOC)	mg/L	0.2	1	2.1	2.2	**5%**
Orthophosphate (P)	mg/L	0.01	0.05	ND	ND	**N/A**
pH	pH	N/A		7.7	7.7	**N/A**
Dissolved Phosphorus	mg/L	0.002	0.01	0.016	0.016	**0%**
Total Phosphorus	mg/L	0.002	0.01	0.043	0.037	**15%**
Reactive Silica (SiO2)	mg/L	0.5	2.5	23	23	**0%**
Dissolved Sulphate (SO4)	mg/L	1	5	33	33	**0%**
Total Cyanide (CN)	mg/L	0.005	0.025	ND	ND	**N/A**
Turbidity	NTU	0.1	0.5	57	43	**28%**
Alkalinity (Total as CaCO3)	mg/L	1	5	395	390	**1%**
Dissolved Chloride (Cl)	mg/L	1	5	4	3	**N/A**
Nitrite (N)	mg/L	0.01	0.05	ND	ND	**N/A**
Nitrate (N)	mg/L	0.1	0.5	ND	ND	**N/A**
Nitrate + Nitrite	mg/L	0.1	0.5	ND	ND	**N/A**
Subcontracted Analysis						
Redox Potential	mV	N/A		180	171	**N/A**
Metals						
Mercury (Hg)	mg/L	0.0001	0.0005	ND	ND	**N/A**
Dissolved Sulphur (S)	mg/L	0.5	2.5	11.2	11.2	**0%**
Total Sulphur (S)	mg/L	0.5	2.5	12	12	**0%**
Dissolved Aluminum (Al)	ug/L	5	25	300	ND	**N/A**
Total Aluminum (Al)	ug/L	5	25	ND	140	**N/A**
Dissolved Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Antimony (Sb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Arsenic (As)	ug/L	1	5	9	9	**0.00**
Total Arsenic (As)	ug/L	1	5	10	9	**11%**
Dissolved Barium (Ba)	ug/L	5	25	71	65	**9%**
Total Barium (Ba)	ug/L	5	25	70	73	**4%**
Dissolved Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Beryllium (Be)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Bismuth (Bi)	ug/L	1	5	ND	ND	**N/A**
Total Bismuth (Bi)	ug/L	1	5	4	ND	**N/A**
Dissolved Boron (B)	ug/L	10	50	69	62	**11%**
Total Boron (B)	ug/L	10	50	63	66	**5%**
Dissolved Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Cadmium (Cd)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Calcium (Ca)	ug/L	200	1000	95000	94000	**1%**
Total Calcium (Ca)	ug/L	200	1000	110000	100000	**10%**
Dissolved Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Total Chromium (Cr)	ug/L	5	25	ND	ND	**N/A**
Dissolved Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Cobalt (Co)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Total Copper (Cu)	ug/L	1	5	ND	ND	**N/A**
Dissolved Iron (Fe)	ug/L	100	500	4100	3500	**16%**
Total Iron (Fe)	ug/L	100	500	4000	4000	**0%**
Dissolved Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Total Lead (Pb)	ug/L	0.5	2.5	ND	ND	**N/A**
Dissolved Lithium (Li)	ug/L	5	25	32	29	**10%**
Total Lithium (Li)	ug/L	5	25	31	31	**0%**
Dissolved Magnesium (Mg)	ug/L	50	250	40000	41000	**2%**
Total Magnesium (Mg)	ug/L	50	250	47000	43000	**9%**
Dissolved Manganese (Mn)	ug/L	2	10	150	140	**7%**
Total Manganese (Mn)	ug/L	2	10	160	160	**0%**
Dissolved Molybdenum (Mo)	ug/L	1	5	2	3	**N/A**
Total Molybdenum (Mo)	ug/L	1	5	3	3	**N/A**
Dissolved Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Total Nickel (Ni)	ug/L	1	5	ND	ND	**N/A**
Dissolved Phosphorus (P)	ug/L	100	500	ND	ND	**N/A**
Dissolved Potassium (K)	ug/L	200	1000	4800	4700	**2%**
Total Potassium (K)	ug/L	200	1000	5500	5100	**8%**
Dissolved Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Total Selenium (Se)	ug/L	2	10	ND	ND	**N/A**
Dissolved Silicon (Si)	ug/L	50	250	11000	11000	**0%**
Total Silicon (Si)	ug/L	50	250	12000	12000	**0%**
Dissolved Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Total Silver (Ag)	ug/L	0.1	0.5	ND	ND	**N/A**
Dissolved Sodium (Na)	ug/L	100	500	10000	11000	**10%**
Total Sodium (Na)	ug/L	100	500	12000	11000	**9%**
Dissolved Strontium (Sr)	ug/L	1	5	340	350	**3%**
Total Strontium (Sr)	ug/L	1	5	380	380	**0%**
Dissolved Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Total Tellurium (Te)	ug/L	1	5	ND	ND	**N/A**
Dissolved Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Total Thallium (Tl)	ug/L	0.05	0.25	ND	ND	**N/A**
Dissolved Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Total Thorium (Th)	ug/L	1	5	ND	ND	**N/A**
Dissolved Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Total Tin (Sn)	ug/L	1	5	ND	ND	**N/A**
Dissolved Titanium (Ti)	ug/L	5	25	25	ND	**N/A**
Total Titanium (Ti)	ug/L	5	25	ND	17	**N/A**
Dissolved Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Total Tungsten (W)	ug/L	1	5	ND	ND	**N/A**
Dissolved Uranium (U)	ug/L	0.1	0.5	0.2	0.2	**N/A**
Total Uranium (U)	ug/L	0.1	0.5	0.7	0.2	**N/A**
Dissolved Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Total Vanadium (V)	ug/L	1	5	ND	ND	**N/A**
Dissolved Zinc (Zn)	ug/L	5	25	ND	ND	**N/A**
Total Zinc (Zn)	ug/L	5	25	ND	14	**N/A**
Dissolved Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**
Total Zirconium (Zr)	ug/L	1	5	ND	ND	**N/A**

DL = Detection Limit
ND = Not detected
N/A = Not Applicable

APPENDIX III - 3

Laboratory Results
July 2009

Your Project #: RAINY RIVER
Your C.O.C. #: C#140633

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/07/21

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A984490
Received: 2009/07/08, 08:55

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (2)	5	2009/07/10	2009/07/14	SLA SOP-00100	APHA SM2310B
Alkalinity	5	N/A	2009/07/10	CAM SOP-00448	SM 2320B
Biological Oxygen Demand (BOD)	5	N/A	2009/07/14	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	5	N/A	2009/07/14	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	5	N/A	2009/07/14	CAM SOP-00416	APHA 5220D
Conductivity	5	N/A	2009/07/10	CAM SOP-00448	SM 2510
Total Cyanide	5	2009/07/10	2009/07/13	CAM SOP-00457	EPA 335.3
Dissolved Organic Carbon (DOC)	2	N/A	2009/07/10	CAM SOP-00446	SM 5310 B
Dissolved Organic Carbon (DOC)	3	N/A	2009/07/20	CAM SOP-00446	SM 5310 B
Fluoride	5	2009/07/10	2009/07/10	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	5	2009/07/10	2009/07/10	CAM SOP-00453	EPA 7470
Lab Filtered Metals by ICPMS	5	2009/07/13	2009/07/14	CAM SOP-00447	EPA 6020
Ammonia-N	5	N/A	2009/07/13	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	5	N/A	2009/07/13	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	5	N/A	2009/07/10	CAM SOP-00448	SM 4500H
Orthophosphate	5	N/A	2009/07/14	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	5	N/A	2009/07/14	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	5	N/A	2009/07/10	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	5	N/A	2009/07/13	CAM SOP-00446	EPA 415.1 modified
Low Level Total Suspended Solids	5	N/A	2009/07/10	CAM SOP-00428	SM 2540D
Turbidity	5	N/A	2009/07/10	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

../2

Your Project #: RAINY RIVER
Your C.O.C. #: C#140633

Attention: Ryan Todd
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/07/21

CERTIFICATE OF ANALYSIS

-2-

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9481	CZ9481		
Sampling Date		2009/07/05	2009/07/05		
COC Number		C#140633	C#140633		
	Units	**GW-1**	**GW-1 Lab-Dup**	**RDL**	**QC Batch**
Inorganics					
Acidity as CaC03	mg/L	20	N/A	10	1873893
Total Ammonia-N	mg/L	0.35	N/A	0.05	1874360
Total BOD	mg/L	29	29	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	56	N/A	4	1875437
Conductivity	umho/cm	789	N/A	1	1874256
Total Dissolved Solids	mg/L	505	N/A	10	1873894
Fluoride (F-)	mg/L	0.2	N/A	0.1	1874273
Dissolved Organic Carbon	mg/L	18.5	N/A	0.1	1883532
Total Organic Carbon (TOC)	mg/L	19.7	N/A	0.1	1875431
Orthophosphate (P)	mg/L	ND	N/A	0.01	1875608
pH	pH	7.9	N/A	N/A	1874266
Total Suspended Solids	mg/L	34	N/A	1	1873725
Dissolved Sulphate (SO4)	mg/L	6	N/A	1	1875609
Total Cyanide (CN)	mg/L	ND	ND	0.005	1874095
Turbidity	NTU	44	N/A	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	342	N/A	1	1874250
Dissolved Chloride (Cl)	mg/L	47	N/A	1	1875606
Nitrite (N)	mg/L	ND	N/A	0.01	1874027
Nitrate (N)	mg/L	ND	N/A	0.1	1874027
Nitrate + Nitrite	mg/L	ND	N/A	0.1	1874027

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9482		
Sampling Date		2009/07/05		
COC Number		C#140633		
	Units	**GW-2**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	16	10	1873893
Total Ammonia-N	mg/L	0.48	0.05	1874360
Total BOD	mg/L	8	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	28	4	1875437
Conductivity	umho/cm	810	1	1874256
Total Dissolved Solids	mg/L	515	10	1873894
Fluoride (F-)	mg/L	0.2	0.1	1874273
Dissolved Organic Carbon	mg/L	6.8	0.1	1874070
Total Organic Carbon (TOC)	mg/L	7.2	0.1	1875431
Orthophosphate (P)	mg/L	ND	0.01	1875608
pH	pH	8.0	N/A	1874266
Total Suspended Solids	mg/L	39	1	1873725
Dissolved Sulphate (SO4)	mg/L	11	1	1875609
Total Cyanide (CN)	mg/L	ND	0.005	1874095
Turbidity	NTU	170	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	387	1	1874250
Dissolved Chloride (Cl)	mg/L	38	1	1875606
Nitrite (N)	mg/L	ND	0.01	1874020
Nitrate (N)	mg/L	ND	0.1	1874020
Nitrate + Nitrite	mg/L	ND	0.1	1874020

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9483	CZ9483		
Sampling Date		2009/07/05	2009/07/05		
COC Number		C#140633	C#140633		
	Units	**GW-3**	**GW-3 Lab-Dup**	**RDL**	**QC Batch**
Inorganics					
Acidity as CaC03	mg/L	22	N/A	10	1873893
Total Ammonia-N	mg/L	0.23	N/A	0.05	1874360
Total BOD	mg/L	20	N/A	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	43	N/A	4	1875437
Conductivity	umho/cm	1660	N/A	1	1874256
Total Dissolved Solids	mg/L	1030	N/A	10	1873894
Fluoride (F-)	mg/L	ND	N/A	0.1	1874273
Dissolved Organic Carbon	mg/L	13.4	N/A	0.1	1874070
Total Organic Carbon (TOC)	mg/L	12.5	N/A	0.1	1875431
Orthophosphate (P)	mg/L	0.01	N/A	0.01	1875608
pH	pH	7.5	N/A	N/A	1874266
Total Suspended Solids	mg/L	19	N/A	1	1873725
Dissolved Sulphate (SO4)	mg/L	1	N/A	1	1875609
Total Cyanide (CN)	mg/L	ND	N/A	0.005	1874095
Turbidity	NTU	31	N/A	0.1	1874050
Alkalinity (Total as CaCO3)	mg/L	118	N/A	1	1874250
Dissolved Chloride (Cl)	mg/L	420	N/A	5	1875606
Nitrite (N)	mg/L	ND	ND	0.01	1874027
Nitrate (N)	mg/L	ND	ND	0.1	1874027
Nitrate + Nitrite	mg/L	ND	ND	0.1	1874027

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QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9484		CZ9485		
Sampling Date		2009/07/05		2009/07/05		
COC Number		C#140633		C#140633		
	Units	**GW-4**	**QC Batch**	**FIELD BLANK**	**RDL**	**QC Batch**
Inorganics						
Acidity as CaC03	mg/L	32	1873893	ND	10	1873893
Total Ammonia-N	mg/L	0.26	1874360	0.07	0.05	1874360
Total BOD	mg/L	14	1872484	ND	2	1872484
Total Chemical Oxygen Demand (COD)	mg/L	34	1875437	ND	4	1875437
Conductivity	umho/cm	819	1874256	1	1	1874256
Total Dissolved Solids	mg/L	526	1873894	ND	10	1873894
Fluoride (F-)	mg/L	0.3	1874273	ND	0.1	1874273
Dissolved Organic Carbon	mg/L	9.4	1883532	0.3	0.1	1883532
Total Organic Carbon (TOC)	mg/L	10.6	1875431	0.2	0.1	1875431
Orthophosphate (P)	mg/L	ND	1875608	ND	0.01	1875608
pH	pH	7.9	1874266	6.9	N/A	1874266
Total Suspended Solids	mg/L	54	1873725	ND	1	1873725
Dissolved Sulphate (SO4)	mg/L	17	1875609	ND	1	1875609
Total Cyanide (CN)	mg/L	ND	1874095	ND	0.005	1874095
Turbidity	NTU	64	1874050	0.1	0.1	1874045
Alkalinity (Total as CaCO3)	mg/L	425	1874250	2	1	1874250
Dissolved Chloride (Cl)	mg/L	11	1875606	ND	1	1875606
Nitrite (N)	mg/L	ND	1874020	ND	0.01	1874020
Nitrate (N)	mg/L	ND	1874020	ND	0.1	1874020
Nitrate + Nitrite	mg/L	ND	1874020	ND	0.1	1874020

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		CZ9485		
Sampling Date		2009/07/05		
COC Number		C#140633		
	Units	**FIELD BLANK Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	ND	10	1873893
Total Dissolved Solids	mg/L	ND	10	1873894
Total Organic Carbon (TOC)	mg/L	0.1	0.1	1875431

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9481	CZ9482	CZ9483		
Sampling Date		2009/07/05	2009/07/05	2009/07/05		
COC Number		C#140633	C#140633	C#140633		
	Units	**GW-1**	**GW-2**	**GW-3**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	1873868
Dissolved Aluminum (Al)	ug/L	ND	ND	ND	5	1875897
Dissolved Antimony (Sb)	ug/L	ND	ND	ND	0.5	1875897
Dissolved Arsenic (As)	ug/L	ND	ND	ND	1	1875897
Dissolved Barium (Ba)	ug/L	1100	720	31	5	1875897
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	1875897
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	1875897
Dissolved Boron (B)	ug/L	73	170	290	10	1875897
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	0.1	1875897
Dissolved Calcium (Ca)	ug/L	78000	89000	67000	200	1875897
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	1875897
Dissolved Cobalt (Co)	ug/L	ND	ND	ND	0.5	1875897
Dissolved Copper (Cu)	ug/L	ND	ND	ND	1	1875897
Dissolved Iron (Fe)	ug/L	ND	ND	ND	100	1875897
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	1875897
Dissolved Lithium (Li)	ug/L	40	21	17	5	1875897
Dissolved Magnesium (Mg)	ug/L	39000	39000	41000	50	1875897
Dissolved Manganese (Mn)	ug/L	130	170	160	2	1875897
Dissolved Molybdenum (Mo)	ug/L	12	2	2	1	1875897
Dissolved Nickel (Ni)	ug/L	ND	ND	ND	1	1875897
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	1875897
Dissolved Potassium (K)	ug/L	6100	6600	4400	200	1875897
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	1875897
Dissolved Silicon (Si)	ug/L	6200	5400	270	50	1875897
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	1875897
Dissolved Sodium (Na)	ug/L	27000	25000	200000	100	1875897
Dissolved Strontium (Sr)	ug/L	580	910	1500	1	1875897
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	1875897
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	1875897
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	1875897
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	1875897
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9481	CZ9482	CZ9483		
Sampling Date		2009/07/05	2009/07/05	2009/07/05		
COC Number		C#140633	C#140633	C#140633		
	Units	**GW-1**	**GW-2**	**GW-3**	**RDL**	**QC Batch**
Dissolved Tungsten (W)	ug/L	11	35	ND	1	1875897
Dissolved Uranium (U)	ug/L	ND	ND	ND	0.1	1875897
Dissolved Vanadium (V)	ug/L	ND	ND	ND	1	1875897
Dissolved Zinc (Zn)	ug/L	ND	ND	ND	5	1875897
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9484		CZ9485		
Sampling Date		2009/07/05		2009/07/05		
COC Number		C#140633		C#140633		
	Units	**GW-4**	**QC Batch**	**FIELD BLANK**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	1873599	ND	0.0001	1873684
Dissolved Aluminum (Al)	ug/L	5	1875897	ND	5	1875897
Dissolved Antimony (Sb)	ug/L	ND	1875897	ND	0.5	1875897
Dissolved Arsenic (As)	ug/L	ND	1875897	ND	1	1875897
Dissolved Barium (Ba)	ug/L	67	1875897	ND	5	1875897
Dissolved Beryllium (Be)	ug/L	ND	1875897	ND	0.5	1875897
Dissolved Bismuth (Bi)	ug/L	ND	1875897	ND	1	1875897
Dissolved Boron (B)	ug/L	76	1875897	ND	10	1875897
Dissolved Cadmium (Cd)	ug/L	ND	1875897	ND	0.1	1875897
Dissolved Calcium (Ca)	ug/L	92000	1875897	ND	200	1875897
Dissolved Chromium (Cr)	ug/L	ND	1875897	ND	5	1875897
Dissolved Cobalt (Co)	ug/L	ND	1875897	ND	0.5	1875897
Dissolved Copper (Cu)	ug/L	ND	1875897	ND	1	1875897
Dissolved Iron (Fe)	ug/L	ND	1875897	ND	100	1875897
Dissolved Lead (Pb)	ug/L	ND	1875897	ND	0.5	1875897
Dissolved Lithium (Li)	ug/L	39	1875897	ND	5	1875897
Dissolved Magnesium (Mg)	ug/L	46000	1875897	ND	50	1875897
Dissolved Manganese (Mn)	ug/L	170	1875897	ND	2	1875897
Dissolved Molybdenum (Mo)	ug/L	8	1875897	ND	1	1875897
Dissolved Nickel (Ni)	ug/L	ND	1875897	ND	1	1875897
Dissolved Phosphorus (P)	ug/L	ND	1875897	ND	100	1875897
Dissolved Potassium (K)	ug/L	11000	1875897	ND	200	1875897
Dissolved Selenium (Se)	ug/L	ND	1875897	ND	2	1875897
Dissolved Silicon (Si)	ug/L	7300	1875897	ND	50	1875897
Dissolved Silver (Ag)	ug/L	ND	1875897	ND	0.1	1875897
Dissolved Sodium (Na)	ug/L	17000	1875897	100	100	1875897
Dissolved Strontium (Sr)	ug/L	420	1875897	ND	1	1875897
Dissolved Tellurium (Te)	ug/L	ND	1875897	ND	1	1875897
Dissolved Thallium (Tl)	ug/L	ND	1875897	ND	0.05	1875897
Dissolved Thorium (Th)	ug/L	ND	1875897	ND	1	1875897
Dissolved Tin (Sn)	ug/L	ND	1875897	ND	1	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: A984490
Report Date: 2009/07/21

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		CZ9484		CZ9485		
Sampling Date		2009/07/05		2009/07/05		
COC Number		C#140633		C#140633		
	Units	**GW-4**	**QC Batch**	**FIELD BLANK**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	1875897	ND	5	1875897
Dissolved Tungsten (W)	ug/L	31	1875897	ND	1	1875897
Dissolved Uranium (U)	ug/L	ND	1875897	ND	0.1	1875897
Dissolved Vanadium (V)	ug/L	ND	1875897	ND	1	1875897
Dissolved Zinc (Zn)	ug/L	ND	1875897	ND	5	1875897
Dissolved Zirconium (Zr)	ug/L	ND	1875897	ND	1	1875897

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Sample CZ9483-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Sample CZ9485-: Total Organic Carbon < Dissolved Organic Carbon: Both values fall within acceptable RPD limits for duplicates and are likely equivalent.

Results relate only to the items tested.

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Quality Assurance Report

Maxxam Job Number: MA984490

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1872484	HAL	QC STANDARD	Total BOD	2009/07/14		101	%	85 - 115
		Method Blank	Total BOD	2009/07/14	ND, RDL=2		mg/L	
		RPD [CZ9481-02]	Total BOD	2009/07/14	0		%	25
1873599	MC	MATRIX SPIKE	Mercury (Hg)	2009/07/10		104	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/07/10		104	%	84 - 113
		Method Blank	Mercury (Hg)	2009/07/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/07/10	NC		%	25
1873684	MC	MATRIX SPIKE	Mercury (Hg)	2009/07/10		103	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/07/10		102	%	84 - 113
		Method Blank	Mercury (Hg)	2009/07/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/07/10	NC		%	25
1873725	HAG	QC STANDARD	Total Suspended Solids	2009/07/10		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/07/10	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/07/10	0		%	25
1873868	MC	MATRIX SPIKE	Mercury (Hg)	2009/07/10		104	%	75 - 125
		Spiked Blank	Mercury (Hg)	2009/07/10		102	%	84 - 113
		Method Blank	Mercury (Hg)	2009/07/10	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/07/10	NC		%	25
1873893	RSR	Method Blank	Acidity as CaC03	2009/07/14	ND, RDL=10		mg/L	
		RPD [CZ9485-04]	Acidity as CaC03	2009/07/14	NC		%	25
1873894	HAG	QC STANDARD	Total Dissolved Solids	2009/07/10		102	%	85 - 115
		Method Blank	Total Dissolved Solids	2009/07/10	ND, RDL=10		mg/L	
		RPD [CZ9485-03]	Total Dissolved Solids	2009/07/10	NC		%	25
1874020	CCI	MATRIX SPIKE	Nitrite (N)	2009/07/13		107	%	75 - 125
			Nitrate (N)	2009/07/13		96	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/07/13		104	%	80 - 120
			Nitrate (N)	2009/07/13		99	%	80 - 120
		Method Blank	Nitrite (N)	2009/07/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/07/13	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/07/13	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/07/13	NC		%	25
			Nitrate (N)	2009/07/13	NC		%	25
			Nitrate + Nitrite	2009/07/13	NC		%	25
1874027	CCI	MATRIX SPIKE						
		[CZ9483-01]	Nitrite (N)	2009/07/13		102	%	75 - 125
			Nitrate (N)	2009/07/13		98	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/07/13		104	%	80 - 120
			Nitrate (N)	2009/07/13		98	%	80 - 120
		Method Blank	Nitrite (N)	2009/07/13	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/07/13	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/07/13	ND, RDL=0.1		mg/L	
		RPD [CZ9483-01]	Nitrite (N)	2009/07/13	NC		%	25
			Nitrate (N)	2009/07/13	NC		%	25
			Nitrate + Nitrite	2009/07/13	NC		%	25
1874045	KTH	QC STANDARD	Turbidity	2009/07/10		102	%	85 - 115
		Method Blank	Turbidity	2009/07/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/07/10	3.3		%	25
1874050	KTH	QC STANDARD	Turbidity	2009/07/10		101	%	85 - 115
		Method Blank	Turbidity	2009/07/10	ND, RDL=0.1		NTU	
		RPD	Turbidity	2009/07/10	NC		%	25
1874070	AHA	MATRIX SPIKE	Dissolved Organic Carbon	2009/07/11		112	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/07/10		100	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/07/10	ND, RDL=0.1		mg/L	
		RPD	Dissolved Organic Carbon	2009/07/10	1.1		%	20
1874095	CP	MATRIX SPIKE						
		[CZ9481-06]	Total Cyanide (CN)	2009/07/13		91	%	75 - 125

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1874095	CP	Spiked Blank	Total Cyanide (CN)	2009/07/13		99	%	75 - 125
		Method Blank	Total Cyanide (CN)	2009/07/13	ND, RDL=0.005		mg/L	
		RPD [CZ9481-06]	Total Cyanide (CN)	2009/07/13	NC		%	25
1874250	YPA	QC STANDARD	Alkalinity (Total as CaCO3)	2009/07/10		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/07/10	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/07/10	2.0		%	25
1874256	YPA	QC STANDARD	Conductivity	2009/07/10		101	%	85 - 115
		Method Blank	Conductivity	2009/07/10	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/07/10	0		%	25
1874273	YPA	MATRIX SPIKE	Fluoride (F-)	2009/07/10		99	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/07/10		98	%	80 - 120
		Method Blank	Fluoride (F-)	2009/07/10	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/07/10	NC		%	25
1874360	ADB	MATRIX SPIKE	Total Ammonia-N	2009/07/13		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/07/13		101	%	80 - 120
		Method Blank	Total Ammonia-N	2009/07/13	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/07/13	NC		%	25
1875431	AHA	MATRIX SPIKE [CZ9485-05]	Total Organic Carbon (TOC)	2009/07/13		96	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/07/13		102	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/07/13	ND, RDL=0.1		mg/L	
		RPD [CZ9485-05]	Total Organic Carbon (TOC)	2009/07/13	NC		%	20
1875437	SAU	MATRIX SPIKE	Total Chemical Oxygen Demand (COD)	2009/07/14		100	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/07/14		99	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/07/14	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/07/14	0		%	25
1875606	DRM	MATRIX SPIKE	Dissolved Chloride (Cl)	2009/07/14		109	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/07/14		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/07/14	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/07/14	NC		%	20
1875608	DRM	MATRIX SPIKE	Orthophosphate (P)	2009/07/14		109	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/07/14		104	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/07/14	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/07/14	NC		%	25
1875609	DRM	MATRIX SPIKE	Dissolved Sulphate (SO4)	2009/07/14		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/07/14		103	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/07/14	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/07/14	0.3		%	25
1875897	JBW	MATRIX SPIKE	Dissolved Aluminum (Al)	2009/07/14		100	%	80 - 120
			Dissolved Antimony (Sb)	2009/07/14		107	%	80 - 120
			Dissolved Arsenic (As)	2009/07/14		103	%	80 - 120
			Dissolved Barium (Ba)	2009/07/14		102	%	80 - 120
			Dissolved Beryllium (Be)	2009/07/14		98	%	80 - 120
			Dissolved Bismuth (Bi)	2009/07/14		101	%	80 - 120
			Dissolved Boron (B)	2009/07/14		98	%	80 - 120
			Dissolved Cadmium (Cd)	2009/07/14		104	%	80 - 120
			Dissolved Calcium (Ca)	2009/07/14		NC (1)	%	80 - 120
			Dissolved Chromium (Cr)	2009/07/14		101	%	80 - 120
			Dissolved Cobalt (Co)	2009/07/14		103	%	80 - 120
			Dissolved Copper (Cu)	2009/07/14		97	%	80 - 120
			Dissolved Iron (Fe)	2009/07/14		100	%	80 - 120
			Dissolved Lead (Pb)	2009/07/14		101	%	80 - 120
			Dissolved Lithium (Li)	2009/07/14		98	%	80 - 120
			Dissolved Magnesium (Mg)	2009/07/14		101	%	80 - 120
			Dissolved Manganese (Mn)	2009/07/14		102	%	80 - 120

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875897	JBW	MATRIX SPIKE	Dissolved Molybdenum (Mo)	2009/07/14		105	%	80 - 120
			Dissolved Nickel (Ni)	2009/07/14		99	%	80 - 120
			Dissolved Phosphorus (P)	2009/07/14		97	%	80 - 120
			Dissolved Potassium (K)	2009/07/14		101	%	80 - 120
			Dissolved Selenium (Se)	2009/07/14		103	%	80 - 120
			Dissolved Silicon (Si)	2009/07/14		102	%	80 - 120
			Dissolved Silver (Ag)	2009/07/14		102	%	80 - 120
			Dissolved Sodium (Na)	2009/07/14		102	%	80 - 120
			Dissolved Strontium (Sr)	2009/07/14		99	%	80 - 120
			Dissolved Tellurium (Te)	2009/07/14		104	%	80 - 120
			Dissolved Thallium (Tl)	2009/07/14		101	%	80 - 120
			Dissolved Thorium (Th)	2009/07/14		99	%	80 - 120
			Dissolved Tin (Sn)	2009/07/14		105	%	80 - 120
			Dissolved Titanium (Ti)	2009/07/14		103	%	80 - 120
			Dissolved Tungsten (W)	2009/07/14		105	%	80 - 120
			Dissolved Uranium (U)	2009/07/14		99	%	80 - 120
			Dissolved Vanadium (V)	2009/07/14		102	%	80 - 120
			Dissolved Zinc (Zn)	2009/07/14		102	%	80 - 120
			Dissolved Zirconium (Zr)	2009/07/14		104	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/07/14		100	%	90 - 110
			Dissolved Antimony (Sb)	2009/07/14		101	%	90 - 110
			Dissolved Arsenic (As)	2009/07/14		99	%	90 - 110
			Dissolved Barium (Ba)	2009/07/14		98	%	90 - 110
			Dissolved Beryllium (Be)	2009/07/14		97	%	90 - 110
			Dissolved Bismuth (Bi)	2009/07/14		97	%	90 - 110
			Dissolved Boron (B)	2009/07/14		93	%	90 - 110
			Dissolved Cadmium (Cd)	2009/07/14		100	%	90 - 110
			Dissolved Calcium (Ca)	2009/07/14		99	%	90 - 110
			Dissolved Chromium (Cr)	2009/07/14		99	%	90 - 110
			Dissolved Cobalt (Co)	2009/07/14		100	%	90 - 110
			Dissolved Copper (Cu)	2009/07/14		97	%	90 - 110
			Dissolved Iron (Fe)	2009/07/14		96	%	90 - 110
			Dissolved Lead (Pb)	2009/07/14		97	%	90 - 110
			Dissolved Lithium (Li)	2009/07/14		96	%	90 - 110
			Dissolved Magnesium (Mg)	2009/07/14		99	%	90 - 110
			Dissolved Manganese (Mn)	2009/07/14		98	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/07/14		101	%	90 - 110
			Dissolved Nickel (Ni)	2009/07/14		100	%	90 - 110
			Dissolved Phosphorus (P)	2009/07/14		93	%	90 - 110
			Dissolved Potassium (K)	2009/07/14		98	%	90 - 110
			Dissolved Selenium (Se)	2009/07/14		99	%	90 - 110
			Dissolved Silicon (Si)	2009/07/14		99	%	90 - 110
			Dissolved Silver (Ag)	2009/07/14		99	%	90 - 110
			Dissolved Sodium (Na)	2009/07/14		100	%	90 - 110
			Dissolved Strontium (Sr)	2009/07/14		98	%	90 - 110
			Dissolved Tellurium (Te)	2009/07/14		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/07/14		96	%	90 - 110
			Dissolved Thorium (Th)	2009/07/14		95	%	90 - 110
			Dissolved Tin (Sn)	2009/07/14		100	%	90 - 110
			Dissolved Titanium (Ti)	2009/07/14		98	%	90 - 110
			Dissolved Tungsten (W)	2009/07/14		100	%	90 - 110
			Dissolved Uranium (U)	2009/07/14		95	%	90 - 110
			Dissolved Vanadium (V)	2009/07/14		101	%	90 - 110
			Dissolved Zinc (Zn)	2009/07/14		100	%	90 - 110
			Dissolved Zirconium (Zr)	2009/07/14		100	%	90 - 110

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875897	JBW	Method Blank	Dissolved Aluminum (Al)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/07/14	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/07/14	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/07/14	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/07/14	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/07/14	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/07/14	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/07/14	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/07/14	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/07/14	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/07/14	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/07/14	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/07/14	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/07/14	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/07/14	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2009/07/14	NC		%	25
			Dissolved Antimony (Sb)	2009/07/14	NC		%	25
			Dissolved Arsenic (As)	2009/07/14	NC		%	25
			Dissolved Barium (Ba)	2009/07/14	NC		%	25
			Dissolved Beryllium (Be)	2009/07/14	NC		%	25
			Dissolved Bismuth (Bi)	2009/07/14	NC		%	25
			Dissolved Boron (B)	2009/07/14	NC		%	25
			Dissolved Cadmium (Cd)	2009/07/14	NC		%	25
			Dissolved Calcium (Ca)	2009/07/14	0.9		%	25
			Dissolved Chromium (Cr)	2009/07/14	NC		%	25
			Dissolved Cobalt (Co)	2009/07/14	NC		%	25
			Dissolved Copper (Cu)	2009/07/14	0.02		%	25
			Dissolved Iron (Fe)	2009/07/14	NC		%	25
			Dissolved Lead (Pb)	2009/07/14	NC		%	25
			Dissolved Lithium (Li)	2009/07/14	NC		%	25
			Dissolved Magnesium (Mg)	2009/07/14	0.6		%	25
			Dissolved Manganese (Mn)	2009/07/14	NC		%	25
			Dissolved Molybdenum (Mo)	2009/07/14	NC		%	25
			Dissolved Nickel (Ni)	2009/07/14	NC		%	25

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Maxxam Job Number: MA984490

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
1875897	JBW	RPD	Dissolved Phosphorus (P)	2009/07/14	NC		%	25
			Dissolved Potassium (K)	2009/07/14	NC		%	25
			Dissolved Selenium (Se)	2009/07/14	NC		%	25
			Dissolved Silicon (Si)	2009/07/14	2.5		%	25
			Dissolved Silver (Ag)	2009/07/14	NC		%	25
			Dissolved Sodium (Na)	2009/07/14	0.1		%	25
			Dissolved Strontium (Sr)	2009/07/14	0.9		%	25
			Dissolved Tellurium (Te)	2009/07/14	NC		%	25
			Dissolved Thallium (Tl)	2009/07/14	NC		%	25
			Dissolved Thorium (Th)	2009/07/14	NC		%	25
			Dissolved Tin (Sn)	2009/07/14	NC		%	25
			Dissolved Titanium (Ti)	2009/07/14	NC		%	25
			Dissolved Tungsten (W)	2009/07/14	NC		%	25
			Dissolved Uranium (U)	2009/07/14	NC		%	25
			Dissolved Vanadium (V)	2009/07/14	NC		%	25
			Dissolved Zinc (Zn)	2009/07/14	NC		%	25
			Dissolved Zirconium (Zr)	2009/07/14	NC		%	25
1883532	AHA	MATRIX SPIKE	Dissolved Organic Carbon	2009/07/20		NC (1)	%	75 - 125
		Spiked Blank	Dissolved Organic Carbon	2009/07/20		101	%	75 - 125
		Method Blank	Dissolved Organic Carbon	2009/07/20	ND, RDL=0.1		mg/L	
		RPD	Dissolved Organic Carbon	2009/07/20	2.7		%	20

ND = Not detected
NC = Non-calculable
RPD = Relative Percent Difference
QC Standard = Quality Control Standard
SPIKE = Fortified sample
(1) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Validation Signature Page

Maxxam Job #: A984490

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA NERVO, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

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REC'D IN WINNIPEG

8-Jul-09 08:55
ANTONELLA BRASIL
A984490
HSO ENV-979

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUST

Page 1 of 2

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92896
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:	
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Project Name:	
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Site Location:	
				Sampled By:	

Lab Only: BOTTLE ORDER #: 140633
C#140633-01-01
PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Biological Oxygen Demand (BOD)	Total Cyanide, WAD Cyanide	Acidity as CaCO3 in liquid	MICRO-Subcontracted TC, EC & HPC)	Mercury in Water by CVAA	Dissolved Metals by ICPMS	Dissolved Organic Carbon (DOC)	Alk., Cl, Fl, NO2, NO3, PO4, SO4, pH, EC, Turbid	COD, NH4, TOC	Animal and Vegetable Oil & Grease	# of Bottles	Comments
1		GW-1	July 5/09	pm	GW	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	X		
2		GW-2	"	"	GW	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	X		
3		GW-3	"	"	GW	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	X		
4		GW-4	"	"	GW	N	N	✓	✓	✓	✓	✓	✓	✓	✓	✓	X		
5											Purged @ WPG & shipped to Contract.								3/4/4°
6																			0/0/0°
7																			0/1/0°
8																			1/2/2°
9																			3/2/2°
10																			5/5/5°

09 JUL 8 8:55

SIF : Sample Inspection
Resolved ☐ By: _____
Date: _____

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
	09/07/06	1815	CHILSHE	09/07/07	10:45		X	14, 8.9, 4.8 @ WPG	☐ Yes ☐ No
			EM STOSSER	JULY-07-08	8:55				

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

REC'D IN WINNIPEG

Page 2 of 2

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92896	MAXXAM JOB #: A984490	BOTTLE ORDER #: 140633
Contact Name:	Evelyn Funk	Contact Name:	Ryan Todd	P.O. #:			
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - 2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River	CHAIN OF CUSTODY #: C#140633-01-02	PROJECT MANAGER: ANTONELLA BRASIL
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8554 Fax: (604)251-8510	Project Name:			
Email:	etf@rainyriverresources.com	Email:	rtodd@klohn.com	Site Location:			
				Sampled By:			

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y/N)	Metals Field Filtered ? (Y/N)	Total Dissolved/Total Suspended Solids L	# of Bottles	Comments
1		GW-1	Jul 5/09	pm	GW	N	N	/		
2		GW-2	"	pm	GW	N	N	/		
3		GW-3	"	pm	GW	N	N	/		
4		GW-4	"	pm	GW	N	N	/		3/4/4°
5		[illegible]	"	pm		N	N			0/0/0
6										0/1/0°
7										1/2/2°
8										3/2/2°
9										5/5/5°
10										

'09 JUL 8 8:55

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
[signature]	09/07/06	1815	SAM CHILELLI	09/07/07	10:45	
			[signature]	2009-07-08	8:55	

Laboratory Use Only			
Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?	
X	14, 8.9, 4.8 @ 0.0°C	☐ Yes ☐ No	

White: Maxxam Yellow: Client

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

AUTOFAX
COVER SHEET

CANTEST®
A Member of the CANAM Group
http://www.testing-labs.com

CanTest Ltd.

Professional
Analytical
Services

4606 Canada Way
Burnaby, BC
V5G 1K5

Fax: 604 731 2386

Tel: 604 734 7276

1 800 665 8566

Date: July 10, 2009
To: Maxxam Analytics Inc.
Att'n: Antonella Brasil
From: LINKS Automatic Fax
Subject: Analytical results for Group# 100707064

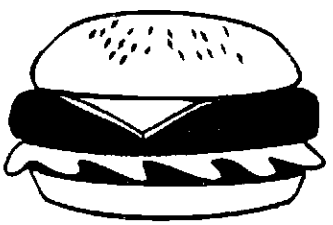
MESSAGE:

The analytical results on these pages are being sent to you via the CANTEST Laboratory Information News and Knowledge System (LINKS) "AutoFax" service. This transmission includes data submitted under the following project information:

CANTEST Group# 100707064
Project Name: CLNT#23433
Project Number:
Submission Date: July 7, 2009
Matrix: Water

A signed final report and invoice will be sent within two weeks.

Thank you for considering CANTEST for your analytical needs. Please feel free to contact a Technical Service Representative at (604) 734-7276 (1-800-665-8566) should you have any questions about the LINKS "AutoFax" or any other CANTEST services.



Food, Nutraceutical and Pharmaceutical Sciences

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REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	GW-1	GW-2	GW-3	GW-4		
DATE SAMPLED:	Jul 5/09	Jul 5/09	Jul 5/09	Jul 5/09		
CANTEST ID:	907070433	907070434	907070435	907070436	REPORTED DETECTION LIMIT	UNITS
Total Coliform (Confirmed)	<	<	<	<	1	Col./100 mL
E. Coli	<	<	<	<	1	Col./100 mL
Heterotrophic Plate Count	<	1	<	<	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reported detection limit

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW1	SW2	SW3	SW4		
DATE SAMPLED:	Jul 4/09	Jul 4/09	Jul 4/09	Jul 4/09	REPORTED DETECTION LIMIT	UNITS
CANTEST ID:	907070437	907070438	907070439	907070440		
Total Coliform (Confirmed)	TNTC	<	1	2	1	Col./100 mL
Fecal Coliform	384	2	6	2	1	Col./100 mL
E. Coli	374	2	6	2	1	Col./100 mL
Heterotrophic Plate Count	TNTC	104	240	286	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
< = Less than reported detection limit
TNTC = To numerous to count

Col./1 mL = Colonies per 1 mL

REPORTED TO: Maxxam Analytics Inc.

REPORT DATE: July 10, 2009

GROUP NUMBER: 100707064

CANTEST

Microbiological Analysis in Water

CLIENT SAMPLE IDENTIFICATION:	SW5	SW6	REPORTED DETECTION LIMIT	UNITS
DATE SAMPLED:	Jul 4/09	Jul 4/09		
CANTEST ID:	907070441	907070442		
Total Coliform (Confirmed)	< 2		1	Col./100 mL
Fecal Coliform	3	< 1	1	Col./100 mL
E. Coli	3	2	1	Col./100 mL
Heterotrophic Plate Count	246	134	1	Col./1 mL

Col./100 mL = Colonies per 100 mL
Col./1 mL = Colonies per 1 mL
< = Less than reported detection limit

Analysis Report

CANTEST®

CANTEST LTD.
Professional Analytical Services
4606 Canada Way
Burnaby, B.C.
V5G 1K5
FAX: 604 731 2386
TEL: 604 734 7276
1 800 665 8566

REPORT ON: Analysis of Water Samples

REPORTED TO: Maxxam Analytics Inc.
Head Office
6740 Campobello Road
Mississauga, ON
L5N 2L8

Att'n: Antonella Brasil

CHAIN OF CUSTODY: 34294 MB
PROJECT NAME: CLNT#23433

NUMBER OF SAMPLES: 10

REPORT DATE: July 10, 2009

DATE SUBMITTED: July 7, 2009

GROUP NUMBER: 100707064

SAMPLE TYPE: Water

NOTE: Results contained in this report refer only to the testing of samples as submitted. Other information is available on request.

TEST METHODS:

Microbiological Parameters - analyses were performed using procedures based on those described in "B. C. Environmental Laboratory Manual For the Analysis of Water, Wastewater, Sediment and Biological Materials" (2005 Edition) and "Standard Methods for the Examination of Water and Wastewater", 21st Edition. <1 cfu/100mL is equivalent to 0 (zero) cfu/100mL. Analysis was performed at CANTEST LTD Unit D,675 Berry Street, Winnipeg, Manitoba R3H 1A7.

Standard Plate Count - analysis was performed using procedures based on those described in "Standard Methods for the Examination of Water and Wastewater" (21st Edition). 100 mL of sample was filtered through a membrane filter; microbiological testing included incubation at 35C for 48 hours. Analysis was performed at CANTEST LTD., Unit "D" 675 Berry Street, Winnipeg, Manitoba R3H 1A7.

TEST RESULTS:

(See following pages)

CANTEST LTD.

Marnie Kolach, BSc.
Manager, CANTEST Winnipeg

Your Project #: MA984490
Site: RAINY RIVER
Your C.O.C. #: 08302100

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/07/14

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A935313
Received: 2009/07/10, 10:55

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	5	N/A	2009/07/13	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: A935313
Client Project #: MA984490
Report Date: 2009/07/14
Site Reference: RAINY RIVER

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		P71921	P71922	P71923	P71924		
Sampling Date		2009/07/05	2009/07/05	2009/07/05	2009/07/05		
COC Number		08302100	08302100	08302100	08302100		
	Units	**GW-1 (CZ9481-06R)**	**GW-2 (CZ9482-06R)**	**GW-3 (CZ9483-06R)**	**GW-4 (CZ9484-06R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0006	<0.0005	<0.0005	<0.0005	0.0005	3270781
RDL = Reportable Detection Limit							

Maxxam ID		P71925	P71925		
Sampling Date		2009/07/05	2009/07/05		
COC Number		08302100	08302100		
	Units	**FIELD BLANK (CZ9485-06R)**	**FIELD BLANK (CZ9485-06R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics					
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0005	3270781
RDL = Reportable Detection Limit					

Maxxam Job #: A935313
Report Date: 2009/07/14

MAXXAM ANALYTICS INC.
Client Project #: MA984490
Site Reference: RAINY RIVER

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA984490
P.O. #:
Site Reference: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: VA935313

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3270781	TS1	MATRIX SPIKE [P71925-01]	Weak Acid Dissoc. Cyanide (CN)	2009/07/13		104	%	80 - 120
		SPIKE	Weak Acid Dissoc. Cyanide (CN)	2009/07/13		102	%	80 - 120
		BLANK	Weak Acid Dissoc. Cyanide (CN)	2009/07/13	<0.0005		mg/L	
		RPD [P71925-01]	Weak Acid Dissoc. Cyanide (CN)	2009/07/13	NC		%	20

NC = Non-calculable
RPD = Relative Percent Difference

Validation Signature Page

Maxxam Job #: A935313

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

ASHLEY NIVISON, BBY Customer Service

==========

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APPENDIX III - 3

Laboratory Results
November 2009

Your Project #: RAINY RIVER-GW
Your C.O.C. #: 17043401, 170434-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/12/09

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A9G1398
Received: 2009/11/27, 14:00

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1,2)	6	2009/12/02	2009/12/08	SLA SOP-00100	APHA SM2310B
Alkalinity	3	N/A	2009/12/07	CAM SOP-00448	SM 2320B
Alkalinity	3	N/A	2009/12/08	CAM SOP-00448	SM 2320B
Chloride by Automated Colourimetry	6	N/A	2009/12/08	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	6	N/A	2009/12/07	CAM SOP-00416	APHA 5220D
Conductivity	3	N/A	2009/12/07	CAM SOP-00448	SM 2510
Conductivity	3	N/A	2009/12/08	CAM SOP-00448	SM 2510
Total Cyanide	5	2009/12/03	2009/12/03	CAM SOP-00457	EPA 335.3
Total Cyanide	1	2009/12/04	2009/12/04	CAM SOP-00457	EPA 335.3
Fluoride	3	2009/12/07	2009/12/07	CAM SOP-00456	APHA 4500FC
Fluoride	3	2009/12/07	2009/12/08	CAM SOP-00456	APHA 4500FC
Mercury in Water by CVAA	6	2009/12/03	2009/12/03	CAM SOP-00453	EPA 7470
Lab Filtered Metals by ICPMS	1	2009/12/07	2009/12/07	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	5	N/A	2009/12/07	CAM SOP-00447	EPA 6020
Ammonia-N	6	N/A	2009/12/08	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (3)	4	N/A	2009/12/08	CAM SOP-00440	SM 4500 NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (3)	2	N/A	2009/12/09	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	3	N/A	2009/12/07	CAM SOP-00448	SM 4500H
pH	3	N/A	2009/12/08	CAM SOP-00448	SM 4500H
Orthophosphate	6	N/A	2009/12/08	CAM SOP-00461	SM 4500 P-F
Sulphate by Automated Colourimetry	6	N/A	2009/12/08	CAM SOP-00464	EPA 375.4
Total Dissolved Solids	6	N/A	2009/12/04	CAM SOP-00428	APHA 2540C
Total Organic Carbon (TOC)	6	N/A	2009/12/07	CAM SOP-00446	EPA 415.1 modified
Total Solids	1	N/A	2009/12/04	CAM SOP-00428	APHA 2540B
Low Level Total Suspended Solids	5	N/A	2009/12/02	CAM SOP-00428	SM 2540D
Turbidity	6	N/A	2009/12/03	CAM SOP-00417	APHA 2130

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

../2

Your Project #: RAINY RIVER-GW
Your C.O.C. #: 17043401, 170434-0

Attention: Leanne Hollingsworth
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2009/12/09

CERTIFICATE OF ANALYSIS

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 2

Maxxam Job #: A9G1398
Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5622	EM5622		
Sampling Date		2009/11/25 15:30	2009/11/25 15:30		
COC Number		170434-0	170434-0		
	Units	**RR09-213A**	**RR09-213A Lab-Dup**	**RDL**	**QC Batch**
Inorganics					
Acidity as CaC03	mg/L	36	36	10	2025147
Total Ammonia-N	mg/L	0.52	N/A	0.05	2027739
Total Chemical Oxygen Demand (COD)	mg/L	15	N/A	4	2027750
Conductivity	umho/cm	780	N/A	1	2029573
Total Dissolved Solids	mg/L	510	N/A	10	2025867
Fluoride (F-)	mg/L	0.2	N/A	0.1	2029577
Total Organic Carbon (TOC)	mg/L	3.5	N/A	0.2	2027180
Orthophosphate (P)	mg/L	ND	N/A	0.01	2029979
pH	pH	7.7	N/A	N/A	2029574
Total Suspended Solids	mg/L	1300	N/A	5	2024794
Dissolved Sulphate (SO4)	mg/L	33	N/A	1	2029977
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2026034
Turbidity	NTU	120	120	0.1	2026538
Alkalinity (Total as CaCO3)	mg/L	388	N/A	1	2029572
Dissolved Chloride (Cl)	mg/L	8	N/A	1	2029975
Nitrite (N)	mg/L	ND	N/A	0.01	2030077
Nitrate (N)	mg/L	ND	N/A	0.1	2030077
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2030077

ND = Not detected
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Maxxam Job #: A9G1398
Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5623		
Sampling Date		2009/11/25 15:00		
COC Number		170434-0		
	Units	**RR09-213B**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	22	10	2025147
Total Ammonia-N	mg/L	0.76	0.05	2027739
Total Chemical Oxygen Demand (COD)	mg/L	76	4	2027750
Conductivity	umho/cm	828	1	2029573
Total Dissolved Solids	mg/L	550	10	2025867
Fluoride (F-)	mg/L	0.2	0.1	2029577
Total Organic Carbon (TOC)	mg/L	5.5	0.2	2027180
Orthophosphate (P)	mg/L	ND	0.01	2030011
pH	pH	7.7	N/A	2029574
Total Suspended Solids	mg/L	1100	5	2024794
Dissolved Sulphate (SO4)	mg/L	79	1	2030013
Total Cyanide (CN)	mg/L	ND	0.005	2026034
Turbidity	NTU	2200	0.1	2026538
Alkalinity (Total as CaCO3)	mg/L	368	1	2029572
Dissolved Chloride (Cl)	mg/L	7	1	2030001
Nitrite (N)	mg/L	ND	0.01	2030085
Nitrate (N)	mg/L	ND	0.1	2030085
Nitrate + Nitrite	mg/L	ND	0.1	2030085

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Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5624		EM5625		
Sampling Date		2009/11/26 10:00		2009/11/26 13:00		
COC Number		170434-0		170434-0		
	Units	**RR09-214A**	**QC Batch**	**RR09-215A**	**RDL**	**QC Batch**
Inorganics						
Acidity as CaC03	mg/L	36	2025147	26	10	2025147
Total Ammonia-N	mg/L	0.37	2027739	0.45	0.05	2027739
Total Chemical Oxygen Demand (COD)	mg/L	9	2027750	10	4	2027750
Conductivity	umho/cm	775	2029638	777	1	2029573
Total Dissolved Solids	mg/L	510	2025867	505	10	2025867
Fluoride (F-)	mg/L	0.2	2029660	0.2	0.1	2029577
Total Organic Carbon (TOC)	mg/L	2.4	2027180	2.2	0.2	2027180
Orthophosphate (P)	mg/L	ND	2030011	ND	0.01	2029979
pH	pH	7.6	2029648	7.8	N/A	2029574
Total Suspended Solids	mg/L	3	2024794	6	1	2024794
Dissolved Sulphate (SO4)	mg/L	26	2030013	33	1	2029977
Total Cyanide (CN)	mg/L	ND	2026034	ND	0.005	2026034
Turbidity	NTU	4.8	2026538	1.8	0.1	2026538
Alkalinity (Total as CaCO3)	mg/L	394	2029625	399	1	2029572
Dissolved Chloride (Cl)	mg/L	6	2030001	3	1	2029975
Nitrite (N)	mg/L	ND	2030085	ND	0.01	2030085
Nitrate (N)	mg/L	ND	2030085	ND	0.1	2030085
Nitrate + Nitrite	mg/L	ND	2030085	ND	0.1	2030085

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Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5625		
Sampling Date		2009/11/26 13:00		
COC Number		170434-0		
	Units	**RR09-215A Lab-Dup**	**RDL**	**QC Batch**
Inorganics				
Orthophosphate (P)	mg/L	ND	0.01	2029979
Dissolved Sulphate (SO4)	mg/L	33	1	2029977
Dissolved Chloride (Cl)	mg/L	3	1	2029975

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Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5626		
Sampling Date		2009/11/26 13:30		
COC Number		170434-0		
	Units	**RR09-215B**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	32	10	2025147
Total Ammonia-N	mg/L	0.74	0.05	2027739
Total Chemical Oxygen Demand (COD)	mg/L	1000	40	2027750
Conductivity	umho/cm	914	1	2029638
Total Dissolved Solids	mg/L	600	10	2025867
Fluoride (F-)	mg/L	0.2	0.1	2029660
Total Organic Carbon (TOC)	mg/L	42.9	0.2	2027180
Orthophosphate (P)	mg/L	ND	0.01	2029979
pH	pH	7.6	N/A	2029648
Total Solids	mg/L	113000	10	2025913
Dissolved Sulphate (SO4)	mg/L	100	1	2029977
Total Cyanide (CN)	mg/L	ND	0.005	2026034
Turbidity	NTU	24000	1	2026538
Alkalinity (Total as CaCO3)	mg/L	385	1	2029625
Dissolved Chloride (Cl)	mg/L	17	1	2029975
Nitrite (N)	mg/L	0.05	0.01	2030085
Nitrate (N)	mg/L	ND	0.1	2030085
Nitrate + Nitrite	mg/L	ND	0.1	2030085

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Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		EM5627		
Sampling Date				
COC Number		170434-0		
	Units	**TRIP BLANK W091116**	**RDL**	**QC Batch**
Inorganics				
Acidity as CaC03	mg/L	ND	10	2025147
Total Ammonia-N	mg/L	0.20	0.05	2027739
Total Chemical Oxygen Demand (COD)	mg/L	ND	4	2027750
Conductivity	umho/cm	1	1	2029573
Total Dissolved Solids	mg/L	ND	10	2025867
Fluoride (F-)	mg/L	ND	0.1	2029577
Total Organic Carbon (TOC)	mg/L	0.4	0.2	2027180
Orthophosphate (P)	mg/L	ND	0.01	2030011
pH	pH	5.8	N/A	2029574
Total Suspended Solids	mg/L	ND	1	2024794
Dissolved Sulphate (SO4)	mg/L	ND	1	2030013
Total Cyanide (CN)	mg/L	ND	0.005	2027318
Turbidity	NTU	0.1	0.1	2026538
Alkalinity (Total as CaCO3)	mg/L	ND	1	2029572
Dissolved Chloride (Cl)	mg/L	ND	1	2030001
Nitrite (N)	mg/L	ND	0.01	2030077
Nitrate (N)	mg/L	ND	0.1	2030077
Nitrate + Nitrite	mg/L	ND	0.1	2030077

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Maxxam Job #: A9G1398
Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5622	EM5623	EM5624		
Sampling Date		2009/11/25 15:30	2009/11/25 15:00	2009/11/26 10:00		
COC Number		170434-0	170434-0	170434-0		
	Units	**RR09-213A**	**RR09-213B**	**RR09-214A**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	ND	0.0001	2026030
Dissolved Aluminum (Al)	ug/L	ND	40	ND	5	2029310
Dissolved Antimony (Sb)	ug/L	11	ND	0.6	0.5	2029310
Dissolved Arsenic (As)	ug/L	5	17	4	1	2029310
Dissolved Barium (Ba)	ug/L	62	58	90	5	2029310
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	0.5	2029310
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	1	2029310
Dissolved Boron (B)	ug/L	97	540	90	10	2029310
Dissolved Cadmium (Cd)	ug/L	1.0	ND	ND	0.1	2029310
Dissolved Calcium (Ca)	ug/L	91000	92000	95000	200	2029310
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	5	2029310
Dissolved Cobalt (Co)	ug/L	5.2	1.3	1.1	0.5	2029310
Dissolved Copper (Cu)	ug/L	6	1	ND	1	2029310
Dissolved Iron (Fe)	ug/L	ND	ND	1200	100	2029310
Dissolved Lead (Pb)	ug/L	ND	ND	ND	0.5	2029310
Dissolved Lithium (Li)	ug/L	34	92	33	5	2029310
Dissolved Magnesium (Mg)	ug/L	41000	34000	45000	50	2029310
Dissolved Manganese (Mn)	ug/L	190	170	150	2	2029310
Dissolved Molybdenum (Mo)	ug/L	4	4	4	1	2029310
Dissolved Nickel (Ni)	ug/L	8	2	3	1	2029310
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	100	2029310
Dissolved Potassium (K)	ug/L	4300	4100	4800	200	2029310
Dissolved Selenium (Se)	ug/L	ND	ND	ND	2	2029310
Dissolved Silicon (Si)	ug/L	8600	9600	10000	50	2029310
Dissolved Silver (Ag)	ug/L	ND	ND	ND	0.1	2029310
Dissolved Sodium (Na)	ug/L	21000	50000	14000	100	2029310
Dissolved Strontium (Sr)	ug/L	420	550	370	1	2029310
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	1	2029310
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	0.05	2029310
Dissolved Thorium (Th)	ug/L	ND	ND	ND	1	2029310
Dissolved Tin (Sn)	ug/L	ND	ND	ND	1	2029310

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Maxxam Job #: A9G1398
Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5622	EM5623	EM5624		
Sampling Date		2009/11/25 15:30	2009/11/25 15:00	2009/11/26 10:00		
COC Number		170434-0	170434-0	170434-0		
	Units	**RR09-213A**	**RR09-213B**	**RR09-214A**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	5	2029310
Dissolved Tungsten (W)	ug/L	ND	ND	2	1	2029310
Dissolved Uranium (U)	ug/L	1.5	14	1.4	0.1	2029310
Dissolved Vanadium (V)	ug/L	ND	ND	ND	1	2029310
Dissolved Zinc (Zn)	ug/L	46	17	5	5	2029310
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	1	2029310

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Maxxam Job #: A9G1398
Report Date: 2009/12/09

Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5625		EM5626		
Sampling Date		2009/11/26 13:00		2009/11/26 13:30		
COC Number		170434-0		170434-0		
	Units	**RR09-215A**	**QC Batch**	**RR09-215B**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	2026030	0.0002	0.0001	2026030
Dissolved Aluminum (Al)	ug/L	44	2029310	6	5	2028910
Dissolved Antimony (Sb)	ug/L	ND	2029310	ND	0.5	2028910
Dissolved Arsenic (As)	ug/L	10	2029310	5	1	2028910
Dissolved Barium (Ba)	ug/L	74	2029310	95	5	2028910
Dissolved Beryllium (Be)	ug/L	ND	2029310	ND	0.5	2028910
Dissolved Bismuth (Bi)	ug/L	ND	2029310	ND	1	2028910
Dissolved Boron (B)	ug/L	100	2029310	610	10	2028910
Dissolved Cadmium (Cd)	ug/L	ND	2029310	ND	0.1	2028910
Dissolved Calcium (Ca)	ug/L	99000	2029310	84000	200	2028910
Dissolved Chromium (Cr)	ug/L	ND	2029310	ND	5	2028910
Dissolved Cobalt (Co)	ug/L	1.6	2029310	1.3	0.5	2028910
Dissolved Copper (Cu)	ug/L	2	2029310	4	1	2028910
Dissolved Iron (Fe)	ug/L	760	2029310	ND	100	2028910
Dissolved Lead (Pb)	ug/L	ND	2029310	ND	0.5	2028910
Dissolved Lithium (Li)	ug/L	34	2029310	100	5	2028910
Dissolved Magnesium (Mg)	ug/L	42000	2029310	44000	50	2028910
Dissolved Manganese (Mn)	ug/L	140	2029310	210	2	2028910
Dissolved Molybdenum (Mo)	ug/L	3	2029310	6	1	2028910
Dissolved Nickel (Ni)	ug/L	4	2029310	3	1	2028910
Dissolved Phosphorus (P)	ug/L	ND	2029310	ND	100	2028910
Dissolved Potassium (K)	ug/L	5000	2029310	4900	200	2028910
Dissolved Selenium (Se)	ug/L	ND	2029310	ND	2	2028910
Dissolved Silicon (Si)	ug/L	9800	2029310	8600	50	2028910
Dissolved Silver (Ag)	ug/L	ND	2029310	ND	0.1	2028910
Dissolved Sodium (Na)	ug/L	15000	2029310	56000	100	2028910
Dissolved Strontium (Sr)	ug/L	380	2029310	450	1	2028910
Dissolved Tellurium (Te)	ug/L	ND	2029310	ND	1	2028910
Dissolved Thallium (Tl)	ug/L	ND	2029310	ND	0.05	2028910
Dissolved Thorium (Th)	ug/L	ND	2029310	ND	1	2028910
Dissolved Tin (Sn)	ug/L	ND	2029310	ND	1	2028910

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Maxxam Job #: A9G1398
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Klohn Crippen Berger Ltd
Client Project #: RAINY RIVER-GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5625		EM5626		
Sampling Date		2009/11/26 13:00		2009/11/26 13:30		
COC Number		170434-0		170434-0		
	Units	**RR09-215A**	**QC Batch**	**RR09-215B**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	2029310	ND	5	2028910
Dissolved Tungsten (W)	ug/L	3	2029310	17	1	2028910
Dissolved Uranium (U)	ug/L	1.4	2029310	17	0.1	2028910
Dissolved Vanadium (V)	ug/L	ND	2029310	3	1	2028910
Dissolved Zinc (Zn)	ug/L	ND	2029310	ND	5	2028910
Dissolved Zirconium (Zr)	ug/L	ND	2029310	ND	1	2028910

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Client Project #: RAINY RIVER-GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5627		
Sampling Date				
COC Number		170434-0		
	Units	**TRIP BLANK W091116**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2026030
Dissolved Aluminum (Al)	ug/L	ND	5	2029310
Dissolved Antimony (Sb)	ug/L	ND	0.5	2029310
Dissolved Arsenic (As)	ug/L	ND	1	2029310
Dissolved Barium (Ba)	ug/L	ND	5	2029310
Dissolved Beryllium (Be)	ug/L	ND	0.5	2029310
Dissolved Bismuth (Bi)	ug/L	ND	1	2029310
Dissolved Boron (B)	ug/L	18	10	2029310
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2029310
Dissolved Calcium (Ca)	ug/L	ND	200	2029310
Dissolved Chromium (Cr)	ug/L	ND	5	2029310
Dissolved Cobalt (Co)	ug/L	ND	0.5	2029310
Dissolved Copper (Cu)	ug/L	ND	1	2029310
Dissolved Iron (Fe)	ug/L	ND	100	2029310
Dissolved Lead (Pb)	ug/L	ND	0.5	2029310
Dissolved Lithium (Li)	ug/L	ND	5	2029310
Dissolved Magnesium (Mg)	ug/L	ND	50	2029310
Dissolved Manganese (Mn)	ug/L	ND	2	2029310
Dissolved Molybdenum (Mo)	ug/L	ND	1	2029310
Dissolved Nickel (Ni)	ug/L	ND	1	2029310
Dissolved Phosphorus (P)	ug/L	ND	100	2029310
Dissolved Potassium (K)	ug/L	ND	200	2029310
Dissolved Selenium (Se)	ug/L	ND	2	2029310
Dissolved Silicon (Si)	ug/L	ND	50	2029310
Dissolved Silver (Ag)	ug/L	ND	0.1	2029310
Dissolved Sodium (Na)	ug/L	ND	100	2029310
Dissolved Strontium (Sr)	ug/L	ND	1	2029310
Dissolved Tellurium (Te)	ug/L	ND	1	2029310
Dissolved Thallium (Tl)	ug/L	ND	0.05	2029310
Dissolved Thorium (Th)	ug/L	ND	1	2029310
Dissolved Tin (Sn)	ug/L	ND	1	2029310

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Klohn Crippen Berger Ltd
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		EM5627		
Sampling Date				
COC Number		170434-0		
	Units	**TRIP BLANK W091116**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	5	2029310
Dissolved Tungsten (W)	ug/L	ND	1	2029310
Dissolved Uranium (U)	ug/L	ND	0.1	2029310
Dissolved Vanadium (V)	ug/L	ND	1	2029310
Dissolved Zinc (Zn)	ug/L	ND	5	2029310
Dissolved Zirconium (Zr)	ug/L	ND	1	2029310

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GENERAL COMMENTS

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: RAINY RIVER-GW
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MA9G1398

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2024794	HAG	QC Standard	Total Suspended Solids	2009/12/02		100	%	85 - 115
		Method Blank	Total Suspended Solids	2009/12/02	ND, RDL=1		mg/L	
		RPD	Total Suspended Solids	2009/12/02	NC		%	25
2025147	MAT	Method Blank	Acidity as CaC03	2009/12/04	ND, RDL=10		mg/L	
		RPD [EM5622-03]	Acidity as CaC03	2009/12/08	NC		%	25
2025867	HAG	QC Standard	Total Dissolved Solids	2009/12/04		98	%	90 - 110
		Method Blank	Total Dissolved Solids	2009/12/04	ND, RDL=10		mg/L	
		RPD	Total Dissolved Solids	2009/12/04	1.7		%	25
2025913	HAG	Method Blank	Total Solids	2009/12/04	ND, RDL=10		mg/L	
		RPD	Total Solids	2009/12/04	0.05		%	25
2026030	RON	Matrix Spike	Mercury (Hg)	2009/12/03		92	%	80 - 120
		Spiked Blank	Mercury (Hg)	2009/12/03		109	%	80 - 120
		Method Blank	Mercury (Hg)	2009/12/03	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2009/12/03	NC		%	25
2026034	LHA	Matrix Spike	Total Cyanide (CN)	2009/12/03		92	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/12/03		100	%	80 - 120
		Method Blank	Total Cyanide (CN)	2009/12/03	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/12/03	NC		%	25
2026538	KTH	QC Standard	Turbidity	2009/12/03		101	%	85 - 115
		Method Blank	Turbidity	2009/12/03	ND, RDL=0.1		NTU	
		RPD [EM5622-01]	Turbidity	2009/12/03	1.6		%	25
2027180	C_H	Matrix Spike	Total Organic Carbon (TOC)	2009/12/07		NC	%	75 - 125
		Spiked Blank	Total Organic Carbon (TOC)	2009/12/07		99	%	75 - 125
		Method Blank	Total Organic Carbon (TOC)	2009/12/07	ND, RDL=0.2		mg/L	
		RPD	Total Organic Carbon (TOC)	2009/12/07	2.8		%	20
2027318	LHA	Matrix Spike	Total Cyanide (CN)	2009/12/04		NC	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2009/12/04		101	%	80 - 120
		Method Blank	Total Cyanide (CN)	2009/12/04	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2009/12/04	2.4		%	25
2027739	ADB	Matrix Spike	Total Ammonia-N	2009/12/08		NC	%	80 - 120
		Spiked Blank	Total Ammonia-N	2009/12/08		98	%	80 - 120
		Method Blank	Total Ammonia-N	2009/12/08	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2009/12/08	0.05		%	25
2027750	SAU	Matrix Spike	Total Chemical Oxygen Demand (COD)	2009/12/07		NC	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2009/12/07		102	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2009/12/07	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2009/12/07	0.5		%	25
2028910	CWA	Matrix Spike	Dissolved Aluminum (Al)	2009/12/07		105	%	80 - 120
			Dissolved Antimony (Sb)	2009/12/07		105	%	80 - 120
			Dissolved Arsenic (As)	2009/12/07		107	%	80 - 120
			Dissolved Barium (Ba)	2009/12/07		99	%	80 - 120
			Dissolved Beryllium (Be)	2009/12/07		105	%	80 - 120
			Dissolved Bismuth (Bi)	2009/12/07		100	%	80 - 120
			Dissolved Boron (B)	2009/12/07		108	%	80 - 120
			Dissolved Cadmium (Cd)	2009/12/07		102	%	80 - 120
			Dissolved Calcium (Ca)	2009/12/07		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/12/07		101	%	80 - 120
			Dissolved Cobalt (Co)	2009/12/07		102	%	80 - 120
			Dissolved Copper (Cu)	2009/12/07		97	%	80 - 120
			Dissolved Iron (Fe)	2009/12/07		103	%	80 - 120
			Dissolved Lead (Pb)	2009/12/07		100	%	80 - 120
			Dissolved Lithium (Li)	2009/12/07		101	%	80 - 120
			Dissolved Magnesium (Mg)	2009/12/07		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/12/07		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/12/07		104	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: RAINY RIVER-GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9G1398

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2028910	CWA	Matrix Spike	Dissolved Nickel (Ni)	2009/12/07		99	%	80 - 120
			Dissolved Phosphorus (P)	2009/12/07		112	%	80 - 120
			Dissolved Potassium (K)	2009/12/07		109	%	80 - 120
			Dissolved Selenium (Se)	2009/12/07		106	%	80 - 120
			Dissolved Silicon (Si)	2009/12/07		112	%	80 - 120
			Dissolved Silver (Ag)	2009/12/07		100	%	80 - 120
			Dissolved Sodium (Na)	2009/12/07		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/12/07		98	%	80 - 120
			Dissolved Tellurium (Te)	2009/12/07		104	%	80 - 120
			Dissolved Thallium (Tl)	2009/12/07		100	%	80 - 120
			Dissolved Thorium (Th)	2009/12/07		99	%	80 - 120
			Dissolved Tin (Sn)	2009/12/07		103	%	80 - 120
			Dissolved Titanium (Ti)	2009/12/07		107	%	80 - 120
			Dissolved Tungsten (W)	2009/12/07		99	%	80 - 120
			Dissolved Uranium (U)	2009/12/07		101	%	80 - 120
			Dissolved Vanadium (V)	2009/12/07		104	%	80 - 120
			Dissolved Zinc (Zn)	2009/12/07		99	%	80 - 120
			Dissolved Zirconium (Zr)	2009/12/07		103	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/12/07		103	%	90 - 110
			Dissolved Antimony (Sb)	2009/12/07		102	%	90 - 110
			Dissolved Arsenic (As)	2009/12/07		103	%	90 - 110
			Dissolved Barium (Ba)	2009/12/07		99	%	90 - 110
			Dissolved Beryllium (Be)	2009/12/07		102	%	90 - 110
			Dissolved Bismuth (Bi)	2009/12/07		100	%	90 - 110
			Dissolved Boron (B)	2009/12/07		98	%	90 - 110
			Dissolved Cadmium (Cd)	2009/12/07		99	%	90 - 110
			Dissolved Calcium (Ca)	2009/12/07		102	%	90 - 110
			Dissolved Chromium (Cr)	2009/12/07		101	%	90 - 110
			Dissolved Cobalt (Co)	2009/12/07		102	%	90 - 110
			Dissolved Copper (Cu)	2009/12/07		98	%	90 - 110
			Dissolved Iron (Fe)	2009/12/07		106	%	90 - 110
			Dissolved Lead (Pb)	2009/12/07		99	%	90 - 110
			Dissolved Lithium (Li)	2009/12/07		100	%	90 - 110
			Dissolved Magnesium (Mg)	2009/12/07		108	%	90 - 110
			Dissolved Manganese (Mn)	2009/12/07		102	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/12/07		102	%	90 - 110
			Dissolved Nickel (Ni)	2009/12/07		101	%	90 - 110
			Dissolved Phosphorus (P)	2009/12/07		106	%	90 - 110
			Dissolved Potassium (K)	2009/12/07		109	%	90 - 110
			Dissolved Selenium (Se)	2009/12/07		103	%	90 - 110
			Dissolved Silicon (Si)	2009/12/07		107	%	90 - 110
			Dissolved Silver (Ag)	2009/12/07		100	%	90 - 110
			Dissolved Sodium (Na)	2009/12/07		105	%	90 - 110
			Dissolved Strontium (Sr)	2009/12/07		96	%	90 - 110
			Dissolved Tellurium (Te)	2009/12/07		98	%	90 - 110
			Dissolved Thallium (Tl)	2009/12/07		100	%	90 - 110
			Dissolved Thorium (Th)	2009/12/07		98	%	90 - 110
			Dissolved Tin (Sn)	2009/12/07		99	%	90 - 110
			Dissolved Titanium (Ti)	2009/12/07		105	%	90 - 110
			Dissolved Tungsten (W)	2009/12/07		100	%	90 - 110
			Dissolved Uranium (U)	2009/12/07		100	%	90 - 110
			Dissolved Vanadium (V)	2009/12/07		101	%	90 - 110
			Dissolved Zinc (Zn)	2009/12/07		97	%	90 - 110
			Dissolved Zirconium (Zr)	2009/12/07		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/12/07	ND, RDL=5		ug/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2028910	CWA	Method Blank	Dissolved Antimony (Sb)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/12/07	13, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/12/07	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/12/07	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/12/07	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/12/07	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/12/07	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/12/07	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/12/07	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/12/07	ND, RDL=1		ug/L	
		RPD	Dissolved Chromium (Cr)	2009/12/07	NC		%	25
2029310	HRE	Matrix Spike	Dissolved Aluminum (Al)	2009/12/07		102	%	80 - 120
			Dissolved Antimony (Sb)	2009/12/07		105	%	80 - 120
			Dissolved Arsenic (As)	2009/12/07		103	%	80 - 120
			Dissolved Barium (Ba)	2009/12/07		101	%	80 - 120
			Dissolved Beryllium (Be)	2009/12/07		105	%	80 - 120
			Dissolved Bismuth (Bi)	2009/12/07		98	%	80 - 120
			Dissolved Boron (B)	2009/12/07		106	%	80 - 120
			Dissolved Cadmium (Cd)	2009/12/07		102	%	80 - 120
			Dissolved Calcium (Ca)	2009/12/07		NC	%	80 - 120
			Dissolved Chromium (Cr)	2009/12/07		101	%	80 - 120
			Dissolved Cobalt (Co)	2009/12/07		96	%	80 - 120
			Dissolved Copper (Cu)	2009/12/07		93	%	80 - 120
			Dissolved Iron (Fe)	2009/12/07		100	%	80 - 120
			Dissolved Lead (Pb)	2009/12/07		96	%	80 - 120
			Dissolved Lithium (Li)	2009/12/07		104	%	80 - 120
			Dissolved Magnesium (Mg)	2009/12/07		NC	%	80 - 120
			Dissolved Manganese (Mn)	2009/12/07		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2009/12/07		104	%	80 - 120
			Dissolved Nickel (Ni)	2009/12/07		95	%	80 - 120

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2029310	HRE	Matrix Spike	Dissolved Phosphorus (P)	2009/12/07		110	%	80 - 120
			Dissolved Potassium (K)	2009/12/07		101	%	80 - 120
			Dissolved Selenium (Se)	2009/12/07		104	%	80 - 120
			Dissolved Silicon (Si)	2009/12/07		99	%	80 - 120
			Dissolved Silver (Ag)	2009/12/07		86	%	80 - 120
			Dissolved Sodium (Na)	2009/12/07		NC	%	80 - 120
			Dissolved Strontium (Sr)	2009/12/07		NC	%	80 - 120
			Dissolved Tellurium (Te)	2009/12/07		100	%	80 - 120
			Dissolved Thallium (Tl)	2009/12/07		97	%	80 - 120
			Dissolved Thorium (Th)	2009/12/07		97	%	80 - 120
			Dissolved Tin (Sn)	2009/12/07		102	%	80 - 120
			Dissolved Titanium (Ti)	2009/12/07		105	%	80 - 120
			Dissolved Tungsten (W)	2009/12/07		99	%	80 - 120
			Dissolved Uranium (U)	2009/12/07		101	%	80 - 120
			Dissolved Vanadium (V)	2009/12/07		101	%	80 - 120
			Dissolved Zinc (Zn)	2009/12/07		97	%	80 - 120
			Dissolved Zirconium (Zr)	2009/12/07		103	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2009/12/07		102	%	90 - 110
			Dissolved Antimony (Sb)	2009/12/07		101	%	90 - 110
			Dissolved Arsenic (As)	2009/12/07		98	%	90 - 110
			Dissolved Barium (Ba)	2009/12/07		101	%	90 - 110
			Dissolved Beryllium (Be)	2009/12/07		102	%	90 - 110
			Dissolved Bismuth (Bi)	2009/12/07		99	%	90 - 110
			Dissolved Boron (B)	2009/12/07		100	%	90 - 110
			Dissolved Cadmium (Cd)	2009/12/07		101	%	90 - 110
			Dissolved Calcium (Ca)	2009/12/07		104	%	90 - 110
			Dissolved Chromium (Cr)	2009/12/07		102	%	90 - 110
			Dissolved Cobalt (Co)	2009/12/07		98	%	90 - 110
			Dissolved Copper (Cu)	2009/12/07		97	%	90 - 110
			Dissolved Iron (Fe)	2009/12/07		101	%	90 - 110
			Dissolved Lead (Pb)	2009/12/07		98	%	90 - 110
			Dissolved Lithium (Li)	2009/12/07		102	%	90 - 110
			Dissolved Magnesium (Mg)	2009/12/07		107	%	90 - 110
			Dissolved Manganese (Mn)	2009/12/07		104	%	90 - 110
			Dissolved Molybdenum (Mo)	2009/12/07		102	%	90 - 110
			Dissolved Nickel (Ni)	2009/12/07		100	%	90 - 110
			Dissolved Phosphorus (P)	2009/12/07		99	%	90 - 110
			Dissolved Potassium (K)	2009/12/07		107	%	90 - 110
			Dissolved Selenium (Se)	2009/12/07		102	%	90 - 110
			Dissolved Silicon (Si)	2009/12/07		105	%	90 - 110
			Dissolved Silver (Ag)	2009/12/07		98	%	90 - 110
			Dissolved Sodium (Na)	2009/12/07		105	%	90 - 110
			Dissolved Strontium (Sr)	2009/12/07		99	%	90 - 110
			Dissolved Tellurium (Te)	2009/12/07		99	%	90 - 110
			Dissolved Thallium (Tl)	2009/12/07		98	%	90 - 110
			Dissolved Thorium (Th)	2009/12/07		98	%	90 - 110
			Dissolved Tin (Sn)	2009/12/07		100	%	90 - 110
			Dissolved Titanium (Ti)	2009/12/07		108	%	90 - 110
			Dissolved Tungsten (W)	2009/12/07		101	%	90 - 110
			Dissolved Uranium (U)	2009/12/07		101	%	90 - 110
			Dissolved Vanadium (V)	2009/12/07		104	%	90 - 110
			Dissolved Zinc (Zn)	2009/12/07		99	%	90 - 110
			Dissolved Zirconium (Zr)	2009/12/07		100	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2009/12/07	ND, RDL=0.5		ug/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2029310	HRE	Method Blank	Dissolved Arsenic (As)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2009/12/07	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2009/12/07	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2009/12/07	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2009/12/07	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2009/12/07	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2009/12/07	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2009/12/07	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2009/12/07	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2009/12/07	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2009/12/07	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2009/12/07	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2009/12/07	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2009/12/07	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2009/12/07	ND, RDL=1		ug/L	
		RPD	Dissolved Antimony (Sb)	2009/12/07	NC		%	25
			Dissolved Arsenic (As)	2009/12/07	NC		%	25
			Dissolved Barium (Ba)	2009/12/07	1.4		%	25
			Dissolved Beryllium (Be)	2009/12/07	NC		%	25
			Dissolved Boron (B)	2009/12/07	3.2		%	25
			Dissolved Cadmium (Cd)	2009/12/07	NC		%	25
			Dissolved Chromium (Cr)	2009/12/07	NC		%	25
			Dissolved Cobalt (Co)	2009/12/07	NC		%	25
			Dissolved Copper (Cu)	2009/12/07	NC		%	25
			Dissolved Lead (Pb)	2009/12/07	NC		%	25
			Dissolved Molybdenum (Mo)	2009/12/07	3.1		%	25
			Dissolved Nickel (Ni)	2009/12/07	NC		%	25
			Dissolved Selenium (Se)	2009/12/07	NC		%	25
			Dissolved Silver (Ag)	2009/12/07	NC		%	25
			Dissolved Sodium (Na)	2009/12/07	1.0		%	25
			Dissolved Thallium (Tl)	2009/12/07	NC		%	25
			Dissolved Vanadium (V)	2009/12/07	NC		%	25
			Dissolved Zinc (Zn)	2009/12/07	NC		%	25
2029572	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/12/07		96	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/12/07	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/12/08	0.2		%	25

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: RAINY RIVER-GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9G1398

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2029573	YPA	QC Standard	Conductivity	2009/12/07		103	%	85 - 115
		Method Blank	Conductivity	2009/12/07	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/12/08	0.1		%	25
2029577	YPA	Matrix Spike	Fluoride (F-)	2009/12/07		107	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/12/07		110	%	80 - 120
		Method Blank	Fluoride (F-)	2009/12/07	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/12/07	NC		%	25
2029625	YPA	QC Standard	Alkalinity (Total as CaCO3)	2009/12/07		94	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2009/12/07	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2009/12/07	1.5		%	25
2029638	YPA	QC Standard	Conductivity	2009/12/07		101	%	85 - 115
		Method Blank	Conductivity	2009/12/07	ND, RDL=1		umho/cm	
		RPD	Conductivity	2009/12/07	0		%	25
2029660	YPA	Matrix Spike	Fluoride (F-)	2009/12/07		108	%	80 - 120
		Spiked Blank	Fluoride (F-)	2009/12/07		111	%	80 - 120
		Method Blank	Fluoride (F-)	2009/12/07	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2009/12/07	NC		%	25
2029975	DRM	Matrix Spike						
		[EM5625-01]	Dissolved Chloride (Cl)	2009/12/08		113	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/12/08		96	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/12/08	ND, RDL=1		mg/L	
		RPD [EM5625-01]	Dissolved Chloride (Cl)	2009/12/08	NC		%	20
2029977	DRM	Matrix Spike						
		[EM5625-01]	Dissolved Sulphate (SO4)	2009/12/08		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/12/08		102	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/12/08	ND, RDL=1		mg/L	
		RPD [EM5625-01]	Dissolved Sulphate (SO4)	2009/12/08	0.1		%	25
2029979	DRM	Matrix Spike						
		[EM5625-01]	Orthophosphate (P)	2009/12/08		110	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/12/08		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/12/08	ND, RDL=0.01		mg/L	
		RPD [EM5625-01]	Orthophosphate (P)	2009/12/08	NC		%	25
2030001	DRM	Matrix Spike	Dissolved Chloride (Cl)	2009/12/08		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2009/12/08		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2009/12/08	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2009/12/08	0.6		%	20
2030011	DRM	Matrix Spike	Orthophosphate (P)	2009/12/08		101	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2009/12/08		100	%	80 - 120
		Method Blank	Orthophosphate (P)	2009/12/08	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2009/12/08	NC		%	25
2030013	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2009/12/08		108	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2009/12/08		98	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2009/12/08	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2009/12/08	NC		%	25
2030077	CCI	Matrix Spike	Nitrite (N)	2009/12/09		108	%	75 - 125
			Nitrate (N)	2009/12/09		102	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/12/09		107	%	80 - 120
			Nitrate (N)	2009/12/09		100	%	80 - 120
		Method Blank	Nitrite (N)	2009/12/09	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/12/09	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/12/09	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/12/09	NC		%	25
			Nitrate (N)	2009/12/09	NC		%	25
			Nitrate + Nitrite	2009/12/09	NC		%	25
2030085	CCI	Matrix Spike	Nitrite (N)	2009/12/08		101	%	75 - 125

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Klohn Crippen Berger Ltd
Attention: Leanne Hollingsworth
Client Project #: RAINY RIVER-GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MA9G1398

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2030085	CCI	Matrix Spike	Nitrate (N)	2009/12/08		97	%	75 - 125
		Spiked Blank	Nitrite (N)	2009/12/08		103	%	80 - 120
			Nitrate (N)	2009/12/08		98	%	80 - 120
		Method Blank	Nitrite (N)	2009/12/08	ND, RDL=0.01		mg/L	
			Nitrate (N)	2009/12/08	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2009/12/08	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2009/12/08	NC		%	25
			Nitrate (N)	2009/12/08	NC		%	25
			Nitrate + Nitrite	2009/12/08	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: A9G1398

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

==========

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IMMEDIATE TEST

REC'D IN WINNIPEG

27-Nov-09 14:00
ANTONELLA BRASIL
A9G1398
ABH ENV-631

Maxxam Analytics
Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-653-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

Page of

Only:

BOTTLE ORDER #: 170434

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	A92895
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	Rainy River
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:	
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:	
				Sampled By:	Terence Jibiki (KCBL)

CHAIN OF CUSTODY #: C#170434-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered? (Y/N)	Acidity as CaCO3 in liquid	Alk.Cond.Cl,Fl,NO2,NO3,pH, SO4,PO4,Turbid	COD, TOC, Ammonia	Dissolved Metals by ICPMS	Low Level Total Suspended Solids	Mercury in Water by CVAA	Subcontracted Analysis - WAD Cyanide	Total Cyanide	Total Dissolved Solids		# of Bottles	Comments
1		RR09-213A	09/11/25	15:30	WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	
2		RR09-213B	09/11/25	15:00	WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	
3		RR09-214A	09/11/26	10:00	WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	
4		~~RR09-214B~~			WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	No sample collected.
5		RR09-215A	09/11/26	13:00	WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	
6		RR09-215B	09/11/26	13:30	WT		Y	✓	✓	✓	✓	✓	✓	✓	✓	✓		9	
7																			
8																			
9																			
10																			

SIF : Sample Inspection
Resolved ☐ By: _____
Date:

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Terence Jibiki	09/11/27	14:00	[illegible]/SAM CHILESHE	09/11/27	14:00	
			ASAD BHATTI	2009/11/28	09:40	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	4.1, 3.8, 3.2	☑ Yes ☐ No

2/2/2°c

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: MA9G1398
Your C.O.C. #: 08307481

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2009/12/08

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: A969060
Received: 2009/12/02, 08:50

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	6	N/A	2009/12/04	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 444-4808

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

MAXXAM ANALYTICS INC.
Maxxam Job #: A969060
Client Project #: MA9G1398
Report Date: 2009/12/08

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		S01441	S01442	S01443	S01444		
Sampling Date		2009/11/25	2009/11/25	2009/11/26	2009/11/26		
COC Number		08307481	08307481	08307481	08307481		
	Units	**RR09-213A (EM5622-06)**	**RR09-213B (EM5623-06)**	**RR09-214A (EM5624-06)**	**RR09-215A (EM5625-06)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	3607387
RDL = Reportable Detection Limit							

Maxxam ID		S01445	S01446	S01446		
Sampling Date		2009/11/26	2009/11/26	2009/11/26		
COC Number		08307481	08307481	08307481		
	Units	**RR09-215B (EM5626-06)**	**TRIP BLANK W091116 (EM5627-06)**	**TRIP BLANK W091116 (EM5627-06) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	<0.0005	0.0005	3607387
RDL = Reportable Detection Limit						

Maxxam Job #: A969060
Report Date: 2009/12/08

MAXXAM ANALYTICS INC.
Client Project #: MA9G1398

Package 1	1.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MA9G1398
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VA969060

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3607387	KC5	Matrix Spike [S01446-01]	Weak Acid Dissoc. Cyanide (CN)	2009/12/04		103	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2009/12/04		100	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2009/12/04	<0.0005		mg/L	
		RPD [S01446-01]	Weak Acid Dissoc. Cyanide (CN)	2009/12/04	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: A969060

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



DAVE HUANG, BBY Scientific Specialist

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

APPENDIX III - 3

Laboratory Results
June 2010

Your Project #: M09559A04
Site: RAINY RIVER
Your C.O.C. #: 19318901, 193189-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B073250
Received: 2010/06/07, 08:00

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (1)	3	2010/06/11	2010/06/16	SLA SOP-00100	APHA SM2310B
Alkalinity	4	N/A	2010/06/11	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	4	N/A	2010/06/12		
Biological Oxygen Demand (BOD)	4	N/A	2010/06/16	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	4	N/A	2010/06/11	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	4	N/A	2010/06/11	CAM SOP-00416	APHA 5220D
Colour	4	N/A	2010/06/11	CAM SOP-00412	APHA 2120
Conductivity	4	N/A	2010/06/11	CAM SOP-00448	SM 2510
Total Cyanide	4	2010/06/11	2010/06/11	CAM SOP-00457	EPA 335.3
Fluoride	4	2010/06/11	2010/06/11	CAM SOP-00448	APHA 4500FC
Hardness (calculated as CaCO3)	4	N/A	2010/06/15	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	4	2010/06/11	2010/06/11	CAM SOP-00453	EPA 7470
Dissolved Metals Analysis by ICP	4	2010/06/11	2010/06/11	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	4	N/A	2010/06/14	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	4	N/A	2010/06/11	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	4	2010/06/11	2010/06/14	CAM SOP-00408	EPA 6010
Ammonia-N	4	N/A	2010/06/11	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (2)	4	N/A	2010/06/11	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	4	N/A	2010/06/11	CAM SOP-00448	SM 4500H
Orthophosphate	4	N/A	2010/06/11	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	4	N/A	2010/06/14	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	4	N/A	2010/06/11	CAM SOP-00464	EPA 375.4
Redox Potential (1)	4	2010/06/11	2010/06/16	SM 2580 B & ASTM DI 498-76	
Total Dissolved Solids	4	N/A	2010/06/10	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	4	2010/06/11	2010/06/11	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	4	N/A	2010/06/11	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	4	2010/06/11	2010/06/11	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	4	2010/06/11	2010/06/11	CAM SOP-00407	APHA 4500 P,B,F
Turbidity	4	N/A	2010/06/11	CAM SOP-00417	APHA 2130B

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford

(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

==========

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Total cover pages: 1

Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		GC7912	GC7912		GC7913		
Sampling Date		2010/06/03 11:45	2010/06/03 11:45		2010/06/03 13:00		
COC Number		193189-0	193189-0		193189-0		
	Units	**NR09-428**	**NR09-428 Lab-Dup**	**RDL**	**NR08-240**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	397	N/A	1	69	1	2175369
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	N/A	1	2	1	2175369
Hardness (CaCO3)	mg/L	420	N/A	1	200	1	2175370
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	ND	1	2175369
Inorganics							
Acidity as CaC03	mg/L	46	N/A	10	N/A	10	2176436
Total Ammonia-N	mg/L	0.22	N/A	0.05	ND	0.05	2176227
Total BOD	mg/L	ND	N/A	2	53	2	2176278
Total Chemical Oxygen Demand (COD)	mg/L	11	N/A	4	75	4	2175781
Colour	TCU	3	N/A	2	2	2	2176375
Conductivity	umho/cm	791	795	1	895	1	2176389
Total Dissolved Solids	mg/L	470	N/A	10	566	10	2176130
Fluoride (F-)	mg/L	0.2	0.2	0.1	ND	0.1	2176390
Total Kjeldahl Nitrogen (TKN)	mg/L	0.4	N/A	0.1	0.2	0.1	2175920
Total Organic Carbon (TOC)	mg/L	3.6	3.6	0.2	34.7	0.2	2176228
Orthophosphate (P)	mg/L	ND	N/A	0.01	ND	0.01	2175836
pH	pH	8.0	7.8	N/A	8.6	N/A	2176388
Dissolved Phosphorus	mg/L	0.003	N/A	0.002	ND	0.002	2176235
Total Phosphorus	mg/L	0.011	N/A	0.002	ND	0.002	2176230
Reactive Silica (SiO2)	mg/L	17	N/A	0.5	ND	0.5	2177836
Dissolved Sulphate (SO4)	mg/L	26	N/A	1	ND	1	2175837
Total Cyanide (CN)	mg/L	ND	N/A	0.005	ND	0.005	2176254
Turbidity	NTU	47	47	0.1	0.5	0.1	2176597
Alkalinity (Total as CaCO3)	mg/L	400	400	1	72	1	2176382
Dissolved Chloride (Cl)	mg/L	14	N/A	1	210	2	2175797
Nitrite (N)	mg/L	ND	N/A	0.01	ND	0.01	2176373
Nitrate (N)	mg/L	ND	N/A	0.1	ND	0.1	2176373
Nitrate + Nitrite	mg/L	ND	N/A	0.1	ND	0.1	2176373
Subcontracted Analysis							
Redox Potential	mV	+265	N/A	N/A	+162	N/A	2176432

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		GC7913		GC7914	GC7914		
Sampling Date		2010/06/03 13:00		2010/06/03 13:45	2010/06/03 13:45		
COC Number		193189-0		193189-0	193189-0		
	Units	**NR08-240 Lab-Dup**	**RDL**	**NR09-367**	**NR09-367 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	388	N/A	1	2175369
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	3	N/A	1	2175369
Hardness (CaCO3)	mg/L	N/A	1	430	N/A	1	2175370
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	1	ND	N/A	1	2175369
Inorganics							
Acidity as CaC03	mg/L	N/A	10	44	N/A	10	2176436
Total Ammonia-N	mg/L	N/A	0.05	0.14	0.13	0.05	2176227
Total BOD	mg/L	N/A	2	ND	N/A	2	2176278
Total Chemical Oxygen Demand (COD)	mg/L	N/A	4	10	N/A	4	2175781
Colour	TCU	N/A	2	3	N/A	2	2176375
Conductivity	umho/cm	N/A	1	790	N/A	1	2176389
Total Dissolved Solids	mg/L	570	10	496	N/A	10	2176130
Fluoride (F-)	mg/L	N/A	0.1	0.2	N/A	0.1	2176390
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	0.1	0.3	N/A	0.1	2175920
Total Organic Carbon (TOC)	mg/L	N/A	0.2	2.9	N/A	0.2	2176228
Orthophosphate (P)	mg/L	N/A	0.01	ND	N/A	0.01	2175836
pH	pH	N/A	N/A	7.9	N/A	N/A	2176388
Dissolved Phosphorus	mg/L	N/A	0.002	ND	0.007	0.002	2176235
Total Phosphorus	mg/L	N/A	0.002	0.010	0.010	0.002	2176230
Reactive Silica (SiO2)	mg/L	N/A	0.5	22	N/A	0.5	2177836
Dissolved Sulphate (SO4)	mg/L	N/A	1	26	N/A	1	2175837
Total Cyanide (CN)	mg/L	ND	0.005	ND	N/A	0.005	2176254
Turbidity	NTU	N/A	0.1	21	N/A	0.1	2176597
Alkalinity (Total as CaCO3)	mg/L	N/A	1	391	N/A	1	2176382
Dissolved Chloride (Cl)	mg/L	N/A	2	16	N/A	1	2175797
Nitrite (N)	mg/L	N/A	0.01	ND	N/A	0.01	2176373
Nitrate (N)	mg/L	N/A	0.1	ND	N/A	0.1	2176373
Nitrate + Nitrite	mg/L	N/A	0.1	ND	N/A	0.1	2176373
Subcontracted Analysis							
Redox Potential	mV	N/A	N/A	+239	N/A	N/A	2176432

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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

RESULTS OF ANALYSES OF WATER

Maxxam ID		GC7915	GC7915		
Sampling Date		2010/06/03 15:30	2010/06/03 15:30		
COC Number		193189-0	193189-0		
	Units	**RR09-213A**	**RR09-213A Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	395	N/A	1	2175369
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	N/A	1	2175369
Hardness (CaCO3)	mg/L	410	N/A	1	2175370
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2175369
Inorganics					
Acidity as CaC03	mg/L	38	38	10	2176436
Total Ammonia-N	mg/L	0.26	N/A	0.05	2176227
Total BOD	mg/L	ND	N/A	2	2176278
Total Chemical Oxygen Demand (COD)	mg/L	23	N/A	4	2175781
Colour	TCU	3	N/A	2	2176375
Conductivity	umho/cm	774	N/A	1	2176389
Total Dissolved Solids	mg/L	466	N/A	10	2176130
Fluoride (F-)	mg/L	0.2	N/A	0.1	2176390
Total Kjeldahl Nitrogen (TKN)	mg/L	0.7	N/A	0.2	2175920
Total Organic Carbon (TOC)	mg/L	3.6	N/A	0.2	2176228
Orthophosphate (P)	mg/L	ND	N/A	0.01	2175836
pH	pH	7.9	N/A	N/A	2176388
Dissolved Phosphorus	mg/L	0.007	N/A	0.002	2176235
Total Phosphorus	mg/L	3.6	N/A	0.1	2176230
Reactive Silica (SiO2)	mg/L	19	N/A	0.5	2177836
Dissolved Sulphate (SO4)	mg/L	27	N/A	1	2175837
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2176254
Turbidity	NTU	94	N/A	0.1	2176597
Alkalinity (Total as CaCO3)	mg/L	397	N/A	1	2176382
Dissolved Chloride (Cl)	mg/L	7	N/A	1	2175797
Nitrite (N)	mg/L	ND	N/A	0.01	2176373
Nitrate (N)	mg/L	ND	N/A	0.1	2176373
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2176373
Subcontracted Analysis					
Redox Potential	mV	+241	+242	N/A	2176432

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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7912	GC7912	GC7913	GC7914		
Sampling Date		2010/06/03 11:45	2010/06/03 11:45	2010/06/03 13:00	2010/06/03 13:45		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**NR09-428**	**NR09-428 Lab-Dup**	**NR08-240**	**NR09-367**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	N/A	ND	ND	0.0001	2176240
Dissolved Sulphur (S)	mg/L	9.8	9.6	ND	10.3	0.5	2176384
Total Sulphur (S)	mg/L	9.7	N/A	ND	9.7	0.5	2176804
Dissolved Aluminum (Al)	ug/L	5	N/A	ND	ND	5	2176630
Total Aluminum (Al)	ug/L	6	N/A	ND	29	5	2176500
Dissolved Antimony (Sb)	ug/L	0.6	N/A	ND	ND	0.5	2176630
Total Antimony (Sb)	ug/L	ND	N/A	ND	ND	0.5	2176500
Dissolved Arsenic (As)	ug/L	11	N/A	ND	3	1	2176630
Total Arsenic (As)	ug/L	10	N/A	ND	3	1	2176500
Dissolved Barium (Ba)	ug/L	37	N/A	31	63	5	2176630
Total Barium (Ba)	ug/L	40	N/A	32	67	5	2176500
Dissolved Beryllium (Be)	ug/L	ND	N/A	ND	ND	0.5	2176630
Total Beryllium (Be)	ug/L	ND	N/A	ND	ND	0.5	2176500
Dissolved Bismuth (Bi)	ug/L	ND	N/A	ND	ND	1	2176630
Total Bismuth (Bi)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Boron (B)	ug/L	130	N/A	150	75	10	2176630
Total Boron (B)	ug/L	140	N/A	150	77	10	2176500
Dissolved Cadmium (Cd)	ug/L	ND	N/A	ND	ND	0.1	2176630
Total Cadmium (Cd)	ug/L	ND	N/A	ND	ND	0.1	2176500
Dissolved Calcium (Ca)	ug/L	100000	N/A	13000	95000	200	2176630
Total Calcium (Ca)	ug/L	110000	N/A	13000	100000	200	2176500
Dissolved Chromium (Cr)	ug/L	ND	N/A	ND	ND	5	2176630
Total Chromium (Cr)	ug/L	ND	N/A	ND	ND	5	2176500
Dissolved Cobalt (Co)	ug/L	ND	N/A	ND	ND	0.5	2176630
Total Cobalt (Co)	ug/L	ND	N/A	ND	ND	0.5	2176500
Dissolved Copper (Cu)	ug/L	ND	N/A	ND	ND	1	2176630
Total Copper (Cu)	ug/L	1	N/A	ND	ND	1	2176500
Dissolved Iron (Fe)	ug/L	5200	N/A	ND	2600	100	2176630
Total Iron (Fe)	ug/L	4700	N/A	330	2800	100	2176500
Dissolved Lead (Pb)	ug/L	ND	N/A	ND	ND	0.5	2176630

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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7912	GC7912	GC7913	GC7914		
Sampling Date		2010/06/03 11:45	2010/06/03 11:45	2010/06/03 13:00	2010/06/03 13:45		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**NR09-428**	**NR09-428 Lab-Dup**	**NR08-240**	**NR09-367**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	ND	ND	0.5	2176500
Dissolved Lithium (Li)	ug/L	31	N/A	22	35	5	2176630
Total Lithium (Li)	ug/L	31	N/A	20	33	5	2176500
Dissolved Magnesium (Mg)	ug/L	41000	N/A	40000	46000	50	2176630
Total Magnesium (Mg)	ug/L	41000	N/A	38000	46000	50	2176500
Dissolved Manganese (Mn)	ug/L	220	N/A	23	140	2	2176630
Total Manganese (Mn)	ug/L	230	N/A	27	150	2	2176500
Dissolved Molybdenum (Mo)	ug/L	3	N/A	60	3	1	2176630
Total Molybdenum (Mo)	ug/L	3	N/A	59	4	1	2176500
Dissolved Nickel (Ni)	ug/L	ND	N/A	ND	ND	1	2176630
Total Nickel (Ni)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Phosphorus (P)	ug/L	ND	N/A	ND	ND	100	2176630
Dissolved Potassium (K)	ug/L	4100	N/A	4700	3900	200	2176630
Total Potassium (K)	ug/L	4300	N/A	4500	4100	200	2176500
Dissolved Selenium (Se)	ug/L	ND	N/A	ND	ND	2	2176630
Total Selenium (Se)	ug/L	ND	N/A	ND	ND	2	2176500
Dissolved Silicon (Si)	ug/L	8300	N/A	64	11000	50	2176630
Total Silicon (Si)	ug/L	8800	N/A	ND	11000	50	2176500
Dissolved Silver (Ag)	ug/L	ND	N/A	ND	ND	0.1	2176630
Total Silver (Ag)	ug/L	ND	N/A	ND	ND	0.1	2176500
Dissolved Sodium (Na)	ug/L	20000	N/A	100000	14000	100	2176630
Total Sodium (Na)	ug/L	21000	N/A	98000	15000	100	2176500
Dissolved Strontium (Sr)	ug/L	640	N/A	110	460	1	2176630
Total Strontium (Sr)	ug/L	630	N/A	110	470	1	2176500
Dissolved Tellurium (Te)	ug/L	ND	N/A	ND	ND	1	2176630
Total Tellurium (Te)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Thallium (Tl)	ug/L	ND	N/A	ND	ND	0.05	2176630
Total Thallium (Tl)	ug/L	ND	N/A	ND	ND	0.05	2176500
Dissolved Thorium (Th)	ug/L	ND	N/A	ND	ND	1	2176630
Total Thorium (Th)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Tin (Sn)	ug/L	ND	N/A	ND	ND	1	2176630

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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7912	GC7912	GC7913	GC7914		
Sampling Date		2010/06/03 11:45	2010/06/03 11:45	2010/06/03 13:00	2010/06/03 13:45		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**NR09-428**	**NR09-428 Lab-Dup**	**NR08-240**	**NR09-367**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Titanium (Ti)	ug/L	ND	N/A	ND	ND	5	2176630
Total Titanium (Ti)	ug/L	ND	N/A	ND	ND	5	2176500
Dissolved Tungsten (W)	ug/L	8	N/A	1	1	1	2176630
Total Tungsten (W)	ug/L	9	N/A	1	1	1	2176500
Dissolved Uranium (U)	ug/L	0.2	N/A	ND	0.4	0.1	2176630
Total Uranium (U)	ug/L	0.2	N/A	ND	0.5	0.1	2176500
Dissolved Vanadium (V)	ug/L	ND	N/A	ND	ND	1	2176630
Total Vanadium (V)	ug/L	ND	N/A	ND	ND	1	2176500
Dissolved Zinc (Zn)	ug/L	ND	N/A	ND	ND	5	2176630
Total Zinc (Zn)	ug/L	ND	N/A	ND	ND	5	2176500
Dissolved Zirconium (Zr)	ug/L	ND	N/A	ND	ND	1	2176630
Total Zirconium (Zr)	ug/L	ND	N/A	ND	ND	1	2176500

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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7914	GC7915	GC7915		
Sampling Date		2010/06/03 13:45	2010/06/03 15:30	2010/06/03 15:30		
COC Number		193189-0	193189-0	193189-0		
	Units	**NR09-367 Lab-Dup**	**RR09-213A**	**RR09-213A Lab-Dup**	**RDL**	**QC Batch**
Metals						
Mercury (Hg)	mg/L	ND	ND	N/A	0.0001	2176240
Dissolved Sulphur (S)	mg/L	N/A	9.0	N/A	0.5	2176384
Total Sulphur (S)	mg/L	N/A	13	N/A	0.5	2176804
Dissolved Aluminum (Al)	ug/L	N/A	7	ND	5	2176630
Total Aluminum (Al)	ug/L	N/A	21000	N/A	5	2176500
Dissolved Antimony (Sb)	ug/L	N/A	1.8	1.6	0.5	2176630
Total Antimony (Sb)	ug/L	N/A	15	N/A	0.5	2176500
Dissolved Arsenic (As)	ug/L	N/A	8	8	1	2176630
Total Arsenic (As)	ug/L	N/A	45	N/A	1	2176500
Dissolved Barium (Ba)	ug/L	N/A	57	56	5	2176630
Total Barium (Ba)	ug/L	N/A	290	N/A	5	2176500
Dissolved Beryllium (Be)	ug/L	N/A	ND	ND	0.5	2176630
Total Beryllium (Be)	ug/L	N/A	3.4	N/A	0.5	2176500
Dissolved Bismuth (Bi)	ug/L	N/A	ND	ND	1	2176630
Total Bismuth (Bi)	ug/L	N/A	1	N/A	1	2176500
Dissolved Boron (B)	ug/L	N/A	78	78	10	2176630
Total Boron (B)	ug/L	N/A	110	N/A	10	2176500
Dissolved Cadmium (Cd)	ug/L	N/A	ND	ND	0.1	2176630
Total Cadmium (Cd)	ug/L	N/A	41	N/A	0.1	2176500
Dissolved Calcium (Ca)	ug/L	N/A	93000	92000	200	2176630
Total Calcium (Ca)	ug/L	N/A	170000	N/A	200	2176500
Dissolved Chromium (Cr)	ug/L	N/A	ND	ND	5	2176630
Total Chromium (Cr)	ug/L	N/A	25	N/A	5	2176500
Dissolved Cobalt (Co)	ug/L	N/A	1.1	1.0	0.5	2176630
Total Cobalt (Co)	ug/L	N/A	16	N/A	0.5	2176500
Dissolved Copper (Cu)	ug/L	N/A	ND	ND	1	2176630
Total Copper (Cu)	ug/L	N/A	220	N/A	1	2176500
Dissolved Iron (Fe)	ug/L	N/A	1700	1700	100	2176630
Total Iron (Fe)	ug/L	N/A	35000	N/A	100	2176500
Dissolved Lead (Pb)	ug/L	N/A	ND	ND	0.5	2176630

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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7914	GC7915	GC7915		
Sampling Date		2010/06/03 13:45	2010/06/03 15:30	2010/06/03 15:30		
COC Number		193189-0	193189-0	193189-0		
	Units	**NR09-367 Lab-Dup**	**RR09-213A**	**RR09-213A Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	N/A	280	N/A	0.5	2176500
Dissolved Lithium (Li)	ug/L	N/A	34	33	5	2176630
Total Lithium (Li)	ug/L	N/A	62	N/A	5	2176500
Dissolved Magnesium (Mg)	ug/L	N/A	43000	42000	50	2176630
Total Magnesium (Mg)	ug/L	N/A	63000	N/A	50	2176500
Dissolved Manganese (Mn)	ug/L	N/A	200	200	2	2176630
Total Manganese (Mn)	ug/L	N/A	4500	N/A	2	2176500
Dissolved Molybdenum (Mo)	ug/L	N/A	3	3	1	2176630
Total Molybdenum (Mo)	ug/L	N/A	5	N/A	1	2176500
Dissolved Nickel (Ni)	ug/L	N/A	ND	ND	1	2176630
Total Nickel (Ni)	ug/L	N/A	28	N/A	1	2176500
Dissolved Phosphorus (P)	ug/L	N/A	ND	ND	100	2176630
Dissolved Potassium (K)	ug/L	N/A	3500	3500	200	2176630
Total Potassium (K)	ug/L	N/A	7900	N/A	200	2176500
Dissolved Selenium (Se)	ug/L	N/A	ND	ND	2	2176630
Total Selenium (Se)	ug/L	N/A	ND	N/A	2	2176500
Dissolved Silicon (Si)	ug/L	N/A	9600	9400	50	2176630
Total Silicon (Si)	ug/L	N/A	44000	N/A	50	2176500
Dissolved Silver (Ag)	ug/L	N/A	ND	ND	0.1	2176630
Total Silver (Ag)	ug/L	N/A	1.4	N/A	0.1	2176500
Dissolved Sodium (Na)	ug/L	N/A	14000	13000	100	2176630
Total Sodium (Na)	ug/L	N/A	16000	N/A	100	2176500
Dissolved Strontium (Sr)	ug/L	N/A	450	440	1	2176630
Total Strontium (Sr)	ug/L	N/A	660	N/A	1	2176500
Dissolved Tellurium (Te)	ug/L	N/A	ND	ND	1	2176630
Total Tellurium (Te)	ug/L	N/A	ND	N/A	1	2176500
Dissolved Thallium (Tl)	ug/L	N/A	ND	ND	0.05	2176630
Total Thallium (Tl)	ug/L	N/A	0.95	N/A	0.05	2176500
Dissolved Thorium (Th)	ug/L	N/A	ND	ND	1	2176630
Total Thorium (Th)	ug/L	N/A	31	N/A	1	2176500
Dissolved Tin (Sn)	ug/L	N/A	ND	ND	1	2176630

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GC7914	GC7915	GC7915		
Sampling Date		2010/06/03 13:45	2010/06/03 15:30	2010/06/03 15:30		
COC Number		193189-0	193189-0	193189-0		
	Units	**NR09-367 Lab-Dup**	**RR09-213A**	**RR09-213A Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	N/A	ND	N/A	1	2176500
Dissolved Titanium (Ti)	ug/L	N/A	ND	ND	5	2176630
Total Titanium (Ti)	ug/L	N/A	740	N/A	5	2176500
Dissolved Tungsten (W)	ug/L	N/A	ND	ND	1	2176630
Total Tungsten (W)	ug/L	N/A	1	N/A	1	2176500
Dissolved Uranium (U)	ug/L	N/A	0.7	0.6	0.1	2176630
Total Uranium (U)	ug/L	N/A	8.5	N/A	0.1	2176500
Dissolved Vanadium (V)	ug/L	N/A	ND	ND	1	2176630
Total Vanadium (V)	ug/L	N/A	35	N/A	1	2176500
Dissolved Zinc (Zn)	ug/L	N/A	20	15	5	2176630
Total Zinc (Zn)	ug/L	N/A	1200	N/A	5	2176500
Dissolved Zirconium (Zr)	ug/L	N/A	ND	ND	1	2176630
Total Zirconium (Zr)	ug/L	N/A	5	N/A	1	2176500

ND = Not detected
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Maxxam Job #: B073250
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: M09559A04
Project name: RAINY RIVER

GENERAL COMMENTS

Sample GC7912-01: BOD was analysed past holding time, view results with discretion.

Sample GC7913-01: BOD was analysed past holding time, view results with discretion.

Acidity : Initial pH of sample is 9.3, therefore this test is not applicable.

Sample GC7914-01: BOD was analysed past holding time, view results with discretion.

Sample GC7915-01: BOD was analysed past holding time, view results with discretion.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name: RAINY RIVER

Quality Assurance Report

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2175781	CP	Matrix Spike	Total Chemical Oxygen Demand (COD)	2010/06/11		87	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/06/11		101	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/06/11	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2010/06/11	0		%	25
2175797	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/06/11		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/06/11		103	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/06/11	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/06/11	1.3		%	20
2175836	DRM	Matrix Spike	Orthophosphate (P)	2010/06/11		107	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/06/11		102	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/06/11	0.01, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/06/11	NC		%	25
2175837	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/06/11		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/06/11		96	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/06/11	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/06/11	0.03		%	25
2175920	JDE	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2010/06/11		NC	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/06/11		102	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/11		99	%	80 - 120
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/11	0.1, RDL=0.1		mg/L	
		RPD	Total Kjeldahl Nitrogen (TKN)	2010/06/11	11.1		%	20
2176130	JDO	QC Standard	Total Dissolved Solids	2010/06/10		100	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/06/10	ND, RDL=10		mg/L	
		RPD [GC7913-02]	Total Dissolved Solids	2010/06/10	0.7		%	25
2176227	ADB	Matrix Spike [GC7914-05]	Total Ammonia-N	2010/06/11		102	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/06/11		101	%	85 - 115
		Method Blank	Total Ammonia-N	2010/06/11	ND, RDL=0.05		mg/L	
		RPD [GC7914-05]	Total Ammonia-N	2010/06/11	NC		%	25
2176228	C_H	Matrix Spike [GC7912-05]	Total Organic Carbon (TOC)	2010/06/11		95	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/06/11		114	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/06/11	ND, RDL=0.2		mg/L	
		RPD [GC7912-05]	Total Organic Carbon (TOC)	2010/06/11	0.1		%	20
2176230	VRO	Matrix Spike [GC7914-05]	Total Phosphorus	2010/06/11		100	%	80 - 120
		QC Standard	Total Phosphorus	2010/06/11		95	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/06/11		89	%	85 - 115
		Method Blank	Total Phosphorus	2010/06/11	ND, RDL=0.002		mg/L	
		RPD [GC7914-05]	Total Phosphorus	2010/06/11	NC		%	20
2176235	VRO	Matrix Spike [GC7914-01]	Dissolved Phosphorus	2010/06/11		108	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/06/11		91	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/06/11		92	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/06/11	ND, RDL=0.002		mg/L	
		RPD [GC7914-01]	Dissolved Phosphorus	2010/06/11	NC		%	20
2176240	LCH	Matrix Spike [GC7914-08]	Mercury (Hg)	2010/06/11		105	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/06/11		106	%	80 - 120
		Method Blank	Mercury (Hg)	2010/06/11	ND, RDL=0.0001		mg/L	
		RPD [GC7914-08]	Mercury (Hg)	2010/06/11	NC		%	25
2176254	LHA	Matrix Spike [GC7913-04]	Total Cyanide (CN)	2010/06/11		104	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/06/11		98	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/06/11	ND, RDL=0.005		mg/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176254	LHA	RPD [GC7913-04]	Total Cyanide (CN)	2010/06/11	NC		%	25
2176278	FZH	QC Standard	Total BOD	2010/06/16		107	%	85 - 115
		Method Blank	Total BOD	2010/06/16	ND, RDL=2		mg/L	
		RPD	Total BOD	2010/06/16	NC		%	25
2176373	C_N	Matrix Spike	Nitrite (N)	2010/06/11		110	%	80 - 120
			Nitrate (N)	2010/06/11		119	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/11		109	%	85 - 115
			Nitrate (N)	2010/06/11		111	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/11	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/11	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/11	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/11	NC		%	25
			Nitrate (N)	2010/06/11	NC		%	25
			Nitrate + Nitrite	2010/06/11	NC		%	25
2176375	CP	Spiked Blank	Colour	2010/06/11		97	%	75 - 125
		Method Blank	Colour	2010/06/11	ND, RDL=2		TCU	
		RPD	Colour	2010/06/11	NC		%	25
2176382	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/06/11		95	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/06/11	ND, RDL=1		mg/L	
		RPD [GC7912-01]	Alkalinity (Total as CaCO3)	2010/06/11	0.1		%	25
2176384	AFZ	Matrix Spike						
		[GC7912-07]	Dissolved Sulphur (S)	2010/06/11		90	%	85 - 115
		Spiked Blank	Dissolved Sulphur (S)	2010/06/11		100	%	85 - 115
		Method Blank	Dissolved Sulphur (S)	2010/06/11	ND, RDL=0.5		mg/L	
		RPD [GC7912-07]	Dissolved Sulphur (S)	2010/06/11	2.4		%	25
2176389	YPA	QC Standard	Conductivity	2010/06/11		99	%	85 - 115
		Method Blank	Conductivity	2010/06/11	ND, RDL=1		umho/cm	
		RPD [GC7912-01]	Conductivity	2010/06/11	0.5		%	25
2176390	YPA	Matrix Spike						
		[GC7912-01]	Fluoride (F-)	2010/06/11		100	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/06/11		101	%	85 - 115
		Method Blank	Fluoride (F-)	2010/06/11	ND, RDL=0.1		mg/L	
		RPD [GC7912-01]	Fluoride (F-)	2010/06/11	NC		%	25
2176432	DN	QC Standard	Redox Potential	2010/06/16		+243	%	N/A
		Method Blank	Redox Potential	2010/06/16	+226		mV	
		RPD [GC7915-03]	Redox Potential	2010/06/16	0.4		%	10
2176436	MAT	Method Blank	Acidity as CaC03	2010/06/16	ND, RDL=10		mg/L	
		RPD [GC7915-01]	Acidity as CaC03	2010/06/16	NC		%	25
2176500	HRE	Matrix Spike	Total Aluminum (Al)	2010/06/11		NC	%	80 - 120
			Total Antimony (Sb)	2010/06/11		112	%	80 - 120
			Total Arsenic (As)	2010/06/11		105	%	80 - 120
			Total Barium (Ba)	2010/06/11		101	%	80 - 120
			Total Beryllium (Be)	2010/06/11		100	%	80 - 120
			Total Bismuth (Bi)	2010/06/11		99	%	80 - 120
			Total Boron (B)	2010/06/11		100	%	80 - 120
			Total Cadmium (Cd)	2010/06/11		104	%	80 - 120
			Total Calcium (Ca)	2010/06/11		NC	%	80 - 120
			Total Chromium (Cr)	2010/06/11		101	%	80 - 120
			Total Cobalt (Co)	2010/06/11		100	%	80 - 120
			Total Copper (Cu)	2010/06/11		98	%	80 - 120
			Total Iron (Fe)	2010/06/11		103	%	80 - 120
			Total Lead (Pb)	2010/06/11		97	%	80 - 120
			Total Lithium (Li)	2010/06/11		97	%	80 - 120
			Total Magnesium (Mg)	2010/06/11		NC	%	80 - 120
			Total Manganese (Mn)	2010/06/11		103	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
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Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176500	HRE	Matrix Spike	Total Molybdenum (Mo)	2010/06/11		109	%	80 - 120
			Total Nickel (Ni)	2010/06/11		100	%	80 - 120
			Total Potassium (K)	2010/06/11		NC	%	80 - 120
			Total Selenium (Se)	2010/06/11		102	%	80 - 120
			Total Silicon (Si)	2010/06/11		101	%	80 - 120
			Total Silver (Ag)	2010/06/11		97	%	80 - 120
			Total Sodium (Na)	2010/06/11		NC	%	80 - 120
			Total Strontium (Sr)	2010/06/11		NC	%	80 - 120
			Total Tellurium (Te)	2010/06/11		102	%	80 - 120
			Total Thallium (Tl)	2010/06/11		95	%	80 - 120
			Total Thorium (Th)	2010/06/11		105	%	80 - 120
			Total Tin (Sn)	2010/06/11		108	%	80 - 120
			Total Titanium (Ti)	2010/06/11		107	%	80 - 120
			Total Tungsten (W)	2010/06/11		105	%	80 - 120
			Total Uranium (U)	2010/06/11		105	%	80 - 120
			Total Vanadium (V)	2010/06/11		103	%	80 - 120
			Total Zinc (Zn)	2010/06/11		97	%	80 - 120
			Total Zirconium (Zr)	2010/06/11		109	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/06/11		99	%	85 - 115
			Total Antimony (Sb)	2010/06/11		107	%	85 - 115
			Total Arsenic (As)	2010/06/11		103	%	85 - 115
			Total Barium (Ba)	2010/06/11		101	%	85 - 115
			Total Beryllium (Be)	2010/06/11		97	%	85 - 115
			Total Bismuth (Bi)	2010/06/11		103	%	85 - 115
			Total Boron (B)	2010/06/11		95	%	85 - 115
			Total Cadmium (Cd)	2010/06/11		103	%	85 - 116
			Total Calcium (Ca)	2010/06/11		101	%	85 - 115
			Total Chromium (Cr)	2010/06/11		98	%	85 - 115
			Total Cobalt (Co)	2010/06/11		98	%	85 - 115
			Total Copper (Cu)	2010/06/11		99	%	85 - 115
			Total Iron (Fe)	2010/06/11		101	%	85 - 115
			Total Lead (Pb)	2010/06/11		102	%	85 - 115
			Total Lithium (Li)	2010/06/11		94	%	85 - 115
			Total Magnesium (Mg)	2010/06/11		101	%	85 - 115
			Total Manganese (Mn)	2010/06/11		99	%	85 - 115
			Total Molybdenum (Mo)	2010/06/11		103	%	85 - 115
			Total Nickel (Ni)	2010/06/11		100	%	85 - 115
			Total Potassium (K)	2010/06/11		100	%	85 - 115
			Total Selenium (Se)	2010/06/11		99	%	85 - 115
			Total Silicon (Si)	2010/06/11		100	%	85 - 115
			Total Silver (Ag)	2010/06/11		97	%	85 - 115
			Total Sodium (Na)	2010/06/11		102	%	85 - 115
			Total Strontium (Sr)	2010/06/11		98	%	85 - 115
			Total Tellurium (Te)	2010/06/11		99	%	85 - 115
			Total Thallium (Tl)	2010/06/11		100	%	85 - 115
			Total Thorium (Th)	2010/06/11		103	%	85 - 115
			Total Tin (Sn)	2010/06/11		101	%	85 - 115
			Total Titanium (Ti)	2010/06/11		100	%	85 - 115
			Total Tungsten (W)	2010/06/11		104	%	85 - 115
			Total Uranium (U)	2010/06/11		106	%	85 - 115
			Total Vanadium (V)	2010/06/11		99	%	85 - 115
			Total Zinc (Zn)	2010/06/11		99	%	85 - 115
			Total Zirconium (Zr)	2010/06/11		103	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/06/11	6, RDL=5		ug/L	
			Total Antimony (Sb)	2010/06/11	ND, RDL=0.5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
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Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176500	HRE	Method Blank	Total Arsenic (As)	2010/06/11	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/06/11	ND, RDL=5		ug/L	
			Total Beryllium (Be)	2010/06/11	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/06/11	ND, RDL=1		ug/L	
			Total Boron (B)	2010/06/11	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/06/11	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/06/11	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/06/11	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/06/11	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/06/11	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/06/11	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/06/11	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/06/11	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/06/11	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/06/11	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/06/11	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/06/11	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/06/11	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/06/11	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/06/11	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/06/11	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/06/11	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/06/11	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/06/11	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/06/11	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/06/11	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/06/11	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/06/11	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/06/11	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/06/11	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/06/11	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/06/11	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/06/11	ND, RDL=1		ug/L	
		RPD	Total Arsenic (As)	2010/06/11	NC		%	25
			Total Beryllium (Be)	2010/06/11	NC		%	25
			Total Boron (B)	2010/06/11	10		%	25
			Total Cadmium (Cd)	2010/06/11	NC		%	25
			Total Calcium (Ca)	2010/06/11	6.9		%	25
			Total Chromium (Cr)	2010/06/11	NC		%	25
			Total Cobalt (Co)	2010/06/11	NC		%	25
			Total Copper (Cu)	2010/06/11	NC		%	25
			Total Iron (Fe)	2010/06/11	6.2		%	25
			Total Lead (Pb)	2010/06/11	5.8		%	25
			Total Magnesium (Mg)	2010/06/11	7.1		%	25
			Total Manganese (Mn)	2010/06/11	8.2		%	25
			Total Molybdenum (Mo)	2010/06/11	7.8		%	25
			Total Nickel (Ni)	2010/06/11	4.4		%	25
			Total Selenium (Se)	2010/06/11	NC		%	25
			Total Silver (Ag)	2010/06/11	NC		%	25
			Total Sodium (Na)	2010/06/11	5.9		%	25
			Total Vanadium (V)	2010/06/11	NC		%	25
			Total Zinc (Zn)	2010/06/11	7.5		%	25
2176597	KTH	QC Standard	Turbidity	2010/06/11		100	%	85 - 115
		Method Blank	Turbidity	2010/06/11	ND, RDL=0.1		NTU	
		RPD [GC7912-01]	Turbidity	2010/06/11	0.4		%	25

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176630	GBU	Matrix Spike [GC7915-07]	Dissolved Aluminum (Al)	2010/06/14		97	%	80 - 120
			Dissolved Antimony (Sb)	2010/06/14		102	%	80 - 120
			Dissolved Arsenic (As)	2010/06/14		98	%	80 - 120
			Dissolved Barium (Ba)	2010/06/14		99	%	80 - 120
			Dissolved Beryllium (Be)	2010/06/14		96	%	80 - 120
			Dissolved Bismuth (Bi)	2010/06/14		101	%	80 - 120
			Dissolved Boron (B)	2010/06/14		94	%	80 - 120
			Dissolved Cadmium (Cd)	2010/06/14		101	%	80 - 120
			Dissolved Calcium (Ca)	2010/06/14		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/06/14		99	%	80 - 120
			Dissolved Cobalt (Co)	2010/06/14		97	%	80 - 120
			Dissolved Copper (Cu)	2010/06/14		96	%	80 - 120
			Dissolved Iron (Fe)	2010/06/14		100	%	80 - 120
			Dissolved Lead (Pb)	2010/06/14		98	%	80 - 120
			Dissolved Lithium (Li)	2010/06/14		100	%	80 - 120
			Dissolved Magnesium (Mg)	2010/06/14		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/06/14		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/06/14		102	%	80 - 120
			Dissolved Nickel (Ni)	2010/06/14		95	%	80 - 120
			Dissolved Phosphorus (P)	2010/06/14		103	%	80 - 120
			Dissolved Potassium (K)	2010/06/14		104	%	80 - 120
			Dissolved Selenium (Se)	2010/06/14		99	%	80 - 120
			Dissolved Silicon (Si)	2010/06/14		103	%	80 - 120
			Dissolved Silver (Ag)	2010/06/14		97	%	80 - 120
			Dissolved Sodium (Na)	2010/06/14		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/06/14		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/06/14		98	%	80 - 120
			Dissolved Thallium (Tl)	2010/06/14		98	%	80 - 120
			Dissolved Thorium (Th)	2010/06/14		102	%	80 - 120
			Dissolved Tin (Sn)	2010/06/14		103	%	80 - 120
			Dissolved Titanium (Ti)	2010/06/14		97	%	80 - 120
			Dissolved Tungsten (W)	2010/06/14		100	%	80 - 120
			Dissolved Uranium (U)	2010/06/14		107	%	80 - 120
			Dissolved Vanadium (V)	2010/06/14		97	%	80 - 120
			Dissolved Zinc (Zn)	2010/06/14		96	%	80 - 120
			Dissolved Zirconium (Zr)	2010/06/14		103	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/06/14		101	%	90 - 110
			Dissolved Antimony (Sb)	2010/06/14		102	%	90 - 110
			Dissolved Arsenic (As)	2010/06/14		100	%	90 - 110
			Dissolved Barium (Ba)	2010/06/14		99	%	90 - 110
			Dissolved Beryllium (Be)	2010/06/14		100	%	90 - 110
			Dissolved Bismuth (Bi)	2010/06/14		105	%	90 - 110
			Dissolved Boron (B)	2010/06/14		97	%	90 - 110
			Dissolved Cadmium (Cd)	2010/06/14		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/06/14		101	%	90 - 110
			Dissolved Chromium (Cr)	2010/06/14		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/06/14		99	%	90 - 110
			Dissolved Copper (Cu)	2010/06/14		101	%	90 - 110
			Dissolved Iron (Fe)	2010/06/14		102	%	90 - 110
			Dissolved Lead (Pb)	2010/06/14		101	%	90 - 110
			Dissolved Lithium (Li)	2010/06/14		104	%	90 - 110
			Dissolved Magnesium (Mg)	2010/06/14		106	%	90 - 110
			Dissolved Manganese (Mn)	2010/06/14		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/06/14		101	%	90 - 110

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176630	GBU	Spiked Blank	Dissolved Nickel (Ni)	2010/06/14		100	%	90 - 110
			Dissolved Phosphorus (P)	2010/06/14		102	%	90 - 110
			Dissolved Potassium (K)	2010/06/14		105	%	90 - 110
			Dissolved Selenium (Se)	2010/06/14		102	%	90 - 110
			Dissolved Silicon (Si)	2010/06/14		104	%	90 - 110
			Dissolved Silver (Ag)	2010/06/14		99	%	90 - 110
			Dissolved Sodium (Na)	2010/06/14		103	%	90 - 110
			Dissolved Strontium (Sr)	2010/06/14		101	%	90 - 110
			Dissolved Tellurium (Te)	2010/06/14		101	%	90 - 110
			Dissolved Thallium (Tl)	2010/06/14		99	%	90 - 110
			Dissolved Thorium (Th)	2010/06/14		104	%	90 - 110
			Dissolved Tin (Sn)	2010/06/14		104	%	90 - 110
			Dissolved Titanium (Ti)	2010/06/14		98	%	90 - 110
			Dissolved Tungsten (W)	2010/06/14		101	%	90 - 110
			Dissolved Uranium (U)	2010/06/14		108	%	90 - 110
			Dissolved Vanadium (V)	2010/06/14		99	%	90 - 110
			Dissolved Zinc (Zn)	2010/06/14		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/06/14		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/06/14	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/06/14	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/06/14	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/06/14	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/06/14	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/06/14	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/06/14	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/06/14	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/06/14	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/06/14	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/06/14	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/06/14	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/06/14	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/06/14	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/06/14	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/06/14	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/06/14	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/06/14	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/06/14	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/06/14	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/06/14	ND, RDL=1		ug/L	
		RPD [GC7915-07]	Dissolved Aluminum (Al)	2010/06/14	NC		%	25

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name: RAINY RIVER

Quality Assurance Report (Continued)

Maxxam Job Number: MB073250

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176630	GBU	RPD [GC7915-07]	Dissolved Antimony (Sb)	2010/06/14	NC		%	25
			Dissolved Arsenic (As)	2010/06/14	0.4		%	25
			Dissolved Barium (Ba)	2010/06/14	1.3		%	25
			Dissolved Beryllium (Be)	2010/06/14	NC		%	25
			Dissolved Bismuth (Bi)	2010/06/14	NC		%	25
			Dissolved Boron (B)	2010/06/14	0.03		%	25
			Dissolved Cadmium (Cd)	2010/06/14	NC		%	25
			Dissolved Calcium (Ca)	2010/06/14	1.1		%	25
			Dissolved Chromium (Cr)	2010/06/14	NC		%	25
			Dissolved Cobalt (Co)	2010/06/14	NC		%	25
			Dissolved Copper (Cu)	2010/06/14	NC		%	25
			Dissolved Iron (Fe)	2010/06/14	2.5		%	25
			Dissolved Lead (Pb)	2010/06/14	NC		%	25
			Dissolved Lithium (Li)	2010/06/14	1.4		%	25
			Dissolved Magnesium (Mg)	2010/06/14	2.7		%	25
			Dissolved Manganese (Mn)	2010/06/14	2.6		%	25
			Dissolved Molybdenum (Mo)	2010/06/14	NC		%	25
			Dissolved Nickel (Ni)	2010/06/14	NC		%	25
			Dissolved Phosphorus (P)	2010/06/14	NC		%	25
			Dissolved Potassium (K)	2010/06/14	1		%	25
			Dissolved Selenium (Se)	2010/06/14	NC		%	25
			Dissolved Silicon (Si)	2010/06/14	1.6		%	25
			Dissolved Silver (Ag)	2010/06/14	NC		%	25
			Dissolved Sodium (Na)	2010/06/14	3.6		%	25
			Dissolved Strontium (Sr)	2010/06/14	2.9		%	25
			Dissolved Tellurium (Te)	2010/06/14	NC		%	25
			Dissolved Thallium (Tl)	2010/06/14	NC		%	25
			Dissolved Thorium (Th)	2010/06/14	NC		%	25
			Dissolved Tin (Sn)	2010/06/14	NC		%	25
			Dissolved Titanium (Ti)	2010/06/14	NC		%	25
			Dissolved Tungsten (W)	2010/06/14	NC		%	25
			Dissolved Uranium (U)	2010/06/14	9.9		%	25
			Dissolved Vanadium (V)	2010/06/14	NC		%	25
			Dissolved Zinc (Zn)	2010/06/14	NC		%	25
			Dissolved Zirconium (Zr)	2010/06/14	NC		%	25
2176804	JOH	Matrix Spike	Total Sulphur (S)	2010/06/14		NC	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/06/14		105	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/06/14	ND, RDL=0.5		mg/L	
2177836	JBK	Matrix Spike	Reactive Silica (SiO2)	2010/06/14		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/06/14		100	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/06/14		100	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/06/14	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/06/14	1.1		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Validation Signature Page

Maxxam Job #: B073250

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



BRAD NEWMAN, Scientific Specialist



GRACE SISON, Technical and Customer Service Coordinator



KEVIN MACDONALD, Inorganics Supervisor

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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7-Jun-10 08:00
ANTONELLA BRASIL
B073250
SRH ENV-843

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5779 www.maxxamanalytics.com

CHAIN OF CUSTODY

Page of

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave Vancouver BC V6J 1V4	Address:	500 - -2955 Virtual Way Vancouver BC V5M 4X6	Project #:	~~CW~~ M09559A04
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Project Name:	Rainy River
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Site #:	
				Sampled By:	KP

BOTTLE ORDER #: 193189

CHAIN OF CUSTODY #: C#193189-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
- ☐ MISA — Reg. 153/04 — Sewer Use: ☐ Sanitary ☐ Storm ☐ Combined
- ☐ PWQO — ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 — ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse — Municipality
- ☐ Reg. 558
- Other (specify) — Report Criteria on C of A ? ☐

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10ºC) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission) ☐
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Chemical Oxygen Demand	Conductivity	Dissolved Metals Analysis by ICP	Dissolved Metals by ICPMS	Dissolved Phosphorus	Mercury in Water by CVAA	Nitrate (NO3) and Nitrite (NO2) in Water	pH	Total Cyanide	Total Dissolved Solids	# of Bottles	Comments
1		NR09-428	June 3, 2010	11:45am	water			X	X	X	X	X	X	X	X	X	X	11	
2		NR08-240	June 3, 2010	1pm	water			X	X	X	X	X	X	X	X	X	X	11	
3		NR09-367	June 3, 2010	1:45pm	water			X	X	X	X	X	X	X	X	X	X	11	
4		RR09-213A	June 3 2010	3:35pm	water			X	X	X	X	X	X	X	X	X	X	11	
5								X	X	X	X	X	X	X	X	X	X		
6								X	X	X	X	X	X	X	X	X	X		3/4.5° C 4/5.5° C
7								X	X	X	X	X	X	X	X	X	X		'10 JUN 8 9:34
8								X	X	X	X	X	X	X	X	X	X		
9								X	X	X	X	X	X	X	X	X	X		REC'D IN WINNIPEG
10								X	X	X	X	X	X	X	X	X	X		

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
			SB ROBIN KELLY	Jun 7/10 10/06/08	8:00am 9:34	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	0.2, 0.2, 0.6	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: MB073250
Your C.O.C. #: 08317586

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/06/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B044650
Received: 2010/06/14, 08:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	4	N/A	2010/06/16	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 639-2616 Ext:230

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B044650
Report Date: 2010/06/16

Client Project #: MB073250

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		U76733	U76734	U76735	U76736		
Sampling Date		2010/06/03	2010/06/03	2010/06/03	2010/06/03		
COC Number		08317586	08317586	08317586	08317586		
	Units	**NR09-428 (GC7912-04R)**	**NR08-240 (GC7913-04R)**	**NR09-367 (GC7914-04R)**	**NR09-213A (GC7915-04R)**	**RDL**	**QC Batch**
Misc. Inorganics							
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0010	0.0005	0.0006	<0.0005	0.0005	4034959

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.
Maxxam Job #: B044650
Client Project #: MB073250
Report Date: 2010/06/16

Package 1	17.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB073250
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB044650

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4034959	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/06/16		103	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/16		104	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/16	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/06/16	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B044650

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: GW
Your C.O.C. #: 19318901, 193189-0

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/06/18

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B074487
Received: 2010/06/09, 11:10

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	3	2010/06/14	2010/06/16	SLA SOP-00100	APHA SM2310B
Alkalinity	2	N/A	2010/06/11	CAM SOP-00448	SM 2320B
Alkalinity	1	N/A	2010/06/12	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	3	N/A	2010/06/12		
Biological Oxygen Demand (BOD)	3	N/A	2010/06/16	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	3	N/A	2010/06/15	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	3	N/A	2010/06/15	CAM SOP-00416	APHA 5220D
Colour	3	N/A	2010/06/14	CAM SOP-00412	APHA 2120
Conductivity	2	N/A	2010/06/11	CAM SOP-00448	SM 2510
Conductivity	1	N/A	2010/06/12	CAM SOP-00448	SM 2510
Total Cyanide	3	2010/06/14	2010/06/14	CAM SOP-00457	EPA 335.3
Fluoride	2	2010/06/11	2010/06/11	CAM SOP-00448	APHA 4500FC
Fluoride	1	2010/06/11	2010/06/12	CAM SOP-00448	APHA 4500FC
Hardness (calculated as CaCO3)	3	N/A	2010/06/16	CAM SOP 00102	SM 2340 B
Mercury in Water by CVAA	3	2010/06/14	2010/06/14	CAM SOP-00453	EPA 7470
Dissolved Metals Analysis by ICP	3	2010/06/15	2010/06/15	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	3	N/A	2010/06/15	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	3	N/A	2010/06/15	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	3	2010/06/14	2010/06/15	CAM SOP-00408	EPA 6010
Ammonia-N	3	N/A	2010/06/15	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (9)	3	N/A	2010/06/14	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	2	N/A	2010/06/11	CAM SOP-00448	SM 4500H
pH	1	N/A	2010/06/12	CAM SOP-00448	SM 4500H
Orthophosphate	3	N/A	2010/06/15	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	3	N/A	2010/06/16	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	3	N/A	2010/06/15	CAM SOP-00464	EPA 375.4
Redox Potential (1)	3	2010/06/14	2010/06/17	SM 2580 B & ASTM DI 498-76	
Total Dissolved Solids	3	N/A	2010/06/14	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	3	2010/06/14	2010/06/14	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	1	N/A	2010/06/14	CAM SOP-00446	EPA 415.1 modified
Total Organic Carbon (TOC)	2	N/A	2010/06/15	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	3	2010/06/14	2010/06/15	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	3	2010/06/14	2010/06/15	CAM SOP-00407	APHA 4500 P,B,F
Turbidity	3	N/A	2010/06/11	CAM SOP-00417	APHA 2130B

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Your Project #: GW
Your C.O.C. #: 19318901, 193189-0

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Report Date: 2010/06/18

CERTIFICATE OF ANALYSIS

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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Total cover pages: 2

Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GD3339	GD3339	GD3340	GD3340		
Sampling Date		2010/06/08 10:40	2010/06/08 10:40	2010/06/08 11:20	2010/06/08 11:20		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**RR09-214A**	**RR09-214A Lab-Dup**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	390	N/A	388	N/A	1	2175369
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	N/A	2	N/A	1	2175369
Hardness (CaCO3)	mg/L	400	N/A	400	N/A	1	2175370
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	ND	N/A	1	2175369
Inorganics							
Acidity as CaC03	mg/L	24	N/A	22	20	10	2177995
Total Ammonia-N	mg/L	0.16	N/A	0.22	N/A	0.05	2178009
Total BOD	mg/L	ND	N/A	ND	N/A	2	2176280
Total Chemical Oxygen Demand (COD)	mg/L	11	N/A	12	12	4	2178013
Colour	TCU	ND	N/A	ND	N/A	2	2177005
Conductivity	umho/cm	762	N/A	765	N/A	1	2176389
Total Dissolved Solids	mg/L	490	N/A	490	486	10	2177693
Fluoride (F-)	mg/L	0.2	N/A	0.2	N/A	0.1	2176390
Total Kjeldahl Nitrogen (TKN)	mg/L	0.3	N/A	0.4	0.4	0.1	2177730
Total Organic Carbon (TOC)	mg/L	2.5	2.6	2.8	N/A	0.2	2177881
Orthophosphate (P)	mg/L	ND	N/A	ND	N/A	0.01	2178381
pH	pH	7.9	N/A	7.8	N/A	N/A	2176388
Dissolved Phosphorus	mg/L	0.008	N/A	ND	N/A	0.002	2177950
Total Phosphorus	mg/L	0.008	N/A	0.012	N/A	0.002	2177941
Reactive Silica (SiO2)	mg/L	19	N/A	23	N/A	0.5	2179112
Dissolved Sulphate (SO4)	mg/L	25	N/A	31	N/A	1	2178382
Total Cyanide (CN)	mg/L	ND	N/A	ND	N/A	0.005	2177788
Turbidity	NTU	20	N/A	21	N/A	0.1	2176597
Alkalinity (Total as CaCO3)	mg/L	393	N/A	390	N/A	1	2176382
Dissolved Chloride (Cl)	mg/L	5	N/A	3	N/A	1	2178376
Nitrite (N)	mg/L	ND	N/A	ND	N/A	0.01	2176994
Nitrate (N)	mg/L	ND	N/A	ND	N/A	0.1	2176994
Nitrate + Nitrite	mg/L	ND	N/A	ND	N/A	0.1	2176994
Subcontracted Analysis							
Redox Potential	mV	+292	N/A	+242	N/A	N/A	2177996

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

RESULTS OF ANALYSES OF WATER

Maxxam ID		GD3341	GD3341		
Sampling Date					
COC Number		193189-0	193189-0		
	Units	**TRAVEL BLANK**	**TRAVEL BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters					
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	3	N/A	1	2175369
Carb. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2175369
Hardness (CaCO3)	mg/L	ND	N/A	1	2175370
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2175369
Inorganics					
Acidity as CaC03	mg/L	ND	N/A	10	2177995
Total Ammonia-N	mg/L	ND	N/A	0.05	2178009
Total BOD	mg/L	ND	ND	2	2176280
Total Chemical Oxygen Demand (COD)	mg/L	ND	N/A	4	2178013
Colour	TCU	ND	N/A	2	2177005
Conductivity	umho/cm	2	N/A	1	2176389
Total Dissolved Solids	mg/L	ND	N/A	10	2177693
Fluoride (F-)	mg/L	ND	N/A	0.1	2176390
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1	N/A	0.1	2177730
Total Organic Carbon (TOC)	mg/L	ND	N/A	0.2	2177881
Orthophosphate (P)	mg/L	ND	N/A	0.01	2178381
pH	pH	6.9	N/A	N/A	2176388
Dissolved Phosphorus	mg/L	ND	N/A	0.002	2177950
Total Phosphorus	mg/L	ND	N/A	0.002	2177941
Reactive Silica (SiO2)	mg/L	ND	N/A	0.5	2179112
Dissolved Sulphate (SO4)	mg/L	ND	N/A	1	2178382
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2177788
Turbidity	NTU	0.2	N/A	0.1	2176597
Alkalinity (Total as CaCO3)	mg/L	3	N/A	1	2176382
Dissolved Chloride (Cl)	mg/L	ND	N/A	1	2178376
Nitrite (N)	mg/L	ND	N/A	0.01	2176994
Nitrate (N)	mg/L	ND	N/A	0.1	2176994
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2176994
Subcontracted Analysis					
Redox Potential	mV	+245	N/A	N/A	2177996

ND = Not detected
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Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3339	GD3339	GD3340	GD3340		
Sampling Date		2010/06/08 10:40	2010/06/08 10:40	2010/06/08 11:20	2010/06/08 11:20		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**RR09-214A**	**RR09-214A Lab-Dup**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	ND	ND	N/A	0.0001	2177743
Dissolved Sulphur (S)	mg/L	8.7	N/A	10.9	11.0	0.5	2179000
Total Sulphur (S)	mg/L	8.6	N/A	11	N/A	0.5	2178648
Dissolved Aluminum (Al)	ug/L	ND	ND	14	N/A	5	2179584
Total Aluminum (Al)	ug/L	8	N/A	150	N/A	5	2179041
Dissolved Antimony (Sb)	ug/L	0.9	0.5	0.5	N/A	0.5	2179584
Total Antimony (Sb)	ug/L	ND	N/A	ND	N/A	0.5	2179041
Dissolved Arsenic (As)	ug/L	6	6	8	N/A	1	2179584
Total Arsenic (As)	ug/L	6	N/A	9	N/A	1	2179041
Dissolved Barium (Ba)	ug/L	82	80	60	N/A	5	2179584
Total Barium (Ba)	ug/L	80	N/A	57	N/A	5	2179041
Dissolved Beryllium (Be)	ug/L	ND	ND	ND	N/A	0.5	2179584
Total Beryllium (Be)	ug/L	ND	N/A	ND	N/A	0.5	2179041
Dissolved Bismuth (Bi)	ug/L	ND	ND	ND	N/A	1	2179584
Total Bismuth (Bi)	ug/L	ND	N/A	ND	N/A	1	2179041
Dissolved Boron (B)	ug/L	72	72	64	N/A	10	2179584
Total Boron (B)	ug/L	80	N/A	71	N/A	10	2179041
Dissolved Cadmium (Cd)	ug/L	ND	ND	ND	N/A	0.1	2179584
Total Cadmium (Cd)	ug/L	ND	N/A	ND	N/A	0.1	2179041
Dissolved Calcium (Ca)	ug/L	92000	92000	93000	N/A	200	2179584
Total Calcium (Ca)	ug/L	95000	N/A	98000	N/A	200	2179041
Dissolved Chromium (Cr)	ug/L	ND	ND	ND	N/A	5	2179584
Total Chromium (Cr)	ug/L	ND	N/A	ND	N/A	5	2179041
Dissolved Cobalt (Co)	ug/L	1.2	1.2	ND	N/A	0.5	2179584
Total Cobalt (Co)	ug/L	1.1	N/A	ND	N/A	0.5	2179041
Dissolved Copper (Cu)	ug/L	ND	ND	ND	N/A	1	2179584
Total Copper (Cu)	ug/L	1	N/A	ND	N/A	1	2179041
Dissolved Iron (Fe)	ug/L	1900	1900	3300	N/A	100	2179584
Total Iron (Fe)	ug/L	1800	N/A	3500	N/A	100	2179041
Dissolved Lead (Pb)	ug/L	ND	ND	ND	N/A	0.5	2179584

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Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3339	GD3339	GD3340	GD3340		
Sampling Date		2010/06/08 10:40	2010/06/08 10:40	2010/06/08 11:20	2010/06/08 11:20		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**RR09-214A**	**RR09-214A Lab-Dup**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	N/A	ND	N/A	0.5	2179041
Dissolved Lithium (Li)	ug/L	32	32	30	N/A	5	2179584
Total Lithium (Li)	ug/L	34	N/A	32	N/A	5	2179041
Dissolved Magnesium (Mg)	ug/L	42000	42000	41000	N/A	50	2179584
Total Magnesium (Mg)	ug/L	41000	N/A	42000	N/A	50	2179041
Dissolved Manganese (Mn)	ug/L	140	140	150	N/A	2	2179584
Total Manganese (Mn)	ug/L	150	N/A	160	N/A	2	2179041
Dissolved Molybdenum (Mo)	ug/L	5	5	4	N/A	1	2179584
Total Molybdenum (Mo)	ug/L	5	N/A	4	N/A	1	2179041
Dissolved Nickel (Ni)	ug/L	1	2	ND	N/A	1	2179584
Total Nickel (Ni)	ug/L	1	N/A	ND	N/A	1	2179041
Dissolved Phosphorus (P)	ug/L	ND	ND	ND	N/A	100	2179584
Dissolved Potassium (K)	ug/L	4600	4600	4900	N/A	200	2179584
Total Potassium (K)	ug/L	4600	N/A	5100	N/A	200	2179041
Dissolved Selenium (Se)	ug/L	ND	ND	ND	N/A	2	2179584
Total Selenium (Se)	ug/L	ND	N/A	ND	N/A	2	2179041
Dissolved Silicon (Si)	ug/L	9200	9200	11000	N/A	50	2179584
Total Silicon (Si)	ug/L	9100	N/A	11000	N/A	50	2179041
Dissolved Silver (Ag)	ug/L	ND	ND	ND	N/A	0.1	2179584
Total Silver (Ag)	ug/L	ND	N/A	ND	N/A	0.1	2179041
Dissolved Sodium (Na)	ug/L	14000	13000	11000	N/A	100	2179584
Total Sodium (Na)	ug/L	13000	N/A	12000	N/A	100	2179041
Dissolved Strontium (Sr)	ug/L	380	380	370	N/A	1	2179584
Total Strontium (Sr)	ug/L	370	N/A	370	N/A	1	2179041
Dissolved Tellurium (Te)	ug/L	ND	ND	ND	N/A	1	2179584
Total Tellurium (Te)	ug/L	ND	N/A	ND	N/A	1	2179041
Dissolved Thallium (Tl)	ug/L	ND	ND	ND	N/A	0.05	2179584
Total Thallium (Tl)	ug/L	ND	N/A	ND	N/A	0.05	2179041
Dissolved Thorium (Th)	ug/L	ND	ND	ND	N/A	1	2179584
Total Thorium (Th)	ug/L	ND	N/A	ND	N/A	1	2179041
Dissolved Tin (Sn)	ug/L	ND	ND	ND	N/A	1	2179584

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3339	GD3339	GD3340	GD3340		
Sampling Date		2010/06/08 10:40	2010/06/08 10:40	2010/06/08 11:20	2010/06/08 11:20		
COC Number		193189-0	193189-0	193189-0	193189-0		
	Units	**RR09-214A**	**RR09-214A Lab-Dup**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	N/A	ND	N/A	1	2179041
Dissolved Titanium (Ti)	ug/L	ND	ND	ND	N/A	5	2179584
Total Titanium (Ti)	ug/L	ND	N/A	ND	N/A	5	2179041
Dissolved Tungsten (W)	ug/L	2	2	2	N/A	1	2179584
Total Tungsten (W)	ug/L	2	N/A	2	N/A	1	2179041
Dissolved Uranium (U)	ug/L	1.4	1.3	0.6	N/A	0.1	2179584
Total Uranium (U)	ug/L	1.1	N/A	0.4	N/A	0.1	2179041
Dissolved Vanadium (V)	ug/L	ND	ND	ND	N/A	1	2179584
Total Vanadium (V)	ug/L	ND	N/A	ND	N/A	1	2179041
Dissolved Zinc (Zn)	ug/L	ND	ND	15	N/A	5	2179584
Total Zinc (Zn)	ug/L	ND	N/A	9	N/A	5	2179041
Dissolved Zirconium (Zr)	ug/L	ND	ND	ND	N/A	1	2179584
Total Zirconium (Zr)	ug/L	ND	N/A	ND	N/A	1	2179041

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Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3341		
Sampling Date				
COC Number		193189-0		
	Units	**TRAVEL BLANK**	**RDL**	**QC Batch**
Metals				
Mercury (Hg)	mg/L	ND	0.0001	2178068
Dissolved Sulphur (S)	mg/L	ND	0.5	2179000
Total Sulphur (S)	mg/L	ND	0.5	2178648
Dissolved Aluminum (Al)	ug/L	9	5	2179584
Total Aluminum (Al)	ug/L	ND	5	2179041
Dissolved Antimony (Sb)	ug/L	ND	0.5	2179584
Total Antimony (Sb)	ug/L	ND	0.5	2179041
Dissolved Arsenic (As)	ug/L	ND	1	2179584
Total Arsenic (As)	ug/L	ND	1	2179041
Dissolved Barium (Ba)	ug/L	ND	5	2179584
Total Barium (Ba)	ug/L	ND	5	2179041
Dissolved Beryllium (Be)	ug/L	ND	0.5	2179584
Total Beryllium (Be)	ug/L	ND	0.5	2179041
Dissolved Bismuth (Bi)	ug/L	ND	1	2179584
Total Bismuth (Bi)	ug/L	ND	1	2179041
Dissolved Boron (B)	ug/L	ND	10	2179584
Total Boron (B)	ug/L	ND	10	2179041
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2179584
Total Cadmium (Cd)	ug/L	ND	0.1	2179041
Dissolved Calcium (Ca)	ug/L	ND	200	2179584
Total Calcium (Ca)	ug/L	ND	200	2179041
Dissolved Chromium (Cr)	ug/L	ND	5	2179584
Total Chromium (Cr)	ug/L	ND	5	2179041
Dissolved Cobalt (Co)	ug/L	ND	0.5	2179584
Total Cobalt (Co)	ug/L	ND	0.5	2179041
Dissolved Copper (Cu)	ug/L	ND	1	2179584
Total Copper (Cu)	ug/L	ND	1	2179041
Dissolved Iron (Fe)	ug/L	ND	100	2179584
Total Iron (Fe)	ug/L	ND	100	2179041
Dissolved Lead (Pb)	ug/L	ND	0.5	2179584
Total Lead (Pb)	ug/L	ND	0.5	2179041

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Maxxam Job #: B074487
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3341		
Sampling Date				
COC Number		193189-0		
	Units	**TRAVEL BLANK**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	ND	5	2179584
Total Lithium (Li)	ug/L	ND	5	2179041
Dissolved Magnesium (Mg)	ug/L	ND	50	2179584
Total Magnesium (Mg)	ug/L	ND	50	2179041
Dissolved Manganese (Mn)	ug/L	ND	2	2179584
Total Manganese (Mn)	ug/L	ND	2	2179041
Dissolved Molybdenum (Mo)	ug/L	ND	1	2179584
Total Molybdenum (Mo)	ug/L	ND	1	2179041
Dissolved Nickel (Ni)	ug/L	1	1	2179584
Total Nickel (Ni)	ug/L	ND	1	2179041
Dissolved Phosphorus (P)	ug/L	ND	100	2179584
Dissolved Potassium (K)	ug/L	ND	200	2179584
Total Potassium (K)	ug/L	ND	200	2179041
Dissolved Selenium (Se)	ug/L	ND	2	2179584
Total Selenium (Se)	ug/L	ND	2	2179041
Dissolved Silicon (Si)	ug/L	ND	50	2179584
Total Silicon (Si)	ug/L	ND	50	2179041
Dissolved Silver (Ag)	ug/L	ND	0.1	2179584
Total Silver (Ag)	ug/L	ND	0.1	2179041
Dissolved Sodium (Na)	ug/L	ND	100	2179584
Total Sodium (Na)	ug/L	ND	100	2179041
Dissolved Strontium (Sr)	ug/L	ND	1	2179584
Total Strontium (Sr)	ug/L	ND	1	2179041
Dissolved Tellurium (Te)	ug/L	ND	1	2179584
Total Tellurium (Te)	ug/L	ND	1	2179041
Dissolved Thallium (Tl)	ug/L	ND	0.05	2179584
Total Thallium (Tl)	ug/L	ND	0.05	2179041
Dissolved Thorium (Th)	ug/L	ND	1	2179584
Total Thorium (Th)	ug/L	ND	1	2179041
Dissolved Tin (Sn)	ug/L	ND	1	2179584
Total Tin (Sn)	ug/L	ND	1	2179041
Dissolved Titanium (Ti)	ug/L	ND	5	2179584

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B074487
Report Date: 2010/06/18

Klohn Crippen Berger Ltd
Client Project #: GW

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GD3341		
Sampling Date				
COC Number		193189-0		
	Units	**TRAVEL BLANK**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	ND	5	2179041
Dissolved Tungsten (W)	ug/L	ND	1	2179584
Total Tungsten (W)	ug/L	ND	1	2179041
Dissolved Uranium (U)	ug/L	ND	0.1	2179584
Total Uranium (U)	ug/L	ND	0.1	2179041
Dissolved Vanadium (V)	ug/L	ND	1	2179584
Total Vanadium (V)	ug/L	ND	1	2179041
Dissolved Zinc (Zn)	ug/L	ND	5	2179584
Total Zinc (Zn)	ug/L	ND	5	2179041
Dissolved Zirconium (Zr)	ug/L	ND	1	2179584
Total Zirconium (Zr)	ug/L	ND	1	2179041

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: GW
P.O. #:
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Quality Assurance Report

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2176280	FZH	QC Standard	Total BOD	2010/06/16		104	%	85 - 115
		Method Blank	Total BOD	2010/06/16	ND, RDL=2		mg/L	
		RPD [GD3341-01]	Total BOD	2010/06/16	NC		%	25
2176382	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/06/11		95	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/06/11	ND, RDL=1		mg/L	
		RPD	Alkalinity (Total as CaCO3)	2010/06/11	0.1		%	25
2176389	YPA	QC Standard	Conductivity	2010/06/11		99	%	85 - 115
		Method Blank	Conductivity	2010/06/11	ND, RDL=1		umho/cm	
		RPD	Conductivity	2010/06/11	0.5		%	25
2176390	YPA	Matrix Spike	Fluoride (F-)	2010/06/11		100	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/06/11		101	%	85 - 115
		Method Blank	Fluoride (F-)	2010/06/11	ND, RDL=0.1		mg/L	
		RPD	Fluoride (F-)	2010/06/11	NC		%	25
2176597	KTH	QC Standard	Turbidity	2010/06/11		100	%	85 - 115
		Method Blank	Turbidity	2010/06/11	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/06/11	0.4		%	25
2176994	C_N	Matrix Spike	Nitrite (N)	2010/06/14		109	%	80 - 120
			Nitrate (N)	2010/06/14		113	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/06/14		106	%	85 - 115
			Nitrate (N)	2010/06/14		109	%	85 - 115
		Method Blank	Nitrite (N)	2010/06/14	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/06/14	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/06/14	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/06/14	NC		%	25
			Nitrate (N)	2010/06/14	NC		%	25
2177005	CP	Spiked Blank	Colour	2010/06/14		95	%	75 - 125
		Method Blank	Colour	2010/06/14	ND, RDL=2		TCU	
		RPD	Colour	2010/06/14	4.6		%	25
2177693	HAG	QC Standard	Total Dissolved Solids	2010/06/14		100	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/06/14	ND, RDL=10		mg/L	
		RPD [GD3340-02]	Total Dissolved Solids	2010/06/14	0.8		%	25
2177730	JDE	Matrix Spike						
		[GD3340-06]	Total Kjeldahl Nitrogen (TKN)	2010/06/14		94	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/06/14		101	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/14		96	%	80 - 120
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/06/14	ND, RDL=0.1		mg/L	
		RPD [GD3340-06]	Total Kjeldahl Nitrogen (TKN)	2010/06/14	NC		%	20
2177743	LCH	Matrix Spike						
		[GD3339-08]	Mercury (Hg)	2010/06/14		109	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/06/14		109	%	80 - 120
		Method Blank	Mercury (Hg)	2010/06/14	ND, RDL=0.0001		mg/L	
		RPD [GD3339-08]	Mercury (Hg)	2010/06/14	NC		%	25
2177788	LHA	Matrix Spike	Total Cyanide (CN)	2010/06/14		108	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/06/14		103	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/06/14	ND, RDL=0.005		mg/L	
		RPD	Total Cyanide (CN)	2010/06/14	NC		%	25
2177881	C_H	Matrix Spike						
		[GD3339-06]	Total Organic Carbon (TOC)	2010/06/14		114	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/06/14		113	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/06/14	ND, RDL=0.2		mg/L	
		RPD [GD3339-06]	Total Organic Carbon (TOC)	2010/06/14	2.2		%	20
2177941	VRO	Matrix Spike	Total Phosphorus	2010/06/15		109	%	80 - 120
		QC Standard	Total Phosphorus	2010/06/15		96	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/06/15		93	%	85 - 115
		Method Blank	Total Phosphorus	2010/06/15	ND, RDL=0.002		mg/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2177941	VRO	RPD	Total Phosphorus	2010/06/15	0.4		%	20
2177950	VRO	Matrix Spike	Dissolved Phosphorus	2010/06/15		107	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/06/15		97	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/06/15		100	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/06/15	ND, RDL=0.002		mg/L	
		RPD	Dissolved Phosphorus	2010/06/15	9.2		%	20
2177995	MAT	Method Blank	Acidity as CaC03	2010/06/16	ND, RDL=10		mg/L	
		RPD [GD3340-01]	Acidity as CaC03	2010/06/16	NC		%	25
2177996	RSR	QC Standard	Redox Potential	2010/06/17		+244	%	N/A
		Method Blank	Redox Potential	2010/06/17	+239		mV	
2178009	ADB	Matrix Spike	Total Ammonia-N	2010/06/15		100	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/06/15		98	%	85 - 115
		Method Blank	Total Ammonia-N	2010/06/15	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2010/06/15	1		%	25
2178013	CP	Matrix Spike						
		[GD3340-06]	Total Chemical Oxygen Demand (COD)	2010/06/15		97	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/06/15		98	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/06/15	ND, RDL=4		mg/L	
		RPD [GD3340-06]	Total Chemical Oxygen Demand (COD)	2010/06/15	NC		%	25
2178068	LCH	Matrix Spike	Mercury (Hg)	2010/06/14		109	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/06/14		108	%	80 - 120
		Method Blank	Mercury (Hg)	2010/06/14	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/06/14	NC		%	25
2178376	DRM	Matrix Spike	Dissolved Chloride (Cl)	2010/06/15		NC	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/06/15		104	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/06/15	ND, RDL=1		mg/L	
		RPD	Dissolved Chloride (Cl)	2010/06/15	0.2		%	20
2178381	DRM	Matrix Spike	Orthophosphate (P)	2010/06/15		116	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/06/15		104	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/06/15	ND, RDL=0.01		mg/L	
		RPD	Orthophosphate (P)	2010/06/15	NC		%	25
2178382	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2010/06/15		NC	%	75 - 125
		Spiked Blank	Dissolved Sulphate (SO4)	2010/06/15		97	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/06/15	ND, RDL=1		mg/L	
		RPD	Dissolved Sulphate (SO4)	2010/06/15	2.0		%	25
2178648	JOH	Matrix Spike	Total Sulphur (S)	2010/06/15		NC	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/06/15		105	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/06/15	ND, RDL=0.5		mg/L	
2179000	AFZ	Matrix Spike						
		[GD3340-05]	Dissolved Sulphur (S)	2010/06/15		95	%	85 - 115
		Spiked Blank	Dissolved Sulphur (S)	2010/06/15		99	%	85 - 115
		Method Blank	Dissolved Sulphur (S)	2010/06/15	ND, RDL=0.5		mg/L	
		RPD [GD3340-05]	Dissolved Sulphur (S)	2010/06/15	1.6		%	25
2179041	HRE	Matrix Spike	Total Aluminum (Al)	2010/06/15		97	%	80 - 120
			Total Antimony (Sb)	2010/06/15		106	%	80 - 120
			Total Arsenic (As)	2010/06/15		103	%	80 - 120
			Total Barium (Ba)	2010/06/15		100	%	80 - 120
			Total Beryllium (Be)	2010/06/15		102	%	80 - 120
			Total Bismuth (Bi)	2010/06/15		97	%	80 - 120
			Total Boron (B)	2010/06/15		101	%	80 - 120
			Total Cadmium (Cd)	2010/06/15		101	%	80 - 120
			Total Calcium (Ca)	2010/06/15		NC	%	80 - 120
			Total Chromium (Cr)	2010/06/15		98	%	80 - 120
			Total Cobalt (Co)	2010/06/15		96	%	80 - 120
			Total Copper (Cu)	2010/06/15		96	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179041	HRE	Matrix Spike	Total Iron (Fe)	2010/06/15		99	%	80 - 120
			Total Lead (Pb)	2010/06/15		96	%	80 - 120
			Total Lithium (Li)	2010/06/15		98	%	80 - 120
			Total Magnesium (Mg)	2010/06/15		98	%	80 - 120
			Total Manganese (Mn)	2010/06/15		NC	%	80 - 120
			Total Molybdenum (Mo)	2010/06/15		104	%	80 - 120
			Total Nickel (Ni)	2010/06/15		96	%	80 - 120
			Total Potassium (K)	2010/06/15		100	%	80 - 120
			Total Selenium (Se)	2010/06/15		100	%	80 - 120
			Total Silicon (Si)	2010/06/15		95	%	80 - 120
			Total Silver (Ag)	2010/06/15		95	%	80 - 120
			Total Sodium (Na)	2010/06/15		NC	%	80 - 120
			Total Strontium (Sr)	2010/06/15		NC	%	80 - 120
			Total Tellurium (Te)	2010/06/15		99	%	80 - 120
			Total Thallium (Tl)	2010/06/15		95	%	80 - 120
			Total Thorium (Th)	2010/06/15		98	%	80 - 120
			Total Tin (Sn)	2010/06/15		102	%	80 - 120
			Total Titanium (Ti)	2010/06/15		101	%	80 - 120
			Total Tungsten (W)	2010/06/15		98	%	80 - 120
			Total Uranium (U)	2010/06/15		98	%	80 - 120
			Total Vanadium (V)	2010/06/15		98	%	80 - 120
			Total Zinc (Zn)	2010/06/15		95	%	80 - 120
			Total Zirconium (Zr)	2010/06/15		104	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/06/15		100	%	85 - 115
			Total Antimony (Sb)	2010/06/15		105	%	85 - 115
			Total Arsenic (As)	2010/06/15		103	%	85 - 115
			Total Barium (Ba)	2010/06/15		101	%	85 - 115
			Total Beryllium (Be)	2010/06/15		101	%	85 - 115
			Total Bismuth (Bi)	2010/06/15		96	%	85 - 115
			Total Boron (B)	2010/06/15		99	%	85 - 115
			Total Cadmium (Cd)	2010/06/15		101	%	85 - 116
			Total Calcium (Ca)	2010/06/15		101	%	85 - 115
			Total Chromium (Cr)	2010/06/15		100	%	85 - 115
			Total Cobalt (Co)	2010/06/15		97	%	85 - 115
			Total Copper (Cu)	2010/06/15		99	%	85 - 115
			Total Iron (Fe)	2010/06/15		100	%	85 - 115
			Total Lead (Pb)	2010/06/15		97	%	85 - 115
			Total Lithium (Li)	2010/06/15		98	%	85 - 115
			Total Magnesium (Mg)	2010/06/15		101	%	85 - 115
			Total Manganese (Mn)	2010/06/15		97	%	85 - 115
			Total Molybdenum (Mo)	2010/06/15		101	%	85 - 115
			Total Nickel (Ni)	2010/06/15		97	%	85 - 115
			Total Potassium (K)	2010/06/15		101	%	85 - 115
			Total Selenium (Se)	2010/06/15		99	%	85 - 115
			Total Silicon (Si)	2010/06/15		98	%	85 - 115
			Total Silver (Ag)	2010/06/15		93	%	85 - 115
			Total Sodium (Na)	2010/06/15		101	%	85 - 115
			Total Strontium (Sr)	2010/06/15		99	%	85 - 115
			Total Tellurium (Te)	2010/06/15		99	%	85 - 115
			Total Thallium (Tl)	2010/06/15		95	%	85 - 115
			Total Thorium (Th)	2010/06/15		96	%	85 - 115
			Total Tin (Sn)	2010/06/15		99	%	85 - 115
			Total Titanium (Ti)	2010/06/15		101	%	85 - 115
			Total Tungsten (W)	2010/06/15		97	%	85 - 115
			Total Uranium (U)	2010/06/15		97	%	85 - 115

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Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179041 HRE	Spiked Blank	Total Vanadium (V)	2010/06/15		100	%	85 - 115
		Total Zinc (Zn)	2010/06/15		99	%	85 - 115
		Total Zirconium (Zr)	2010/06/15		101	%	85 - 115
	Method Blank	Total Aluminum (Al)	2010/06/15	ND, RDL=5		ug/L	
		Total Antimony (Sb)	2010/06/15	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2010/06/15	ND, RDL=1		ug/L	
		Total Barium (Ba)	2010/06/15	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2010/06/15	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2010/06/15	ND, RDL=1		ug/L	
		Total Boron (B)	2010/06/15	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2010/06/15	ND, RDL=0.1		ug/L	
		Total Calcium (Ca)	2010/06/15	ND, RDL=200		ug/L	
		Total Chromium (Cr)	2010/06/15	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2010/06/15	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2010/06/15	ND, RDL=1		ug/L	
		Total Iron (Fe)	2010/06/15	ND, RDL=100		ug/L	
		Total Lead (Pb)	2010/06/15	ND, RDL=0.5		ug/L	
		Total Lithium (Li)	2010/06/15	ND, RDL=5		ug/L	
		Total Magnesium (Mg)	2010/06/15	ND, RDL=50		ug/L	
		Total Manganese (Mn)	2010/06/15	ND, RDL=2		ug/L	
		Total Molybdenum (Mo)	2010/06/15	ND, RDL=1		ug/L	
		Total Nickel (Ni)	2010/06/15	ND, RDL=1		ug/L	
		Total Potassium (K)	2010/06/15	ND, RDL=200		ug/L	
		Total Selenium (Se)	2010/06/15	ND, RDL=2		ug/L	
		Total Silicon (Si)	2010/06/15	ND, RDL=50		ug/L	
		Total Silver (Ag)	2010/06/15	ND, RDL=0.1		ug/L	
		Total Sodium (Na)	2010/06/15	ND, RDL=100		ug/L	
		Total Strontium (Sr)	2010/06/15	ND, RDL=1		ug/L	
		Total Tellurium (Te)	2010/06/15	ND, RDL=1		ug/L	
		Total Thallium (Tl)	2010/06/15	ND, RDL=0.05		ug/L	
		Total Thorium (Th)	2010/06/15	ND, RDL=1		ug/L	
		Total Tin (Sn)	2010/06/15	ND, RDL=1		ug/L	
		Total Titanium (Ti)	2010/06/15	ND, RDL=5		ug/L	
		Total Tungsten (W)	2010/06/15	ND, RDL=1		ug/L	
		Total Uranium (U)	2010/06/15	ND, RDL=0.1		ug/L	
		Total Vanadium (V)	2010/06/15	ND, RDL=1		ug/L	
		Total Zinc (Zn)	2010/06/15	ND, RDL=5		ug/L	
		Total Zirconium (Zr)	2010/06/15	ND, RDL=1		ug/L	
	RPD	Total Aluminum (Al)	2010/06/15	NC		%	25
		Total Antimony (Sb)	2010/06/15	NC		%	25
		Total Arsenic (As)	2010/06/15	NC		%	25
		Total Barium (Ba)	2010/06/15	3.1		%	25
		Total Beryllium (Be)	2010/06/15	NC		%	25
		Total Bismuth (Bi)	2010/06/15	NC		%	25
		Total Boron (B)	2010/06/15	NC		%	25
		Total Cadmium (Cd)	2010/06/15	NC		%	25
		Total Calcium (Ca)	2010/06/15	4.7		%	25
		Total Chromium (Cr)	2010/06/15	NC		%	25
		Total Cobalt (Co)	2010/06/15	NC		%	25
		Total Copper (Cu)	2010/06/15	NC		%	25
		Total Iron (Fe)	2010/06/15	NC		%	25
		Total Lead (Pb)	2010/06/15	NC		%	25
		Total Lithium (Li)	2010/06/15	NC		%	25
		Total Magnesium (Mg)	2010/06/15	3.0		%	25
		Total Manganese (Mn)	2010/06/15	3.3		%	25

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179041	HRE	RPD	Total Molybdenum (Mo)	2010/06/15	NC		%	25
			Total Nickel (Ni)	2010/06/15	NC		%	25
			Total Potassium (K)	2010/06/15	4.6		%	25
			Total Selenium (Se)	2010/06/15	NC		%	25
			Total Silicon (Si)	2010/06/15	4.1		%	25
			Total Silver (Ag)	2010/06/15	NC		%	25
			Total Sodium (Na)	2010/06/15	3.5		%	25
			Total Strontium (Sr)	2010/06/15	1.8		%	25
			Total Tellurium (Te)	2010/06/15	NC		%	25
			Total Thallium (Tl)	2010/06/15	NC		%	25
			Total Thorium (Th)	2010/06/15	NC		%	25
			Total Tin (Sn)	2010/06/15	NC		%	25
			Total Titanium (Ti)	2010/06/15	NC		%	25
			Total Tungsten (W)	2010/06/15	NC		%	25
			Total Uranium (U)	2010/06/15	NC		%	25
			Total Vanadium (V)	2010/06/15	NC		%	25
			Total Zinc (Zn)	2010/06/15	5.4		%	25
			Total Zirconium (Zr)	2010/06/15	NC		%	25
2179112	JBK	Matrix Spike	Reactive Silica (SiO2)	2010/06/16		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/06/16		99	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/06/16		101	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/06/16	ND, RDL=0.5		mg/L	
		RPD	Reactive Silica (SiO2)	2010/06/16	0.7		%	25
2179584	GBU	Matrix Spike [GD3339-05]	Dissolved Aluminum (Al)	2010/06/15		102	%	80 - 120
			Dissolved Antimony (Sb)	2010/06/15		106	%	80 - 120
			Dissolved Arsenic (As)	2010/06/15		105	%	80 - 120
			Dissolved Barium (Ba)	2010/06/15		105	%	80 - 120
			Dissolved Beryllium (Be)	2010/06/15		107	%	80 - 120
			Dissolved Bismuth (Bi)	2010/06/15		103	%	80 - 120
			Dissolved Boron (B)	2010/06/15		106	%	80 - 120
			Dissolved Cadmium (Cd)	2010/06/15		105	%	80 - 120
			Dissolved Calcium (Ca)	2010/06/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/06/15		102	%	80 - 120
			Dissolved Cobalt (Co)	2010/06/15		101	%	80 - 120
			Dissolved Copper (Cu)	2010/06/15		100	%	80 - 120
			Dissolved Iron (Fe)	2010/06/15		103	%	80 - 120
			Dissolved Lead (Pb)	2010/06/15		102	%	80 - 120
			Dissolved Lithium (Li)	2010/06/15		98	%	80 - 120
			Dissolved Magnesium (Mg)	2010/06/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/06/15		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/06/15		108	%	80 - 120
			Dissolved Nickel (Ni)	2010/06/15		101	%	80 - 120
			Dissolved Phosphorus (P)	2010/06/15		110	%	80 - 120
			Dissolved Potassium (K)	2010/06/15		105	%	80 - 120
			Dissolved Selenium (Se)	2010/06/15		109	%	80 - 120
			Dissolved Silicon (Si)	2010/06/15		108	%	80 - 120
			Dissolved Silver (Ag)	2010/06/15		100	%	80 - 120
			Dissolved Sodium (Na)	2010/06/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/06/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/06/15		106	%	80 - 120
			Dissolved Thallium (Tl)	2010/06/15		102	%	80 - 120
			Dissolved Thorium (Th)	2010/06/15		105	%	80 - 120
			Dissolved Tin (Sn)	2010/06/15		107	%	80 - 120
			Dissolved Titanium (Ti)	2010/06/15		100	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179584	GBU	Matrix Spike						
		[GD3339-05]	Dissolved Tungsten (W)	2010/06/15		105	%	80 - 120
			Dissolved Uranium (U)	2010/06/15		108	%	80 - 120
			Dissolved Vanadium (V)	2010/06/15		101	%	80 - 120
			Dissolved Zinc (Zn)	2010/06/15		102	%	80 - 120
			Dissolved Zirconium (Zr)	2010/06/15		106	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/06/15		102	%	90 - 110
			Dissolved Antimony (Sb)	2010/06/15		102	%	90 - 110
			Dissolved Arsenic (As)	2010/06/15		100	%	90 - 110
			Dissolved Barium (Ba)	2010/06/15		103	%	90 - 110
			Dissolved Beryllium (Be)	2010/06/15		102	%	90 - 110
			Dissolved Bismuth (Bi)	2010/06/15		102	%	90 - 110
			Dissolved Boron (B)	2010/06/15		100	%	90 - 110
			Dissolved Cadmium (Cd)	2010/06/15		102	%	90 - 110
			Dissolved Calcium (Ca)	2010/06/15		103	%	90 - 110
			Dissolved Chromium (Cr)	2010/06/15		101	%	90 - 110
			Dissolved Cobalt (Co)	2010/06/15		99	%	90 - 110
			Dissolved Copper (Cu)	2010/06/15		99	%	90 - 110
			Dissolved Iron (Fe)	2010/06/15		101	%	90 - 110
			Dissolved Lead (Pb)	2010/06/15		100	%	90 - 110
			Dissolved Lithium (Li)	2010/06/15		96	%	90 - 110
			Dissolved Magnesium (Mg)	2010/06/15		105	%	90 - 110
			Dissolved Manganese (Mn)	2010/06/15		100	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/06/15		103	%	90 - 110
			Dissolved Nickel (Ni)	2010/06/15		98	%	90 - 110
			Dissolved Phosphorus (P)	2010/06/15		105	%	90 - 110
			Dissolved Potassium (K)	2010/06/15		103	%	90 - 110
			Dissolved Selenium (Se)	2010/06/15		105	%	90 - 110
			Dissolved Silicon (Si)	2010/06/15		105	%	90 - 110
			Dissolved Silver (Ag)	2010/06/15		99	%	90 - 110
			Dissolved Sodium (Na)	2010/06/15		105	%	90 - 110
			Dissolved Strontium (Sr)	2010/06/15		101	%	90 - 110
			Dissolved Tellurium (Te)	2010/06/15		102	%	90 - 110
			Dissolved Thallium (Tl)	2010/06/15		99	%	90 - 110
			Dissolved Thorium (Th)	2010/06/15		102	%	90 - 110
			Dissolved Tin (Sn)	2010/06/15		103	%	90 - 110
			Dissolved Titanium (Ti)	2010/06/15		99	%	90 - 110
			Dissolved Tungsten (W)	2010/06/15		102	%	90 - 110
			Dissolved Uranium (U)	2010/06/15		105	%	90 - 110
			Dissolved Vanadium (V)	2010/06/15		100	%	90 - 110
			Dissolved Zinc (Zn)	2010/06/15		101	%	90 - 110
			Dissolved Zirconium (Zr)	2010/06/15		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/06/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/06/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/06/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/06/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/06/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/06/15	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/06/15	ND, RDL=100		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179584	GBU	Method Blank	Dissolved Lead (Pb)	2010/06/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/06/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/06/15	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/06/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/06/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/06/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/06/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/06/15	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/06/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/06/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/06/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/06/15	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/06/15	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/06/15	ND, RDL=1		ug/L	
		RPD [GD3339-05]	Dissolved Aluminum (Al)	2010/06/15	NC		%	25
			Dissolved Antimony (Sb)	2010/06/15	NC		%	25
			Dissolved Arsenic (As)	2010/06/15	2.2		%	25
			Dissolved Barium (Ba)	2010/06/15	2.8		%	25
			Dissolved Beryllium (Be)	2010/06/15	NC		%	25
			Dissolved Bismuth (Bi)	2010/06/15	NC		%	25
			Dissolved Boron (B)	2010/06/15	0.9		%	25
			Dissolved Cadmium (Cd)	2010/06/15	NC		%	25
			Dissolved Calcium (Ca)	2010/06/15	0.3		%	25
			Dissolved Chromium (Cr)	2010/06/15	NC		%	25
			Dissolved Cobalt (Co)	2010/06/15	NC		%	25
			Dissolved Copper (Cu)	2010/06/15	NC		%	25
			Dissolved Iron (Fe)	2010/06/15	0.2		%	25
			Dissolved Lead (Pb)	2010/06/15	NC		%	25
			Dissolved Lithium (Li)	2010/06/15	1.3		%	25
			Dissolved Magnesium (Mg)	2010/06/15	0.02		%	25
			Dissolved Manganese (Mn)	2010/06/15	2.1		%	25
			Dissolved Molybdenum (Mo)	2010/06/15	2.4		%	25
			Dissolved Nickel (Ni)	2010/06/15	NC		%	25
			Dissolved Phosphorus (P)	2010/06/15	NC		%	25
			Dissolved Potassium (K)	2010/06/15	0.1		%	25
			Dissolved Selenium (Se)	2010/06/15	NC		%	25
			Dissolved Silicon (Si)	2010/06/15	0.2		%	25
			Dissolved Silver (Ag)	2010/06/15	NC		%	25
			Dissolved Sodium (Na)	2010/06/15	1.6		%	25
			Dissolved Strontium (Sr)	2010/06/15	0.00008		%	25
			Dissolved Tellurium (Te)	2010/06/15	NC		%	25
			Dissolved Thallium (Tl)	2010/06/15	NC		%	25
			Dissolved Thorium (Th)	2010/06/15	NC		%	25
			Dissolved Tin (Sn)	2010/06/15	NC		%	25
			Dissolved Titanium (Ti)	2010/06/15	NC		%	25
			Dissolved Tungsten (W)	2010/06/15	NC		%	25

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: GW
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB074487

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2179584	GBU	RPD [GD3339-05]	Dissolved Uranium (U)	2010/06/15	6.2		%	25
			Dissolved Vanadium (V)	2010/06/15	NC		%	25
			Dissolved Zinc (Zn)	2010/06/15	NC		%	25
			Dissolved Zirconium (Zr)	2010/06/15	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B074487

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

CRISTINA CARRIERE, Scientific Services

GRACE SISON, Technical and Customer Service Coordinator

KEVIN MACDONALD, Inorganics Supervisor

==========

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9-Jun-10 11:10
ANTONELLA BRASIL
B074487
FW ENV-668

Maxxam Analytics

Maxxam Analytics International Corporation o/a Maxxam Analytics
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CHAIN OF CU

Page of

Use Only:

BOTTLE ORDER #: 193189

CHAIN OF CUSTODY #: C#193189-01-02

PROJECT MANAGER: ANTONELLA BRASIL

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	GW
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:	

REGULATORY CRITERIA:
- MISA — Reg. 153/04 — Sewer Use: Sanitary / Storm / Combined
- PWQO — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse — Municipality
- Reg. 558 — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse — Municipality
- Other (specify) — Report Criteria on C of A ?

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____
Rush Confirmation Number: _____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water ? (Y / N)	Metals Field Filtered ? (Y / N)	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)					# of Bottles	Comments
1		RR09-214A	June 8, 2010	10:40am	water			X	X	X	X	X					11	
2		BH10-12A	June 8, 2010	11:20am	water			X	X	X	X	X					11	
3		Travel Blank	—	—	water			X	X	X	X	X						
4								X	X	X	X	X						
5								X	X	X	X	X						
6								X	X	X	X	X						
7								X	X	X	X	X						JUN 10'10 9:09
8								X	X	X	X	X						
9								X	X	X	X	X						REC'D IN WINNIPEG
10								X	X	X	X	X						

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
Kate Patterson / Kate Patterson	10/06/08		Victor Bal	June 9/10	11:10	
				10/06/10	09:09	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
X	6.7, 8.7, 6.8	Yes / No
	6.1°C	
	6.1°C	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

Your Project #: MB074487
Your C.O.C. #: 08317585

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/06/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B044658
Received: 2010/06/14, 08:30

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	3	N/A	2010/06/16	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ASHLEY NIVISON, BBY Customer Service
Email: ashley.nivison@maxxamanalytics.com
Phone# (604) 639-2616 Ext:230

==========

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Total cover pages: 1

MAXXAM ANALYTICS INC.

Maxxam Job #: B044658
Report Date: 2010/06/16

Client Project #: MB074487

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		U76764	U76765	U76766		
Sampling Date		2010/06/08	2010/06/08			
COC Number		08317585	08317585	08317585		
	Units	**RR09-214A (GD3339-07R)**	**BH10-12A (GD3340-07R)**	**TRAVEL BLANK (GD3341-07R)**	**RDL**	**QC Batch**
Misc. Inorganics						
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	0.0006	0.0005	4034959

RDL = Reportable Detection Limit

MAXXAM ANALYTICS INC.

Maxxam Job #: B044658
Report Date: 2010/06/16

Client Project #: MB074487

Package 1	17.0°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB074487
P.O. #:
Site Reference:

Quality Assurance Report

Maxxam Job Number: VB044658

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4034959	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/06/16		103	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/16		104	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/06/16	<0.0005		mg/L	
		RPD	Weak Acid Dissoc. Cyanide (CN)	2010/06/16	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B044658

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX III - 3

Laboratory Results
September 2010

Your Project #: M09559A04
Your C.O.C. #: 20976901, 209769-01-01

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/09/22

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B0C5975
Received: 2010/09/10, 09:00

Sample Matrix: Water
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Acidity as CaC03 in liquid (13)	12	2010/09/14	2010/09/17	SLA SOP-00100	APHA SM2310B
Acidity as CaC03 in liquid (13)	1	2010/09/22	2010/09/22	SLA SOP-00100	APHA SM2310B
Alkalinity	13	N/A	2010/09/14	CAM SOP-00448	SM 2320B
Carbonate, Bicarbonate and Hydroxide	13	N/A	2010/09/15	CAM SOP-00102	APHA 4500-CO2 D
Biological Oxygen Demand (BOD)	13	N/A	2010/09/14	CAM SOP-00427	APHA 5210B
Chloride by Automated Colourimetry	13	N/A	2010/09/15	CAM SOP-00463	SM 4500 Cl E
Chemical Oxygen Demand	13	N/A	2010/09/16	CAM SOP-00416	APHA 5220D
Colour	13	N/A	2010/09/15	CAM SOP-00412	APHA 2120
Conductivity	13	N/A	2010/09/14	CAM SOP-00448	SM 2510
Total Cyanide	13	2010/09/15	2010/09/15	CAM SOP-00457	EPA 335.3
Fluoride	13	2010/09/14	2010/09/14	CAM SOP-00448	APHA 4500FC
Mercury in Water by CVAA	9	2010/09/15	2010/09/15	CAM SOP-00453	EPA 7470
Mercury in Water by CVAA	4	2010/09/15	2010/09/16	CAM SOP-00453	EPA 7470
Dissolved Metals Analysis by ICP	13	2010/09/15	2010/09/15	CAM SOP-00408	EPA 6010
Dissolved Metals by ICPMS	11	N/A	2010/09/15	CAM SOP-00447	EPA 6020
Dissolved Metals by ICPMS	2	N/A	2010/09/21	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	11	N/A	2010/09/15	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICPMS	2	N/A	2010/09/20	CAM SOP-00447	EPA 6020
Total Metals Analysis by ICP	13	2010/09/15	2010/09/16	CAM SOP-00408	EPA 6010
Ammonia-N	13	N/A	2010/09/16	CAM SOP-00441	US GS I-2522-90
Nitrate (NO3) and Nitrite (NO2) in Water (1)	13	N/A	2010/09/15	CAM SOP-00440	SM 4500 NO3I/NO2B
pH	13	N/A	2010/09/14	CAM SOP-00448	SM 4500H
Orthophosphate	13	N/A	2010/09/15	CAM SOP-00461	SM 4500 P-F
Reactive Silica (2)	13	N/A	2010/09/17	ATL SOP 00022 R3	Based on EPA 366.0
Sulphate by Automated Colourimetry	13	N/A	2010/09/15	CAM SOP-00464	EPA 375.4
Redox Potential (1)	13	2010/09/15	2010/09/20	SM 2580 B & ASTM DI 498-76	
Total Dissolved Solids	13	N/A	2010/09/15	CAM SOP-00428	APHA 2540C
Total Kjeldahl Nitrogen in Water	13	2010/09/15	2010/09/16	CAM SOP-00454	EPA 351.2 Rev 2
Total Organic Carbon (TOC)	13	N/A	2010/09/16	CAM SOP-00446	EPA 415.1 modified
Dissolved Phosphorus	9	2010/09/15	2010/09/16	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	9	2010/09/15	2010/09/16	CAM SOP-00407	APHA 4500 P,B,F
Total Phosphorus (Colourimetric)	4	2010/09/15	2010/09/16	CAM SOP-00407	SM 4500 P,B,F
Dissolved Phosphorus	4	2010/09/15	2010/09/16	CAM SOP 0407	APHA 4500 P,B,F
Turbidity	6	N/A	2010/09/14	CAM SOP-00417	APHA 2130B
Turbidity	7	N/A	2010/09/15	CAM SOP-00417	APHA 2130B

../2

Your Project #: M09559A04
Your C.O.C. #: 20976901, 209769-01-01

Attention: Leann Graham
Klohn Crippen Berger Ltd
500 - 2955 Virtual Way
Vancouver, BC
CANADA V5M 4X6

Report Date: 2010/09/22

CERTIFICATE OF ANALYSIS

-2-

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Sladeview Petrochemical
(2) This test was performed by Bedford
(3) Sample(s) analyzed using methodologies that have not been subjected to Maxxam's standard validation process for the submitted matrix and is not an Accredited method. Analysis performed with client consent, however results should be viewed with discretion
(4) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ANTONELLA BRASIL, Project Manager
Email: Abrasil@maxxamanalytics.com
Phone# (905) 817-5817

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 2

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0608	HD0608			HD0609		
Sampling Date		2010/09/08 14:00	2010/09/08 14:00			2010/09/08 14:30		
COC Number		209769-01-01	209769-01-01			209769-01-01		
	Units	**BH10-07A**	**BH10-07A Lab-Dup**	**RDL**	**QC Batch**	**BH10-12A**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	311	N/A	1	2264554	393	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	N/A	1	2264554	2	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	1	2264554	ND	1	2264554
Inorganics								
Acidity as CaC03	mg/L	22	N/A	10	2264453	44	10	2264453
Total Ammonia-N	mg/L	0.32	N/A	0.05	2265620	0.20	0.05	2265620
Total BOD	mg/L	ND	N/A	2	2264977	ND	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	43	N/A	4	2265647	ND	4	2265647
Colour	TCU	ND	N/A	2	2265239	ND	2	2265239
Conductivity	umho/cm	649	N/A	1	2265144	768	1	2265144
Total Dissolved Solids	mg/L	410	N/A	10	2264297	484	10	2264297
Fluoride (F-)	mg/L	0.1	N/A	0.1	2265145	0.2	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	2	N/A	2	2266796	0.3	0.1	2266796
Total Organic Carbon (TOC)	mg/L	2.3	N/A	0.2	2265675	2.1	0.2	2265675
Orthophosphate (P)	mg/L	ND	N/A	0.01	2265531	ND	0.01	2265531
pH	pH	7.8	N/A	N/A	2265143	7.7	N/A	2265143
Dissolved Phosphorus	mg/L	ND	ND	0.02	2265937	0.016	0.002	2265932
Total Phosphorus	mg/L	15	N/A	1	2266353	0.043	0.002	2266655
Reactive Silica (SiO2)	mg/L	22	N/A	0.5	2267080	23	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	39	N/A	1	2265530	33	1	2265530
Total Cyanide (CN)	mg/L	ND	N/A	0.005	2265684	ND	0.005	2265684
Turbidity	NTU	650	N/A	0.1	2265496	57	0.1	2265496
Alkalinity (Total as CaCO3)	mg/L	313	N/A	1	2265139	395	1	2265139
Dissolved Chloride (Cl)	mg/L	2	N/A	1	2265529	4	1	2265529
Nitrite (N)	mg/L	ND	N/A	0.01	2265220	ND	0.01	2265220
Nitrate (N)	mg/L	ND	N/A	0.1	2265220	ND	0.1	2265220
Nitrate + Nitrite	mg/L	ND	N/A	0.1	2265220	ND	0.1	2265220
Subcontracted Analysis								
Redox Potential	mV	+188	N/A	N/A	2265903	+180	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0610	HD0610	HD0611	HD0611		
Sampling Date		2010/09/08 15:00	2010/09/08 15:00	2010/09/08 16:00	2010/09/08 16:00		
COC Number		209769-01-01	209769-01-01	209769-01-01	209769-01-01		
	Units	**BH10-20**	**BH10-20 Lab-Dup**	**09-367**	**09-367 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	388	N/A	378	N/A	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	N/A	2	N/A	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	ND	N/A	1	2264554
Inorganics							
Acidity as CaC03	mg/L	38	N/A	24	N/A	10	2264453
Total Ammonia-N	mg/L	0.20	N/A	0.13	N/A	0.05	2265620
Total BOD	mg/L	ND	N/A	ND	N/A	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	6	N/A	9	N/A	4	2265647
Colour	TCU	ND	N/A	ND	N/A	2	2265239
Conductivity	umho/cm	769	769	840	N/A	1	2265144
Total Dissolved Solids	mg/L	490	N/A	542	N/A	10	2264297
Fluoride (F-)	mg/L	0.2	0.2	0.2	N/A	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	0.3	N/A	0.3	N/A	0.1	2266796
Total Organic Carbon (TOC)	mg/L	2.2	N/A	2.2	N/A	0.2	2265675
Orthophosphate (P)	mg/L	ND	N/A	ND	N/A	0.01	2265531
pH	pH	7.7	7.7	7.8	N/A	N/A	2265143
Dissolved Phosphorus	mg/L	0.016	N/A	0.010	N/A	0.002	2265932
Total Phosphorus	mg/L	0.037	N/A	0.015	N/A	0.002	2266655
Reactive Silica (SiO2)	mg/L	23	N/A	20	20	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	33	N/A	21	N/A	1	2265530
Total Cyanide (CN)	mg/L	ND	N/A	ND	N/A	0.005	2265684
Turbidity	NTU	43	N/A	200	N/A	0.1	2265496
Alkalinity (Total as CaCO3)	mg/L	390	392	380	N/A	1	2265139
Dissolved Chloride (Cl)	mg/L	3	N/A	39	N/A	1	2265529
Nitrite (N)	mg/L	ND	N/A	ND	N/A	0.01	2265220
Nitrate (N)	mg/L	ND	N/A	ND	N/A	0.1	2265220
Nitrate + Nitrite	mg/L	ND	N/A	ND	N/A	0.1	2265220
Subcontracted Analysis							
Redox Potential	mV	+171	N/A	+163	N/A	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0612			HD0613		
Sampling Date		2010/09/08 17:00			2010/09/09 09:00		
COC Number		209769-01-01			209769-01-01		
	Units	**BH10-05**	**RDL**	**QC Batch**	**08-240**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	493	1	2264554	366	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	1	2264554	2	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2264554	ND	1	2264554
Inorganics							
Acidity as CaC03	mg/L	34	10	2264453	44	10	2264453
Total Ammonia-N	mg/L	0.20	0.05	2265620	0.10	0.05	2265620
Total BOD	mg/L	ND	2	2264977	ND	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	270	8	2265647	ND	4	2265647
Colour	TCU	2	2	2265239	ND	2	2265239
Conductivity	umho/cm	1080	1	2265144	961	1	2265144
Total Dissolved Solids	mg/L	690	10	2264297	610	10	2264297
Fluoride (F-)	mg/L	0.3	0.1	2265145	0.2	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	7	5	2266796	0.3	0.1	2266796
Total Organic Carbon (TOC)	mg/L	7.3	0.2	2265675	1.8	0.2	2265675
Orthophosphate (P)	mg/L	ND	0.01	2265531	ND	0.01	2265531
pH	pH	7.8	N/A	2265143	7.7	N/A	2265143
Dissolved Phosphorus	mg/L	ND	0.02	2265937	0.012	0.002	2265932
Total Phosphorus	mg/L	6	1	2266353	0.014	0.002	2266655
Reactive Silica (SiO2)	mg/L	25	1	2267080	18	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	140	1	2265530	29	1	2265530
Total Cyanide (CN)	mg/L	ND	0.005	2265684	ND	0.005	2265684
Turbidity	NTU	720	0.1	2264727	63	0.1	2264727
Alkalinity (Total as CaCO3)	mg/L	496	1	2265139	368	1	2265139
Dissolved Chloride (Cl)	mg/L	2	1	2265529	83	1	2265529
Nitrite (N)	mg/L	ND	0.01	2265220	ND	0.01	2265220
Nitrate (N)	mg/L	ND	0.1	2265220	ND	0.1	2265220
Nitrate + Nitrite	mg/L	ND	0.1	2265220	ND	0.1	2265220
Subcontracted Analysis							
Redox Potential	mV	+145	N/A	2265903	+146	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0614			HD0615	HD0615		
Sampling Date		2010/09/09 09:30			2010/09/09 10:00	2010/09/09 10:00		
COC Number		209769-01-01			209769-01-01	209769-01-01		
	Units	**BH10-11A**	**RDL**	**QC Batch**	**09-428**	**09-428 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	383	1	2264554	398	N/A	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	1	2264554	2	N/A	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2264554	ND	N/A	1	2264554
Inorganics								
Acidity as CaC03	mg/L	50	10	2264453	42	N/A	10	2264453
Total Ammonia-N	mg/L	0.39	0.05	2265620	0.22	N/A	0.05	2265620
Total BOD	mg/L	ND	2	2264977	ND	N/A	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	200	8	2265647	5	N/A	4	2265647
Colour	TCU	2	2	2265239	ND	N/A	2	2265239
Conductivity	umho/cm	735	1	2265144	813	N/A	1	2265144
Total Dissolved Solids	mg/L	470	10	2264297	524	N/A	10	2264297
Fluoride (F-)	mg/L	0.2	0.1	2265145	0.2	N/A	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	7	5	2266796	0.4	N/A	0.1	2266796
Total Organic Carbon (TOC)	mg/L	4.9	0.2	2265675	2.6	N/A	0.2	2265675
Orthophosphate (P)	mg/L	ND	0.01	2265531	ND	N/A	0.01	2265531
pH	pH	7.9	N/A	2265143	7.8	N/A	N/A	2265143
Dissolved Phosphorus	mg/L	ND	0.02	2265937	0.008	N/A	0.002	2265932
Total Phosphorus	mg/L	39	0.2	2266353	0.017	0.016	0.002	2266655
Reactive Silica (SiO2)	mg/L	17	0.5	2267080	18	N/A	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	24	1	2265530	26	N/A	1	2265530
Total Cyanide (CN)	mg/L	ND	0.005	2265684	ND	N/A	0.005	2265684
Turbidity	NTU	75000	2.5	2264727	94	N/A	0.1	2265496
Alkalinity (Total as CaCO3)	mg/L	386	1	2265139	400	N/A	1	2265139
Dissolved Chloride (Cl)	mg/L	3	1	2265529	18	N/A	1	2265529
Nitrite (N)	mg/L	ND	0.01	2265220	ND	N/A	0.01	2265220
Nitrate (N)	mg/L	ND	0.1	2265220	ND	N/A	0.1	2265220
Nitrate + Nitrite	mg/L	ND	0.1	2265220	ND	N/A	0.1	2265220
Subcontracted Analysis								
Redox Potential	mV	+131	N/A	2265903	+132	N/A	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0616	HD0616		HD0617		
Sampling Date		2010/09/09 10:30	2010/09/09 10:30		2010/09/09 11:30		
COC Number		209769-01-01	209769-01-01		209769-01-01		
	Units	**09-213A**	**09-213A Lab-Dup**	**QC Batch**	**09-214**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	402	N/A	2264554	393	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	2	N/A	2264554	2	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	N/A	2264554	ND	1	2264554
Inorganics							
Acidity as CaC03	mg/L	44	N/A	2264453	40	10	2264453
Total Ammonia-N	mg/L	0.19	N/A	2265620	0.15	0.05	2265620
Total BOD	mg/L	ND	N/A	2264977	ND	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	5	N/A	2265647	ND	4	2265647
Colour	TCU	ND	ND	2265239	ND	2	2265239
Conductivity	umho/cm	790	N/A	2265144	769	1	2265144
Total Dissolved Solids	mg/L	514	N/A	2264297	494	10	2264297
Fluoride (F-)	mg/L	0.2	N/A	2265145	0.2	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	0.4	N/A	2266796	0.3	0.1	2266796
Total Organic Carbon (TOC)	mg/L	2.5	N/A	2265675	2.3	0.2	2265675
Orthophosphate (P)	mg/L	ND	N/A	2265531	ND	0.01	2265531
pH	pH	7.7	N/A	2265143	7.7	N/A	2265143
Dissolved Phosphorus	mg/L	0.015	N/A	2265932	0.013	0.002	2265932
Total Phosphorus	mg/L	0.053	N/A	2266655	0.014	0.002	2266655
Reactive Silica (SiO2)	mg/L	21	N/A	2267080	19	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	26	N/A	2265530	26	1	2265530
Total Cyanide (CN)	mg/L	ND	N/A	2265684	ND	0.005	2265684
Turbidity	NTU	55	N/A	2265496	19	0.1	2264727
Alkalinity (Total as CaCO3)	mg/L	404	N/A	2265139	395	1	2265139
Dissolved Chloride (Cl)	mg/L	8	N/A	2265529	6	1	2265529
Nitrite (N)	mg/L	ND	N/A	2265220	ND	0.01	2265220
Nitrate (N)	mg/L	ND	N/A	2265220	ND	0.1	2265220
Nitrate + Nitrite	mg/L	ND	N/A	2265220	ND	0.1	2265220
Subcontracted Analysis							
Redox Potential	mV	+125	N/A	2265903	+126	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0617		HD0618	HD0618		
Sampling Date		2010/09/09 11:30		2010/09/09 12:30	2010/09/09 12:30		
COC Number		209769-01-01		209769-01-01	209769-01-01		
	Units	**09-214 Lab-Dup**	**QC Batch**	**BH10-14**	**BH10-14 Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2264554	424	N/A	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	N/A	2264554	3	N/A	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	N/A	2264554	ND	N/A	1	2264554
Inorganics							
Acidity as CaC03	mg/L	38	2264453	30	N/A	10	2264453
Total Ammonia-N	mg/L	N/A	2265620	0.28	N/A	0.05	2265620
Total BOD	mg/L	N/A	2264977	ND	N/A	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	N/A	2265647	6	N/A	4	2265647
Colour	TCU	N/A	2265239	ND	N/A	2	2265239
Conductivity	umho/cm	N/A	2265144	816	813	1	2264877
Total Dissolved Solids	mg/L	N/A	2264297	520	N/A	10	2264297
Fluoride (F-)	mg/L	N/A	2265145	0.2	0.2	0.1	2264868
Total Kjeldahl Nitrogen (TKN)	mg/L	N/A	2266796	0.4	N/A	0.1	2266796
Total Organic Carbon (TOC)	mg/L	N/A	2265675	2.6	2.5	0.2	2265675
Orthophosphate (P)	mg/L	ND	2265531	ND	N/A	0.01	2265531
pH	pH	N/A	2265143	7.8	7.9	N/A	2264875
Dissolved Phosphorus	mg/L	0.014	2265932	0.018	N/A	0.002	2265932
Total Phosphorus	mg/L	N/A	2266655	0.13	N/A	0.002	2266655
Reactive Silica (SiO2)	mg/L	N/A	2267080	21	N/A	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	26	2265530	26	N/A	1	2265530
Total Cyanide (CN)	mg/L	ND	2265684	ND	N/A	0.005	2265684
Turbidity	NTU	N/A	2264727	31	N/A	0.1	2264727
Alkalinity (Total as CaCO3)	mg/L	N/A	2265139	427	422	1	2264878
Dissolved Chloride (Cl)	mg/L	6	2265529	6	N/A	1	2265529
Nitrite (N)	mg/L	N/A	2265220	ND	N/A	0.01	2265220
Nitrate (N)	mg/L	N/A	2265220	ND	N/A	0.1	2265220
Nitrate + Nitrite	mg/L	N/A	2265220	ND	N/A	0.1	2265220
Subcontracted Analysis							
Redox Potential	mV	+125	2265903	+125	N/A	N/A	2265903

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

RESULTS OF ANALYSES OF WATER

Maxxam ID		HD0619			HD0620	HD0620		
Sampling Date		2010/09/09 13:30						
COC Number		209769-01-01			209769-01-01	209769-01-01		
	Units	**BH10-04**	**RDL**	**QC Batch**	**TRIP BLANK**	**TRIP BLANK Lab-Dup**	**RDL**	**QC Batch**
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	379	1	2264554	2	N/A	1	2264554
Carb. Alkalinity (calc. as CaCO3)	mg/L	3	1	2264554	ND	N/A	1	2264554
Hydrox. Alkalinity (calc. as CaCO3)	mg/L	ND	1	2264554	ND	N/A	1	2264554
Inorganics								
Acidity as CaC03	mg/L	134	10	2264453	ND	N/A	10	2273723
Total Ammonia-N	mg/L	0.49	0.05	2265620	ND	N/A	0.05	2265620
Total BOD	mg/L	41	2	2264977	ND	ND	2	2264977
Total Chemical Oxygen Demand (COD)	mg/L	1900	80	2265647	ND	N/A	4	2265647
Colour	TCU	ND	2	2265239	ND	N/A	2	2265239
Conductivity	umho/cm	803	1	2265144	2	N/A	1	2265144
Total Dissolved Solids	mg/L	520	10	2264297	ND	ND	10	2264297
Fluoride (F-)	mg/L	0.3	0.1	2265145	ND	N/A	0.1	2265145
Total Kjeldahl Nitrogen (TKN)	mg/L	39	10	2266796	0.1	N/A	0.1	2266796
Total Organic Carbon (TOC)	mg/L	342	4	2265675	ND	N/A	0.2	2265675
Orthophosphate (P)	mg/L	ND	0.01	2265531	ND	N/A	0.01	2265531
pH	pH	7.9	N/A	2265143	6.4	N/A	N/A	2265143
Dissolved Phosphorus	mg/L	ND	0.02	2265937	ND	N/A	0.002	2265932
Total Phosphorus	mg/L	32	1	2266353	ND	N/A	0.002	2266655
Reactive Silica (SiO2)	mg/L	ND (1)	50	2267080	ND	N/A	0.5	2267080
Dissolved Sulphate (SO4)	mg/L	53	1	2265530	ND	N/A	1	2265530
Total Cyanide (CN)	mg/L	ND (2)	0.05	2265684	ND	N/A	0.005	2265684
Turbidity	NTU	360000	10	2265496	ND	N/A	0.1	2264727
Alkalinity (Total as CaCO3)	mg/L	382	1	2265139	2	N/A	1	2265139
Dissolved Chloride (Cl)	mg/L	4	1	2265529	ND	N/A	1	2265529
Nitrite (N)	mg/L	0.01	0.01	2265220	ND	N/A	0.01	2265220
Nitrate (N)	mg/L	ND	0.1	2265220	ND	N/A	0.1	2265220
Nitrate + Nitrite	mg/L	ND	0.1	2265220	ND	N/A	0.1	2265220
Subcontracted Analysis								
Redox Potential	mV	+86	N/A	2265903	+169	N/A	N/A	2265903

ND = Not detected
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QC Batch = Quality Control Batch
(1) Elevated RDL due to sample matrix.
(2) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0608			HD0609	HD0609		
Sampling Date		2010/09/08 14:00			2010/09/08 14:30	2010/09/08 14:30		
COC Number		209769-01-01			209769-01-01	209769-01-01		
	Units	**BH10-07A**	**RDL**	**QC Batch**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	0.0001	2265584	ND	N/A	0.0001	2265584
Dissolved Sulphur (S)	mg/L	14.4	0.5	2265747	11.2	N/A	0.5	2265747
Total Sulphur (S)	mg/L	17	0.5	2266046	12	12	0.5	2266046
Dissolved Aluminum (Al)	ug/L	ND	5	2265845	300	N/A	5	2271843
Total Aluminum (Al)	ug/L	47000	50	2266044	ND	N/A	5	2271347
Dissolved Antimony (Sb)	ug/L	ND	0.5	2265845	ND	N/A	0.5	2271843
Total Antimony (Sb)	ug/L	ND	0.5	2266044	ND	N/A	0.5	2271347
Dissolved Arsenic (As)	ug/L	15	1	2265845	9	N/A	1	2271843
Total Arsenic (As)	ug/L	27	1	2266044	10	N/A	1	2271347
Dissolved Barium (Ba)	ug/L	78	5	2265845	71	N/A	5	2271843
Total Barium (Ba)	ug/L	470	5	2266044	70	N/A	5	2271347
Dissolved Beryllium (Be)	ug/L	ND	0.5	2265845	ND	N/A	0.5	2271843
Total Beryllium (Be)	ug/L	1.4	0.5	2266044	ND	N/A	0.5	2271347
Dissolved Bismuth (Bi)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Bismuth (Bi)	ug/L	ND	1	2266044	4	N/A	1	2271347
Dissolved Boron (B)	ug/L	140	10	2265845	69	N/A	10	2271843
Total Boron (B)	ug/L	150	10	2266044	63	N/A	10	2271347
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2265845	ND	N/A	0.1	2271843
Total Cadmium (Cd)	ug/L	0.7	0.1	2266044	ND	N/A	0.1	2271347
Dissolved Calcium (Ca)	ug/L	75000	200	2265845	95000	N/A	200	2271843
Total Calcium (Ca)	ug/L	160000	200	2266044	110000	N/A	200	2271347
Dissolved Chromium (Cr)	ug/L	ND	5	2265845	ND	N/A	5	2271843
Total Chromium (Cr)	ug/L	140	5	2266044	ND	N/A	5	2271347
Dissolved Cobalt (Co)	ug/L	ND	0.5	2265845	ND	N/A	0.5	2271843
Total Cobalt (Co)	ug/L	47	0.5	2266044	ND	N/A	0.5	2271347
Dissolved Copper (Cu)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Copper (Cu)	ug/L	150	1	2266044	ND	N/A	1	2271347
Dissolved Iron (Fe)	ug/L	470	100	2265845	4100	N/A	100	2271843
Total Iron (Fe)	ug/L	83000	1000	2266044	4000	N/A	100	2271347
Dissolved Lead (Pb)	ug/L	ND	0.5	2265845	ND	N/A	0.5	2271843

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0608			HD0609	HD0609		
Sampling Date		2010/09/08 14:00			2010/09/08 14:30	2010/09/08 14:30		
COC Number		209769-01-01			209769-01-01	209769-01-01		
	Units	**BH10-07A**	**RDL**	**QC Batch**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	27	0.5	2266044	ND	N/A	0.5	2271347
Dissolved Lithium (Li)	ug/L	39	5	2265845	32	N/A	5	2271843
Total Lithium (Li)	ug/L	130	5	2266044	31	N/A	5	2271347
Dissolved Magnesium (Mg)	ug/L	24000	50	2265845	40000	N/A	50	2271843
Total Magnesium (Mg)	ug/L	69000	50	2266044	47000	N/A	50	2271347
Dissolved Manganese (Mn)	ug/L	250	2	2265845	150	N/A	2	2271843
Total Manganese (Mn)	ug/L	2000	2	2266044	160	N/A	2	2271347
Dissolved Molybdenum (Mo)	ug/L	3	1	2265845	2	N/A	1	2271843
Total Molybdenum (Mo)	ug/L	5	1	2266044	3	N/A	1	2271347
Dissolved Nickel (Ni)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Nickel (Ni)	ug/L	120	1	2266044	ND	N/A	1	2271347
Dissolved Phosphorus (P)	ug/L	ND	100	2265845	ND	N/A	100	2271843
Dissolved Potassium (K)	ug/L	3600	200	2265845	4800	N/A	200	2271843
Total Potassium (K)	ug/L	16000	200	2266044	5500	N/A	200	2271347
Dissolved Selenium (Se)	ug/L	ND	2	2265845	ND	N/A	2	2271843
Total Selenium (Se)	ug/L	ND	2	2266044	ND	N/A	2	2271347
Dissolved Silicon (Si)	ug/L	9600	50	2265845	11000	N/A	50	2271843
Total Silicon (Si)	ug/L	70000	50	2266044	12000	N/A	50	2271347
Dissolved Silver (Ag)	ug/L	ND	0.1	2265845	ND	N/A	0.1	2271843
Total Silver (Ag)	ug/L	0.7	0.1	2266044	ND	N/A	0.1	2271347
Dissolved Sodium (Na)	ug/L	15000	100	2265845	10000	N/A	100	2271843
Total Sodium (Na)	ug/L	20000	100	2266044	12000	N/A	100	2271347
Dissolved Strontium (Sr)	ug/L	390	1	2265845	340	N/A	1	2271843
Total Strontium (Sr)	ug/L	540	1	2266044	380	N/A	1	2271347
Dissolved Tellurium (Te)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Tellurium (Te)	ug/L	ND	1	2266044	ND	N/A	1	2271347
Dissolved Thallium (Tl)	ug/L	ND	0.05	2265845	ND	N/A	0.05	2271843
Total Thallium (Tl)	ug/L	0.79	0.05	2266044	ND	N/A	0.05	2271347
Dissolved Thorium (Th)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Thorium (Th)	ug/L	16	1	2266044	ND	N/A	1	2271347
Dissolved Tin (Sn)	ug/L	ND	1	2265845	ND	N/A	1	2271843

ND = Not detected
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QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0608			HD0609	HD0609		
Sampling Date		2010/09/08 14:00			2010/09/08 14:30	2010/09/08 14:30		
COC Number		209769-01-01			209769-01-01	209769-01-01		
	Units	**BH10-07A**	**RDL**	**QC Batch**	**BH10-12A**	**BH10-12A Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	1	2266044	ND	N/A	1	2271347
Dissolved Titanium (Ti)	ug/L	ND	5	2265845	25	N/A	5	2271843
Total Titanium (Ti)	ug/L	3600	50	2266044	ND	N/A	5	2271347
Dissolved Tungsten (W)	ug/L	3	1	2265845	ND	N/A	1	2271843
Total Tungsten (W)	ug/L	8	1	2266044	ND	N/A	1	2271347
Dissolved Uranium (U)	ug/L	3.2	0.1	2265845	0.2	N/A	0.1	2271843
Total Uranium (U)	ug/L	8.7	0.1	2266044	0.7	N/A	0.1	2271347
Dissolved Vanadium (V)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Vanadium (V)	ug/L	150	1	2266044	ND	N/A	1	2271347
Dissolved Zinc (Zn)	ug/L	ND	5	2265845	ND	N/A	5	2271843
Total Zinc (Zn)	ug/L	250	5	2266044	ND	N/A	5	2271347
Dissolved Zirconium (Zr)	ug/L	ND	1	2265845	ND	N/A	1	2271843
Total Zirconium (Zr)	ug/L	19	1	2266044	ND	N/A	1	2271347

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QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0610		HD0611	HD0611		
Sampling Date		2010/09/08 15:00		2010/09/08 16:00	2010/09/08 16:00		
COC Number		209769-01-01		209769-01-01	209769-01-01		
	Units	**BH10-20**	**QC Batch**	**09-367**	**09-367 Lab-Dup**	**RDL**	**QC Batch**
Metals							
Mercury (Hg)	mg/L	ND	2266146	ND	ND	0.0001	2265584
Dissolved Sulphur (S)	mg/L	11.2	2265747	9.8	9.8	0.5	2265747
Total Sulphur (S)	mg/L	12	2266046	10	N/A	0.5	2266046
Dissolved Aluminum (Al)	ug/L	ND	2265671	ND	N/A	5	2271843
Total Aluminum (Al)	ug/L	140	2266044	15	N/A	5	2271347
Dissolved Antimony (Sb)	ug/L	ND	2265671	ND	N/A	0.5	2271843
Total Antimony (Sb)	ug/L	ND	2266044	ND	N/A	0.5	2271347
Dissolved Arsenic (As)	ug/L	9	2265671	5	N/A	1	2271843
Total Arsenic (As)	ug/L	9	2266044	2	N/A	1	2271347
Dissolved Barium (Ba)	ug/L	65	2265671	65	N/A	5	2271843
Total Barium (Ba)	ug/L	73	2266044	65	N/A	5	2271347
Dissolved Beryllium (Be)	ug/L	ND	2265671	ND	N/A	0.5	2271843
Total Beryllium (Be)	ug/L	ND	2266044	ND	N/A	0.5	2271347
Dissolved Bismuth (Bi)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Bismuth (Bi)	ug/L	ND	2266044	1	N/A	1	2271347
Dissolved Boron (B)	ug/L	62	2265671	81	N/A	10	2271843
Total Boron (B)	ug/L	66	2266044	77	N/A	10	2271347
Dissolved Cadmium (Cd)	ug/L	ND	2265671	ND	N/A	0.1	2271843
Total Cadmium (Cd)	ug/L	ND	2266044	0.4	N/A	0.1	2271347
Dissolved Calcium (Ca)	ug/L	94000	2265671	97000	N/A	200	2271843
Total Calcium (Ca)	ug/L	100000	2266044	100000	N/A	200	2271347
Dissolved Chromium (Cr)	ug/L	ND	2265671	ND	N/A	5	2271843
Total Chromium (Cr)	ug/L	ND	2266044	ND	N/A	5	2271347
Dissolved Cobalt (Co)	ug/L	ND	2265671	ND	N/A	0.5	2271843
Total Cobalt (Co)	ug/L	ND	2266044	0.8	N/A	0.5	2271347
Dissolved Copper (Cu)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Copper (Cu)	ug/L	ND	2266044	1	N/A	1	2271347
Dissolved Iron (Fe)	ug/L	3500	2265671	3300	N/A	100	2271843
Total Iron (Fe)	ug/L	4000	2266044	3800	N/A	100	2271347
Dissolved Lead (Pb)	ug/L	ND	2265671	ND	N/A	0.5	2271843

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0610		HD0611	HD0611		
Sampling Date		2010/09/08 15:00		2010/09/08 16:00	2010/09/08 16:00		
COC Number		209769-01-01		209769-01-01	209769-01-01		
	Units	**BH10-20**	**QC Batch**	**09-367**	**09-367 Lab-Dup**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	2266044	1.1	N/A	0.5	2271347
Dissolved Lithium (Li)	ug/L	29	2265671	31	N/A	5	2271843
Total Lithium (Li)	ug/L	31	2266044	32	N/A	5	2271347
Dissolved Magnesium (Mg)	ug/L	41000	2265671	43000	N/A	50	2271843
Total Magnesium (Mg)	ug/L	43000	2266044	49000	N/A	50	2271347
Dissolved Manganese (Mn)	ug/L	140	2265671	140	N/A	2	2271843
Total Manganese (Mn)	ug/L	160	2266044	150	N/A	2	2271347
Dissolved Molybdenum (Mo)	ug/L	3	2265671	4	N/A	1	2271843
Total Molybdenum (Mo)	ug/L	3	2266044	4	N/A	1	2271347
Dissolved Nickel (Ni)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Nickel (Ni)	ug/L	ND	2266044	ND	N/A	1	2271347
Dissolved Phosphorus (P)	ug/L	ND	2265671	ND	N/A	100	2271843
Dissolved Potassium (K)	ug/L	4700	2265671	3700	N/A	200	2271843
Total Potassium (K)	ug/L	5100	2266044	4300	N/A	200	2271347
Dissolved Selenium (Se)	ug/L	ND	2265671	ND	N/A	2	2271843
Total Selenium (Se)	ug/L	ND	2266044	ND	N/A	2	2271347
Dissolved Silicon (Si)	ug/L	11000	2265671	10000	N/A	50	2271843
Total Silicon (Si)	ug/L	12000	2266044	11000	N/A	50	2271347
Dissolved Silver (Ag)	ug/L	ND	2265671	ND	N/A	0.1	2271843
Total Silver (Ag)	ug/L	ND	2266044	ND	N/A	0.1	2271347
Dissolved Sodium (Na)	ug/L	11000	2265671	16000	N/A	100	2271843
Total Sodium (Na)	ug/L	11000	2266044	19000	N/A	100	2271347
Dissolved Strontium (Sr)	ug/L	350	2265671	440	N/A	1	2271843
Total Strontium (Sr)	ug/L	380	2266044	480	N/A	1	2271347
Dissolved Tellurium (Te)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Tellurium (Te)	ug/L	ND	2266044	ND	N/A	1	2271347
Dissolved Thallium (Tl)	ug/L	ND	2265671	ND	N/A	0.05	2271843
Total Thallium (Tl)	ug/L	ND	2266044	0.17	N/A	0.05	2271347
Dissolved Thorium (Th)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Thorium (Th)	ug/L	ND	2266044	ND	N/A	1	2271347
Dissolved Tin (Sn)	ug/L	ND	2265671	ND	N/A	1	2271843

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0610		HD0611	HD0611		
Sampling Date		2010/09/08 15:00		2010/09/08 16:00	2010/09/08 16:00		
COC Number		209769-01-01		209769-01-01	209769-01-01		
	Units	**BH10-20**	**QC Batch**	**09-367**	**09-367 Lab-Dup**	**RDL**	**QC Batch**
Total Tin (Sn)	ug/L	ND	2266044	ND	N/A	1	2271347
Dissolved Titanium (Ti)	ug/L	ND	2265671	ND	N/A	5	2271843
Total Titanium (Ti)	ug/L	17	2266044	ND	N/A	5	2271347
Dissolved Tungsten (W)	ug/L	ND	2265671	1	N/A	1	2271843
Total Tungsten (W)	ug/L	ND	2266044	1	N/A	1	2271347
Dissolved Uranium (U)	ug/L	0.2	2265671	0.5	N/A	0.1	2271843
Total Uranium (U)	ug/L	0.2	2266044	0.3	N/A	0.1	2271347
Dissolved Vanadium (V)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Vanadium (V)	ug/L	ND	2266044	ND	N/A	1	2271347
Dissolved Zinc (Zn)	ug/L	ND	2265671	ND	N/A	5	2271843
Total Zinc (Zn)	ug/L	14	2266044	ND	N/A	5	2271347
Dissolved Zirconium (Zr)	ug/L	ND	2265671	ND	N/A	1	2271843
Total Zirconium (Zr)	ug/L	ND	2266044	ND	N/A	1	2271347

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QC Batch = Quality Control Batch

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0612	HD0612			HD0613		
Sampling Date		2010/09/08 17:00	2010/09/08 17:00			2010/09/09 09:00		
COC Number		209769-01-01	209769-01-01			209769-01-01		
	Units	**BH10-05**	**BH10-05 Lab-Dup**	**RDL**	**QC Batch**	**08-240**	**RDL**	**QC Batch**
Metals								
Mercury (Hg)	mg/L	ND	N/A	0.0001	2266146	ND	0.0001	2265584
Dissolved Sulphur (S)	mg/L	46.2	N/A	0.5	2265747	10.5	0.5	2265747
Total Sulphur (S)	mg/L	59	N/A	0.5	2266046	10	0.5	2266046
Dissolved Aluminum (Al)	ug/L	ND	ND	5	2265671	ND	5	2265671
Total Aluminum (Al)	ug/L	66000	N/A	50	2266044	13	5	2266044
Dissolved Antimony (Sb)	ug/L	0.5	ND	0.5	2265671	ND	0.5	2265671
Total Antimony (Sb)	ug/L	0.8	N/A	0.5	2266044	ND	0.5	2266044
Dissolved Arsenic (As)	ug/L	2	2	1	2265671	2	1	2265671
Total Arsenic (As)	ug/L	41	N/A	1	2266044	2	1	2266044
Dissolved Barium (Ba)	ug/L	66	65	5	2265671	76	5	2265671
Total Barium (Ba)	ug/L	1000	N/A	5	2266044	77	5	2266044
Dissolved Beryllium (Be)	ug/L	ND	ND	0.5	2265671	ND	0.5	2265671
Total Beryllium (Be)	ug/L	4.2	N/A	0.5	2266044	ND	0.5	2266044
Dissolved Bismuth (Bi)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Bismuth (Bi)	ug/L	2	N/A	1	2266044	ND	1	2266044
Dissolved Boron (B)	ug/L	140	140	10	2265671	91	10	2265671
Total Boron (B)	ug/L	230	N/A	10	2266044	92	10	2266044
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.1	2265671	ND	0.1	2265671
Total Cadmium (Cd)	ug/L	2.4	N/A	0.1	2266044	ND	0.1	2266044
Dissolved Calcium (Ca)	ug/L	120000	110000	200	2265671	100000	200	2265671
Total Calcium (Ca)	ug/L	600000	N/A	2000	2266044	100000	200	2266044
Dissolved Chromium (Cr)	ug/L	ND	ND	5	2265671	ND	5	2265671
Total Chromium (Cr)	ug/L	190	N/A	5	2266044	ND	5	2266044
Dissolved Cobalt (Co)	ug/L	1.2	1.3	0.5	2265671	ND	0.5	2265671
Total Cobalt (Co)	ug/L	65	N/A	0.5	2266044	ND	0.5	2266044
Dissolved Copper (Cu)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Copper (Cu)	ug/L	190	N/A	1	2266044	ND	1	2266044
Dissolved Iron (Fe)	ug/L	ND	ND	100	2265671	4400	100	2265671
Total Iron (Fe)	ug/L	120000	N/A	1000	2266044	4900	100	2266044
Dissolved Lead (Pb)	ug/L	ND	ND	0.5	2265671	ND	0.5	2265671

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QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0612	HD0612			HD0613		
Sampling Date		2010/09/08 17:00	2010/09/08 17:00			2010/09/09 09:00		
COC Number		209769-01-01	209769-01-01			209769-01-01		
	Units	**BH10-05**	**BH10-05 Lab-Dup**	**RDL**	**QC Batch**	**08-240**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	76	N/A	0.5	2266044	ND	0.5	2266044
Dissolved Lithium (Li)	ug/L	88	87	5	2265671	23	5	2265671
Total Lithium (Li)	ug/L	210	N/A	5	2266044	22	5	2266044
Dissolved Magnesium (Mg)	ug/L	76000	75000	50	2265671	41000	50	2265671
Total Magnesium (Mg)	ug/L	220000	N/A	50	2266044	40000	50	2266044
Dissolved Manganese (Mn)	ug/L	120	120	2	2265671	110	2	2265671
Total Manganese (Mn)	ug/L	3300	N/A	2	2266044	120	2	2266044
Dissolved Molybdenum (Mo)	ug/L	10	10	1	2265671	3	1	2265671
Total Molybdenum (Mo)	ug/L	21	N/A	1	2266044	4	1	2266044
Dissolved Nickel (Ni)	ug/L	5	4	1	2265671	ND	1	2265671
Total Nickel (Ni)	ug/L	190 (1)	N/A	5	2266044	ND	1	2266044
Dissolved Phosphorus (P)	ug/L	ND	ND	100	2265671	ND	100	2265671
Dissolved Potassium (K)	ug/L	3500	3400	200	2265671	4700	200	2265671
Total Potassium (K)	ug/L	21000	N/A	200	2266044	4700	200	2266044
Dissolved Selenium (Se)	ug/L	ND	ND	2	2265671	ND	2	2265671
Total Selenium (Se)	ug/L	6	N/A	2	2266044	ND	2	2266044
Dissolved Silicon (Si)	ug/L	12000	12000	50	2265671	8300	50	2265671
Total Silicon (Si)	ug/L	110000	N/A	500	2266044	8400	50	2266044
Dissolved Silver (Ag)	ug/L	ND	ND	0.1	2265671	ND	0.1	2265671
Total Silver (Ag)	ug/L	2.1	N/A	0.1	2266044	ND	0.1	2266044
Dissolved Sodium (Na)	ug/L	20000	20000	100	2265671	35000	100	2265671
Total Sodium (Na)	ug/L	21000	N/A	100	2266044	35000	100	2266044
Dissolved Strontium (Sr)	ug/L	660	660	1	2265671	750	1	2265671
Total Strontium (Sr)	ug/L	1200	N/A	1	2266044	770	1	2266044
Dissolved Tellurium (Te)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Tellurium (Te)	ug/L	ND	N/A	1	2266044	ND	1	2266044
Dissolved Thallium (Tl)	ug/L	ND	ND	0.05	2265671	ND	0.05	2265671
Total Thallium (Tl)	ug/L	1.9	N/A	0.05	2266044	ND	0.05	2266044
Dissolved Thorium (Th)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Thorium (Th)	ug/L	52	N/A	1	2266044	1	1	2266044

ND = Not detected
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RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Detection Limit was raised due to matrix interferences.

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0612	HD0612			HD0613		
Sampling Date		2010/09/08 17:00	2010/09/08 17:00			2010/09/09 09:00		
COC Number		209769-01-01	209769-01-01			209769-01-01		
	Units	**BH10-05**	**BH10-05 Lab-Dup**	**RDL**	**QC Batch**	**08-240**	**RDL**	**QC Batch**
Dissolved Tin (Sn)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Tin (Sn)	ug/L	ND	N/A	1	2266044	ND	1	2266044
Dissolved Titanium (Ti)	ug/L	ND	ND	5	2265671	ND	5	2265671
Total Titanium (Ti)	ug/L	2700	N/A	50	2266044	ND	5	2266044
Dissolved Tungsten (W)	ug/L	7	7	1	2265671	1	1	2265671
Total Tungsten (W)	ug/L	9	N/A	1	2266044	1	1	2266044
Dissolved Uranium (U)	ug/L	19	19	0.1	2265671	0.7	0.1	2265671
Total Uranium (U)	ug/L	36	N/A	0.1	2266044	0.7	0.1	2266044
Dissolved Vanadium (V)	ug/L	2	2	1	2265671	ND	1	2265671
Total Vanadium (V)	ug/L	240	N/A	1	2266044	ND	1	2266044
Dissolved Zinc (Zn)	ug/L	ND	ND	5	2265671	ND	5	2265671
Total Zinc (Zn)	ug/L	440	N/A	5	2266044	ND	5	2266044
Dissolved Zirconium (Zr)	ug/L	ND	ND	1	2265671	ND	1	2265671
Total Zirconium (Zr)	ug/L	30	N/A	1	2266044	ND	1	2266044

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0614			HD0615		HD0616		
Sampling Date		2010/09/09 09:30			2010/09/09 10:00		2010/09/09 10:30		
COC Number		209769-01-01			209769-01-01		209769-01-01		
	Units	**BH10-11A**	**RDL**	**QC Batch**	**09-428**	**QC Batch**	**09-213A**	**RDL**	**QC Batch**
Metals									
Mercury (Hg)	mg/L	ND	0.0001	2266146	ND	2265581	ND	0.0001	2266146
Dissolved Sulphur (S)	mg/L	8.1	0.5	2265747	10.1	2265747	8.9	0.5	2265747
Total Sulphur (S)	mg/L	31	0.5	2266046	9.1	2266046	8.7	0.5	2266046
Dissolved Aluminum (Al)	ug/L	6	5	2265671	ND	2265671	ND	5	2265671
Total Aluminum (Al)	ug/L	100000	30	2266044	16	2266044	290	5	2266044
Dissolved Antimony (Sb)	ug/L	ND	0.5	2265671	ND	2265671	0.5	0.5	2265671
Total Antimony (Sb)	ug/L	ND	3	2266044	ND	2266044	3.1	0.5	2266044
Dissolved Arsenic (As)	ug/L	9	1	2265671	10	2265671	8	1	2265671
Total Arsenic (As)	ug/L	69	5	2266044	9	2266044	8	1	2266044
Dissolved Barium (Ba)	ug/L	90	5	2265671	41	2265671	56	5	2265671
Total Barium (Ba)	ug/L	1200	30	2266044	43	2266044	59	5	2266044
Dissolved Beryllium (Be)	ug/L	ND	0.5	2265671	ND	2265671	ND	0.5	2265671
Total Beryllium (Be)	ug/L	5	3	2266044	ND	2266044	ND	0.5	2266044
Dissolved Bismuth (Bi)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Bismuth (Bi)	ug/L	ND	5	2266044	ND	2266044	ND	1	2266044
Dissolved Boron (B)	ug/L	80	10	2265671	120	2265671	80	10	2265671
Total Boron (B)	ug/L	130	50	2266044	130	2266044	73	10	2266044
Dissolved Cadmium (Cd)	ug/L	ND	0.1	2265671	ND	2265671	ND	0.1	2265671
Total Cadmium (Cd)	ug/L	3.7	0.5	2266044	ND	2266044	0.5	0.1	2266044
Dissolved Calcium (Ca)	ug/L	93000	200	2265671	99000	2265671	94000	200	2265671
Total Calcium (Ca)	ug/L	740000	1000	2266044	100000	2266044	96000	200	2266044
Dissolved Chromium (Cr)	ug/L	ND	5	2265671	ND	2265671	ND	5	2265671
Total Chromium (Cr)	ug/L	340	30	2266044	ND	2266044	ND	5	2266044
Dissolved Cobalt (Co)	ug/L	ND	0.5	2265671	ND	2265671	0.8	0.5	2265671
Total Cobalt (Co)	ug/L	140	3	2266044	ND	2266044	0.9	0.5	2266044
Dissolved Copper (Cu)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Copper (Cu)	ug/L	460	5	2266044	ND	2266044	1	1	2266044
Dissolved Iron (Fe)	ug/L	1200	100	2265671	7700	2265671	2000	100	2265671
Total Iron (Fe)	ug/L	220000	500	2266044	7500	2266044	2400	100	2266044
Dissolved Lead (Pb)	ug/L	ND	0.5	2265671	ND	2265671	ND	0.5	2265671
Total Lead (Pb)	ug/L	79	3	2266044	ND	2266044	19	0.5	2266044

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0614			HD0615		HD0616		
Sampling Date		2010/09/09 09:30			2010/09/09 10:00		2010/09/09 10:30		
COC Number		209769-01-01			209769-01-01		209769-01-01		
	Units	**BH10-11A**	**RDL**	**QC Batch**	**09-428**	**QC Batch**	**09-213A**	**RDL**	**QC Batch**
Dissolved Lithium (Li)	ug/L	34	5	2265671	27	2265671	32	5	2265671
Total Lithium (Li)	ug/L	230	30	2266044	28	2266044	31	5	2266044
Dissolved Magnesium (Mg)	ug/L	37000	50	2265671	39000	2265671	42000	50	2265671
Total Magnesium (Mg)	ug/L	250000	300	2266044	40000	2266044	42000	50	2266044
Dissolved Manganese (Mn)	ug/L	200	2	2265671	240	2265671	200	2	2265671
Total Manganese (Mn)	ug/L	7500	10	2266044	250	2266044	270	2	2266044
Dissolved Molybdenum (Mo)	ug/L	4	1	2265671	3	2265671	3	1	2265671
Total Molybdenum (Mo)	ug/L	13	5	2266044	3	2266044	3	1	2266044
Dissolved Nickel (Ni)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Nickel (Ni)	ug/L	320	5	2266044	ND	2266044	ND	1	2266044
Dissolved Phosphorus (P)	ug/L	ND	100	2265671	ND	2265671	ND	100	2265671
Dissolved Potassium (K)	ug/L	4500	200	2265671	3500	2265671	3300	200	2265671
Total Potassium (K)	ug/L	31000	1000	2266044	3600	2266044	3400	200	2266044
Dissolved Selenium (Se)	ug/L	ND	2	2265671	ND	2265671	ND	2	2265671
Total Selenium (Se)	ug/L	ND	10	2266044	ND	2266044	ND	2	2266044
Dissolved Silicon (Si)	ug/L	10000	50	2265671	8300	2265671	9400	50	2265671
Total Silicon (Si)	ug/L	110000	300	2266044	8700	2266044	10000	50	2266044
Dissolved Silver (Ag)	ug/L	ND	0.1	2265671	ND	2265671	ND	0.1	2265671
Total Silver (Ag)	ug/L	2.0	0.5	2266044	ND	2266044	ND	0.1	2266044
Dissolved Sodium (Na)	ug/L	11000	100	2265671	20000	2265671	13000	100	2265671
Total Sodium (Na)	ug/L	14000	500	2266044	20000	2266044	13000	100	2266044
Dissolved Strontium (Sr)	ug/L	450	1	2265671	590	2265671	430	1	2265671
Total Strontium (Sr)	ug/L	1200	5	2266044	600	2266044	430	1	2266044
Dissolved Tellurium (Te)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Tellurium (Te)	ug/L	ND	5	2266044	ND	2266044	ND	1	2266044
Dissolved Thallium (Tl)	ug/L	ND	0.05	2265671	ND	2265671	ND	0.05	2265671
Total Thallium (Tl)	ug/L	2.2	0.3	2266044	ND	2266044	ND	0.05	2266044
Dissolved Thorium (Th)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Thorium (Th)	ug/L	48	5	2266044	1	2266044	ND	1	2266044
Dissolved Tin (Sn)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Tin (Sn)	ug/L	ND	5	2266044	ND	2266044	ND	1	2266044
Dissolved Titanium (Ti)	ug/L	ND	5	2265671	ND	2265671	ND	5	2265671

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0614			HD0615		HD0616		
Sampling Date		2010/09/09 09:30			2010/09/09 10:00		2010/09/09 10:30		
COC Number		209769-01-01			209769-01-01		209769-01-01		
	Units	**BH10-11A**	**RDL**	**QC Batch**	**09-428**	**QC Batch**	**09-213A**	**RDL**	**QC Batch**
Total Titanium (Ti)	ug/L	6100	30	2266044	ND	2266044	11	5	2266044
Dissolved Tungsten (W)	ug/L	ND	1	2265671	2	2265671	ND	1	2265671
Total Tungsten (W)	ug/L	ND	5	2266044	2	2266044	ND	1	2266044
Dissolved Uranium (U)	ug/L	1.3	0.1	2265671	0.2	2265671	0.5	0.1	2265671
Total Uranium (U)	ug/L	21	0.5	2266044	0.2	2266044	0.6	0.1	2266044
Dissolved Vanadium (V)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Vanadium (V)	ug/L	360	5	2266044	ND	2266044	ND	1	2266044
Dissolved Zinc (Zn)	ug/L	ND	5	2265671	ND	2265671	11	5	2265671
Total Zinc (Zn)	ug/L	870	30	2266044	ND	2266044	96	5	2266044
Dissolved Zirconium (Zr)	ug/L	ND	1	2265671	ND	2265671	ND	1	2265671
Total Zirconium (Zr)	ug/L	51	5	2266044	1	2266044	1	1	2266044

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Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0617	HD0618		HD0619		HD0620		
Sampling Date		2010/09/09 11:30	2010/09/09 12:30		2010/09/09 13:30				
COC Number		209769-01-01	209769-01-01		209769-01-01		209769-01-01		
	Units	**09-214**	**BH10-14**	**RDL**	**BH10-04**	**RDL**	**TRIP BLANK**	**RDL**	**QC Batch**
Metals									
Mercury (Hg)	mg/L	ND	ND	0.0001	ND	0.0001	ND	0.0001	2265581
Dissolved Sulphur (S)	mg/L	8.6	8.9	0.5	18.2	0.5	ND	0.5	2265747
Total Sulphur (S)	mg/L	9.3	9.4	0.5	82	5	ND	0.5	2266046
Dissolved Aluminum (Al)	ug/L	ND	9	5	8	5	ND	5	2265671
Total Aluminum (Al)	ug/L	ND	1600	5	270000 (1)	500	7	5	2266044
Dissolved Antimony (Sb)	ug/L	ND	ND	0.5	ND	0.5	ND	0.5	2265671
Total Antimony (Sb)	ug/L	ND	ND	0.5	ND	5	ND	0.5	2266044
Dissolved Arsenic (As)	ug/L	6	16	1	4	1	ND	1	2265671
Total Arsenic (As)	ug/L	6	16	1	180	10	ND	1	2266044
Dissolved Barium (Ba)	ug/L	79	82	5	65	5	ND	5	2265671
Total Barium (Ba)	ug/L	85	91	5	4000	50	ND	5	2266044
Dissolved Beryllium (Be)	ug/L	ND	ND	0.5	ND	0.5	ND	0.5	2265671
Total Beryllium (Be)	ug/L	ND	ND	0.5	18	5	ND	0.5	2266044
Dissolved Bismuth (Bi)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Bismuth (Bi)	ug/L	ND	ND	1	ND	10	ND	1	2266044
Dissolved Boron (B)	ug/L	72	110	10	170	10	ND	10	2265671
Total Boron (B)	ug/L	74	110	10	640	100	ND	10	2266044
Dissolved Cadmium (Cd)	ug/L	ND	ND	0.1	ND	0.1	ND	0.1	2265671
Total Cadmium (Cd)	ug/L	ND	ND	0.1	10	1	ND	0.1	2266044
Dissolved Calcium (Ca)	ug/L	94000	100000	200	77000	200	ND	200	2265671
Total Calcium (Ca)	ug/L	100000	100000	200	2500000	2000	ND	200	2266044
Dissolved Chromium (Cr)	ug/L	ND	ND	5	ND	5	ND	5	2265671
Total Chromium (Cr)	ug/L	ND	ND	5	980	50	ND	5	2266044
Dissolved Cobalt (Co)	ug/L	3.8	ND	0.5	ND	0.5	ND	0.5	2265671
Total Cobalt (Co)	ug/L	4.1	1.6	0.5	280	5	ND	0.5	2266044
Dissolved Copper (Cu)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Copper (Cu)	ug/L	ND	7	1	790	10	ND	1	2266044
Dissolved Iron (Fe)	ug/L	2000	2500	100	ND	100	ND	100	2265671
Total Iron (Fe)	ug/L	2200	5100	100	500000	1000	ND	100	2266044
Dissolved Lead (Pb)	ug/L	ND	ND	0.5	ND	0.5	ND	0.5	2265671

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0617	HD0618		HD0619		HD0620		
Sampling Date		2010/09/09 11:30	2010/09/09 12:30		2010/09/09 13:30				
COC Number		209769-01-01	209769-01-01		209769-01-01		209769-01-01		
	Units	**09-214**	**BH10-14**	**RDL**	**BH10-04**	**RDL**	**TRIP BLANK**	**RDL**	**QC Batch**
Total Lead (Pb)	ug/L	ND	1.3	0.5	320	5	ND	0.5	2266044
Dissolved Lithium (Li)	ug/L	31	34	5	68	5	ND	5	2265671
Total Lithium (Li)	ug/L	33	34	5	570	50	ND	5	2266044
Dissolved Magnesium (Mg)	ug/L	40000	43000	50	38000	50	ND	50	2265671
Total Magnesium (Mg)	ug/L	43000	42000	50	770000	500	ND	50	2266044
Dissolved Manganese (Mn)	ug/L	150	190	2	210	2	ND	2	2265671
Total Manganese (Mn)	ug/L	160	250	2	16000	20	ND	2	2266044
Dissolved Molybdenum (Mo)	ug/L	5	4	1	16	1	ND	1	2265671
Total Molybdenum (Mo)	ug/L	5	4	1	98	10	ND	1	2266044
Dissolved Nickel (Ni)	ug/L	2	ND	1	1	1	ND	1	2265671
Total Nickel (Ni)	ug/L	1	4	1	830	10	ND	1	2266044
Dissolved Phosphorus (P)	ug/L	ND	ND	100	ND	100	ND	100	2265671
Dissolved Potassium (K)	ug/L	4400	4800	200	4700	200	ND	200	2265671
Total Potassium (K)	ug/L	4800	5000	200	95000	2000	ND	200	2266044
Dissolved Selenium (Se)	ug/L	ND	ND	2	ND	2	ND	2	2265671
Total Selenium (Se)	ug/L	ND	ND	2	ND	20	ND	2	2266044
Dissolved Silicon (Si)	ug/L	8900	10000	50	7900	50	ND	50	2265671
Total Silicon (Si)	ug/L	9500	12000	50	500000	5000	ND	50	2266044
Dissolved Silver (Ag)	ug/L	ND	ND	0.1	ND	0.1	ND	0.1	2265671
Total Silver (Ag)	ug/L	ND	ND	0.1	7	1	ND	0.1	2266044
Dissolved Sodium (Na)	ug/L	13000	18000	100	44000	100	ND	100	2265671
Total Sodium (Na)	ug/L	14000	17000	100	59000	1000	ND	100	2266044
Dissolved Strontium (Sr)	ug/L	370	510	1	480	1	ND	1	2265671
Total Strontium (Sr)	ug/L	390	490	1	3300	10	ND	1	2266044
Dissolved Tellurium (Te)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Tellurium (Te)	ug/L	ND	ND	1	ND	10	ND	1	2266044
Dissolved Thallium (Tl)	ug/L	ND	ND	0.05	ND	0.05	ND	0.05	2265671
Total Thallium (Tl)	ug/L	ND	ND	0.05	8.6	0.5	ND	0.05	2266044
Dissolved Thorium (Th)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Thorium (Th)	ug/L	ND	ND	1	190	10	ND	1	2266044
Dissolved Tin (Sn)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Tin (Sn)	ug/L	ND	ND	1	ND	10	ND	1	2266044

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		HD0617	HD0618		HD0619		HD0620		
Sampling Date		2010/09/09 11:30	2010/09/09 12:30		2010/09/09 13:30				
COC Number		209769-01-01	209769-01-01		209769-01-01		209769-01-01		
	Units	**09-214**	**BH10-14**	**RDL**	**BH10-04**	**RDL**	**TRIP BLANK**	**RDL**	**QC Batch**
Dissolved Titanium (Ti)	ug/L	ND	ND	5	ND	5	ND	5	2265671
Total Titanium (Ti)	ug/L	ND	170	5	15000	50	ND	5	2266044
Dissolved Tungsten (W)	ug/L	14	ND	1	ND	1	ND	1	2265671
Total Tungsten (W)	ug/L	16	ND	1	26	10	ND	1	2266044
Dissolved Uranium (U)	ug/L	1.1	0.8	0.1	6.3	0.1	ND	0.1	2265671
Total Uranium (U)	ug/L	1.1	1.0	0.1	79	1	ND	0.1	2266044
Dissolved Vanadium (V)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Vanadium (V)	ug/L	ND	5	1	1000	10	ND	1	2266044
Dissolved Zinc (Zn)	ug/L	ND	ND	5	ND	5	ND	5	2265671
Total Zinc (Zn)	ug/L	ND	14	5	2000	50	ND	5	2266044
Dissolved Zirconium (Zr)	ug/L	ND	ND	1	ND	1	ND	1	2265671
Total Zirconium (Zr)	ug/L	ND	2	1	150	10	ND	1	2266044

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B0C5975
Report Date: 2010/09/22

Klohn Crippen Berger Ltd
Client Project #: M09559A04

GENERAL COMMENTS

Mercury Analysis: Sample had significant amount of sediment. Sample has been decanted for testing as per client's request.

BOD-L : Samples analysed past holding time.

Sample HD0609-01: The result for dissolved aluminum was higher than the toal result. This was confirmed by re-analysis.

Sample HD0614-01: Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Sample HD0619-01: Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Results relate only to the items tested.

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2264297	HAG	QC Standard	Total Dissolved Solids	2010/09/15		100	%	90 - 110
		Method Blank	Total Dissolved Solids	2010/09/15	ND, RDL=10		mg/L	
		RPD [HD0620-01]	Total Dissolved Solids	2010/09/15	NC		%	25
2264453	GSI	Method Blank	Acidity as CaC03	2010/09/17	ND, RDL=10		mg/L	
		RPD [HD0617-01]	Acidity as CaC03	2010/09/17	NC		%	25
2264727	VRO	QC Standard	Turbidity	2010/09/14		100	%	85 - 115
		Method Blank	Turbidity	2010/09/14	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/09/14	1.4		%	25
2264868	YPA	Matrix Spike						
		[HD0618-01]	Fluoride (F-)	2010/09/14		96	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/09/14		98	%	85 - 115
		Method Blank	Fluoride (F-)	2010/09/14	ND, RDL=0.1		mg/L	
		RPD [HD0618-01]	Fluoride (F-)	2010/09/14	NC		%	25
2264877	YPA	QC Standard	Conductivity	2010/09/14		103	%	85 - 115
		Method Blank	Conductivity	2010/09/14	ND, RDL=1		umho/cm	
		RPD [HD0618-01]	Conductivity	2010/09/14	0.4		%	25
2264878	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/09/14		97	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/09/14	ND, RDL=1		mg/L	
		RPD [HD0618-01]	Alkalinity (Total as CaCO3)	2010/09/14	1.3		%	25
2264977	FZH	QC Standard	Total BOD	2010/09/14		98	%	85 - 115
		Method Blank	Total BOD	2010/09/14	ND, RDL=2		mg/L	
		RPD [HD0620-01]	Total BOD	2010/09/14	NC		%	25
2265139	YPA	QC Standard	Alkalinity (Total as CaCO3)	2010/09/14		101	%	85 - 115
		Method Blank	Alkalinity (Total as CaCO3)	2010/09/14	ND, RDL=1		mg/L	
		RPD [HD0610-01]	Alkalinity (Total as CaCO3)	2010/09/14	0.6		%	25
2265144	YPA	QC Standard	Conductivity	2010/09/14		103	%	85 - 115
		Method Blank	Conductivity	2010/09/14	ND, RDL=1		umho/cm	
		RPD [HD0610-01]	Conductivity	2010/09/14	0		%	25
2265145	YPA	Matrix Spike						
		[HD0610-01]	Fluoride (F-)	2010/09/14		97	%	80 - 120
		Spiked Blank	Fluoride (F-)	2010/09/14		100	%	85 - 115
		Method Blank	Fluoride (F-)	2010/09/14	ND, RDL=0.1		mg/L	
		RPD [HD0610-01]	Fluoride (F-)	2010/09/14	NC		%	25
2265220	C_N	Matrix Spike	Nitrite (N)	2010/09/15		106	%	80 - 120
			Nitrate (N)	2010/09/15		101	%	80 - 120
		Spiked Blank	Nitrite (N)	2010/09/15		103	%	85 - 115
			Nitrate (N)	2010/09/15		100	%	85 - 115
		Method Blank	Nitrite (N)	2010/09/15	ND, RDL=0.01		mg/L	
			Nitrate (N)	2010/09/15	ND, RDL=0.1		mg/L	
			Nitrate + Nitrite	2010/09/15	ND, RDL=0.1		mg/L	
		RPD	Nitrite (N)	2010/09/15	NC		%	25
			Nitrate (N)	2010/09/15	NC		%	25
			Nitrate + Nitrite	2010/09/15	NC		%	25
2265239	CP	Spiked Blank	Colour	2010/09/15		99	%	85 - 115
		Method Blank	Colour	2010/09/15	ND, RDL=2		TCU	
		RPD [HD0616-01]	Colour	2010/09/15	NC		%	25
2265496	KTH	QC Standard	Turbidity	2010/09/15		99	%	85 - 115
		Method Blank	Turbidity	2010/09/15	ND, RDL=0.1		NTU	
		RPD	Turbidity	2010/09/15	0.5		%	25
2265529	DRM	Matrix Spike						
		[HD0617-01]	Dissolved Chloride (Cl)	2010/09/15		106	%	75 - 125
		Spiked Blank	Dissolved Chloride (Cl)	2010/09/15		106	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2010/09/15	ND, RDL=1		mg/L	
		RPD [HD0617-01]	Dissolved Chloride (Cl)	2010/09/15	0.9		%	20
2265530	DRM	Matrix Spike						
		[HD0617-01]	Dissolved Sulphate (SO4)	2010/09/15		NC	%	75 - 125

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265530	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2010/09/15		106	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2010/09/15	ND, RDL=1		mg/L	
		RPD [HD0617-01]	Dissolved Sulphate (SO4)	2010/09/15	1.8		%	25
2265531	DRM	Matrix Spike [HD0617-01]	Orthophosphate (P)	2010/09/15		107	%	75 - 125
		Spiked Blank	Orthophosphate (P)	2010/09/15		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2010/09/15	0.01, RDL=0.01		mg/L	
		RPD [HD0617-01]	Orthophosphate (P)	2010/09/15	NC		%	25
2265581	LCH	Matrix Spike	Mercury (Hg)	2010/09/15		115	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/09/15		105	%	80 - 120
		Method Blank	Mercury (Hg)	2010/09/15	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/09/15	NC		%	25
2265584	LCH	Matrix Spike [HD0611-07]	Mercury (Hg)	2010/09/15		105	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/09/15		104	%	80 - 120
		Method Blank	Mercury (Hg)	2010/09/15	ND, RDL=0.0001		mg/L	
		RPD [HD0611-07]	Mercury (Hg)	2010/09/15	NC		%	25
2265620	ADB	Matrix Spike	Total Ammonia-N	2010/09/16		99	%	80 - 120
		Spiked Blank	Total Ammonia-N	2010/09/16		100	%	85 - 115
		Method Blank	Total Ammonia-N	2010/09/16	ND, RDL=0.05		mg/L	
		RPD	Total Ammonia-N	2010/09/16	NC		%	25
2265647	CP	Matrix Spike	Total Chemical Oxygen Demand (COD)	2010/09/16		98	%	75 - 125
		Spiked Blank	Total Chemical Oxygen Demand (COD)	2010/09/16		100	%	75 - 125
		Method Blank	Total Chemical Oxygen Demand (COD)	2010/09/16	ND, RDL=4		mg/L	
		RPD	Total Chemical Oxygen Demand (COD)	2010/09/16	10.1		%	25
2265671	HRE	Matrix Spike [HD0612-05]	Dissolved Aluminum (Al)	2010/09/15		98	%	80 - 120
			Dissolved Antimony (Sb)	2010/09/15		107	%	80 - 120
			Dissolved Arsenic (As)	2010/09/15		108	%	80 - 120
			Dissolved Barium (Ba)	2010/09/15		100	%	80 - 120
			Dissolved Beryllium (Be)	2010/09/15		103	%	80 - 120
			Dissolved Bismuth (Bi)	2010/09/15		101	%	80 - 120
			Dissolved Boron (B)	2010/09/15		104	%	80 - 120
			Dissolved Cadmium (Cd)	2010/09/15		105	%	80 - 120
			Dissolved Calcium (Ca)	2010/09/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/09/15		99	%	80 - 120
			Dissolved Cobalt (Co)	2010/09/15		97	%	80 - 120
			Dissolved Copper (Cu)	2010/09/15		96	%	80 - 120
			Dissolved Iron (Fe)	2010/09/15		100	%	80 - 120
			Dissolved Lead (Pb)	2010/09/15		101	%	80 - 120
			Dissolved Lithium (Li)	2010/09/15		100	%	80 - 120
			Dissolved Magnesium (Mg)	2010/09/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/09/15		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/09/15		107	%	80 - 120
			Dissolved Nickel (Ni)	2010/09/15		96	%	80 - 120
			Dissolved Phosphorus (P)	2010/09/15		101	%	80 - 120
			Dissolved Potassium (K)	2010/09/15		97	%	80 - 120
			Dissolved Selenium (Se)	2010/09/15		107	%	80 - 120
			Dissolved Silicon (Si)	2010/09/15		97	%	80 - 120
			Dissolved Silver (Ag)	2010/09/15		100	%	80 - 120
			Dissolved Sodium (Na)	2010/09/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/09/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/09/15		107	%	80 - 120
			Dissolved Thallium (Tl)	2010/09/15		100	%	80 - 120
			Dissolved Thorium (Th)	2010/09/15		106	%	80 - 120

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Client Project #: M09559A04
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265671	HRE	Matrix Spike [HD0612-05]	Dissolved Tin (Sn)	2010/09/15		105	%	80 - 120
			Dissolved Titanium (Ti)	2010/09/15		97	%	80 - 120
			Dissolved Tungsten (W)	2010/09/15		104	%	80 - 120
			Dissolved Uranium (U)	2010/09/15		106	%	80 - 120
			Dissolved Vanadium (V)	2010/09/15		99	%	80 - 120
			Dissolved Zinc (Zn)	2010/09/15		99	%	80 - 120
			Dissolved Zirconium (Zr)	2010/09/15		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/09/15		98	%	90 - 110
			Dissolved Antimony (Sb)	2010/09/15		101	%	90 - 110
			Dissolved Arsenic (As)	2010/09/15		100	%	90 - 110
			Dissolved Barium (Ba)	2010/09/15		100	%	90 - 110
			Dissolved Beryllium (Be)	2010/09/15		101	%	90 - 110
			Dissolved Bismuth (Bi)	2010/09/15		100	%	90 - 110
			Dissolved Boron (B)	2010/09/15		102	%	90 - 110
			Dissolved Cadmium (Cd)	2010/09/15		101	%	90 - 110
			Dissolved Calcium (Ca)	2010/09/15		98	%	90 - 110
			Dissolved Chromium (Cr)	2010/09/15		98	%	90 - 110
			Dissolved Cobalt (Co)	2010/09/15		96	%	90 - 110
			Dissolved Copper (Cu)	2010/09/15		97	%	90 - 110
			Dissolved Iron (Fe)	2010/09/15		98	%	90 - 110
			Dissolved Lead (Pb)	2010/09/15		99	%	90 - 110
			Dissolved Lithium (Li)	2010/09/15		97	%	90 - 110
			Dissolved Magnesium (Mg)	2010/09/15		100	%	90 - 110
			Dissolved Manganese (Mn)	2010/09/15		99	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/09/15		101	%	90 - 110
			Dissolved Nickel (Ni)	2010/09/15		95	%	90 - 110
			Dissolved Phosphorus (P)	2010/09/15		97	%	90 - 110
			Dissolved Potassium (K)	2010/09/15		98	%	90 - 110
			Dissolved Selenium (Se)	2010/09/15		101	%	90 - 110
			Dissolved Silicon (Si)	2010/09/15		100	%	90 - 110
			Dissolved Silver (Ag)	2010/09/15		99	%	90 - 110
			Dissolved Sodium (Na)	2010/09/15		100	%	90 - 110
			Dissolved Strontium (Sr)	2010/09/15		99	%	90 - 110
			Dissolved Tellurium (Te)	2010/09/15		99	%	90 - 110
			Dissolved Thallium (Tl)	2010/09/15		97	%	90 - 110
			Dissolved Thorium (Th)	2010/09/15		102	%	90 - 110
			Dissolved Tin (Sn)	2010/09/15		100	%	90 - 110
			Dissolved Titanium (Ti)	2010/09/15		96	%	90 - 110
			Dissolved Tungsten (W)	2010/09/15		102	%	90 - 110
			Dissolved Uranium (U)	2010/09/15		102	%	90 - 110
			Dissolved Vanadium (V)	2010/09/15		99	%	90 - 110
			Dissolved Zinc (Zn)	2010/09/15		99	%	90 - 110
			Dissolved Zirconium (Zr)	2010/09/15		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/09/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/09/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/09/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/09/15	ND, RDL=0.5		ug/L	

Klohn Crippen Berger Ltd
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Client Project #: M09559A04
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265671	HRE	Method Blank	Dissolved Copper (Cu)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/09/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/09/15	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/09/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/09/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/09/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/09/15	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/09/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/09/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/09/15	ND, RDL=1		ug/L	
		RPD [HD0612-05]	Dissolved Aluminum (Al)	2010/09/15	NC		%	25
			Dissolved Antimony (Sb)	2010/09/15	NC		%	25
			Dissolved Arsenic (As)	2010/09/15	NC		%	25
			Dissolved Barium (Ba)	2010/09/15	1.1		%	25
			Dissolved Beryllium (Be)	2010/09/15	NC		%	25
			Dissolved Bismuth (Bi)	2010/09/15	NC		%	25
			Dissolved Boron (B)	2010/09/15	0.2		%	25
			Dissolved Cadmium (Cd)	2010/09/15	NC		%	25
			Dissolved Calcium (Ca)	2010/09/15	0.6		%	25
			Dissolved Chromium (Cr)	2010/09/15	NC		%	25
			Dissolved Cobalt (Co)	2010/09/15	NC		%	25
			Dissolved Copper (Cu)	2010/09/15	NC		%	25
			Dissolved Iron (Fe)	2010/09/15	NC		%	25
			Dissolved Lead (Pb)	2010/09/15	NC		%	25
			Dissolved Lithium (Li)	2010/09/15	0.9		%	25
			Dissolved Magnesium (Mg)	2010/09/15	0.5		%	25
			Dissolved Manganese (Mn)	2010/09/15	0.3		%	25
			Dissolved Molybdenum (Mo)	2010/09/15	2.6		%	25
			Dissolved Nickel (Ni)	2010/09/15	NC		%	25
			Dissolved Phosphorus (P)	2010/09/15	NC		%	25
			Dissolved Potassium (K)	2010/09/15	2.0		%	25
			Dissolved Selenium (Se)	2010/09/15	NC		%	25
			Dissolved Silicon (Si)	2010/09/15	0.8		%	25
			Dissolved Silver (Ag)	2010/09/15	NC		%	25
			Dissolved Sodium (Na)	2010/09/15	0.09		%	25
			Dissolved Strontium (Sr)	2010/09/15	0.4		%	25
			Dissolved Tellurium (Te)	2010/09/15	NC		%	25
			Dissolved Thallium (Tl)	2010/09/15	NC		%	25
			Dissolved Thorium (Th)	2010/09/15	NC		%	25
			Dissolved Tin (Sn)	2010/09/15	NC		%	25

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265671	HRE	RPD [HD0612-05]	Dissolved Titanium (Ti)	2010/09/15	NC		%	25
			Dissolved Tungsten (W)	2010/09/15	0.3		%	25
			Dissolved Uranium (U)	2010/09/15	0.5		%	25
			Dissolved Vanadium (V)	2010/09/15	NC		%	25
			Dissolved Zinc (Zn)	2010/09/15	NC		%	25
			Dissolved Zirconium (Zr)	2010/09/15	NC		%	25
2265675	AHA	Matrix Spike						
		[HD0618-03]	Total Organic Carbon (TOC)	2010/09/16		99	%	80 - 120
		Spiked Blank	Total Organic Carbon (TOC)	2010/09/16		103	%	80 - 120
		Method Blank	Total Organic Carbon (TOC)	2010/09/15	ND, RDL=0.2		mg/L	
		RPD [HD0618-03]	Total Organic Carbon (TOC)	2010/09/16	6.4		%	20
2265684	LHA	Matrix Spike						
		[HD0617-06]	Total Cyanide (CN)	2010/09/15		101	%	80 - 120
		Spiked Blank	Total Cyanide (CN)	2010/09/15		104	%	80 - 120
		Method Blank	Total Cyanide (CN)	2010/09/15	ND, RDL=0.005		mg/L	
		RPD [HD0617-06]	Total Cyanide (CN)	2010/09/15	NC		%	25
2265747	AFZ	Matrix Spike						
		[HD0611-05]	Dissolved Sulphur (S)	2010/09/15		92	%	80 - 120
		Spiked Blank	Dissolved Sulphur (S)	2010/09/15		98	%	90 - 110
		Method Blank	Dissolved Sulphur (S)	2010/09/15	ND, RDL=0.5		mg/L	
		RPD [HD0611-05]	Dissolved Sulphur (S)	2010/09/15	0.7		%	25
2265845	GBU	Matrix Spike	Dissolved Aluminum (Al)	2010/09/15		94	%	80 - 120
			Dissolved Antimony (Sb)	2010/09/15		108	%	80 - 120
			Dissolved Arsenic (As)	2010/09/15		106	%	80 - 120
			Dissolved Barium (Ba)	2010/09/15		NC	%	80 - 120
			Dissolved Beryllium (Be)	2010/09/15		111	%	80 - 120
			Dissolved Bismuth (Bi)	2010/09/15		101	%	80 - 120
			Dissolved Boron (B)	2010/09/15		113	%	80 - 120
			Dissolved Cadmium (Cd)	2010/09/15		107	%	80 - 120
			Dissolved Calcium (Ca)	2010/09/15		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/09/15		98	%	80 - 120
			Dissolved Cobalt (Co)	2010/09/15		100	%	80 - 120
			Dissolved Copper (Cu)	2010/09/15		100	%	80 - 120
			Dissolved Iron (Fe)	2010/09/15		104	%	80 - 120
			Dissolved Lead (Pb)	2010/09/15		102	%	80 - 120
			Dissolved Lithium (Li)	2010/09/15		98	%	80 - 120
			Dissolved Magnesium (Mg)	2010/09/15		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/09/15		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/09/15		106	%	80 - 120
			Dissolved Nickel (Ni)	2010/09/15		99	%	80 - 120
			Dissolved Phosphorus (P)	2010/09/15		105	%	80 - 120
			Dissolved Potassium (K)	2010/09/15		98	%	80 - 120
			Dissolved Selenium (Se)	2010/09/15		106	%	80 - 120
			Dissolved Silicon (Si)	2010/09/15		98	%	80 - 120
			Dissolved Silver (Ag)	2010/09/15		73 (1)	%	80 - 120
			Dissolved Sodium (Na)	2010/09/15		NC	%	80 - 120
			Dissolved Strontium (Sr)	2010/09/15		NC	%	80 - 120
			Dissolved Tellurium (Te)	2010/09/15		108	%	80 - 120
			Dissolved Thallium (Tl)	2010/09/15		101	%	80 - 120
			Dissolved Thorium (Th)	2010/09/15		100	%	80 - 120
			Dissolved Tin (Sn)	2010/09/15		110	%	80 - 120
			Dissolved Titanium (Ti)	2010/09/15		98	%	80 - 120
			Dissolved Tungsten (W)	2010/09/15		105	%	80 - 120
			Dissolved Uranium (U)	2010/09/15		104	%	80 - 120
			Dissolved Vanadium (V)	2010/09/15		99	%	80 - 120

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265845	GBU	Matrix Spike	Dissolved Zinc (Zn)	2010/09/15		100	%	80 - 120
			Dissolved Zirconium (Zr)	2010/09/15		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/09/15		91	%	90 - 110
			Dissolved Antimony (Sb)	2010/09/15		103	%	90 - 110
			Dissolved Arsenic (As)	2010/09/15		100	%	90 - 110
			Dissolved Barium (Ba)	2010/09/15		102	%	90 - 110
			Dissolved Beryllium (Be)	2010/09/15		107	%	90 - 110
			Dissolved Bismuth (Bi)	2010/09/15		98	%	90 - 110
			Dissolved Boron (B)	2010/09/15		117 (1)	%	90 - 110
			Dissolved Cadmium (Cd)	2010/09/15		100	%	90 - 110
			Dissolved Calcium (Ca)	2010/09/15		95	%	90 - 110
			Dissolved Chromium (Cr)	2010/09/15		95	%	90 - 110
			Dissolved Cobalt (Co)	2010/09/15		96	%	90 - 110
			Dissolved Copper (Cu)	2010/09/15		97	%	90 - 110
			Dissolved Iron (Fe)	2010/09/15		100	%	90 - 110
			Dissolved Lead (Pb)	2010/09/15		99	%	90 - 110
			Dissolved Lithium (Li)	2010/09/15		94	%	90 - 110
			Dissolved Magnesium (Mg)	2010/09/15		94	%	90 - 110
			Dissolved Manganese (Mn)	2010/09/15		97	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/09/15		100	%	90 - 110
			Dissolved Nickel (Ni)	2010/09/15		96	%	90 - 110
			Dissolved Phosphorus (P)	2010/09/15		99	%	90 - 110
			Dissolved Potassium (K)	2010/09/15		97	%	90 - 110
			Dissolved Selenium (Se)	2010/09/15		100	%	90 - 110
			Dissolved Silicon (Si)	2010/09/15		96	%	90 - 110
			Dissolved Silver (Ag)	2010/09/15		98	%	90 - 110
			Dissolved Sodium (Na)	2010/09/15		90	%	90 - 110
			Dissolved Strontium (Sr)	2010/09/15		103	%	90 - 110
			Dissolved Tellurium (Te)	2010/09/15		100	%	90 - 110
			Dissolved Thallium (Tl)	2010/09/15		96	%	90 - 110
			Dissolved Thorium (Th)	2010/09/15		97	%	90 - 110
			Dissolved Tin (Sn)	2010/09/15		104	%	90 - 110
			Dissolved Titanium (Ti)	2010/09/15		92	%	90 - 110
			Dissolved Tungsten (W)	2010/09/15		101	%	90 - 110
			Dissolved Uranium (U)	2010/09/15		99	%	90 - 110
			Dissolved Vanadium (V)	2010/09/15		93	%	90 - 110
			Dissolved Zinc (Zn)	2010/09/15		94	%	90 - 110
			Dissolved Zirconium (Zr)	2010/09/15		102	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Boron (B)	2010/09/15	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/09/15	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/09/15	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/09/15	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/09/15	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/09/15	ND, RDL=2		ug/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2265845	GBU	Method Blank	Dissolved Molybdenum (Mo)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/09/15	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/09/15	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/09/15	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/09/15	0.1, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/09/15	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/09/15	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/09/15	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/09/15	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/09/15	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/09/15	ND, RDL=1		ug/L	
2265903	RSR	QC Standard	Redox Potential	2010/09/20		+238	%	N/A
		Method Blank	Redox Potential	2010/09/20	+100		mV	
		RPD [HD0617-01]	Redox Potential	2010/09/20	0.8		%	10
2265932	VRO	Matrix Spike						
		[HD0617-01]	Dissolved Phosphorus	2010/09/16		90	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/09/16		100	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/09/16		97	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/09/16	0.003, RDL=0.002		mg/L	
		RPD [HD0617-01]	Dissolved Phosphorus	2010/09/16	11.5		%	20
2265937	VRO	Matrix Spike						
		[HD0608-01]	Dissolved Phosphorus	2010/09/16		100	%	80 - 120
		QC Standard	Dissolved Phosphorus	2010/09/16		102	%	85 - 115
		Spiked Blank	Dissolved Phosphorus	2010/09/16		99	%	85 - 115
		Method Blank	Dissolved Phosphorus	2010/09/16	ND, RDL=0.02		mg/L	
		RPD [HD0608-01]	Dissolved Phosphorus	2010/09/16	NC		%	20
2266044	HRE	Matrix Spike						
		[HD0609-04]	Total Aluminum (Al)	2010/09/15		97	%	80 - 120
			Total Antimony (Sb)	2010/09/15		107	%	80 - 120
			Total Arsenic (As)	2010/09/15		101	%	80 - 120
			Total Barium (Ba)	2010/09/15		102	%	80 - 120
			Total Beryllium (Be)	2010/09/15		103	%	80 - 120
			Total Bismuth (Bi)	2010/09/15		98	%	80 - 120
			Total Boron (B)	2010/09/15		103	%	80 - 120
			Total Cadmium (Cd)	2010/09/15		104	%	80 - 120
			Total Calcium (Ca)	2010/09/15		NC	%	80 - 120
			Total Chromium (Cr)	2010/09/15		98	%	80 - 120
			Total Cobalt (Co)	2010/09/15		97	%	80 - 120
			Total Copper (Cu)	2010/09/15		97	%	80 - 120
			Total Iron (Fe)	2010/09/15		100	%	80 - 120
			Total Lead (Pb)	2010/09/15		98	%	80 - 120
			Total Lithium (Li)	2010/09/15		102	%	80 - 120
			Total Magnesium (Mg)	2010/09/15		NC	%	80 - 120
			Total Manganese (Mn)	2010/09/15		100	%	80 - 120
			Total Molybdenum (Mo)	2010/09/15		103	%	80 - 120
			Total Nickel (Ni)	2010/09/15		97	%	80 - 120
			Total Potassium (K)	2010/09/15		97	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2266044	HRE	Matrix Spike						
		[HD0609-04]	Total Selenium (Se)	2010/09/15		103	%	80 - 120
			Total Silicon (Si)	2010/09/15		89	%	80 - 120
			Total Silver (Ag)	2010/09/15		98	%	80 - 120
			Total Sodium (Na)	2010/09/15		97	%	80 - 120
			Total Strontium (Sr)	2010/09/15		NC	%	80 - 120
			Total Tellurium (Te)	2010/09/15		100	%	80 - 120
			Total Thallium (Tl)	2010/09/15		97	%	80 - 120
			Total Thorium (Th)	2010/09/15		103	%	80 - 120
			Total Tin (Sn)	2010/09/15		101	%	80 - 120
			Total Titanium (Ti)	2010/09/15		98	%	80 - 120
			Total Tungsten (W)	2010/09/15		101	%	80 - 120
			Total Uranium (U)	2010/09/15		101	%	80 - 120
			Total Vanadium (V)	2010/09/15		100	%	80 - 120
			Total Zinc (Zn)	2010/09/15		99	%	80 - 120
			Total Zirconium (Zr)	2010/09/15		103	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/09/15		99	%	85 - 115
			Total Antimony (Sb)	2010/09/15		104	%	85 - 115
			Total Arsenic (As)	2010/09/15		98	%	85 - 115
			Total Barium (Ba)	2010/09/15		100	%	85 - 115
			Total Beryllium (Be)	2010/09/15		101	%	85 - 115
			Total Bismuth (Bi)	2010/09/15		97	%	85 - 115
			Total Boron (B)	2010/09/15		100	%	85 - 115
			Total Cadmium (Cd)	2010/09/15		101	%	85 - 116
			Total Calcium (Ca)	2010/09/15		100	%	85 - 115
			Total Chromium (Cr)	2010/09/15		97	%	85 - 115
			Total Cobalt (Co)	2010/09/15		97	%	85 - 115
			Total Copper (Cu)	2010/09/15		97	%	85 - 115
			Total Iron (Fe)	2010/09/15		100	%	85 - 115
			Total Lead (Pb)	2010/09/15		97	%	85 - 115
			Total Lithium (Li)	2010/09/15		98	%	85 - 115
			Total Magnesium (Mg)	2010/09/15		100	%	85 - 115
			Total Manganese (Mn)	2010/09/15		101	%	85 - 115
			Total Molybdenum (Mo)	2010/09/15		99	%	85 - 115
			Total Nickel (Ni)	2010/09/15		97	%	85 - 115
			Total Potassium (K)	2010/09/15		98	%	85 - 115
			Total Selenium (Se)	2010/09/15		102	%	85 - 115
			Total Silicon (Si)	2010/09/15		93	%	85 - 115
			Total Silver (Ag)	2010/09/15		95	%	85 - 115
			Total Sodium (Na)	2010/09/15		98	%	85 - 115
			Total Strontium (Sr)	2010/09/15		100	%	85 - 115
			Total Tellurium (Te)	2010/09/15		99	%	85 - 115
			Total Thallium (Tl)	2010/09/15		96	%	85 - 115
			Total Thorium (Th)	2010/09/15		99	%	85 - 115
			Total Tin (Sn)	2010/09/15		98	%	85 - 115
			Total Titanium (Ti)	2010/09/15		97	%	85 - 115
			Total Tungsten (W)	2010/09/15		100	%	85 - 115
			Total Uranium (U)	2010/09/15		98	%	85 - 115
			Total Vanadium (V)	2010/09/15		99	%	85 - 115
			Total Zinc (Zn)	2010/09/15		101	%	85 - 115
			Total Zirconium (Zr)	2010/09/15		100	%	85 - 115
		Method Blank	Total Aluminum (Al)	2010/09/15	ND, RDL=5		ug/L	
			Total Antimony (Sb)	2010/09/15	ND, RDL=0.5		ug/L	
			Total Arsenic (As)	2010/09/15	ND, RDL=1		ug/L	
			Total Barium (Ba)	2010/09/15	ND, RDL=5		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2266044	HRE	Method Blank	Total Beryllium (Be)	2010/09/15	ND, RDL=0.5		ug/L	
			Total Bismuth (Bi)	2010/09/15	ND, RDL=1		ug/L	
			Total Boron (B)	2010/09/15	ND, RDL=10		ug/L	
			Total Cadmium (Cd)	2010/09/15	ND, RDL=0.1		ug/L	
			Total Calcium (Ca)	2010/09/15	ND, RDL=200		ug/L	
			Total Chromium (Cr)	2010/09/15	ND, RDL=5		ug/L	
			Total Cobalt (Co)	2010/09/15	ND, RDL=0.5		ug/L	
			Total Copper (Cu)	2010/09/15	ND, RDL=1		ug/L	
			Total Iron (Fe)	2010/09/15	ND, RDL=100		ug/L	
			Total Lead (Pb)	2010/09/15	ND, RDL=0.5		ug/L	
			Total Lithium (Li)	2010/09/15	ND, RDL=5		ug/L	
			Total Magnesium (Mg)	2010/09/15	ND, RDL=50		ug/L	
			Total Manganese (Mn)	2010/09/15	ND, RDL=2		ug/L	
			Total Molybdenum (Mo)	2010/09/15	ND, RDL=1		ug/L	
			Total Nickel (Ni)	2010/09/15	ND, RDL=1		ug/L	
			Total Potassium (K)	2010/09/15	ND, RDL=200		ug/L	
			Total Selenium (Se)	2010/09/15	ND, RDL=2		ug/L	
			Total Silicon (Si)	2010/09/15	ND, RDL=50		ug/L	
			Total Silver (Ag)	2010/09/15	ND, RDL=0.1		ug/L	
			Total Sodium (Na)	2010/09/15	ND, RDL=100		ug/L	
			Total Strontium (Sr)	2010/09/15	ND, RDL=1		ug/L	
			Total Tellurium (Te)	2010/09/15	ND, RDL=1		ug/L	
			Total Thallium (Tl)	2010/09/15	ND, RDL=0.05		ug/L	
			Total Thorium (Th)	2010/09/15	ND, RDL=1		ug/L	
			Total Tin (Sn)	2010/09/15	ND, RDL=1		ug/L	
			Total Titanium (Ti)	2010/09/15	ND, RDL=5		ug/L	
			Total Tungsten (W)	2010/09/15	ND, RDL=1		ug/L	
			Total Uranium (U)	2010/09/15	ND, RDL=0.1		ug/L	
			Total Vanadium (V)	2010/09/15	ND, RDL=1		ug/L	
			Total Zinc (Zn)	2010/09/15	ND, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/09/15	ND, RDL=1		ug/L	
2266046	JOH	Matrix Spike [HD0609-04]	Total Sulphur (S)	2010/09/16		NC	%	75 - 125
		Spiked Blank	Total Sulphur (S)	2010/09/16		106	%	85 - 115
		Method Blank	Total Sulphur (S)	2010/09/16	ND, RDL=0.5		mg/L	
		RPD [HD0609-04]	Total Sulphur (S)	2010/09/16	1.2		%	25
2266146	LCH	Matrix Spike	Mercury (Hg)	2010/09/16		119	%	75 - 125
		Spiked Blank	Mercury (Hg)	2010/09/16		105	%	80 - 120
		Method Blank	Mercury (Hg)	2010/09/16	ND, RDL=0.0001		mg/L	
		RPD	Mercury (Hg)	2010/09/16	NC		%	25
2266353	VRO	Matrix Spike	Total Phosphorus	2010/09/16		98	%	80 - 120
		QC Standard	Total Phosphorus	2010/09/16		101	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/09/16		100	%	85 - 115
		Method Blank	Total Phosphorus	2010/09/16	ND, RDL=0.02		mg/L	
		RPD	Total Phosphorus	2010/09/16	5.3		%	20
2266655	VRO	Matrix Spike [HD0615-03]	Total Phosphorus	2010/09/16		100	%	80 - 120
		QC Standard	Total Phosphorus	2010/09/16		100	%	85 - 115
		Spiked Blank	Total Phosphorus	2010/09/16		92	%	85 - 115
		Method Blank	Total Phosphorus	2010/09/16	ND, RDL=0.002		mg/L	
		RPD [HD0615-03]	Total Phosphorus	2010/09/16	5.3		%	20
2266796	JDE	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2010/09/16		109	%	80 - 120
		QC Standard	Total Kjeldahl Nitrogen (TKN)	2010/09/16		95	%	85 - 115
		Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2010/09/16		93	%	85 - 115
		Method Blank	Total Kjeldahl Nitrogen (TKN)	2010/09/16	ND, RDL=0.1		mg/L	

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Quality Assurance Report (Continued)

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QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2266796	JDE	RPD	Total Kjeldahl Nitrogen (TKN)	2010/09/16	1.5		%	20
2267080	DLB	Matrix Spike [HD0611-02]	Reactive Silica (SiO2)	2010/09/17		NC	%	80 - 120
		QC Standard	Reactive Silica (SiO2)	2010/09/17		102	%	75 - 125
		Spiked Blank	Reactive Silica (SiO2)	2010/09/17		100	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2010/09/17	ND, RDL=0.5		mg/L	
		RPD [HD0611-02]	Reactive Silica (SiO2)	2010/09/17	0.5		%	25
2271347	GBU	Matrix Spike	Total Aluminum (Al)	2010/09/20		105	%	80 - 120
			Total Antimony (Sb)	2010/09/20		112	%	80 - 120
			Total Arsenic (As)	2010/09/20		104	%	80 - 120
			Total Barium (Ba)	2010/09/20		97	%	80 - 120
			Total Beryllium (Be)	2010/09/20		94	%	80 - 120
			Total Bismuth (Bi)	2010/09/20		99	%	80 - 120
			Total Boron (B)	2010/09/20		89	%	80 - 120
			Total Cadmium (Cd)	2010/09/20		103	%	80 - 120
			Total Calcium (Ca)	2010/09/20		NC	%	80 - 120
			Total Chromium (Cr)	2010/09/20		102	%	80 - 120
			Total Cobalt (Co)	2010/09/20		101	%	80 - 120
			Total Copper (Cu)	2010/09/20		101	%	80 - 120
			Total Iron (Fe)	2010/09/20		108	%	80 - 120
			Total Lead (Pb)	2010/09/20		99	%	80 - 120
			Total Lithium (Li)	2010/09/20		100	%	80 - 120
			Total Magnesium (Mg)	2010/09/20		113	%	80 - 120
			Total Manganese (Mn)	2010/09/20		104	%	80 - 120
			Total Molybdenum (Mo)	2010/09/20		107	%	80 - 120
			Total Nickel (Ni)	2010/09/20		101	%	80 - 120
			Total Potassium (K)	2010/09/20		NC	%	80 - 120
			Total Selenium (Se)	2010/09/20		103	%	80 - 120
			Total Silicon (Si)	2010/09/20		104	%	80 - 120
			Total Silver (Ag)	2010/09/20		95	%	80 - 120
			Total Sodium (Na)	2010/09/20		NC	%	80 - 120
			Total Strontium (Sr)	2010/09/20		NC	%	80 - 120
			Total Tellurium (Te)	2010/09/20		103	%	80 - 120
			Total Thallium (Tl)	2010/09/20		98	%	80 - 120
			Total Thorium (Th)	2010/09/20		102	%	80 - 120
			Total Tin (Sn)	2010/09/20		107	%	80 - 120
			Total Titanium (Ti)	2010/09/20		105	%	80 - 120
			Total Tungsten (W)	2010/09/20		102	%	80 - 120
			Total Uranium (U)	2010/09/20		111	%	80 - 120
			Total Vanadium (V)	2010/09/20		104	%	80 - 120
			Total Zinc (Zn)	2010/09/20		100	%	80 - 120
			Total Zirconium (Zr)	2010/09/20		105	%	80 - 120
		Spiked Blank	Total Aluminum (Al)	2010/09/20		104	%	85 - 115
			Total Antimony (Sb)	2010/09/20		110	%	85 - 115
			Total Arsenic (As)	2010/09/20		102	%	85 - 115
			Total Barium (Ba)	2010/09/20		97	%	85 - 115
			Total Beryllium (Be)	2010/09/20		95	%	85 - 115
			Total Bismuth (Bi)	2010/09/20		100	%	85 - 115
			Total Boron (B)	2010/09/20		93	%	85 - 115
			Total Cadmium (Cd)	2010/09/20		103	%	85 - 116
			Total Calcium (Ca)	2010/09/20		107	%	85 - 115
			Total Chromium (Cr)	2010/09/20		103	%	85 - 115
			Total Cobalt (Co)	2010/09/20		101	%	85 - 115
			Total Copper (Cu)	2010/09/20		103	%	85 - 115
			Total Iron (Fe)	2010/09/20		108	%	85 - 115

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
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Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2271347 GBU	Spiked Blank	Total Lead (Pb)	2010/09/20		100	%	85 - 115
		Total Lithium (Li)	2010/09/20		98	%	85 - 115
		Total Magnesium (Mg)	2010/09/20		112	%	85 - 115
		Total Manganese (Mn)	2010/09/20		104	%	85 - 115
		Total Molybdenum (Mo)	2010/09/20		105	%	85 - 115
		Total Nickel (Ni)	2010/09/20		100	%	85 - 115
		Total Potassium (K)	2010/09/20		110	%	85 - 115
		Total Selenium (Se)	2010/09/20		103	%	85 - 115
		Total Silicon (Si)	2010/09/20		105	%	85 - 115
		Total Silver (Ag)	2010/09/20		96	%	85 - 115
		Total Sodium (Na)	2010/09/20		112	%	85 - 115
		Total Strontium (Sr)	2010/09/20		100	%	85 - 115
		Total Tellurium (Te)	2010/09/20		104	%	85 - 115
		Total Thallium (Tl)	2010/09/20		100	%	85 - 115
		Total Thorium (Th)	2010/09/20		103	%	85 - 115
		Total Tin (Sn)	2010/09/20		108	%	85 - 115
		Total Titanium (Ti)	2010/09/20		104	%	85 - 115
		Total Tungsten (W)	2010/09/20		102	%	85 - 115
		Total Uranium (U)	2010/09/20		110	%	85 - 115
		Total Vanadium (V)	2010/09/20		101	%	85 - 115
		Total Zinc (Zn)	2010/09/20		104	%	85 - 115
		Total Zirconium (Zr)	2010/09/20		107	%	85 - 115
	Method Blank	Total Aluminum (Al)	2010/09/20	7, RDL=5		ug/L	
		Total Antimony (Sb)	2010/09/20	ND, RDL=0.5		ug/L	
		Total Arsenic (As)	2010/09/20	ND, RDL=1		ug/L	
		Total Barium (Ba)	2010/09/20	ND, RDL=5		ug/L	
		Total Beryllium (Be)	2010/09/20	ND, RDL=0.5		ug/L	
		Total Bismuth (Bi)	2010/09/20	ND, RDL=1		ug/L	
		Total Boron (B)	2010/09/20	ND, RDL=10		ug/L	
		Total Cadmium (Cd)	2010/09/20	0.1, RDL=0.1		ug/L	
		Total Calcium (Ca)	2010/09/20	280, RDL=200		ug/L	
		Total Chromium (Cr)	2010/09/20	ND, RDL=5		ug/L	
		Total Cobalt (Co)	2010/09/20	ND, RDL=0.5		ug/L	
		Total Copper (Cu)	2010/09/20	ND, RDL=1		ug/L	
		Total Iron (Fe)	2010/09/20	ND, RDL=100		ug/L	
		Total Lead (Pb)	2010/09/20	ND, RDL=0.5		ug/L	
		Total Lithium (Li)	2010/09/20	ND, RDL=5		ug/L	
		Total Magnesium (Mg)	2010/09/20	97, RDL=50		ug/L	
		Total Manganese (Mn)	2010/09/20	2, RDL=2		ug/L	
		Total Molybdenum (Mo)	2010/09/20	ND, RDL=1		ug/L	
		Total Nickel (Ni)	2010/09/20	ND, RDL=1		ug/L	
		Total Potassium (K)	2010/09/20	250, RDL=200		ug/L	
		Total Selenium (Se)	2010/09/20	ND, RDL=2		ug/L	
		Total Silicon (Si)	2010/09/20	ND, RDL=50		ug/L	
		Total Silver (Ag)	2010/09/20	ND, RDL=0.1		ug/L	
		Total Sodium (Na)	2010/09/20	120, RDL=100		ug/L	
		Total Strontium (Sr)	2010/09/20	ND, RDL=1		ug/L	
		Total Tellurium (Te)	2010/09/20	ND, RDL=1		ug/L	
		Total Thallium (Tl)	2010/09/20	0.06, RDL=0.05		ug/L	
		Total Thorium (Th)	2010/09/20	ND, RDL=1		ug/L	
		Total Tin (Sn)	2010/09/20	ND, RDL=1		ug/L	
		Total Titanium (Ti)	2010/09/20	ND, RDL=5		ug/L	
		Total Tungsten (W)	2010/09/20	ND, RDL=1		ug/L	
		Total Uranium (U)	2010/09/20	ND, RDL=0.1		ug/L	
		Total Vanadium (V)	2010/09/20	ND, RDL=1		ug/L	

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Client Project #: M09559A04
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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2271347	GBU	Method Blank	Total Zinc (Zn)	2010/09/20	5, RDL=5		ug/L	
			Total Zirconium (Zr)	2010/09/20	ND, RDL=1		ug/L	
		RPD	Total Aluminum (Al)	2010/09/20	2.5		%	25
			Total Antimony (Sb)	2010/09/20	NC		%	25
			Total Arsenic (As)	2010/09/20	NC		%	25
			Total Barium (Ba)	2010/09/20	3.4		%	25
			Total Beryllium (Be)	2010/09/20	NC		%	25
			Total Bismuth (Bi)	2010/09/20	NC		%	25
			Total Boron (B)	2010/09/20	3.0		%	25
			Total Cadmium (Cd)	2010/09/20	NC		%	25
			Total Calcium (Ca)	2010/09/20	4.9		%	25
			Total Chromium (Cr)	2010/09/20	NC		%	25
			Total Cobalt (Co)	2010/09/20	NC		%	25
			Total Copper (Cu)	2010/09/20	2.9		%	25
			Total Iron (Fe)	2010/09/20	NC		%	25
			Total Lead (Pb)	2010/09/20	NC		%	25
			Total Magnesium (Mg)	2010/09/20	2.5		%	25
			Total Manganese (Mn)	2010/09/20	5.6		%	25
			Total Molybdenum (Mo)	2010/09/20	NC		%	25
			Total Nickel (Ni)	2010/09/20	4.1		%	25
			Total Potassium (K)	2010/09/20	3.4		%	25
			Total Selenium (Se)	2010/09/20	NC		%	25
			Total Silicon (Si)	2010/09/20	4.6		%	25
			Total Silver (Ag)	2010/09/20	NC		%	25
			Total Sodium (Na)	2010/09/20	4.1		%	25
			Total Strontium (Sr)	2010/09/20	4.9		%	25
			Total Thallium (Tl)	2010/09/20	NC		%	25
			Total Tin (Sn)	2010/09/20	7.3		%	25
			Total Titanium (Ti)	2010/09/20	NC		%	25
			Total Vanadium (V)	2010/09/20	NC		%	25
			Total Zinc (Zn)	2010/09/20	1.1		%	25
			Total Zirconium (Zr)	2010/09/20	NC		%	25
2271843	HRE	Matrix Spike	Dissolved Aluminum (Al)	2010/09/21		101	%	80 - 120
			Dissolved Antimony (Sb)	2010/09/21		106	%	80 - 120
			Dissolved Arsenic (As)	2010/09/21		106	%	80 - 120
			Dissolved Barium (Ba)	2010/09/21		104	%	80 - 120
			Dissolved Beryllium (Be)	2010/09/21		106	%	80 - 120
			Dissolved Bismuth (Bi)	2010/09/21		100	%	80 - 120
			Dissolved Boron (B)	2010/09/21		105	%	80 - 120
			Dissolved Cadmium (Cd)	2010/09/21		105	%	80 - 120
			Dissolved Calcium (Ca)	2010/09/21		NC	%	80 - 120
			Dissolved Chromium (Cr)	2010/09/21		101	%	80 - 120
			Dissolved Cobalt (Co)	2010/09/21		100	%	80 - 120
			Dissolved Copper (Cu)	2010/09/21		100	%	80 - 120
			Dissolved Iron (Fe)	2010/09/21		103	%	80 - 120
			Dissolved Lead (Pb)	2010/09/21		98	%	80 - 120
			Dissolved Lithium (Li)	2010/09/21		104	%	80 - 120
			Dissolved Magnesium (Mg)	2010/09/21		NC	%	80 - 120
			Dissolved Manganese (Mn)	2010/09/21		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2010/09/21		106	%	80 - 120
			Dissolved Nickel (Ni)	2010/09/21		100	%	80 - 120
			Dissolved Phosphorus (P)	2010/09/21		109	%	80 - 120
			Dissolved Potassium (K)	2010/09/21		103	%	80 - 120
			Dissolved Selenium (Se)	2010/09/21		103	%	80 - 120
			Dissolved Silicon (Si)	2010/09/21		104	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2271843	HRE	Matrix Spike	Dissolved Silver (Ag)	2010/09/21		102	%	80 - 120
			Dissolved Sodium (Na)	2010/09/21		103	%	80 - 120
			Dissolved Strontium (Sr)	2010/09/21		99	%	80 - 120
			Dissolved Tellurium (Te)	2010/09/21		103	%	80 - 120
			Dissolved Thallium (Tl)	2010/09/21		97	%	80 - 120
			Dissolved Thorium (Th)	2010/09/21		99	%	80 - 120
			Dissolved Tin (Sn)	2010/09/21		104	%	80 - 120
			Dissolved Titanium (Ti)	2010/09/21		103	%	80 - 120
			Dissolved Tungsten (W)	2010/09/21		103	%	80 - 120
			Dissolved Uranium (U)	2010/09/21		103	%	80 - 120
			Dissolved Vanadium (V)	2010/09/21		102	%	80 - 120
			Dissolved Zinc (Zn)	2010/09/21		102	%	80 - 120
			Dissolved Zirconium (Zr)	2010/09/21		107	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2010/09/21		100	%	90 - 110
			Dissolved Antimony (Sb)	2010/09/21		101	%	90 - 110
			Dissolved Arsenic (As)	2010/09/21		102	%	90 - 110
			Dissolved Barium (Ba)	2010/09/21		102	%	90 - 110
			Dissolved Beryllium (Be)	2010/09/21		100	%	90 - 110
			Dissolved Bismuth (Bi)	2010/09/21		99	%	90 - 110
			Dissolved Boron (B)	2010/09/21		101	%	90 - 110
			Dissolved Cadmium (Cd)	2010/09/21		100	%	90 - 110
			Dissolved Calcium (Ca)	2010/09/21		103	%	90 - 110
			Dissolved Chromium (Cr)	2010/09/21		100	%	90 - 110
			Dissolved Cobalt (Co)	2010/09/21		99	%	90 - 110
			Dissolved Copper (Cu)	2010/09/21		99	%	90 - 110
			Dissolved Iron (Fe)	2010/09/21		103	%	90 - 110
			Dissolved Lead (Pb)	2010/09/21		97	%	90 - 110
			Dissolved Lithium (Li)	2010/09/21		97	%	90 - 110
			Dissolved Magnesium (Mg)	2010/09/21		102	%	90 - 110
			Dissolved Manganese (Mn)	2010/09/21		101	%	90 - 110
			Dissolved Molybdenum (Mo)	2010/09/21		101	%	90 - 110
			Dissolved Nickel (Ni)	2010/09/21		99	%	90 - 110
			Dissolved Phosphorus (P)	2010/09/21		104	%	90 - 110
			Dissolved Potassium (K)	2010/09/21		103	%	90 - 110
			Dissolved Selenium (Se)	2010/09/21		100	%	90 - 110
			Dissolved Silicon (Si)	2010/09/21		103	%	90 - 110
			Dissolved Silver (Ag)	2010/09/21		99	%	90 - 110
			Dissolved Sodium (Na)	2010/09/21		101	%	90 - 110
			Dissolved Strontium (Sr)	2010/09/21		98	%	90 - 110
			Dissolved Tellurium (Te)	2010/09/21		98	%	90 - 110
			Dissolved Thallium (Tl)	2010/09/21		95	%	90 - 110
			Dissolved Thorium (Th)	2010/09/21		97	%	90 - 110
			Dissolved Tin (Sn)	2010/09/21		101	%	90 - 110
			Dissolved Titanium (Ti)	2010/09/21		102	%	90 - 110
			Dissolved Tungsten (W)	2010/09/21		101	%	90 - 110
			Dissolved Uranium (U)	2010/09/21		100	%	90 - 110
			Dissolved Vanadium (V)	2010/09/21		101	%	90 - 110
			Dissolved Zinc (Zn)	2010/09/21		99	%	90 - 110
			Dissolved Zirconium (Zr)	2010/09/21		103	%	90 - 110
		Method Blank	Dissolved Aluminum (Al)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Antimony (Sb)	2010/09/21	ND, RDL=0.5		ug/L	
			Dissolved Arsenic (As)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Barium (Ba)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Beryllium (Be)	2010/09/21	ND, RDL=0.5		ug/L	
			Dissolved Bismuth (Bi)	2010/09/21	ND, RDL=1		ug/L	

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2271843	HRE	Method Blank	Dissolved Boron (B)	2010/09/21	ND, RDL=10		ug/L	
			Dissolved Cadmium (Cd)	2010/09/21	ND, RDL=0.1		ug/L	
			Dissolved Calcium (Ca)	2010/09/21	ND, RDL=200		ug/L	
			Dissolved Chromium (Cr)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Cobalt (Co)	2010/09/21	ND, RDL=0.5		ug/L	
			Dissolved Copper (Cu)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Iron (Fe)	2010/09/21	110, RDL=100		ug/L	
			Dissolved Lead (Pb)	2010/09/21	ND, RDL=0.5		ug/L	
			Dissolved Lithium (Li)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Magnesium (Mg)	2010/09/21	ND, RDL=50		ug/L	
			Dissolved Manganese (Mn)	2010/09/21	ND, RDL=2		ug/L	
			Dissolved Molybdenum (Mo)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Nickel (Ni)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Phosphorus (P)	2010/09/21	ND, RDL=100		ug/L	
			Dissolved Potassium (K)	2010/09/21	ND, RDL=200		ug/L	
			Dissolved Selenium (Se)	2010/09/21	ND, RDL=2		ug/L	
			Dissolved Silicon (Si)	2010/09/21	ND, RDL=50		ug/L	
			Dissolved Silver (Ag)	2010/09/21	ND, RDL=0.1		ug/L	
			Dissolved Sodium (Na)	2010/09/21	ND, RDL=100		ug/L	
			Dissolved Strontium (Sr)	2010/09/21	2, RDL=1		ug/L	
			Dissolved Tellurium (Te)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Thallium (Tl)	2010/09/21	ND, RDL=0.05		ug/L	
			Dissolved Thorium (Th)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Tin (Sn)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Titanium (Ti)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Tungsten (W)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Uranium (U)	2010/09/21	ND, RDL=0.1		ug/L	
			Dissolved Vanadium (V)	2010/09/21	ND, RDL=1		ug/L	
			Dissolved Zinc (Zn)	2010/09/21	ND, RDL=5		ug/L	
			Dissolved Zirconium (Zr)	2010/09/21	ND, RDL=1		ug/L	
		RPD	Dissolved Aluminum (Al)	2010/09/21	NC		%	25
			Dissolved Antimony (Sb)	2010/09/21	NC		%	25
			Dissolved Arsenic (As)	2010/09/21	NC		%	25
			Dissolved Barium (Ba)	2010/09/21	NC		%	25
			Dissolved Beryllium (Be)	2010/09/21	NC		%	25
			Dissolved Bismuth (Bi)	2010/09/21	NC		%	25
			Dissolved Boron (B)	2010/09/21	NC		%	25
			Dissolved Cadmium (Cd)	2010/09/21	NC		%	25
			Dissolved Calcium (Ca)	2010/09/21	0.4		%	25
			Dissolved Chromium (Cr)	2010/09/21	NC		%	25
			Dissolved Cobalt (Co)	2010/09/21	NC		%	25
			Dissolved Copper (Cu)	2010/09/21	NC		%	25
			Dissolved Iron (Fe)	2010/09/21	NC		%	25
			Dissolved Lead (Pb)	2010/09/21	NC		%	25
			Dissolved Lithium (Li)	2010/09/21	NC		%	25
			Dissolved Magnesium (Mg)	2010/09/21	0.6		%	25
			Dissolved Manganese (Mn)	2010/09/21	NC		%	25
			Dissolved Molybdenum (Mo)	2010/09/21	NC		%	25
			Dissolved Nickel (Ni)	2010/09/21	NC		%	25
			Dissolved Potassium (K)	2010/09/21	NC		%	25
			Dissolved Selenium (Se)	2010/09/21	NC		%	25
			Dissolved Silicon (Si)	2010/09/21	0.4		%	25
			Dissolved Silver (Ag)	2010/09/21	NC		%	25
			Dissolved Sodium (Na)	2010/09/21	0.5		%	25
			Dissolved Strontium (Sr)	2010/09/21	1.8		%	25

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Klohn Crippen Berger Ltd
Attention: Leann Graham
Client Project #: M09559A04
P.O. #:
Project name:

Quality Assurance Report (Continued)

Maxxam Job Number: MB0C5975

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
2271843	HRE	RPD	Dissolved Tellurium (Te)	2010/09/21	NC		%	25
			Dissolved Thallium (Tl)	2010/09/21	NC		%	25
			Dissolved Thorium (Th)	2010/09/21	NC		%	25
			Dissolved Tin (Sn)	2010/09/21	NC		%	25
			Dissolved Titanium (Ti)	2010/09/21	NC		%	25
			Dissolved Tungsten (W)	2010/09/21	NC		%	25
			Dissolved Uranium (U)	2010/09/21	1.1		%	25
			Dissolved Vanadium (V)	2010/09/21	NC		%	25
			Dissolved Zinc (Zn)	2010/09/21	NC		%	25
			Dissolved Zirconium (Zr)	2010/09/21	NC		%	25
2273723	GSI	Calibration Check	Acidity as CaC03	2010/09/22		8.0	%	N/A
		Method Blank	Acidity as CaC03	2010/09/22	ND, RDL=10		mg/L	

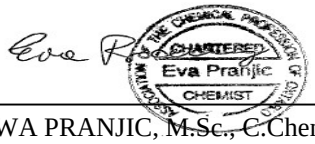
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Calibration Check: A calibration standard analyzed at different times to evaluate on-going calibration accuracy.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Validation Signature Page

Maxxam Job #: B0C5975

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



EWA PRANJIC, M.Sc., C.Chem, Scientific Specialist



KEVIN MACDONALD, Inorganics Supervisor



GRACE SISON, Technical and Customer Service Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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CHAIN OF CUSTO

10-Sep-10 09:00
ANTONELLA BRASIL
B0C5975
SRH ENV-838

Page of

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:	
Company Name:	#29433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:	
Address:	303 - 1620 W 8th Ave	Address:	500 - 2955 Virtual Way	Project #:	10M09559A04
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:	
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:	
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:	JM

BOTTLE ORDER #: 209769

CHAIN OF CUSTODY #: C#209769-01-01

PROJECT MANAGER: ANTONELLA BRASIL

REGULATORY CRITERIA:
- MISA — Reg. 153/04 — Sewer Use: Sanitary / Storm / Combined
- PWQO — Table 1 / Table 2 / Table 3 / Table 6 — Residential/Parkland / Industrial/Commercial / Medium/Fine / Coarse — Municipality
- Reg. 558
- Other (specify) — Report Criteria on C of A ?

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Chemical Oxygen Demand	Conductivity	Dissolved Metals Analysis by ICP	Dissolved Metals by ICPMS	Dissolved Phosphorus	Mercury in Water by CVAA	Nitrate (NO3) and Nitrite (NO2) in Water	pH	Total Cyanide	Total Dissolved Solids	# of Bottles	Comments
1		BH10-07A	8 Sep	2 PM	Water		Y	X	X	X	X	X	X	X	X	X	X		
2		BH10-12A	8 Sep	230PM	"		Y	X	X	X	X	X	X	X	X	X	X		
3		BH10-20	8 Sep	3PM	"		Y	X	X	X	X	X	X	X	X	X	X		
4		08-367	8 Sep	4PM	"		Y	X	X	X	X	X	X	X	X	X	X		
5		BH10-05	8 Sep	5 PM	"		Y	X	X	X	X	X	X	X	X	X	X		
6		08-240	9 Sep	9AM	"		Y	X	X	X	X	X	X	X	X	X	X		
7		BH10-11A	9 Sep	930AM	"		Y	X	X	X	X	X	X	X	X	X	X		4/3/3°C
8		09-428	9 Sep	10AM	"		Y	X	X	X	X	X	X	X	X	X	X		2/2/2°C
9		09-213A	9 Sep	1030AM	"		Y	X	X	X	X	X	X	X	X	X	X		3/2/2°C
10		09-214	9 Sep	1130 AM	"		Y	X	X	X	X	X	X	X	X	X	X		2/3/2°C

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted
JOSH MONCRIEFF	10/09/09		Shar. Bebly	Sep 10/10	9:00	
			Shruti SHRUTI PATEL	2010 09 11	11:30	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
[X]	1.4, 1.3, 1.6	☐ Yes ☐ No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

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CHAIN OF CUSTODY RECORD

Page of

INVOICE INFORMATION:		REPORT INFORMATION (if differs from invoice):		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#23433 Rainy River Resources Ltd	Company Name:	#10142 Klohn Crippen Berger Ltd	Quotation #:	B03165	MAXXAM JOB #:	BOTTLE ORDER #: 209769
Contact Name:	Evelyn Funk	Contact Name:	Leanne Hollingsworth	P.O. #:			
Address:	303 - 1620 W 8th Ave	Address:	500 - -2955 Virtual Way	Project #:	M09559A04	CHAIN OF CUSTODY #: C#209769-01-02	PROJECT MANAGER: ANTONELLA BRASIL
	Vancouver BC V6J 1V4		Vancouver BC V5M 4X6	Project Name:			
Phone:	(604)639-4491 Fax: (604)639-4492	Phone:	(604)251-8594 Fax: (604)251-8510	Site #:			
Email:	etf@rainyriverresources.com	Email:	lhollingsworth@klohn.com	Sampled By:	JM		

REGULATORY CRITERIA:
☐ MISA Reg. 153/04 Sewer Use ☐ Sanitary ☐ Storm ☐ Combined
☐ PWQO ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table 6 ☐ Residential/Parkland ☐ Industrial/Commercial ☐ Medium/Fine ☐ Coarse
☐ Reg. 558 Municipality
Other (specify) Report Criteria on C of A? ☐

Reg. 153 ☐ 2004 ☐ 2011

SPECIAL INSTRUCTIONS

Note: For regulated drinking water samples - please use the Drinking Water Chain of Custody Form

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

ANALYSIS REQUESTED (Please be specific):

TURNAROUND TIME (TAT) REQUIRED:

PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS

Regular (Standard) TAT: [X]
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Regulated Drinking Water? (Y/N)	Metals Field Filtered ? (Y/N)	Total Kjeldahl Nitrogen in Water	Total Metals Analysis by ICP	Total Metals Analysis by ICPMS	Total Organic Carbon (TOC)	Total Phosphorus (Colourimetric)					# of Bottles	Comments
1		BH10-14	9 Sep	1230PM	Water		U	X	X	X	X	X						
2		BH10-04	9 Sep.	130PM	Water		U	X	X	X	X	X						
3								X	X	X	X	X						
4								X	X	X	X	X						
5								X	X	X	X	X						
6								X	X	X	X	X					1	4/3/3°C
7								X	X	X	X	X						2/2/2°C
8								X	X	X	X	X						3/2/2°C
9								X	X	X	X	X						2/3/2°C
10								X	X	X	X	X						

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time:	# Jars Used and Not Submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
JOHN MONCRIEFF	10/09/09		SHRUTI PATEL	Sep 10/10 2010/09/11	900 11:30		[X]	1.4, 1.3, 1.6	☐ Yes ☐ No

White: Maxxam Yellow: Client

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Your Project #: MB0C5975
Site:M09559A04
Your C.O.C. #: 08322374

Attention: SUB CONTRACTOR
MAXXAM ANALYTICS INC.
CAMPOBELLO
6740 CAMPOBELLO ROAD
MISSISSAUGA, ON
CANADA L5N 2L8

Report Date: 2010/09/16

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B085748
Received: 2010/09/15, 00:00

Sample Matrix: Water
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide WAD (weak acid dissociable)	13	N/A	2010/09/15	BRN SOP-00227 R3.0	Based on SM-4500CN I

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

ARSHDEEP KHALSA, Burnaby Customer Service
Email: Arshdeep.Khalsa@MaxxamAnalytics.com
Phone# (604) 734 7276

==========

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Total cover pages: 1

Maxxam Job #: B085748
Report Date: 2010/09/16

MAXXAM ANALYTICS INC.
Client Project #: MB0C5975
Site Reference: M09559A04

RESULTS OF CHEMICAL ANALYSES OF WATER

Maxxam ID		W96266	W96267	W96268	W96269	W96270		
Sampling Date		2010/09/08	2010/09/08	2010/09/08	2010/09/08	2010/09/08		
COC Number		08322374	08322374	08322374	08322374	08322374		
	Units	**BH10-07A (HD0608-06R)**	**BH10-12A (HD0609-06R)**	**BH10-20 (HD0610-06R)**	**09-367 (HD0611-06R)**	**BH10-05 (HD0612-06R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	0.0009	<0.0005	0.0005	<0.0005	<0.0005	0.0005	4262791

RDL = Reportable Detection Limit

Maxxam ID		W96271	W96272	W96273	W96274	W96275		
Sampling Date		2010/09/09	2010/09/09	2010/09/09	2010/09/09	2010/09/09		
COC Number		08322374	08322374	08322374	08322374	08322374		
	Units	**08-240 (HD0613-06R)**	**BH10-11A (HD0614-06R)**	**09-428 (HD0615-06R)**	**09-213 A (HD0616-06R)**	**09-214 (HD0617-06R)**	**RDL**	**QC Batch**
Misc. Inorganics								
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	<0.0005	<0.0005	0.0008	<0.0005	0.0005	4262791

RDL = Reportable Detection Limit

Maxxam ID		W96276		W96277		W96278	W96278		
Sampling Date		2010/09/09		2010/09/09					
COC Number		08322374		08322374		08322374	08322374		
	Units	**BH10-14 (HD0618-06R)**	**RDL**	**BH10-04 (HD0619-06R)**	**RDL**	**TRIP BLANK (HD0620-06R)**	**TRIP BLANK (HD0620-06R) Lab-Dup**	**RDL**	**QC Batch**
Misc. Inorganics									
Weak Acid Dissoc. Cyanide (CN)	mg/L	<0.0005	0.0005	<0.005 (1)	0.005	0.0008	0.0008	0.0005	4262791

RDL = Reportable Detection Limit
(1) RDL raised due to sample matrix interference.

Maxxam Job #: B085748
Report Date: 2010/09/16

MAXXAM ANALYTICS INC.
Client Project #: MB0C5975
Site Reference: M09559A04

Package 1	1.7°C

Each temperature is the average of up to three cooler temperatures taken at receipt

General Comments

Results relate only to the items tested.

MAXXAM ANALYTICS INC.
Attention: SUB CONTRACTOR
Client Project #: MB0C5975
P.O. #:
Site Reference: M09559A04

Quality Assurance Report

Maxxam Job Number: VB085748

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
4262791	TS1	Matrix Spike	Weak Acid Dissoc. Cyanide (CN)	2010/09/15		100	%	80 - 120
		Spiked Blank	Weak Acid Dissoc. Cyanide (CN)	2010/09/15		100	%	80 - 120
		Method Blank	Weak Acid Dissoc. Cyanide (CN)	2010/09/15	<0.0005		mg/L	
		RPD [W96278-01]	Weak Acid Dissoc. Cyanide (CN)	2010/09/15	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

Validation Signature Page

Maxxam Job #: B085748

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



ROB REINERT, Data Validation Coordinator

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

APPENDIX IV - 1

Soil Test Pit Logs

Site No	Surveyor	Geographic Location			
TP09-17	L Robertson	N	5409688	E	424909

Date	Soil Code 1	Soil Code 2	Soil Code 3
15-Aug-09	TP09-17-32 (Cg)	TP09-17-33 (Bg)	TP09-17-34 (Ah)

Mode of Deposition	L
% Slope	0-0.5
Slope Length	>50
Slope Class	A
Site Position	5 6
Moisture Regime	
Drainage	5
Stoniness Class	0
Land Use	
Soil Name	Orthic Humic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	45
	Prominent Mottles	-
	Mottles and Gley	45
	Gley	45
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	-

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		even/clear	2	0				
A	h	even/clear	0	15	7.5YR 2.5/1			SiL
B	g	even/clear	15	60	7.5YR 5/1			SiClL
C	g		60	90	7.5YR 4/1			SiCl

Notes

Cg horizon is not as light as previous holes have been but the gley is still evident

Profile Sketch

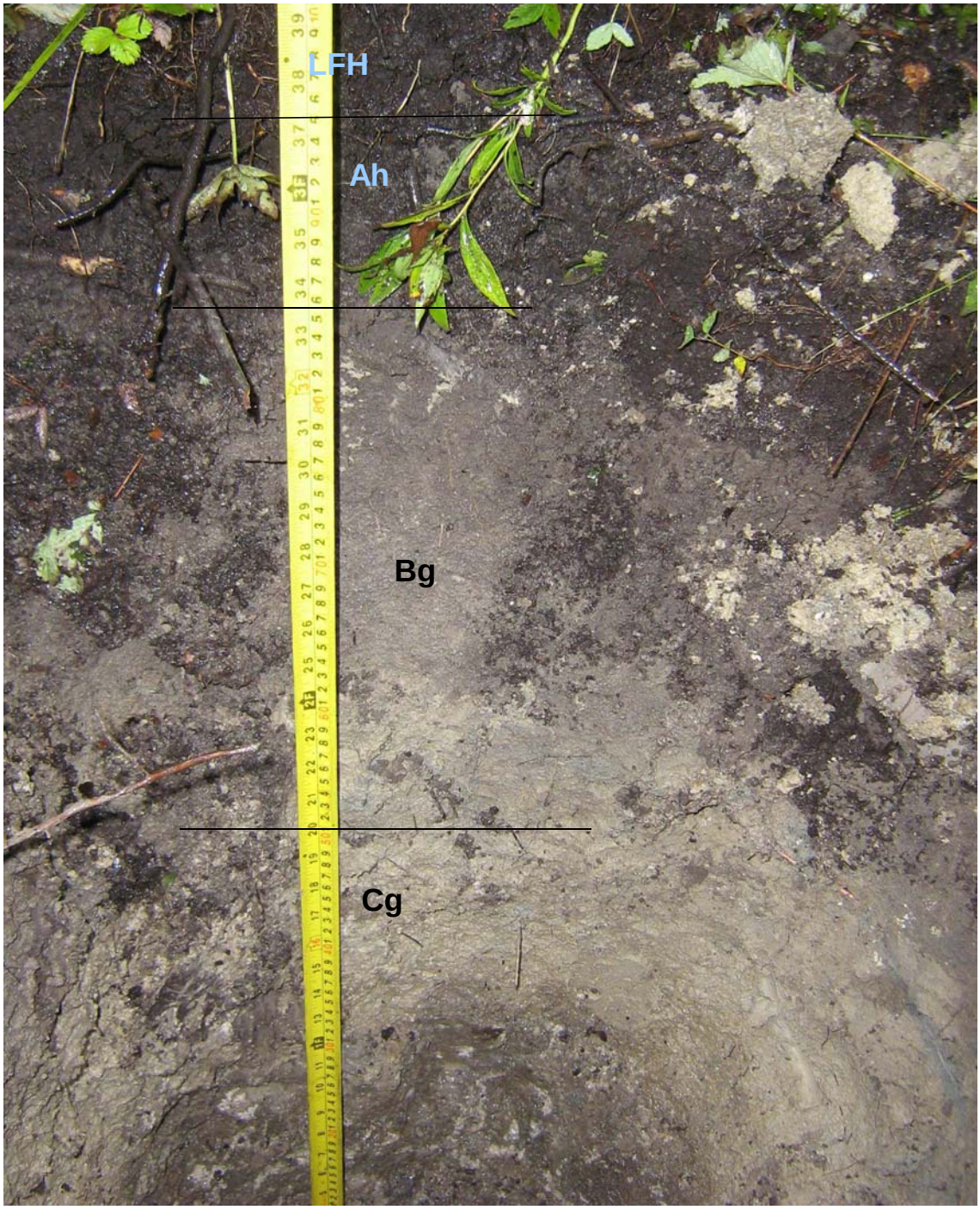


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-18	L Robertson	N	5410014	E	425550

Date	Soil Code 1	Soil Code 2	Soil Code 3
15-Aug-09	TP09-18-35 (Bk)	TP09-18-36 (Bt	

Mode of Deposition	L
% Slope	0-0.5
Slope Length	>50
Slope Class	A
Site Position	4 5
Moisture Regime	
Drainage	4
Stoniness Class	0
Land Use	
Soil Name	Gleyed Gray Luvisol

Depth to:	Bedrock	-
	Carbonates	30
	Distinct Mottles	40
	Prominent Mottles	-
	Mottles and Gley	-
	Gley	40
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	?

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	b	Wavy clear	0	14	10YR 4/1			SiL
B	t	Wavy clear	14	40	7.5YR 3/1			SiCl (blocky)
C	k		40	90	7.5YR 6/2		25	SiCl

Notes

This area is mostly willow and poplar saplings.
An area that had been cleared for winter roads.

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location	
TP09-19	L Robertson	N 5409029	E 426167

Date	Soil Code 1	Soil Code 2	Soil Code 3
15-Aug-09	TP09-19-37 (B2)	TP09-19-38 (B1)	

Mode of Deposition	L
% Slope	1 2
Slope Length	>50
Slope Class	
Site Position	3 4
Moisture Regime	
Drainage	3
Stoniness Class	0
Land Use	
Soil Name	Orthic Dystric Brunisol

Depth to:	
Bedrock	-
Carbonates	42
Distinct Mottles	-
Prominent Mottles	-
Mottles and Gley	-
Gley	-
Pore Size Discontinuity	-

Rockiness Class	1
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	h	Wavy clear	0	4	7.5YR 3/1			SiL
AB		Wavy clear	4	15	7.5YR 4/2			SiClL
B	m		15	42	7.5YR 4/4			SiC
B	2		42	90	10YR 5/3		25	Loam w C

Notes

Sampling are NE of rock outcrop from road. Spruce, poplar, tamarack dominant in area. Ferns as ground cover.

Profile Sketch

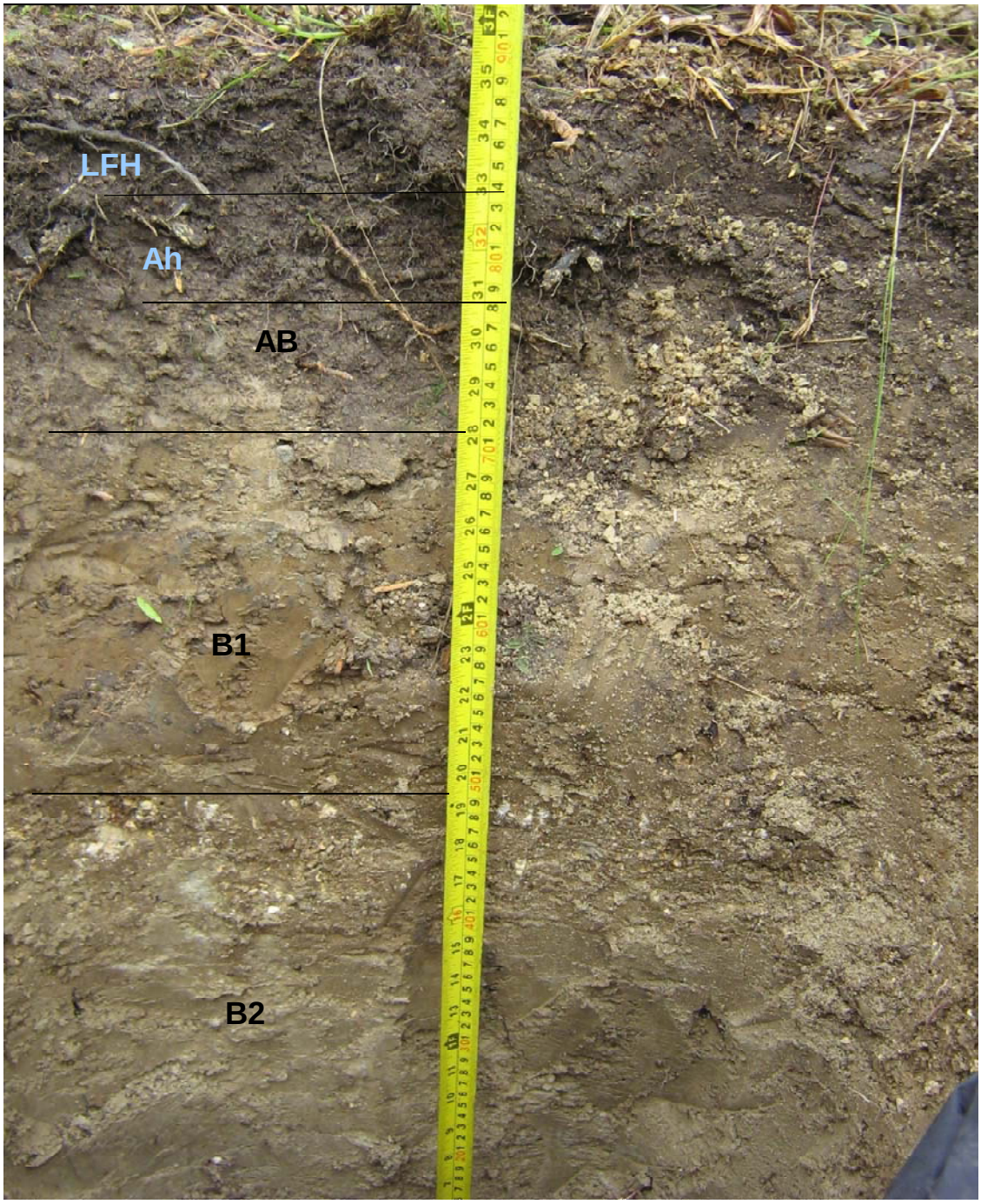


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-20	L Robertson	N	5409108	E	425669

Date	Soil Code 1	Soil Code 2	Soil Code 3
15-Aug-09	TP09-20-39 *Bg)	TP09-20-40 (Ah)	

Mode of Deposition	L
% Slope	0.5-1
Slope Length	>50
Slope Class	
Site Position	5 6
Moisture Regime	
Drainage	4
Stoniness Class	0
Land Use	
Soil Name	Humic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	45
	Prominent Mottles	80
	Mottles and Gley	-
	Gley	106
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	h	Wavy clear	0	20	10YR 2/1			ClL (blocky)
AB		Wavy clear	20	30	10YR 5/1			SiL
B	g		30	106	10YR 6/3	10YR 5/8		SiClL
C	g		106	110	Gley 8/10Y			SiCl

Notes

Test pit located on W side of swamp and outcrop
just inside forested area, mostly tamarack and spruce.

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-21	L Robertson	N	5409035	E	424974

Date	Soil Code 1	Soil Code 2	Soil Code 3
15-Aug-09	TP09-21-41 (AB)	TP09-21-42 (Bg)	

Mode of Deposition	L
% Slope	0-0.5
Slope Length	>50
Slope Class	
Site Position	6 or 1
Moisture Regime	
Drainage	3
Stoniness Class	0
Land Use	
Soil Name	Humic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	60?
	Distinct Mottles	30
	Prominent Mottles	80
	Mottles and Gley	30
	Gley	30
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	h	Wavy clear	0	15	10YR 2/1			SiCIL
AB		Wavy clear	15	30	10YR 5/1			SiCl
B	g		30	95	7.5YR 7/2	7.5YR 2/8	5	SiCIL
					Gley 1 4/5GY			

Notes

Pit located in a meadow SE of the beaver pond

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location		
TP09-22	L Robertson	N 5409446	E	425076

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-22-43 (Ah)	TP09-22-44 (Bg)	

Mode of Deposition	L
% Slope	0.5-1
Slope Length	>50
Slope Class	
Site Position	4 5
Moisture Regime	
Drainage	4 5
Stoniness Class	0
Land Use	
Soil Name	Humnic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	80
	Prominent Mottles	-
	Mottles and Gley	80
	Gley	80
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	h	Wavy clear	0	25	10YR 2/1			SiCl (blocky)
A	e	Wavy clear	25	39	7.5YR 5/2			SiCl
B	g		39	80	10YR 6/2			SiClL
BC	g		80	117	10YR 6/2	10YR 6/6		SiCl

Notes

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-23	L Robertson	N	5409558	E	425422

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-23-45 (Bt)	TP09-23-46 (Ae)	

Mode of Deposition	L
% Slope	2 3
Slope Length	>50
Slope Class	
Site Position	2
Moisture Regime	
Drainage	3 4
Stoniness Class	0
Land Use	
Soil Name	Orthic Gray Luvisol

Depth to:	
Bedrock	-
Carbonates	-
Distinct Mottles	-
Prominent Mottles	-
Mottles and Gley	-
Gley	-
Pore Size Discontinuity	-
Rockiness Class	0
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	e	Wavy clear	0	25	10YR 8/1			SiCl
B	t	Wavy clear	25	39	10YR 3/1			Cl
B	2		39	80				Cl but more sand

Notes

No gley or mottling in this soil, at the top of a hill
poplar stand

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-24	L Robertson	N	5409645	E	425522

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-24-47 *Bg)	TP09-24-48 LFH	

Mode of Deposition	L/O
% Slope	1 2
Slope Length	>50
Slope Class	
Site Position	4 5
Moisture Regime	
Drainage	5 4
Stoniness Class	0
Land Use	
Soil Name	Orthic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	50
	Prominent Mottles	-
	Mottles and Gley	50
	Gley	50
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	15	0	10YR 2/1			
B	g1	Wavy clear	0	60	Gley 1 6/10Y	7.5YR 6/6		SiClL
B	g2	Wavy clear	60	100	Gley 1 5/10Y			SiL

Notes

water ponded at bottom of pit (95-100 cm)

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-25	L Robertson	N	5409299	E	425709

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-25-49 (Bc)	TP09-25-50 (Bt)	

Mode of Deposition	L
% Slope	0.5-1
Slope Length	>50
Slope Class	
Site Position	1
Moisture Regime	
Drainage	3 4
Stoniness Class	0
Land Use	
Soil Name	Orthic Gray Luvisol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	45
	Prominent Mottles	-
	Mottles and Gley	-
	Gley	-
	Pore Size Discontinuity	-

Rockiness Class	0
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	5	0				
A	h/e	Wavy clear	0	5				
AB		Wavy clear	5	12				
B	t		12	45	10YR 4/4			SiClL
BC			45	120	10YR 6/4			SiL

Notes

are is on top of a hill in the middle of the drilling area
some stoniness and pebbles at 50cm

Profile Sketch

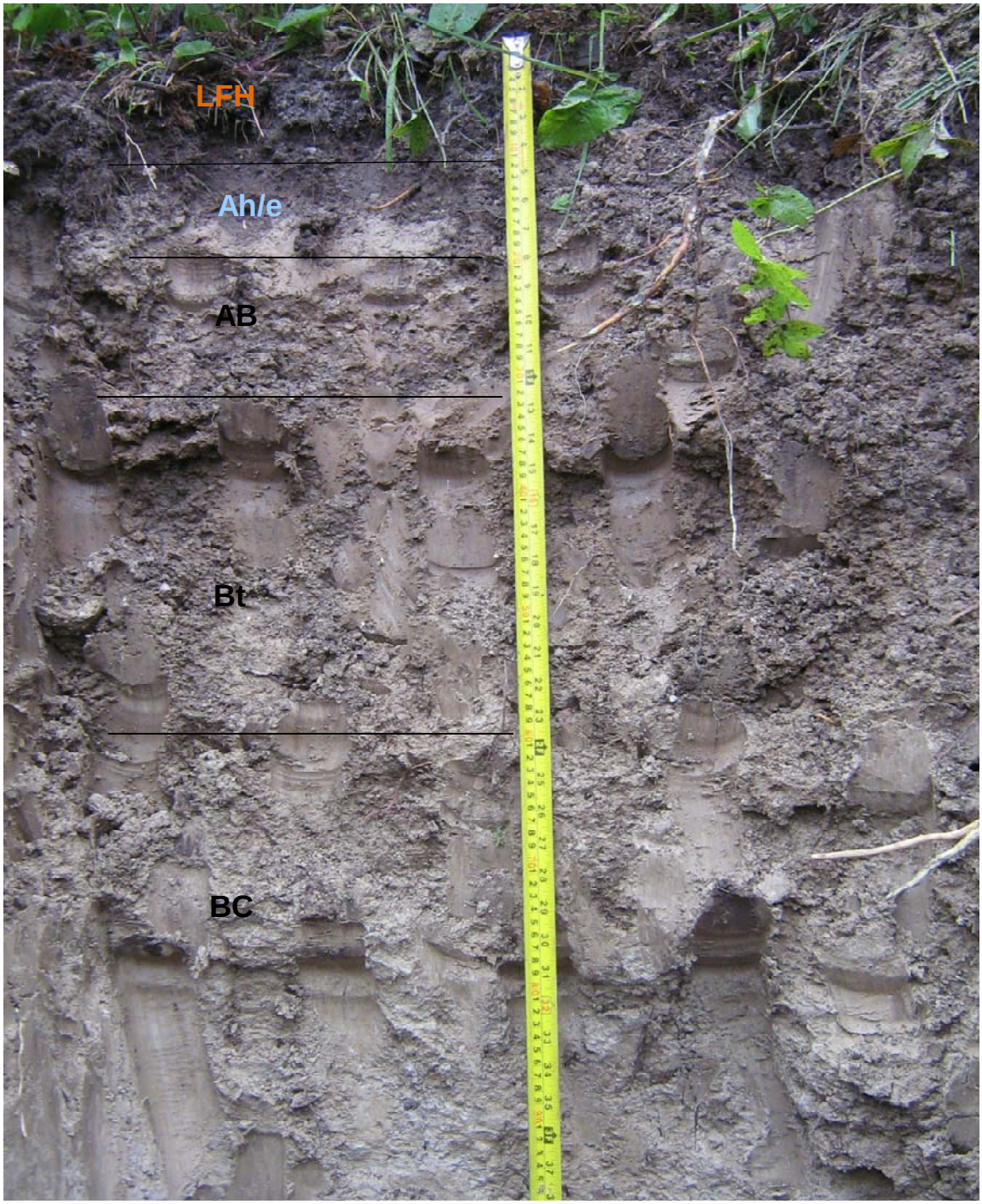


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-26	L Robertson	N	5409289	E	426170

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-26-51 (Bg)	TP09-26-52 (AB)	

Mode of Deposition	L
% Slope	2 5
Slope Length	>50
Slope Class	
Site Position	3
Moisture Regime	
Drainage	3 4
Stoniness Class	1
Land Use	
Soil Name	Orthic Gleysol

Depth to:	
Bedrock	-
Carbonates	-
Distinct Mottles	-
Prominent Mottles	-
Mottles and Gley	30
Gley	-
Pore Size Discontinuity	-
Rockiness Class	0
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	10	0				
A	h	Wavy clear	0	5				SiClL
AB		Wavy clear	5	20	7.5YR 4/1			ClL
B	g		20	115	7.5YR 6/1		50	SiClL
Bedrock								

Notes

area is midslope near a rock outcrop (8m away)
profile is very underdevloped as far as horizon distinctness

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-27	L Robertson	N	5409625	E	425911

Date	Soil Code 1	Soil Code 2	Soil Code 3
16-Aug-09	TP09-27-53 (Bg2)	TP09-27-54 (Bg1)	

Mode of Deposition	L
% Slope	0.5-1
Slope Length	>50
Slope Class	
Site Position	5
Moisture Regime	
Drainage	5
Stoniness Class	0
Land Use	
Soil Name	Humic Gleysol

Depth to:		
	Bedrock	-
	Carbonates	-
	Distinct Mottles	-
	Prominent Mottles	-
	Mottles and Gley	25
	Gley	25
	Pore Size Discontinuity	-
	Rockiness Class	0
	Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH		Wavy clear	10	0				
A	e/B	Wavy clear	0	10	10YR 6/1			SiL
B	g1	Wavy clear	10	50	10YR 5/2	gley 2 4/10BG		SiClL
B	g2		50	110	Gleu 1 7/10Y	7.5YR 4/6		SiL

Notes

the split between Bg1 and Bg2 is saturation level
water seeping in at 50cm
layer of small pebbles at bg1 bg2 transition

Profile Sketch

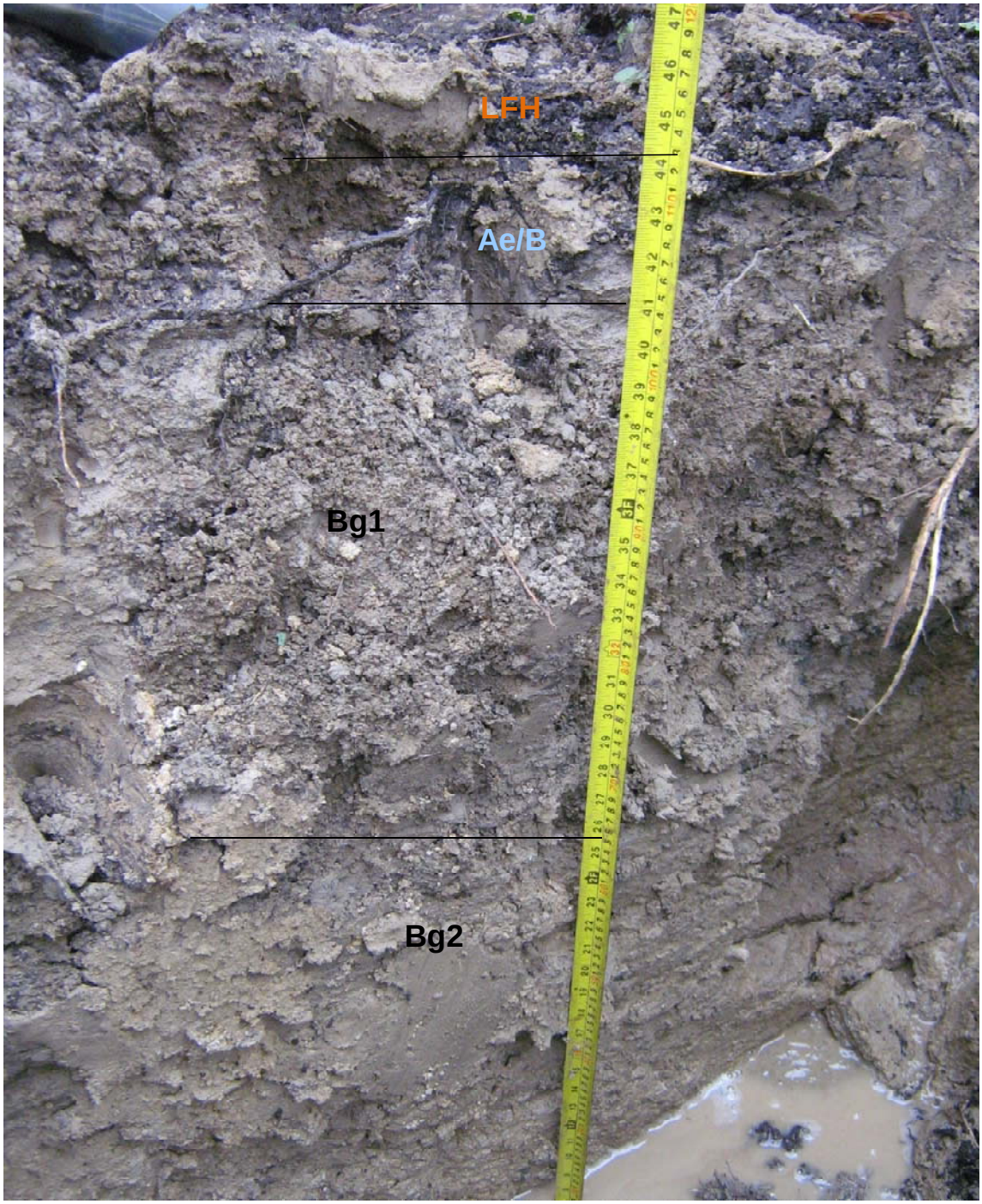


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP28	L Robertson	N	5410058	E	425884

Date	Soil Code 1	Soil Code 2	Soil Code 3
17-Aug-09	TP28-55 (Ah1)	TP28-56 (Ah2)	

Mode of Deposition	L
% Slope	0-0.5
Slope Length	>50
Slope Class	
Site Position	5
Moisture Regime	
Drainage	5
Stoniness Class	0
Land Use	
Soil Name	Humic Gleysol

Depth to:	
Bedrock	-
Carbonates	45
Distinct Mottles	40
Prominent Mottles	-
Mottles and Gley	40
Gley	40
Pore Size Discontinuity	-

Rockiness Class	0
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH			10	0				
A	h		0	10	10YR 2/1			SiL
B	g		10	35	10YR 3/1			ClL
Ah/LFH	g1		35	45	10YR 2/1			SiClL
B	g		45	115	gley 1 4/10GY			SiClL

Notes

on the north edge of the property approx 50m from wetland

Profile Sketch

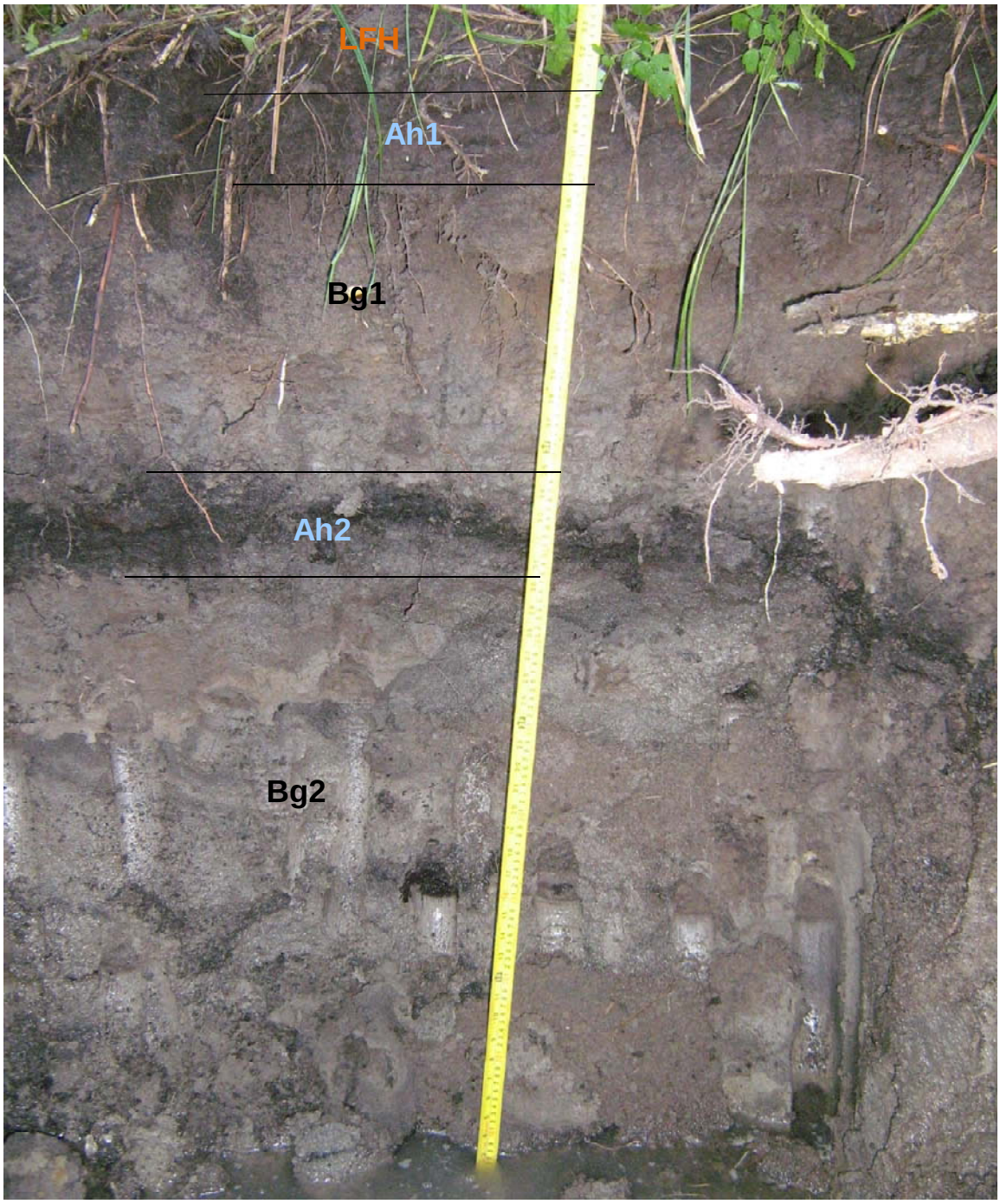


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP29	L Robertson	N	5408972	E	426791

Date	Soil Code 1	Soil Code 2	Soil Code 3
17-Aug-09	TP29-57 (Bt)	TP29-58 (C)	

Mode of Deposition	G
% Slope	>5
Slope Length	>50
Slope Class	
Site Position	6
Moisture Regime	
Drainage	2
Stoniness Class	0
Land Use	
Soil Name	Orthic Gray Luvisol

Depth to:	
Bedrock	-
Carbonates	15
Distinct Mottles	-
Prominent Mottles	-
Mottles and Gley	-
Gley	-
Pore Size Discontinuity	-
Rockiness Class	2
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
A	p		0	15	10YR 5/3		10	SL
B	k		0	27	10YR 5/4		50	SiClL
B	t		27	45	10YR 6/2			SiL matrix
C	PM		45	200	10YR 4/3		90	sandy gravel

Notes

Pit area on farm property behind rock outcrop
potentil borrow area?

Profile Sketch

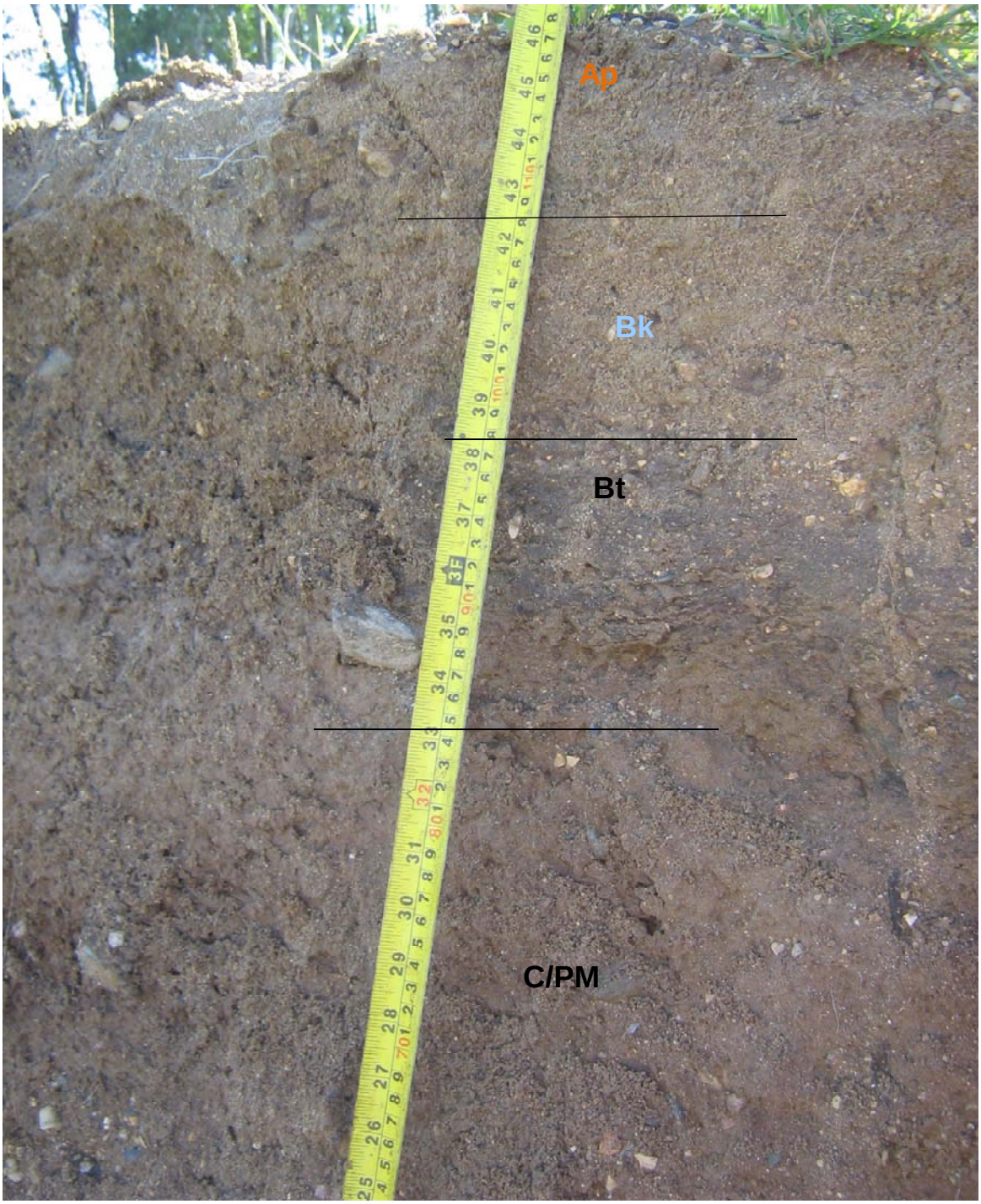


Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Site No	Surveyor	Geographic Location			
TP09-30	L Robertson	N	5410156	E	424703

Date	Soil Code 1	Soil Code 2	Soil Code 3
17-Aug-09	TP09-30-59 (B3)	TP09-30-60 (B2)	

Mode of Deposition	L
% Slope	0-0.5
Slope Length	>50
Slope Class	
Site Position	6
Moisture Regime	
Drainage	4
Stoniness Class	0
Land Use	
Soil Name	Humic Gleysol

Depth to:	
Bedrock	-
Carbonates	-
Distinct Mottles	35
Prominent Mottles	-
Mottles and Gley	-
Gley	-
Pore Size Discontinuity	-

Rockiness Class	0
Calcareous Class	0

Horizon			Depth		Matrix Colours	Mottle Colours	CF%	Texture
Ma	Suffix	Boundary	Up	Low				
LFH			10	0				
A	h		0	14	10YR 2/1			SiClL
B	g		14	54	7.5YR 5/2			SiClL
B	2		54	67	10YR 8/1			L
B3	PM		67	122	7.5YR 5/2			SiClL

Notes

area is in the NW corner of the pit/project area.
much drier profile than I expected

Profile Sketch



Photo 1 - Horizon



Photo 2 - Test Pit Area



Photo 3 - Pedon

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-01
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site	Tailngs	**Temp**	6 C	**Started**	8-May
				Finished	8-May
Location Northing	5411950	**Depth**	105	**Elevation**	362.3
Easting	423975	**Width**	121	**Datum**	WGS 84
Error	6	**Length**	183	**Ground Surface**	grassy
Method of Excavation	Bobcat			**Water Levels**	some water seeping into eoh

Mode of Deposition	
% Slope	2 to 5
Slope Length (m)	100
Slope Class	C
Site Position	2
Moisture Regime	
Drainage	5
Soil name	Eutric Brunisol
Stoniness Class	2
Land Use	community pasture

Depth to:		
	Bedrock	-
	Carbonates	60
	Distinct Mottles	35
	Prominent Mottles	35
	Mottles and Gley	60
	Gley	60
	Pore Size Discontinuity	50 appearance of carbonate pebbles
	Rockiness Class	0
	Calcareous Class	

site is located on community pasture, top layer of material appears to have been scraped a number of years ago for better grazing conditions, rock mounded wind breaks present. Site photo taken facing N.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	Ap	SiClL	CLAY	low		firm		10YR 3/1	dry	blocky	weak		none
	10	50	CLAY	Bf	SiCl	SILT	med		stiff		5 YR 2.5/2	moist	blocky	moderate		slow
	50	105	SILT	Ck	SiCl	SILT	high		firm		10YR 6/3	wet	blocky	weak		moderate

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**8-May-10**	**HOLE ID:**	**TP10-01**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Horizon



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-02
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site	Tailngs	**Temp**	6 C	**Started**	8-May
				Finished	8-May
Location Northing	5412378	**Depth**	130	**Elevation**	364.7
Easting	424225	**Width**	110	**Datum**	WGS 84
Error	6	**Length**	140	**Ground Surface**	grassy
Method of Excavation	Bobcat			**Water Levels**	some water seeping into eoh

Mode of Deposition		Depth to: Bedrock	-
% Slope	2 to 5	Carbonates	60
Slope Length (m)	>200	Distinct Mottles	70
Slope Class	C	Prominent Mottles	70
Site Position	6	Mottles and Gley	70
Moisture Regime	4	Gley	125
Drainage	poor/mod	Pore Size Discontinuity	
Soil name	Eutric Brunisol		
Stoniness Class	2	Rockiness Class	0
Land Use	Community Pasture	Calcareous Class	

site is located in an area of small cluster of trees in the community pasture. Site photo is facing north. A banding of calcareous material is present at 65cm depth, subangular particles poorly graded.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	13	CLAY	Ap	SiL	SILT	low		soft		10YR 2/1	moist	massive	none		none
	13	63	CLAY	Bf	SiCl	SILT	med		stiff		10YR 4/2	dry/moist	blocky	moderate		slow
	63	130	CLAY	Ck	SiCl	SILT	high		firm/stiff		10YR 6/4	wet	varved	weak		rapid
										mottles	5YR 4/6					

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**8-May-10**	**HOLE ID:**	**TP10-02**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-03
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailngs	**Temp**	6 C	**Started**	8-May
					Finished	8-May
Location	Northing	5412431	**Depth**	100	**Elevation**	364.7
	Easting	423514	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some water seeping into eoh at 84 cm

Mode of Deposition		Depth to: Bedrock	-
% Slope	0.5 to 2	Carbonates	-
Slope Length (m)	>200	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	4 or 5	Mottles and Gley	-
Moisture Regime		Gley	-
Drainage	well / mod	Pore Size Discontinuity	84
Soil name	Terric Mesisol		
Stoniness Class	1	Rockiness Class	0
Land Use	community pasture	Calcareous Class	

Site is located in the community pasture on low ground near a small marsh, site photo facing S.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	36	ORGANIC	Om	organic loam						5Y 2.5/1	moist	massive	none		none
	36	84	SAND	B	SiSL	SILT	well graded				2.5Y 5/2	moist	massive	none		none
	84	100	SAND	C	S	SAND	gap graded		firm		2.5Y 6/3	wet	laminated	none		none

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**8-May-10**	**HOLE ID:**	**TP10-03**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-04
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site	Tailngs	**Temp**	6 C	**Started**	8-May
				Finished	8-May
Location Northing	5412798	**Depth**	120	**Elevation**	
Easting	423197	**Width**		**Datum**	WGS 84
Error	7	**Length**		**Ground Surface**	grassy
Method of Excavation	Bobcat			**Water Levels**	none present at surface

Mode of Deposition		Depth to: Bedrock	-
% Slope	2 to 5	Carbonates	100
Slope Length (m)	100	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	5	Mottles and Gley	-
Moisture Regime	3	Gley	70
Drainage	mod/well	Pore Size Discontinuity	only a gradual change in profile
Soil name	Gray Brown Luvisol		
Stoniness Class	1	Rockiness Class	0
Land Use	community pasture	Calcareous Class	

The soil profile transitions from AB to B indistinguishably only a slight change of texture from clay with some silt to clay with trace silt is the difference. Some water seeping into eoh. The clay transiitons in a hrozintal and vertical plane, difficult to distinguish a pattern, some cobbles and pebbles are intermixed with the clay material

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	25	SILT	Ah	SiCIL	CLAY	high		soft		10YR 2/1	moist	blocky	none		none
	25	?	CLAY	AB	SiCl	SILT	low		firm		7.5YR 5/2	moist	massive	none		slow
	?	120	CLAY	BC	SiCl	SILT	high		firm		7.5YR 5/3	moist/wet	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**8-May-10**	**HOLE ID:**	**TP10-04**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-05
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailngs	**Temp**	6 C	**Started**	8-May
					Finished	8-May
Location	Northing	5413019	**Depth**	155	**Elevation**	
	Easting	423640	**Width**		**Datum**	WGS 84
	Error	9	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	standing water on sfc

Mode of Deposition		Depth to:	Bedrock	-	
% Slope	0 to 0.5		Carbonates	30	
Slope Length (m)	>100		Distinct Mottles	70	
Slope Class	A		Prominent Mottles	70	
Site Position	4		Mottles and Gley	70	Water is seeping into hole throug 50-60cm depth band of calcareous pebbles (discontinuous)
Moisture Regime			Gley	-	
Drainage	poor		Pore Size Discontinuity	-	
Soil name	Gray Brown Luvisol				
Stoniness Class			Rockiness Class	0	
Land Use	community pasture		Calcareous Class		

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	14	SILT	Ahp	SiL	Sand	none		firm		10YR 3/1	moist	blocky	none		none
	14	40	CLAY	B	SiCl	SILT	low		firm		10YR 5/4	moist	blocky	none		slow
	40	110	CLAY	BC	SiCl	SILT	low		firm		10YR 7/4	moist	blocky	none		slow
	110	155	CLAY	C	Cl	SILT	high		stiff		10YR 5/3	wet	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**8-May-10**	**HOLE ID:**	**TP10-05**
LOGGED By:	**L Robertson**	**CHECKED BY:**	

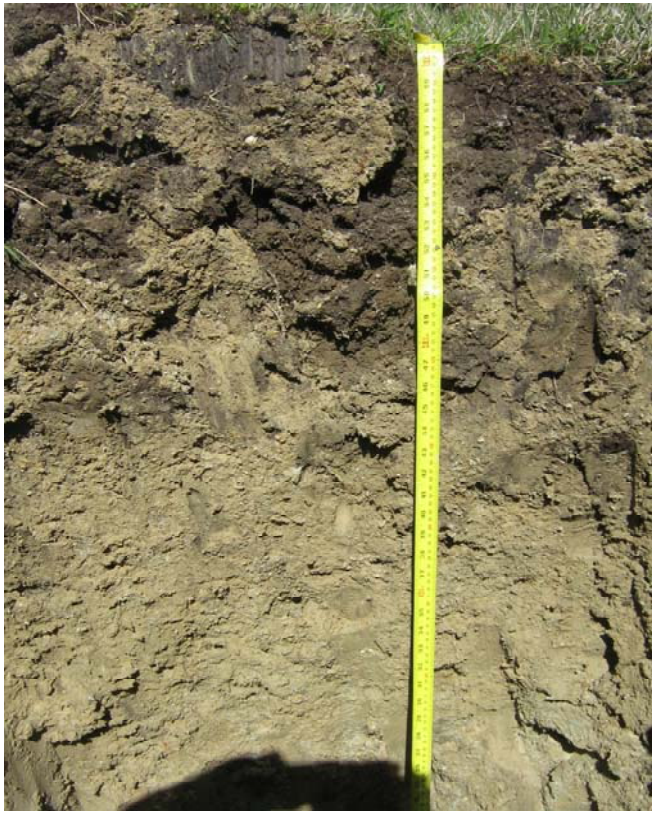


Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-06
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailngs	**Temp**	6 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413148	**Depth**	110	**Elevation**	
	Easting	423814	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	110
% Slope	0.5 to 2	Carbonates	50
Slope Length (m)	>200	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	2	Mottles and Gley	-
Moisture Regime	3	Gley	-
Drainage	mod/poor	Pore Size Discontinuity	50
Soil name	Eutric Brunisol		
Stoniness Class		Rockiness Class	1
Land Use	edge of community pasture	Calcareous Class	

Site is located on edge of the rock outcrop about 5m from the outcrop. Some seepage of water at the LFH clay interface but no water acumulating at the end of hole

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	5	CLAY	LFH/Ah	ClL	SILT			soft		10YR 2/2	wet	blocky	none		
	5	50	CLAY	Bfg	Cl	SILT	high		Stiff/v. stiff		10YR 4/1	moist	massive	none		slow
	50	110	CLAY	C	SiCl	SILT	mod		Stiff/v. stiff		10YR 5/1	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-06**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-07
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailngs	**Temp**	4 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413128	**Depth**	150	**Elevation**	
	Easting	423842	**Width**		**Datum**	WGS 84
	Error	8	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	150
% Slope	0.5 to 2	Carbonates	40
Slope Length (m)	>200	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	2	Mottles and Gley	-
Moisture Regime	3	Gley	-
Drainage	mod/poor	Pore Size Discontinuity	intermittent
Soil name	Melanic Brunisol		
Stoniness Class		Rockiness Class	1
Land Use	edge of community pasture	Calcareous Class	

can be classified as a planar fissured clay, slickenside, indicates a high shrink swell potential. Some conductivity along the bedrock interface but very slow. Presence of subroudned calcareous pebbles in C horizon 10%, max os 5cm in dia.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	15	SILT	LFH/Ah	SiCIL	CLAY			soft		10YR 2/2	moist	blocky	none		
	15	50	CLAY	Bfg	SiCl	SILT	high		Stiff/v. stiff		10YR 4/2	moist	blocky	none		slow
	50	150	CLAY	C	SiCl	SILT	high		Stiff/v. stiff		10YR 4/3	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-07**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-08
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailngs	**Temp**	6 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413114	**Depth**	160	**Elevation**	
	Easting	423902	**Width**		**Datum**	WGS 84
	Error	7	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	160	
% Slope	0.5 to 2	Carbonates	40	
Slope Length (m)	>200	Distinct Mottles	-	
Slope Class	B	Prominent Mottles	-	
Site Position	2	Mottles and Gley	-	some potential visible pyrite and bioties in the C-L layer/pockets, sample taken for ABA analysis. Might be transported lab till, will likely behave as clay.
Moisture Regime	3	Gley	-	
Drainage	mod/poor	Pore Size Discontinuity	40	
Soil name				
Stoniness Class		Rockiness Class	1	
Land Use	edge of community pasture	Calcareous Class		

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiCIL	Sand			soft		10YR 2/2	moist	blocky	none		
	20	70	CLAY	C	SiCl	SILT	mod		Stiff/v. stiff		10YR 8/1	moist	blocky	none		slow
	50		CLAY	C	ClSL	Sand	mod		firm		10YR 5/4	moist	massive	none		slow
	70	160	CLAY	C	SiCl	SILT	high		Stiff/v. stiff		10YR 4/3	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-08**
LOGGED By:	**L Robertson**	**CHECKED BY:**	

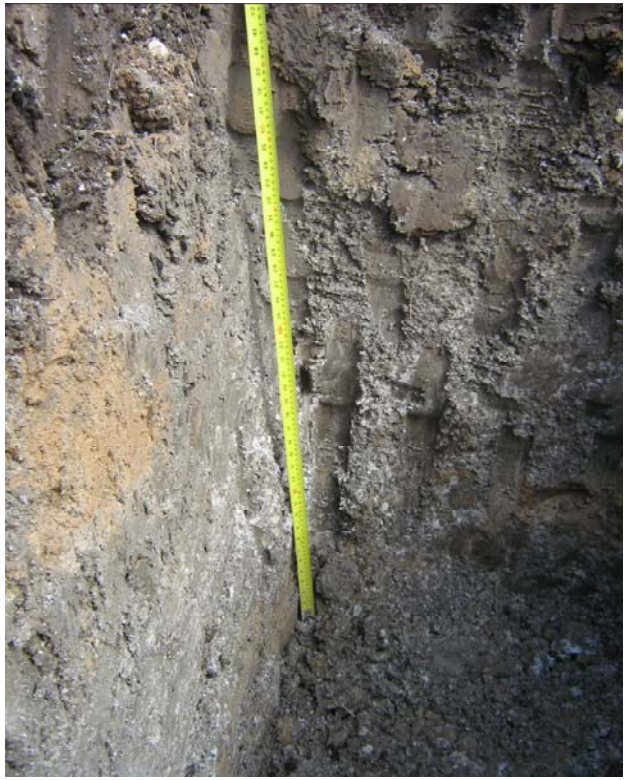


Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-09
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	4 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413351	**Depth**	185	**Elevation**	
	Easting	423865	**Width**		**Datum**	WGS 84
	Error	14	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	-
% Slope	2 to 5	Carbonates	40
Slope Length (m)	100	Distinct Mottles	-
Slope Class	C	Prominent Mottles	-
Site Position	3	Mottles and Gley	-
Moisture Regime	3	Gley	-
Drainage	mod/poor	Pore Size Discontinuity	60
Soil name			
Stoniness Class	mod	Rockiness Class	1
Land Use	edge of community pasture on cowpath	Calcareous Class	

pit is located just off a copwpath into a small stand of birch/poplar/pine, boulders evident at the ground surface, water is seeping inot the pit at 40cm. Material is brown/red oragne brown mostly some coarse sand in samll intermittnet pockets. presence of mica and pyrite finely disseminated in the material, at 60cm depth the mamterial becomes less permeable, roots to 50cm

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	30	SILT	LFH/Ah	SiL	SAND			soft		10YR 2/2	wet	blocky	none		
	30	160	SILT	C	SiSL	SAND	low		firm			moist	homogenous	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-09**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile (close up)

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-10
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	4 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413487	**Depth**	200	**Elevation**	
	Easting	424103	**Width**		**Datum**	WGS 84
	Error	12	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	-
% Slope	0.5 to 2	Carbonates	40
Slope Length (m)	no continous slope, variable	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	3	Mottles and Gley	-
Moisture Regime	3	Gley	160
Drainage	Mod	Pore Size Discontinuity	40
Soil name	Melanic Brunisol		
Stoniness Class	mod	Rockiness Class	2
Land Use	community pasture	Calcareous Class	

small (<1cm) subrounded calcareous particles present through the profile. Root zone extends to 45cm, the clay is dark grey with light grey mottling, pit is approximately 5m from rock outcrop

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	Ah	SiClL	SAND			soft		10YR 2/2	moist	blocky	none		
	10	40	CLAY	Bf	SiCl	SILT	low		soft			moist	blocky	none		slow
	40	200	CLAY	C	Cl	SILT	med		firm			moist	blocky/laminated	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-10**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-11
Project		Rainy River Environmental	**Weather**	raining	**Inspector**	L. Robertson
Site		Tailings	**Temp**	4 C	**Started**	9-May
					Finished	9-May
Location	Northing	5413210	**Depth**	110	**Elevation**	
	Easting	424148	**Width**		**Datum**	WGS 84
	Error	9	**Length**		**Ground Surface**	grassy/scrub
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition		Bedrock	-	
% Slope	0.5 to 2	Carbonates	40	
Slope Length (m)	no continous slope, variable	Distinct Mottles	-	
Slope Class	B	Prominent Mottles	-	
Site Position	3	Mottles and Gley	-	
Moisture Regime	3	Gley	160	
Drainage	Mod	Pore Size Discontinuity	40	
Soil name	Eutric Brunisol (gleyed)			
Stoniness Class		Rockiness Class	0	
Land Use	bushlot	Calcareous Class		

there are small pebbles present in the Cgk layer in the very stiff clay. The roots extend somewhat below 50cm, no water accumulation at the eoh but whole prfile is wet. Seem to be out of the area where sand is present in the top 2m.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	5	SILT	Ah	SiL	SAND			soft		10YR 2/1	moist	blocky	none		
	5	50	CLAY	Bf	SiCl	SILT	low		firm		10YR 6/2	moist	blocky	none		slow
	50	110	CLAY	Cgk	Cl	SILT	med		v. stiff			moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-11**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-12
Project	Rainy River Environmental	**Weather**	raining	**Inspector**	L. Robertson
Site	Tailings	**Temp**	4 C	**Started**	9-May
				Finished	9-May
Location Northing	5413194	**Depth**	70	**Elevation**	
Easting	424412	**Width**		**Datum**	WGS 84
Error	13	**Length**		**Ground Surface**	small trees and shrubs some moss
Method of Excavation	Bobcat			**Water Levels**	some standing water on sfc

Mode of Deposition		Depth to: Bedrock	70
% Slope	2 to 5	Carbonates	-
Slope Length (m)	no continous slope, variable	Distinct Mottles	-
Slope Class	C	Prominent Mottles	-
Site Position	3	Mottles and Gley	-
Moisture Regime	3	Gley	40
Drainage	poor	Pore Size Discontinuity	40
Soil name	Melanic Brunisol		
Stoniness Class		Rockiness Class	2
Land Use	bushlot	Calcareous Class	

site is loacted at the edge of a rock outcrop near the original Nuinsco excavation., just outside thedry beaver pond area.

Sketch	Coarse / Fine / Peat	Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from – to														
	0 – 20	SILT	Ah	SiCIL	SAND			soft		10YR 2/2	moist	blocky	none		
	20 – 40	CLAY	Bf	SiCl	SILT	low		stiff		orange brown	moist	blocky	none		slow
	40 – 70	CLAY	C	Cl	SILT	high		v. stiff		grey blue	moist/wet	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**9-May-10**	**HOLE ID:**	**TP10-12**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources		**Job No**	M09559A04A06		**Pit No**	TP10-13
Project	Rainy River Environmental		**Weather**	sunny		**Inspector**	L. Robertson
Site	Tailings		**Temp**	10 C		**Started**	10-May
						Finished	10-May
Location	Northing	5412885	**Depth**	140		**Elevation**	
	Easting	424728	**Width**			**Datum**	WGS 84
	Error	5	**Length**			**Ground Surface**	small trees and shrubs some moss
Method of Excavation	Bobcat					**Water Levels**	upper horizon prodcuing water between 5 and 40 cm

Mode of Deposition		Depth to: Bedrock	140
% Slope	0.5 to 2	Carbonates	90
Slope Length (m)	50	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	3	Mottles and Gley	-
Moisture Regime	3	Gley	-
Drainage	mod	Pore Size Discontinuity	40
Soil name			
Stoniness Class		Rockiness Class	2
Land Use	bushlot	Calcareous Class	

site is located on the SW side of rock outcrop off Marr rd. some pockets of finer clay material are present in the lower unit (suspect Lab till). Some heavy clay present at bedrcok surface between 1-2cm (likely discontinuous)

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	40	SAND		SL	SAND			max ps 1 cm	unded to sub a	brown	wet	homogenous	none		rapid
	40	90	CLAY		SiCl	SILT	med		v. stiff		dark brown	moist	homogenous	none		slow
	90	110	CLAY		Cl	SILT	high		v. stiff		grey light grey	moist	homogenous/laminated	none		slow
	110	140	SAND		GS	GRAVEL			40 cm	subangular	brown	moist	homogenous	none	poorly graded	

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-13**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile (close up)

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-14
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412540	**Depth**	110	**Elevation**	
	Easting	424720	**Width**		**Datum**	WGS 84
	Error	9	**Length**		**Ground Surface**	small birch and poplar
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	110
% Slope	0.5 to 2	Carbonates	45
Slope Length (m)	50	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	3	Mottles and Gley	-
Moisture Regime	3	Gley	45
Drainage	mod	Pore Size Discontinuity	45
Soil name	Melanic Brunisol (gleyed)		
Stoniness Class		Rockiness Class	1
Land Use	bushlot	Calcareous Class	

Site is located at the edge of a small rock outcrop, the root zone extends to about 40cm.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / *Plasticity*	Density / Sensitivity	Max PS / *Consistency*	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / *Dry Strength* / Odour	*Dilatancy* / Foreign Materials
	D from	to														
	0	10	SILT	Ah	SiL	SAND			soft		10YR 2/1	moist	homogenous	none		
	10	20	SAND	AB	SiL	SILT			soft		10YR 4/1	moist	homogenous	none		
	20	45	SAND	Bf	SL	SILT			firm		10YR 5/4	moist/wet	homogenous	none		
	45	110	CLAY	Cg	SiCl	SILT	high		v stiff		10YR 4/1 and 5/4	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-14**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-15
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412671	**Depth**	120	**Elevation**	
	Easting	424651	**Width**		**Datum**	WGS 84
	Error	20	**Length**		**Ground Surface**	small birch and poplar
Method of Excavation		Bobcat			**Water Levels**	water is being produced in the 0-45 layer

		Depth to:		
Mode of Deposition			Bedrock	120
% Slope			Carbonates	60
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	45
Drainage			Pore Size Discontinuity	45
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	bushlot		Calcareous Class	

Site is located on the edge of a rock outcrop to the north of TP14.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	45	SAND		GS	GRAVEL			soft		brown	wet	homogenous	none		
	45	60	CLAY		Cl	SILT	high		stiff		dark grey	moist	blocky	none		slow
	60	120	CLAY		SiCl	SILT	high		v stiff		brown grey	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-15**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-16
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412449	**Depth**	85	**Elevation**	
	Easting	424847	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	85
% Slope		Carbonates	50
Slope Length (m)		Distinct Mottles	-
Slope Class		Prominent Mottles	-
Site Position		Mottles and Gley	-
Moisture Regime		Gley	50
Drainage		Pore Size Discontinuity	50
Soil name			
Stoniness Class		Rockiness Class	1
Land Use	bushlot	Calcareous Class	

the site is located at the edge of a rock outcrop, small poplar and birch in the area also larger pine upslope of the TP. The soil present is more developed than previous TP's likely due to the moderate drainage.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	15		LFH												
	15	50	SAND		GS	GRAVEL			10 cm	sub angular	brown	moist	homogenous	none		
	50	85	CLAY		SiCl	SILT	high		v stiff		dark grey blue	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-16**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-17
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412389	**Depth**	110	**Elevation**	
	Easting	425002	**Width**		**Datum**	WGS 84
	Error	10	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	110
% Slope			Carbonates	15
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	15
Drainage			Pore Size Discontinuity	15
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	bushlot		Calcareous Class	

the site is located at the edge of a rock outcrop in a flatter area, more undistrubed, poor to moderate drainage, small poplar stands in the area, the root zone extends to the start of the clay layer. Some water is ponding at the eoh

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	15		LFH												
	15	110	CLAY		SiCl	SILT	high		v stiff	sub angular	dark grey	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No. M09559A04/A06
PROJECT NAME: Rainy River Environmental and Engineering
LOCATION: Blackhawk, ON
DATE: 10-May-10 **HOLE ID:** TP10-17
LOGGED By: L Robertson **CHECKED BY:**



Photo 1 - Soil Profile



Photo 2 - Spoil Pile (close up)

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-18
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412521	**Depth**	70	**Elevation**	
	Easting	425288	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	70
% Slope			Carbonates	30
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	30
Drainage			Pore Size Discontinuity	30
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	bushlot		Calcareous Class	

Site islocated along the edge of a rock outcrop in the middle of a bushlot

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10		LFH												
	10	30	SAND		SiL	SILT	low		soft		brown grey	wet	homogenous	none		rapid
	30	70	CLAY		SiCl	SILT	high		v stiff	sub angular	dark grey	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-18**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile (close up)

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-19
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	10-May
					Finished	10-May
Location	Northing	5412243	**Depth**	100	**Elevation**	
	Easting	425236	**Width**		**Datum**	WGS 84
	Error	8	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to:	Bedrock	100
% Slope			Carbonates	50
Slope Length (m)			Distinct Mottles	50
Slope Class			Prominent Mottles	50
Site Position			Mottles and Gley	50
Moisture Regime			Gley	50
Drainage			Pore Size Discontinuity	50
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	bushlot		Calcareous Class	

site is at S end of rock outcrop, some interlayering of material is present but whole will behave as clay, site is moderately drained, some small seepage observed in face, the root zone extends to 25 to 30cm. Poplar and birch stand in area.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10		LFH												
	10	50	SAND		SiL	SILT	low		soft		brown and light	moist	homogenous	none		
	50	100	CLAY		SiCl	SILT	med		stiff		dark grey with	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**10-May-10**	**HOLE ID:**	**TP10-19**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-20
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	11-May
					Finished	11-May
Location	Northing	5412173	**Depth**	100	**Elevation**	
	Easting	424881	**Width**		**Datum**	WGS 84
	Error	8	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to:	Bedrock	-
% Slope	0 to 0.5		Carbonates	30
Slope Length (m)	variable		Distinct Mottles	-
Slope Class	A		Prominent Mottles	-
Site Position	1		Mottles and Gley	-
Moisture Regime	mod-well		Gley	-
Drainage	Melanic Brunisol		Pore Size Discontinuity	-
Soil name				
Stoniness Class	0		Rockiness Class	1 some small rocks present at surface
Land Use	bushlot		Calcareous Class	

carbonates are present in subroudned nodules to a max size of about 1cm. Site is located N of core shack on N edge of RR property line in grassy and partially wooded area. The root zone extend into the Ck to about 75 cm, slightly different appearance of the clay from the root zone influence.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND	low		soft		10YR 3/1	moist	blocky	none		none
	10	25	CLAY	AB	SiClL	SAND	med		firm		10YR 6/2	moist	homogenous	none		none
	25	60	CLAY	Bf	SiCl	SILT	med		stiff		10YR 4/3	moist	homogenous	none		slow
	60	100	CLAY	Ck	ClL	SAND	med		stiff		10YR 6/4	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**11-May-10**	**HOLE ID:**	**TP10-20**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-21
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	11-May
					Finished	11-May
Location	Northing	5412100	**Depth**	65	**Elevation**	
	Easting	424739	**Width**		**Datum**	WGS 84
	Error	3	**Length**		**Ground Surface**	
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	65
% Slope			Carbonates	-
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	-
Drainage			Pore Size Discontinuity	30
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	bushlot		Calcareous Class	

Site is located across the road from TP20, hole is about 8m from outcrop in photo.grassy area with small trees present. The clay layer contains some coarser sand and gravel intermixed (red-brown) but overall the material would behave as clay.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / *Plasticity*	Density / Sensitivity	Max PS / *Consistency*	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / *Dry Strength* / Odour	*Dilatancy* / Foreign Materials
	D from	to														
	0	5		LFH												
	5	30	SAND		SiL	SILT	low		soft		greyish white	moist	homogenous	none		
	30	65	CLAY		SiCl	SILT	low		stiff		grey brown	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**11-May-10**	**HOLE ID:**	**TP10-21**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-22
Project	Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site	Tailings	**Temp**	10 C	**Started**	11-May
				Finished	11-May
Location	Northing 5411712	**Depth**	100	**Elevation**	
	Easting 424511	**Width**		**Datum**	WGS 84
	Error 4	**Length**		**Ground Surface**	long grass and small willows
Method of Excavation	Bobcat			**Water Levels**	relatively dry area no surface ponding

Mode of Deposition		Depth to: Bedrock	-
% Slope	0 to 0.5	Carbonates	40
Slope Length (m)	variable	Distinct Mottles	25
Slope Class	B	Prominent Mottles	25
Site Position	1	Mottles and Gley	-
Moisture Regime	mod	Gley	-
Drainage	Melanic Brunisol	Pore Size Discontinuity	90
Soil name			
Stoniness Class	very below 90cm	Rockiness Class	0
Land Use	bushlot	Calcareous Class	

Root zone extends slightly into the Bf layer up to 30 cm. water produced in the Ck horizon filled EOH, site is located on an old skidder trail S of the core shack.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 2/1	moist	blocky	none		none
	10	25	SAND	AB	SiL	SILT	none		firm		10YR 5/1	moist	homogenous	none		none
	25	80	CLAY	Bf	SiCl	SILT	med		stiff		10YR 5/2	moist	blocky	none	7.5YR 4/6 mottles	slow
	80	100	GRAVEL	Ck	SG	SAND	none			subangular	10YR 6/4	wet	homogenous	none		none

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**11-May-10**	**HOLE ID:**	**TP10-22**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-23
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Tailings	**Temp**	10 C	**Started**	11-May
					Finished	11-May
Location	Northing	5411857	**Depth**	100	**Elevation**	
	Easting	425497	**Width**		**Datum**	WGS 84
	Error	2	**Length**		**Ground Surface**	grassy
Method of Excavation		Bobcat			**Water Levels**	standing water at surface and seeping into eoh at 70cm

Mode of Deposition		Depth to: Bedrock	-
% Slope	0 to 0.5	Carbonates	25
Slope Length (m)	>100	Distinct Mottles	25
Slope Class	A	Prominent Mottles	25
Site Position	6	Mottles and Gley	25
Moisture Regime	mod	Gley	40
Drainage	Melanic Brunisol (gleyed)	Pore Size Discontinuity	25
Soil name			
Stoniness Class	some small	Rockiness Class	0
Land Use	edge of old hayfield	Calcareous Class	

The clay at the bottom of the Bfg horizon breaking form the sides on a vertical plane. Carbonate nodules and pebbles present in both BFg and Ckg horizons. This Bfg horizon is siltier than previous

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	25	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 3/1	moist	blocky	none		none
	25	90	CLAY	Bfg	SiCl	SILT	high		firm		10YR 6/4	wet	blocky	none		mod
	90	100	CLAY	Cgk	SiCl	SILT	high		stiff		10YR 7/2	wet	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**11-May-10**	**HOLE ID:**	**TP10-23**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-24
Project	Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site	Provisional OB Dump	**Temp**	10 C	**Started**	12-May
				Finished	12-May
Location Northing	5408873	**Depth**	130	**Elevation**	
Easting	427117	**Width**		**Datum**	WGS 84
Error	6	**Length**		**Ground Surface**	pasture grass
Method of Excavation	Bobcat			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	-
% Slope	0.5 to 2	Carbonates	35
Slope Length (m)	100	Distinct Mottles	65
Slope Class	B	Prominent Mottles	65
Site Position	2	Mottles and Gley	65
Moisture Regime	poor	Gley	65
Drainage		Pore Size Discontinuity	-
Soil name	Melanic Brunisol (gleyed)		
Stoniness Class		Rockiness Class	1
Land Use	pasture	Calcareous Class	

Test pit is located at the edge of windbreak mid pasture. Calcareous pebbles are present at 35 cm, water ponding at eoh, root zone present until 40cm.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 2/1	moist	blocky	none		none
	10	30	SILT	AB	SiL	SAND	low		firm		10YR 4/2	moist	homogenous	none		none
	30	65	CLAY	Bfg	SiCl	SILT	high		stiff		10YR 5/3	moist	blocky	none		slow
	65	130	CLAY	Ck	SiCl	SILT	high		stiff		10YR 6/3	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-24**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-25
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	12-May
					Finished	12-May
Location	Northing	5409113	**Depth**	70	**Elevation**	
	Easting	427634	**Width**		**Datum**	WGS 84
	Error	4	**Length**		**Ground Surface**	pasture grass
Method of Excavation		Shovel			**Water Levels**	at EOH

Mode of Deposition		Depth to: Bedrock	-
% Slope	0 to 0.5	Carbonates	-
Slope Length (m)	100	Distinct Mottles	-
Slope Class	A	Prominent Mottles	-
Site Position	6	Mottles and Gley	30
Moisture Regime	poor	Gley	30
Drainage		Pore Size Discontinuity	-
Soil name	Luvic Gleysol		
Stoniness Class		Rockiness Class	1
Land Use	pasture	Calcareous Class	

The test pit is located at the edge of a creek in the middle of the field/pasture about 100 m from CPT-Z. The grain size changes from clay to finer sandy material gradually though the Bg profile. The soil is poorly developed, with a shallow LFH/Ah horizon, the root zone does extend to about 60cm.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	5	SILT	LFH/Ah	ClSiL	CLAY	none		stiff		10YR 2/1	moist	blocky	none		none
	5	15	CLAY	AB	SiCl	SILT	high		stiff		10YR 3/1	moist	blocky	none		slow
	15	40	CLAY	Bg	SCl	SAND	low		stiff		10YR 4/1	moist	blocky	none		slow
	40	70	SAND	Bg	SCl	CLAY	none		firm		10YR 5/1	wet	homogenous	none		none
	70	below hole	CLAY	Ck	SiCl	SILT	high		stiff		10YR 6/3	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-25**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-26
Project	Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site	Provisional OB Dump	**Temp**	10 C	**Started**	12-May
				Finished	12-May
Location Northing	5409321	**Depth (cm)**	100	**Elevation**	
Easting	427142	**Width**		**Datum**	WGS 84
Error	16	**Length**		**Ground Surface**	pasture grass
Method of Excavation	Bobcat			**Water Levels**	ponded water at surface

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope	2 to 5		Carbonates	20
Slope Length (m)	>200		Distinct Mottles	80
Slope Class	C		Prominent Mottles	80
Site Position	2		Mottles and Gley	80
Moisture Regime	poor		Gley	80
Drainage			Pore Size Discontinuity	80
Soil name	Melanic Brunisol			
Stoniness Class			Rockiness Class	1
Land Use	pasture		Calcareous Class	

The root zone in this TP does not extend much below 20cm, some pockets of oxidation are present at about 50cm, indicatres enough oxygen ingress for oxidation despite the saturation levels. Some water seeping into hole in Bk and accumlating at eoh, some hole collapse in Bk. Suspect labelled Bk is other Ck and soil profile is very poorly developed.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / *Plasticity*	Density / Sensitivity	Max PS / *Consistency*	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / *Dry Strength* / Odour	*Dilatancy* / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 2/1	wet	homogenous	none		none
	20	80	SILT	Bk	SiClL	SAND	none		firm		10YR 6/3	moist	blocky	none		onates w mod dilat
	80	100	CLAY	Ck	SiCl	SILT	high		stiff		10YR 6/2	moist	blocky	none		carbonates and slov

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-26**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile

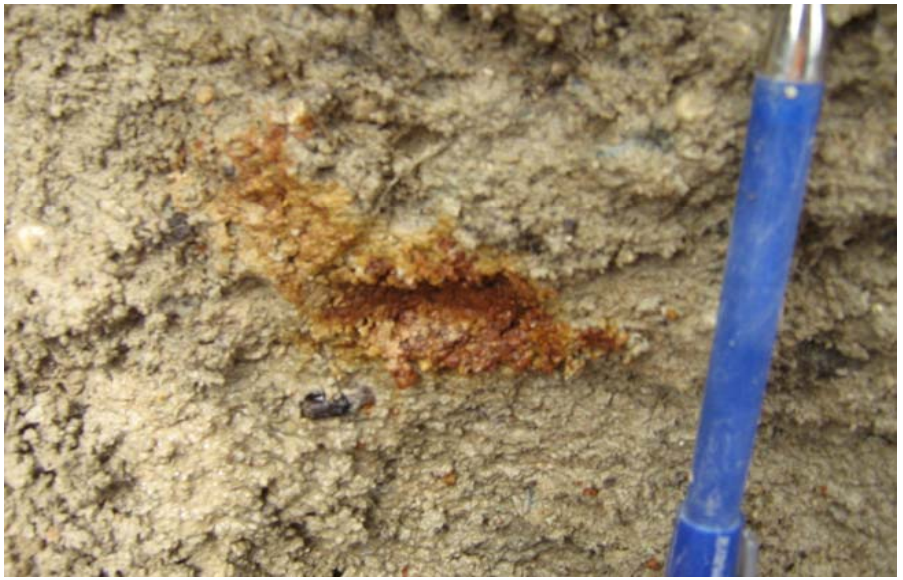


Photo 2 - Profile Detail

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-27
Project	Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site	Provisional OB Dump	**Temp**	10 C	**Started**	12-May
				Finished	12-May
Location Northing	5409166	**Depth (cm)**	120	**Elevation**	
Easting	427037	**Width**		**Datum**	WGS 84
Error	6	**Length**		**Ground Surface**	pasture grass
Method of Excavation	Bobcat			**Water Levels**	water seeping into hole at 80cm

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope			Carbonates	50
Slope Length (m)			Distinct Mottles	
Slope Class			Prominent Mottles	50
Site Position			Mottles and Gley	50
Moisture Regime	mod		Gley	50
Drainage			Pore Size Discontinuity	80
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	pasture		Calcareous Class	

The test pit os located near a rock outcrop, area is better drained than TP26, dug to 120cm no bedrock contact, must have moved too far from BR. The clay is low plasticity, grey with orange brown mottles, overall material will behave like a fine clayey sand.

Sketch	Coarse / Fine / Peat	Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from – to														
	0 – 10		LFH/Ah												
	10 – 120	SAND		CIL	CLAY	low		firm		grey	wet/moist	homogenous	none		

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-27**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-28
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	12-May
					Finished	12-May
Location	Northing	5409277	**Depth (cm)**	70	**Elevation**	
	Easting	426894	**Width**		**Datum**	WGS 84
	Error	9	**Length**		**Ground Surface**	pasture grass
Method of Excavation		Bobcat			**Water Levels**	ponded water at surface

Mode of Deposition		Depth to:	Bedrock	70
% Slope			Carbonates	20
Slope Length (m)			Distinct Mottles	20
Slope Class			Prominent Mottles	20
Site Position			Mottles and Gley	20
Moisture Regime	poor		Gley	20
Drainage			Pore Size Discontinuity	20
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	pasture		Calcareous Class	

there is no water seeping into the hole, very low permeability clay, a few carbonates present and some fine water glistens between the Ah/Cgk break. Some angular cobbles/boulders in Ah/C transition, poor drainage. Site is located next to a rock outcrop in the N end of teeples pasture.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 2/1	moist	homogenous	none		none
	20	70	CLAY	Ckg	SiCl	SILT	low		v stiff		grey and orange	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-28**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-29
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	12-May
					Finished	12-May
Location	Northing	5409172	**Depth (cm)**	120	**Elevation**	
	Easting	426901	**Width**		**Datum**	WGS 84
	Error	2	**Length**		**Ground Surface**	pasture grass
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	120
% Slope	5 to 10		Carbonates	25
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position	1 to 2		Mottles and Gley	-
Moisture Regime	mod		Gley	-
Drainage			Pore Size Discontinuity	-
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	pasture		Calcareous Class	

Site is located in the middle of 2 outcrops due east of the gravel pit, its moderately drained with larger trees (popalr and birch). There is some sand intermixed with the lower clay layer and some presence of oxidaiton around 50 cm to 60cm in depth. No water seeping into hole.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	5		LFH/Ah												
	5	25	CLAY		ClL	SAND	low		firm		light grey brown	dry/moist	homogenous	none		rapid
	25	60	CLAY		SiCl	SILT	med		stiff		dark grey	moist	blocky	none		slow
	60	120	CLAY		Cl	SILT	high		v stiff		brown	moist	platy	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-29**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile (close up)

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-30
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	12-May
					Finished	12-May
Location	Northing	5409051	**Depth (cm)**	100	**Elevation**	
	Easting	426761	**Width**		**Datum**	WGS 84
	Error	2	**Length**		**Ground Surface**	pasture grass
Method of Excavation		Bobcat			**Water Levels**	none standing at sfc

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope	0.5 to 2		Carbonates	35
Slope Length (m)			Distinct Mottles	-
Slope Class	B		Prominent Mottles	-
Site Position	2		Mottles and Gley	-
Moisture Regime	well		Gley	35
Drainage			Pore Size Discontinuity	35
Soil name	Dystric Brunisol			
Stoniness Class	mod		Rockiness Class	1
Land Use	pasture and gravel pit		Calcareous Class	

The site is located adjacent to the gravel piut in teeples pasture. No water present, roots to 35cm, Angular and subangular pebbles in Bf horizon.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	5	SILT	Ah	SiL	SAND			soft		10YR 2/1	dry/moist	homogenous	none		none
	5	10	SAND	Weak Ae	SL	SILT			soft		10YR 6/3	dry/moist	homogenous	none		none
	10	35	SAND	Bf	SL	SILT			soft		7.5YR 4/6	dry/moist	homogenous	none		none
	35	100	CLAY	Ck	SiCl	SILT	high		stiff		10YR 5/3	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**12-May-10**	**HOLE ID:**	**TP10-30**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-31
Project		Rainy River Environmental	**Weather**	raining	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	13-May
					Finished	13-May
Location	Northing	5409022	**Depth (cm)**	150	**Elevation**	
	Easting	426624	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	brush, stand of poplar trees
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to:	Bedrock	150	
% Slope	5 to 10		Carbonates	40	
Slope Length (m)			Distinct Mottles	40	
Slope Class			Prominent Mottles	40	
Site Position	3 or 4		Mottles and Gley	-	
Moisture Regime	poor		Gley	-	
Drainage			Pore Size Discontinuity	40	
Soil name					
Stoniness Class			Rockiness Class	1	
Land Use	bush off pasture near gravel pit		Calcareous Class		

Site is located around the corner from the gravel pit in a stand of trees. Till has pockets of clay, water is seeping into hole from this layer causing some slump. Not many carbonates present in the till but gradation is similar to pit (which contains good amount of carbs).

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10		LFH/Ah												
	10	40	SAND		SiL	SILT			soft		grey brown	moist	homogenous	none		none
	40	150	SAND		GS	Gravel			>20cm	angular to subangular	yellow brown	wet/moist	homogenous	none		some oxidation present

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**13-May-10**	**HOLE ID:**	**TP10-31**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-32
Project		Rainy River Environmental	**Weather**	overcast	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	10 C	**Started**	13-May
					Finished	13-May
Location	Northing	5408581	**Depth (cm)**	50	**Elevation**	
	Easting	426650	**Width**		**Datum**	WGS 84
	Error	3	**Length**		**Ground Surface**	grassy and small willows
Method of Excavation		Bobcat			**Water Levels**	none standing at sfc or in the hole

		Depth to:		
Mode of Deposition			Bedrock	50
% Slope	0.5 to 2		Carbonates	10
Slope Length (m)	>200		Distinct Mottles	-
Slope Class	B		Prominent Mottles	-
Site Position	2		Mottles and Gley	25
Moisture Regime	mod		Gley	25
Drainage			Pore Size Discontinuity	25
Soil name	Eutric Brunisol			
Stoniness Class			Rockiness Class	1
Land Use	hay field on rock outcrop		Calcareous Class	

site is located next to a hayfield at the edge of a rock outcrop. Moderate to well drained, field was fertilized 2-3 weeks ago, some carb pebbles in B horizon, roots extend to 30cm.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	Ap	SiCIL	CLAY			soft		brown black	moist	blocky	none		none
	10	25	SAND	B	SiL	SILT/Gravel			> 5cm	angular to subangular	brown	dry/moist	homogenous	none		none
	25	50	CLAY	Ck	SICl	SILT	high		Stiff		dark grey with red	moist	blocky	none		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**13-May-10**	**HOLE ID:**	**TP10-32**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-33
Project	Rainy River Environmental	**Weather**	raining	**Inspector**	L. Robertson
Site	Provisional OB Dump	**Temp**	10 C	**Started**	13-May
				Finished	13-May
Location Northing	5408544	**Depth (cm)**	100	**Elevation**	
Easting	427076	**Width**		**Datum**	WGS 84
Error	7	**Length**		**Ground Surface**	early hay crop
Method of Excavation	shovel			**Water Levels**	none standing at sfc or in the hole

Mode of Deposition		Depth to: Bedrock	-
% Slope	0.5 to 2	Carbonates	50
Slope Length (m)	>100	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	2	Mottles and Gley	50
Moisture Regime	mod	Gley	50
Drainage		Pore Size Discontinuity	40
Soil name	Eutric Brunisol		
Stoniness Class		Rockiness Class	1
Land Use	hay field	Calcareous Class	

site is located at edge of hayfield, early crop growth evident, shallow root development, clover and hay. Very sharp distinction between A and B horizons

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	24	SILT	Ap	ClSiL	CLAY			soft		10YR 3/1	moist	blocky	none		none
	24	40	CLAY	Bf	SICl	SILT			stiff		10YR 4/4	moist	blocky	none		ang-subang carbonate pebbles
	40	100	CLAY	Ck	SICl	SILT	med		Stiff		10YR 6/4	moist	blocky	none		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**13-May-10**	**HOLE ID:**	**TP10-33**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-34
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5409498	**Depth (cm)**	100	**Elevation**	
	Easting	427761	**Width**		**Datum**	WGS 84
	Error	2	**Length**		**Ground Surface**	shrubs and grass, marshy area
Method of Excavation		Bobcat			**Water Levels**	water ponded at surface

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope	0.5 to 2		Carbonates	50
Slope Length (m)	>100		Distinct Mottles	-
Slope Class	B		Prominent Mottles	-
Site Position	2		Mottles and Gley	50
Moisture Regime	mod		Gley	50
Drainage			Pore Size Discontinuity	40
Soil name	Eutric Brunisol			
Stoniness Class			Rockiness Class	1
Land Use	hay field		Calcareous Class	

site is located at edge of hayfield, early crop growth evident, shallow root development, clover and hay

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / *Plasticity*	Density / Sensitivity	Max PS / *Consistency*	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / *Dry Strength* / Odour	*Dilatancy* / Foreign Materials
	D from	to														
	0	24	SILT	Ap	ClSiL	CLAY			soft		10YR 3/1	moist	blocky	none		none
	24	40	CLAY	Bf	SICl	SILT			stiff		10YR 4/4	moist	blocky	none		ang-subang carbonate pebbles
	40	100	CLAY	Ck	SICl	SILT	med		Stiff		10YR 6/4	moist	blocky	none		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-34**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-35
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Provisional OB Dump	**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5409454	**Depth (cm)**	110	**Elevation**	
	Easting	427899	**Width**		**Datum**	WGS 84
	Error	15	**Length**		**Ground Surface**	shrubs and grass, outcrops
Method of Excavation		Bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	110
% Slope	0.5 to 2		Carbonates	50
Slope Length (m)	>100		Distinct Mottles	40
Slope Class	B		Prominent Mottles	-
Site Position	2		Mottles and Gley	-
Moisture Regime	mod		Gley	-
Drainage			Pore Size Discontinuity	40
Soil name				
Stoniness Class			Rockiness Class	1
Land Use	grazing		Calcareous Class	

Site is located in N end of teeple filed, on the E side of rock outcrop. Test pit is to bedrock rock cuts down at about 30 degree angle.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH	ClSiL	SAND			soft			dry/moist	blocky	none		none
	10	40	CLAY		SICl	SILT	med		stiff		light grey	dry/moist	blocky	none		slow
	40	50	SAND			CLAY	med		Stiff		red brown	wet	blocky	none		
	50	110	CLAY		SICl	SILT	high		stiff	angular/subangular		moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-35**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-36
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5411609	**Depth (cm)**	100	**Elevation**	
	Easting	425906	**Width**		**Datum**	WGS 84
	Error	8	**Length**		**Ground Surface**	grass and shrubs
Method of Excavation		Bobcat			**Water Levels**	none

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope	0.5to2		Carbonates	40
Slope Length (m)	variable		Distinct Mottles	-
Slope Class	B		Prominent Mottles	40
Site Position	1		Mottles and Gley	-
Moisture Regime	well		Gley	-
Drainage			Pore Size Discontinuity	20
Soil name	Dystric Brunisol (disturbed)			
Stoniness Class			Rockiness Class	1
Land Use	MTO pit area		Calcareous Class	

soil test pit located near the MTO borrow pit, 30m from edge. Area appears to have been logged some shrubs and grasses. Top 20 cm of material is stabilized spoil from previous development or excavation. Soil horizon sequence begins at 20cm depth

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SAND	-	GS	GRAVEL	poor	mod	>10cm	subrounded	-	dry/moist	massive	none	weak	-
	20	25	SILT	LFH	SiCL	CLAY	none		soft		black	moist	blocky	weak		-
	25	40	CLAY	Bfg	SiC	SILT	high		v. stiff		10YR 4/3	moist	blocky	none		Slow
	40	100	CLAY	Ck	SiC	SILT	high		stiff	sub angular	10YR 4/1	moist	blocky	none		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-36**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-37
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5411634	**Depth (cm)**	40	**Elevation**	
	Easting	425747	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	shrubs and grass, outcrops
Method of Excavation		Bobcat			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	40
% Slope	0.5 to 2	Carbonates	0
Slope Length (m)	>100	Distinct Mottles	-
Slope Class	B	Prominent Mottles	-
Site Position	1	Mottles and Gley	-
Moisture Regime	mod	Gley	-
Drainage		Pore Size Discontinuity	30
Soil name			
Stoniness Class		Rockiness Class	1
Land Use	gravel pit	Calcareous Class	

site is located at the MTO pit road at the edge of a rock outcrop. 40 cm to bedrock. At 30cm old LFH/A horizon present with root mass.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	30	CLAY		SICl	SILT	med		firm		brown	moist	blocky	none		slow
	30	40	SILT		SiL	SAND	low		soft		black	wet	blocky	none		root mass present angular pebbles

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-37**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-38
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5411425	**Depth (cm)**		**Elevation**	
	Easting	425762	**Width**		**Datum**	WGS 84
	Error	8	**Length**		**Ground Surface**	shrubs and grass, small trees
Method of Excavation		shovel			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	
% Slope		Carbonates	
Slope Length (m)		Distinct Mottles	-
Slope Class		Prominent Mottles	-
Site Position		Mottles and Gley	-
Moisture Regime		Gley	-
Drainage		Pore Size Discontinuity	
Soil name			
Stoniness Class		Rockiness Class	
Land Use		Calcareous Class	

site is located in the aggregate pit. Grab sample taken approximately 5m below the ground surface. Material is sandy cay with some pebbles/carbonates.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-38**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Sample Location



Photo 2 - Pit Bank Profile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-39
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	4 C	**Started**	14-May
					Finished	14-May
Location	Northing	5411560	**Depth (cm)**		**Elevation**	
	Easting	425801	**Width**		**Datum**	WGS 84
	Error	19	**Length**		**Ground Surface**	shrubs and grass, small trees
Method of Excavation		shovel			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	
% Slope			Carbonates	
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	-
Drainage			Pore Size Discontinuity	
Soil name				
Stoniness Class			Rockiness Class	1
Land Use			Calcareous Class	

Grab sample from aggregate pit. Sandy gravel with subangular and subrounded boulders. Material is poorly graded and wet/moist. Max PS = 20cm. Sample taken from approximately 5m from ground surface

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**14-May-10**	**HOLE ID:**	**TP10-39**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Sample Location



Photo 2 - Pit Bank Profile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-40
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	10 C	**Started**	15-May
					Finished	15-May
Location	Northing	5412149	**Depth (cm)**	100	**Elevation**	
	Easting	426512	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grass and shrubs
Method of Excavation		Bobcat			**Water Levels**	none

Mode of Deposition	
% Slope	0.5 to 2
Slope Length (m)	<50
Slope Class	B
Site Position	1 or 2
Moisture Regime	mod/well
Drainage	
Soil name	Melanic Brunisol
Stoniness Class	
Land Use	hunting

Depth to:	
Bedrock	-
Carbonates	50
Distinct Mottles	20
Prominent Mottles	20
Mottles and Gley	50
Gley	50
Pore Size Discontinuity	50
Rockiness Class	1
Calcareous Class	

Site is located at edge of municipal gravel road. Pit located on higher ground but water still gradually seeping into the pit from the Bmf and Ck horizons. Roots extend to 50cm, carbonate nodules present in Ck about 10%.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiL	SAND	-		soft	subrounded	10YR 3/1	moist	blocky	none	weak	none
	20	50	CLAY	Bmf	SCIL	SAND	mod		firm		10YR 5/3	wet	blocky	weak		slow
	50	100	CLAY	Ck	SiC	SILT	low		firm	sub angular	10YR 6/2	wet	blocky	mod		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**15-May-10**	**HOLE ID:**	**TP10-40**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-41
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site			**Temp**	10 C	**Started**	15-May
					Finished	15-May
Location	Northing	5412170	**Depth (cm)**	80	**Elevation**	
	Easting	426612	**Width**		**Datum**	WGS 84
	Error	3	**Length**		**Ground Surface**	shrubs and grass, small trees
Method of Excavation		bobcat			**Water Levels**	

Mode of Deposition		Depth to: Bedrock	80	
% Slope		Carbonates		
Slope Length (m)		Distinct Mottles	-	
Slope Class		Prominent Mottles	-	
Site Position		Mottles and Gley	-	
Moisture Regime		Gley	-	
Drainage		Pore Size Discontinuity		
Soil name				
Stoniness Class		Rockiness Class	1	
Land Use		Calcareous Class		

test pit located on edge of municipal road off Roen Rd. the edge of the rock outcrop is steep. Some pockets of fine sand were encountered in the TP, light grey with brown mottles.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20		LFH/Ah												
	20	80	CLAY		SiC	SILT	low		stiff		dark grey and	dry/moist	blocky/massive	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**15-May-10**	**HOLE ID:**	**TP10-41**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-42
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		WRD	**Temp**	10 C	**Started**	15-May
					Finished	15-May
Location	Northing	5411040	**Depth (cm)**	95	**Elevation**	
	Easting	426790	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grass and shrubs
Method of Excavation		Bobcat			**Water Levels**	none at surface but standing in other areas

Mode of Deposition		Depth to:	Bedrock	-	
% Slope	0 to 0.5		Carbonates	50	5%
Slope Length (m)	>200		Distinct Mottles	20	
Slope Class	A		Prominent Mottles	20	
Site Position	1 or 2		Mottles and Gley	50	
Moisture Regime	mod		Gley	50	
Drainage			Pore Size Discontinuity	50	
Soil name	Melanic Brunisol (elluviated)				
Stoniness Class			Rockiness Class	1	
Land Use	pasture/shrubs		Calcareous Class		

TP is located in the middle of the Roen pasture.
Water seeping into the hole at depth

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	7	SILT	LFH	SiL	SAND	none		soft		10YR 3/1	moist	blocky	none		
	7	20	SILT	Ae	SiSL	SAND	none		soft		10YR 6/2	dry	massive	none		
	20	50	CLAY	Bmgj	SiCL	SILT	high		stiff		10YR 5/4	moist	blocky	weak		Slow
	50	95	CLAY	Cgk	SiC	SILT	high		v. stiff	subrounded	10YR 7/4	wet	platy/blocky	mod		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**15-May-10**	**HOLE ID:**	**TP10-42**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Soil Profile (detail)

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-43
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		**Temp**	10 C	**Started**	15-May
				Finished	15-May
Location Northing	5410908	**Depth (cm)**	60	**Elevation**	
Easting	426556	**Width**		**Datum**	WGS 84
Error	3	**Length**		**Ground Surface**	shrubs and grass, small trees
Method of Excavation	bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	60
% Slope			Carbonates	
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	-
Drainage			Pore Size Discontinuity	
Soil name				
Stoniness Class			Rockiness Class	1
Land Use			Calcareous Class	

As soon as the TP was excavated water entered the TP from the interface between the LFH and clay. Clay is intermixed with pockets of coarser sand that is grey with orange brown mottles (about 2%).

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	15		LFH/Ah												
	15	60	CLAY		SiC	SILT	med		stiff		brown	moist/wet	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**15-May-10**	**HOLE ID:**	**TP10-43**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Outcrop

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-44
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		**Temp**	10 C	**Started**	15-May
				Finished	15-May
Location Northing	5411583	**Depth (cm)**	65	**Elevation**	
Easting	426859	**Width**		**Datum**	WGS 84
Error	8	**Length**		**Ground Surface**	shrubs and grass, small trees
Method of Excavation	bobcat			**Water Levels**	

		Depth to:		
Mode of Deposition			Bedrock	65
% Slope			Carbonates	
Slope Length (m)			Distinct Mottles	-
Slope Class			Prominent Mottles	-
Site Position			Mottles and Gley	-
Moisture Regime			Gley	-
Drainage			Pore Size Discontinuity	
Soil name				
Stoniness Class			Rockiness Class	1
Land Use			Calcareous Class	

TP located in Roen field/brushlot. No water ponded at surface, area is moderately well drained.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	65	SAND		SiL	SILT	none		firm		dark brown	dry	massive	none		rapid

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**
PROJECT NAME:	**Rainy River Environmental and Engineering**
LOCATION:	**Blackhawk, ON**
DATE:	**15-May-10** **HOLE ID: TP10-44**
LOGGED By:	**L Robertson** **CHECKED BY:**



Photo 1 - Soil Profile



Photo 2 - Spoil Pile

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-45
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		WRD	**Temp**	10 C	**Started**	15-May
					Finished	15-May
Location	Northing	5411748	**Depth (cm)**	105	**Elevation**	
	Easting	426869	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	leafy ground cover
Method of Excavation		Bobcat			**Water Levels**	none at surface

Mode of Deposition		Depth to: Bedrock	-
% Slope	2 to 5	Carbonates	10
Slope Length (m)	>200	Distinct Mottles	20
Slope Class		Prominent Mottles	30
Site Position	2	Mottles and Gley	75
Moisture Regime	mod/poor	Gley	75
Drainage		Pore Size Discontinuity	75
Soil name	Melanic Brunisol (gleyed)		
Stoniness Class		Rockiness Class	0
Land Use	bush lot	Calcareous Class	

Large carbonate pebbles are present in Bk horizon, Bm is very sandy. Ckg inconsistent, some sany with cobbles, some silty clay, very poorly graded.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 3/1	moist	blocky	mod		roots to 15cm
	10	30	SAND	Bmgj (f?)	SiS	SILT	poorly		soft/firm		10YR 5/4	moist	massive	weak		
	30	75	SILT	Bk	SiSG	Gravel/Sand	poorly		firm	subangular	10YR 7/3	moist	massive	weak		
	75	105	CLAY	Cg	SiC(L)	SILT/SAND	med		stiff	subrounded	10YR 7/3	wet	massive	strong		Slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**15-May-10**	**HOLE ID:**	**TP10-45**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-46
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		WRD	**Temp**	15 C	**Started**	16-May
					Finished	16-May
Location	Northing	5411652	**Depth (cm)**	105	**Elevation**	
	Easting	426536	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grass
Method of Excavation		Bobcat			**Water Levels**	none at surface

Mode of Deposition		Depth to: Bedrock	-
% Slope	0.5 to 2	Carbonates	45
Slope Length (m)	<100	Distinct Mottles	15
Slope Class	B	Prominent Mottles	15
Site Position	2	Mottles and Gley	-
Moisture Regime	mod	Gley	-
Drainage		Pore Size Discontinuity	10
Soil name	Melanic Brunisol		
Stoniness Class		Rockiness Class	0
Land Use	next to hay crop	Calcareous Class	

Site located on side of small Roen hayfield. B horizon has some small pockets of med sand. No water seeping into hole. Some fine sand present in C horizon. 10% carbonates.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND	none		soft		10YR 3/1	moist	blocky	weak		roots
	10	45	CLAY	Bmgj	SiCL	SILT SAND	med		stiff		10YR 4/4	moist	blocky	mod		slow
	45	105	CLAY	Ck	SiC	SILT	med		stiff	subangular carbs	10YR 5/3	moist	massive	strong		carbonate nodules, slow d.

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**16-May-10**	**HOLE ID:**	**TP10-46**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-46
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		OB Dump	**Temp**	15 C	**Started**	16-May
					Finished	16-May
Location	Northing	5410981	**Depth (cm)**	100	**Elevation**	
	Easting	423714	**Width**		**Datum**	WGS 84
	Error	3	**Length**		**Ground Surface**	grassy and marshy
Method of Excavation		Bobcat			**Water Levels**	some ponded at surface

Mode of Deposition	organic and glaciolacustrine	Depth to:	Bedrock	-	
% Slope	2 to 5		Carbonates	30	
Slope Length (m)	<100		Distinct Mottles	30	
Slope Class	C		Prominent Mottles	30	
Site Position	4		Mottles and Gley	30	
Moisture Regime	poor		Gley	30	not true gley colours
Drainage			Pore Size Discontinuity	30	
Soil name	Mesisol (borderline)				
Stoniness Class	0		Rockiness Class	0	
Land Use	pasture		Calcareous Class		

Site is located on community pasture S of Georgeson property. Close to CPT-K. Organic material contains woody debris, some gley mottling (<10%). C horizon contains grey clay with brown mottling, 20% carbonate clasts sand and gravel sized.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	30	Om	Om	Organic	Organic					10YR 2/1	wet	fibrous		none	roots
	30	100	CLAY	Ckg	SiC	SILT	med		v.stiff		5Y 5/1	moist	blocky	mod		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**16-May-10**	**HOLE ID:**	**TP10-47**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-48
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		OB Dump	**Temp**	15 C	**Started**	16-May
					Finished	16-May
Location	Northing	5410913	**Depth (cm)**	100	**Elevation**	
	Easting	424061	**Width**		**Datum**	WGS 84
	Error	6	**Length**		**Ground Surface**	grassy and marshy
Method of Excavation		Bobcat			**Water Levels**	some ponded at surface

		Depth to:		
Mode of Deposition			Bedrock	-
% Slope	0 to 0.5		Carbonates	-
Slope Length (m)	>100		Distinct Mottles	10
Slope Class	B		Prominent Mottles	10
Site Position	4 or 5		Mottles and Gley	60
Moisture Regime	poor		Gley	60
Drainage			Pore Size Discontinuity	40
Soil name	Mesisol (bisequal)			
Stoniness Class	0		Rockiness Class	0
Land Use	pasture		Calcareous Class	

Soil is bisequal and organic. Rapidly producing water from the O horizon.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH	SiL	SAND			soft		10YR 2/1	wet/moist	blocky			
	10	40	CLAY	B	SiC	SILT	high		stiff		10YR 4/1	moist	blocky	mod		slow
	40	60	mesic	O							black	wet	compressed layers		some sulphur	
	60	100	CLAY	C	SiC	SILT	med		stiff		5Y 5/1	moist	blocky	mod		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**16-May-10**	**HOLE ID:**	**TP10-48**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-49
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site	OB Dump	**Temp**	15 C	**Started**	16-May
				Finished	16-May
Location Northing	5410585	**Depth (cm)**	110	**Elevation**	
Easting	424318	**Width**		**Datum**	WGS 84
Error	3	**Length**		**Ground Surface**	grassy
Method of Excavation	Bobcat			**Water Levels**	none ponded at surface

Mode of Deposition		Depth to: Bedrock	-
% Slope	5 to 10	Carbonates	60
Slope Length (m)	100	Distinct Mottles	10
Slope Class		Prominent Mottles	10
Site Position	2 or 3	Mottles and Gley	-
Moisture Regime	mod/well	Gley	-
Drainage		Pore Size Discontinuity	10
Soil name	Melanic Brunisol (eluviated)		
Stoniness Class	0	Rockiness Class	0
Land Use	pasture	Calcareous Class	

Site is located near a stand of poplar on the common pasture. Some carbonate in C horizon, CII is a dark grey/white mottled clay layer. Small amount of water on C face but not eough to produce apuddle at EOH.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	10	SILT	LFH/Ah	SiL	SAND			soft		10YR 2/1	moist	blocky	mod		
	10	20	SAND	Ae	SiSL	SILT			stiff		10YR 5/1	moist	massive	weak		
	20	60	CLAY	Bmgj	SiC	SILT	high		v. stiff		10YR 4/3	moist	blocky	strong		slow
	60	110	SILT	C	Csi	CLAY SAND			firm		10YR 6/2	moist/wet	massive	mod		med
	110	110	CLAY	CII	SiC	SILT	high		v. stiff			moist	blocky	strong		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**16-May-10**	**HOLE ID:**	**TP10-49**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client	Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-50
Project	Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site	OB Dump	**Temp**	15 C	**Started**	16-May
				Finished	16-May
Location Northing	5411694	**Depth (cm)**	100	**Elevation**	
Easting	423969	**Width**		**Datum**	WGS 84
Error	8	**Length**		**Ground Surface**	grassy
Method of Excavation	Bobcat			**Water Levels**	none ponded at surface

Mode of Deposition		Depth to:	Bedrock	-	
% Slope	0.5 to 2		Carbonates	25	2-5%
Slope Length (m)	25		Distinct Mottles	25	
Slope Class	B		Prominent Mottles	25	
Site Position	4 or 5		Mottles and Gley	25	
Moisture Regime	poor		Gley	25	
Drainage			Pore Size Discontinuity	25	
Soil name	Melanic Brunisol (poorly developed)				
Stoniness Class	0		Rockiness Class	0	
Land Use	road allowance		Calcareous Class		

Site is located on road allowance next to pasture. Poorly developed soil profile, no distinct B horizon development some grey Bg transition but faint and not continuous.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	25	SILT	LFH/Ah	SiCL	CLAY			soft		10YR 2/1	moist/wet	blocky	weak		mod
	25	100	CLAY	Ck	SiC	SILT SAND			stiff		10YR 5/2	moist	blocky	none		slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**16-May-10**	**HOLE ID:**	**TP10-50**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-51
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Potential Portal	**Temp**	15 C	**Started**	18-May
					Finished	18-May
Location	Northing	5410059	**Depth (cm)**	115	**Elevation**	
	Easting	426474	**Width**		**Datum**	WGS 84
	Error	5	**Length**		**Ground Surface**	small trees and shrubs
Method of Excavation		Bobcat			**Water Levels**	none ponded at surface

Mode of Deposition		Depth to: Bedrock	-	
% Slope	5 to 10	Carbonates	-	
Slope Length (m)	<50	Distinct Mottles	30	
Slope Class		Prominent Mottles	50	
Site Position	2 or 3	Mottles and Gley	50	
Moisture Regime	well/mod	Gley	50	
Drainage		Pore Size Discontinuity	50	
Soil name	Melanic Brunisol (gleyed)			
Stoniness Class	0	Rockiness Class	2	
Land Use		Calcareous Class		

Site is located alongside rock outcrop near potential portal location. Water seeping into hole in C horizon, ponded at EOH. Some collapse of TP sides on vertical plane, light grey clay in Cg with orange mottles. Root zone extends into Cg layer (>50cm) larger roots present in this TP than previous.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiCL	CLAY			soft		10YR 3/1	dry/moist	blocky			
	20	50	CLAY	Bm	SiC	SILT	mod		stiff		10YR 3/4	moist	blocky			slow
	50	115	CLAY	Cg	SiC	SILT	low		firm		10YR 6/2	wet	blocky			slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**18-May-10**	**HOLE ID:**	**TP10-51**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

Field Soil Test Pit Log Environmental and Engineering Combined

Client		Rainy River Resources	**Job No**	M09559A04A06	**Pit No**	TP10-52
Project		Rainy River Environmental	**Weather**	sunny	**Inspector**	L. Robertson
Site		Potential Portal	**Temp**	15 C	**Started**	18-May
					Finished	18-May
Location	Northing	5410020	**Depth (cm)**	110	**Elevation**	
	Easting	426371	**Width**		**Datum**	WGS 84
	Error	5	**Length**		**Ground Surface**	small trees and shrubs
Method of Excavation		Bobcat			**Water Levels**	none ponded at surface

		Depth to:		
Mode of Deposition			Bedrock	110
% Slope	5 to 10		Carbonates	-
Slope Length (m)	<50		Distinct Mottles	30
Slope Class			Prominent Mottles	30
Site Position	3		Mottles and Gley	40
Moisture Regime	well/mod		Gley	40
Drainage			Pore Size Discontinuity	-
Soil name	Humic Gleysol			
Stoniness Class	0		Rockiness Class	2
Land Use	bush lot		Calcareous Class	

Site is located adjacent to the outcrop. No water present at the surface but some trickling down the bedrock from the LFH. Moderately developed Ah horizon but little profile development below Ah. Red orange brown mottling present in both Bg and Cg horizons.

Sketch	Coarse / Fine / Peat		Primary / Peat	Class	PS Range / Texture	Secondary	Grad / Plasticity	Density / Sensitivity	Max PS / Consistency	Shape/Ang	Colour	Moisture	Structure	Cementation	Other / Dry Strength / Odour	Dilatancy / Foreign Materials
	D from	to														
	0	20	SILT	LFH/Ah	SiCL	CLAY			soft		10YR 3/1	moist/wet	blocky			
	20	40	CLAY	Bg	LC	SAND fine	low		firm		10YR 6/1	moist	blocky			slow
	40	110	CLAY	Cg	SiC	SILT	mod		firm		10YR 6/2	moist	blocky			slow

Klohn Crippen Berger

PROJECT No.:	**M09559A04/A06**		
PROJECT NAME:	**Rainy River Environmental and Engineering**		
LOCATION:	**Blackhawk, ON**		
DATE:	**18-May-10**	**HOLE ID:**	**TP10-52**
LOGGED By:	**L Robertson**	**CHECKED BY:**	



Photo 1 - Soil Profile



Photo 2 - Test Pit Area

APPENDIX IV - 2

Soil Test Results
ABA

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **Acid-Base Accounting with Siderite Correction**
Date: **September 14-17, 2009 and June 22-30, 2010**

Sample ID	Paste pH	Total C %	TIC %	CaCO3 NP	S(T) %	S(SO4) %	S(S-2) %	AP	NP	Net NP	Fizz Test
TP09-01-01		1.79	0.09	7.5							
TP09-01-02	7.58	0.5	0.15	12.5	0.01	<0.01	0.01	0.3	30.7	30.4	None
TP09-02-03		40.8	0.05	4.2							
TP09-02-04		42.8	0.04	3.3							
TP09-04-05		45.9	0.09	7.5							
TP09-05-06		4.46	0.01	0.8							
TP09-05-07	7.77	3.12	2.75	229.2	0.01	<0.01	0.01	0.3	261.2	260.9	Moderate
TP09-05-08	7.91	3.1	2.68	223.3	0.01	0.01	<0.01	<0.3	253.1	253.1	Moderate
TP09-05-09	6.84	0.47	0.12	10.0	<0.01	<0.01	<0.01	<0.3	24.1	24.1	None
TP09-06-10	8.14	5.46	5.08	423.3	0.01	<0.01	0.01	0.3	431.8	431.5	Moderate
TP09-06-11	8.10	1.79	1.55	129.2	0.01	0.01	<0.01	<0.3	149.5	149.5	Slight
TP09-07-12		41.9	0.08	6.7							
TP09-08-13	8.20	3.13	2.95	245.8	0.01	0.01	<0.01	<0.3	267.4	267.4	Slight
TP09-08-14	8.06	0.23	0.03	2.5	0.02	<0.01	0.02	0.6	10.2	9.6	Slight
TP09-09-15	7.90	2.19	1.93	160.8	0.02	0.01	0.01	0.3	191.1	190.8	None
TP09-09-16	6.28	0.32	0.02	1.7	<0.01	<0.01	<0.01	<0.3	8.4	8.4	None
TP09-10-17		19.4	0.08	6.7							
TP09-10-18	8.04	1.89	1.6	133.3	0.04	0.04	<0.01	<0.3	190.4	190.4	Slight
TP09-11-19	7.33	0.42	0.08	6.7	0.02	<0.01	0.02	0.6	23.8	23.2	None
TP09-11-20	7.38	0.32	0.04	3.3	0.01	<0.01	0.01	0.3	10.3	10.0	None
TP09-12-21		36.2	0.29	24.2							
TP09-12-22	8.40	2.66	2.52	210.0	<0.01	<0.01	<0.01	<0.3	224.6	224.6	Moderate
TP09-13-23	7.78	0.35	0.2	16.7	<0.01	<0.01	<0.01	<0.3	35.4	35.4	None
TP09-13-24	7.38	0.25	0.02	1.7	0.01	<0.01	0.01	0.3	11.3	11.0	None
TP09-14-26	5.64	0.5	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	15.7	15.7	None
TP09-14-27	6.23	0.31	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	6.6	6.6	None
TP09-15-28	8.34	0.25	0.13	10.8	<0.01	<0.01	<0.01	<0.3	20.0	20.0	Slight
TP09-15-29	7.42	0.38	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	16.8	16.8	None
TP09-16-30	6.76	5.71	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	19.3	19.3	None
TP09-16-31	7.34	0.54	0.01	0.8	<0.01	<0.01	<0.01	<0.3	10.9	10.9	None
TP09-17-32	8.13	1.5	1.12	93.3	<0.01	<0.01	<0.01	<0.3	148.3	148.3	Moderate
TP09-17-33	8.19	1.74	1.54	128.3	<0.01	<0.01	<0.01	<0.3	232.0	232.0	Moderate
TP09-17-34	7.36	3.47	<0.01	<0.8	0.02	0.01	0.01	0.3	20.3	20.0	None
TP09-18-35	8.12	4.28	4	333.3	0.01	<0.01	0.01	0.3	347.4	347.1	Moderate
TP09-18-36	6.51	0.79	0.01	0.8	0.01	<0.01	0.01	0.3	22.7	22.4	None
TP09-19-37	8.07	3.59	3.29	274.2	<0.01	<0.01	<0.01	<0.3	293.4	293.4	Moderate
TP09-19-38	6.48	0.66	<0.01	<0.8	<0.01	<0.01	<0.01	<0.3	20.0	20.0	None
TP09-20-39	8.28	3.61	3.48	290.0	0.01	<0.01	0.01	0.3	300.2	299.9	Moderate
TP09-20-40	7.64	11.2	0.27	22.5	0.08	0.06	0.02	0.6	58.2	57.6	Slight
TP09-21-41	7.15	1.1	0.07	5.8	0.01	<0.01	0.01	0.3	26.4	26.1	None
TP09-21-42	8.09	3.4	3.15	262.5	<0.01	<0.01	<0.01	<0.3	275.4	275.4	Moderate
TP09-22-43	6.98	2.72	0.16	13.3	0.01	<0.01	0.01	0.3	21.6	21.3	None
TP09-22-44	8.07	3.06	2.89	240.8	0.01	<0.01	0.01	0.3	264.9	264.6	Moderate
TP09-23-45	7.20	0.38	0.1	8.3	<0.01	<0.01	<0.01	<0.3	31.1	31.1	None
TP09-23-46	6.29	0.28	0.03	2.5	0.01	<0.01	0.01	0.3	8.2	7.9	None
TP09-24-47	8.02	1.8	1.62	135.0	0.02	0.02	<0.01	<0.3	160.7	160.7	Slight
TP09-24-48		17	0.12	10.0							
TP09-25-49	8.25	5.44	5.45	454.2	0.01	0.01	<0.01	<0.3	457.2	457.2	Moderate
TP09-25-50	7.05	0.63	0.16	13.3	0.02	<0.01	0.02	0.6	25.3	24.7	None
TP09-26-51	7.98	3.39	3.23	269.2	0.02	0.01	0.01	0.3	285.4	285.1	Moderate
TP09-26-52	6.96	0.64	0.11	9.2	0.01	<0.01	0.01	0.3	18.2	17.9	None
TP09-27-53	8.13	3.47	3.54	295.0	0.01	<0.01	0.01	0.3	296.5	296.2	Moderate
TP09-27-54	7.26	0.49	0.41	34.2	0.01	<0.01	0.01	0.3	26.0	25.7	None
TP09-28-55		6.12	0.82	68.3							
TP09-28-56		8.94	0.22	18.3							
TP09-29-57	7.20	0.42	0.01	0.8	<0.01	<0.01	<0.01	<0.3	14.0	14.0	None
TP09-29-58	8.33	5.13	5.04	420.0	0.01	0.01	<0.01	<0.3	422.5	422.5	Moderate
TP09-30-59	7.87	2.35	2.04	170.0	0.02	0.01	0.01	0.3	217.1	216.8	Moderate
TP09-30-60	8.25	3.35	3.21	267.5	0.02	<0.01	0.02	0.6	287.2	286.6	Moderate
TP09-31-61	8.17	4.21	4.14	345.0	0.01	0.01	<0.01	<0.3	356.1	356.1	Moderate
TP09-31-62	8.12	3.32	3.09	257.5	0.01	<0.01	0.01	0.3	276.7	276.4	Moderate

Sample ID	Paste pH	Total C %	TIC %	CaCO3 NP	S(T) %	S(SO4) %	S(S-2) %	AP	NP	Net NP	Fizz Test
TP10-1-5	6.38	0.03	2.5	2.7	0.01	0.01	<0.01	<0.3	10.5	10.5	None
TP10-1-53	7.82	2.75	229.2	3.2	<0.01	<0.01	<0.01	<0.3	258.7	258.7	Slight
TP10-2-65	7.97	3.3	275.0	3.59	<0.01	<0.01	<0.01	<0.3	292.2	292.2	Moderate
TP10-2-90	8.21	4.33	360.8	4.66	<0.01	<0.01	<0.01	<0.3	377.8	377.8	Moderate
TP10-3-25	7.09	0.07	5.8	3.44	0.02	0.02	<0.01	<0.3	24.1	24.1	None
TP10-3-58	7.92	0.34	28.3	0.48	<0.01	<0.01	<0.01	<0.3	42.3	42.3	Slight
TP10-3-83	7.86	0.51	42.5	0.62	<0.01	<0.01	<0.01	<0.3	49.5	49.5	Slight
TP10-4-50	7.02	0.01	0.8	0.31	<0.01	<0.01	<0.01	<0.3	29.1	29.1	None
TP10-4-70	7.76	2.02	168.3	2.29	<0.01	<0.01	<0.01	<0.3	217.1	217.1	Moderate
TP10-5-65	7.98	3.23	269.2	3.55	<0.01	<0.01	<0.01	<0.3	291.6	291.6	Moderate
TP10-5-125	8.15	4.2	350.0	4.54	<0.01	<0.01	<0.01	<0.3	372.2	372.2	Moderate
TP10-8-50	8.10	5.48	456.7	5.76	<0.01	<0.01	<0.01	<0.3	464.0	464.0	Moderate
TP10-8-135	8.17	4.68	390.0	4.92	<0.01	<0.01	<0.01	<0.3	403.8	403.8	Moderate
TP10-10-200-T	7.89	2.62	218.3	2.95	<0.01	<0.01	<0.01	<0.3	246.9	246.9	Moderate
TP10-11-45	7.75	1.76	146.7	2.24	<0.01	<0.01	<0.01	<0.3	191.7	191.7	Moderate
TP10-13-130	8.02	0.18	15.0	0.31	<0.01	<0.01	<0.01	<0.3	34.4	34.4	Slight
TP10-14-40	7.50	0.11	9.2	0.26	<0.01	<0.01	<0.01	<0.3	22.0	22.0	Slight
TP10-14-90	7.26	0.06	5.0	0.35	<0.01	<0.01	<0.01	<0.3	26.6	26.6	None
TP10-20-20	5.96	<0.01	<0.8	0.68	<0.01	<0.01	<0.01	<0.3	10.8	10.8	None
TP10-20-75	8.10	3.57	297.5	3.86	<0.01	<0.01	<0.01	<0.3	314.5	314.5	Moderate
TP10-22-5	4.81	0.02	1.7	5.29	0.02	0.02	<0.01	<0.3	10.2	10.2	None
TP10-22-60	6..02	<0.01	<0.8	0.26	<0.01	<0.01	<0.01	<0.3	20.2	20.2	None
TP10-22-95	7.92	5.37	447.5	5.61	<0.01	<0.01	<0.01	<0.3	457.2	457.2	Moderate
TP10-23-65	7.55	3.53	294.2	3.85	<0.01	<0.01	<0.01	<0.3	316.4	316.4	Moderate
TP10-23-95	7.73	4.44	370.0	4.75	<0.01	<0.01	<0.01	<0.3	384.0	384.0	Moderate
TP10-24-30	5.66	0.09	7.5	2.42	<0.01	<0.01	<0.01	<0.3	20.4	20.4	None
TP10-24-50	7.29	0.28	23.3	0.6	<0.01	<0.01	<0.01	<0.3	55.5	55.5	Slight
TP10-25-35	6.70	<0.01	<0.8	0.51	<0.01	<0.01	<0.01	<0.3	19.8	19.8	None
TP10-26-10	7.16	0.21	17.5	2.02	0.01	0.01	<0.01	<0.3	33.1	33.1	None
TP10-26-50	7.77	2.03	169.2	2.45	<0.01	<0.01	<0.01	<0.3	192.9	192.9	Moderate
TP10-30-30	7.18	0.02	1.7	0.23	<0.01	<0.01	<0.01	<0.3	11.1	11.1	None
TP10-30-80	7.76	3.35	279.2	3.69	<0.01	<0.01	<0.01	<0.3	310.8	310.8	Moderate
TP10-31-140	7.42	0.06	5.0	0.23	0.01	<0.01	0.01	0.3	15.9	15.6	None
TP10-32-5	5.89	0.05	4.2	2.48	0.02	0.02	<0.01	<0.3	13.6	13.6	None
TP10-32-20	5.13	<0.01	<0.8	1.05	<0.01	<0.01	<0.01	<0.3	8.3	8.3	None
TP10-33-10	6.43	<0.01	<0.8	2.08	0.01	0.01	<0.01	<0.3	15.6	15.6	None
TP10-33-30	6.66	<0.01	<0.8	0.61	<0.01	<0.01	<0.01	<0.3	20.3	20.3	None
TP10-34-30	6.95	<0.01	<0.8	1.24	<0.01	<0.01	<0.01	<0.3	20.2	20.2	None
TP10-34-60	7.29	0.07	5.8	0.7	<0.01	<0.01	<0.01	<0.3	27.9	27.9	None
TP10-35-100	6.05	0.03	2.5	0.43	<0.01	<0.01	<0.01	<0.3	19.7	19.7	None
TP10-36-30	4.27	<0.01	<0.8	0.77	<0.01	<0.01	<0.01	<0.3	19.0	19.0	None
TP10-36-80	7.52	2.53	210.8	3.02	<0.01	<0.01	<0.01	<0.3	239.5	239.5	Moderate
TP10-38	7.68	1.78	148.3	2.12	<0.01	<0.01	<0.01	<0.3	178.8	178.8	Moderate
TP10-39	7.50	0.13	10.8	0.32	<0.01	<0.01	<0.01	<0.3	27.6	27.6	Slight
TP10-40-10	6.48	0.09	7.5	2.08	<0.01	0.01	<0.01	<0.3	18.2	18.2	None
TP10-40-40	6.76	0.02	1.7	0.69	<0.01	<0.01	<0.01	<0.3	20.8	20.8	None
TP10-42-10	6.80	0.09	7.5	0.52	<0.01	<0.01	<0.01	<0.3	15.1	15.1	None
TP10-42-30	5.90	<0.01	<0.8	0.48	<0.01	<0.01	<0.01	<0.3	12.8	12.8	None
TP10-45-30	8.14	5.16	430.0	5.53	<0.01	<0.01	<0.01	<0.3	439.4	439.4	Moderate
TP10-45-80	8.19	3.16	263.3	3.39	<0.01	<0.01	<0.01	<0.3	279.1	279.1	Moderate
TP10-46-30	6.86	0.06	5.0	0.56	<0.01	<0.01	<0.01	<0.3	17.8	17.8	None
TP10-46-80	7.94	2.24	186.7	2.56	<0.01	<0.01	<0.01	<0.3	219.7	219.7	Moderate
TP10-47-20	7.22	0.05	4.2	6.91	0.03	0.03	<0.01	<0.3	37.7	37.7	None
TP10-47-60	7.78	0.56	46.7	0.9	<0.01	<0.01	<0.01	<0.3	71.2	71.2	Slight
TP10-48-25	6.95	0.01	0.8	2.46	0.02	0.02	<0.01	<0.3	23.5	23.5	None
TP10-48-50	6.25	0.06	5.0	38.7	0.41	0.17	0.24	7.5	40.0	32.5	None
TP10-49-15	6.40	0.01	0.8	0.76	<0.01	<0.01	<0.01	<0.3	14.0	14.0	None
TP10-49-45	6.70	0.01	0.8	0.39	<0.01	<0.01	<0.01	<0.3	22.4	22.4	None
TP10-50-10	6.96	0.06	5.0	4.13	0.02	0.02	<0.01	<0.3	34.4	34.4	None
TP10-50-80	8.03	2.27	189.2	2.55	<0.01	<0.01	<0.01	<0.3	243.8	243.8	Moderate
TP10-51-40	7.13	0.04	3.3	0.97	<0.01	<0.01	<0.01	<0.3	23.1	23.1	None
TP10-51-80	8.21	4.6	383.3	4.87	<0.01	<0.01	<0.01	<0.3	397.3	397.3	Moderate
TP10-52-10	5.76	0.03	2.5	4.64	0.01	0.01	<0.01	<0.3	12.4	12.4	None
TP10-52-90	6.52	<0.01	<0.8	0.31	<0.01	<0.01	<0.01	<0.3	20.2	20.2	None

Sample ID	Paste pH	Total C %	TIC %	CaCO3 NP	S(T) %	S(SO4) %	S(S-2) %	AP	NP	Net NP	Fizz Test
Duplicates											
TP09-01-01	7.67	1.77							30.8		None
TP09-06-10		5.49	5.09		0.01	0.01					
T09P-11-20		0.32	0.04		0.01	<0.01					
TP09-13-23		0.35	0.21		<0.01	<0.01					
TP09-15-29	7.43								17.9		None
TP09-16-30	6.98								19.4		None
TP09-17-33		1.74	1.56		<0.01	<0.01					
TP09-22-43		2.71	0.18		0.02	<0.01					
TP09-23-46		0.29	0.04		0.01	<0.01					
TP09-25-50	7.04								25.6		None
TP09-26-51	8.11								286.0		Moderate
TP09-28-55		6.16	0.82								
TP09-29-57		0.41			<0.01	<0.01					
TP10-1-5	6.38	0.03		2.66	0.01	<0.01			12.4		None
TP10-5-65		3.23		3.48	<0.01	<0.01					
TP10-20-75	8.09	3.58		3.85	<0.01	<0.01			317.0		Moderate
TP10-22-5	5.55								10.7		None
TP10-22-95		5.36		5.63	<0.01	<0.01					
TP10-30-80		3.36		3.66	<0.01	<0.01					
TP10-35-100	6.08								19.6		None
TP10-36-30	5.03								18.4		None
TP10-36-80		2.53		3	<0.01	<0.01					
TP10-40-10		0.09		2.09	<0.01	<0.01					
TP10-47-60		0.56		0.9	<0.01	<0.01					
TP10-50-80	8.05								244.4		Moderate
TP10-52-90		<0.01		0.31	<0.01	<0.01					

Note:

AP = Acid potential in tonnes CaCO3 equivalent per 1000 tonnes of material. AP is determined from the calculated sulphide sulphur content: S(T) - S(SO4).

NP = Neutralization potential in tonnes CaCO3 equivalent per 1000 tonnes of material.

NET NP = NP - AP

Carbonate NP is calculated from TIC originating from carbonate minerals and is expressed in kg CaCO3/tonne.

APPENDIX IV - 2

Soil Test Results
SFE

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio**
Date: **September 7-9, 2009 and June 21 - July 21, 2010**

Sample ID			TP09-01-02	TP09-05-07	TP09-06-10	TP09-09-15	TP09-09-16	TP09-11-19	TP09-12-22	TP09-13-23	TP09-13-24	TP09-15-29	TP09-17-32	TP09-17-33	TP09-18-35	TP09-20-39	TP09-21-42	TP09-23-46	TP09-25-50
Parameter	**Method**	**Units**																	
Volume Nanopure water		mL	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Sample Weight		g	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
pH	meter		7.79	7.79	7.88	7.91	6.29	6.85	7.55	7.63	7.25	7.40	8.11	7.91	7.91	7.75	7.86	6.72	6.91
Redox	meter	mV	215	304	292	286	246	262	272	271	273	292	283	287	298	300	306	296	318
Conductivity	meter	uS/cm	39	143	160	123	8	18	83	82	30	54	212	98	108	74	108	16	21
Acidity (to pH 4.5)	titration	mg CaCO3/L	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	titration	mg CaCO3/L	2.3	5.2	4.5	4.2	5.5	3.6	3.6	3.8	3.1	3.2	3.6	3.6	3.9	3.6	3.9	5.0	4.4
Alkalinity	titration	mg CaCO3/L	18.0	82.3	88.6	74.3	3.3	8.7	53.3	49.7	16.6	29.7	123.9	57.8	68.2	42.0	64.5	4.4	9.8
Chloride		mg/L	3.4	1.6	1.2	1.2	1.6	1.5	0.7	0.9	1.4	1.5	1	1	1	0.8	0.8	1	1.5
Fluoride		mg/L	0.28	0.42	0.33	0.64	0.05	0.19	0.16	0.74	0.3	0.62	1.41	0.83	0.34	0.3	0.6	0.05	0.22
Sulphate	Turbidity	mg/L	7	3	3	2	5	8	4	3	8	6	6	5	2	5	4	7	6
Ion Balance																			
Major Anions	Calc	meq/L	0.62	1.78	1.89	1.59	0.22	0.39	1.18	1.12	0.55	0.79	2.70	1.33	1.45	0.98	1.43	0.26	0.37
Major Cations	Calc	meq/L	0.66	1.61	1.73	1.39	0.22	0.26	0.96	0.96	0.42	0.75	2.32	1.10	1.29	0.79	1.18	0.18	0.35
Difference	Calc	meq/L	-0.04	0.17	0.16	0.21	0.00	0.13	0.22	0.16	0.14	0.05	0.39	0.23	0.16	0.19	0.25	0.08	0.02
Balance (%)	Calc	%	-3.2%	5.0%	4.4%	7.0%	-0.5%	19.7%	10.2%	7.8%	14.3%	3.0%	7.7%	9.5%	5.8%	10.9%	9.7%	18.5%	2.9%
Dissolved Metals																			
Hardness CaCO3		mg/L	13.7	73.4	81.9	63.1	3.8	5.3	45.6	38.4	14.1	27.4	95.4	46.1	62	35.2	49.4	3.5	12
Aluminum Al	ICP-MS	mg/L	1.55	0.194	0.0065	0.105	0.421	0.296	0.0383	0.314	0.143	0.434	0.0133	0.0685	0.069	0.0713	0.0482	0.313	0.377
Antimony Sb	ICP-MS	mg/L	0.00021	0.00017	0.00049	0.0004	0.00007	0.0001	0.00006	0.00035	0.00016	0.00011	0.00043	0.00015	0.00015	0.00008	0.00013	0.00005	0.00013
Arsenic As	ICP-MS	mg/L	0.00233	0.00127	0.00215	0.00271	0.00126	0.0009	0.00082	0.00401	0.00115	0.00236	0.00313	0.00148	0.001	0.00082	0.00215	0.00048	0.00163
Barium Ba	ICP-MS	mg/L	0.0162	0.00961	0.0107	0.0108	0.00287	0.00296	0.00472	0.00962	0.00367	0.00631	0.0187	0.0071	0.00577	0.00525	0.00646	0.00225	0.00438
Beryllium Be	ICP-MS	mg/L	0.0001	0.00001	<0.00001	<0.00001	0.00006	0.00004	<0.00001	0.00001	0.00002	0.00004	<0.00001	0.00001	<0.00001	<0.00001	<0.00001	0.00004	0.00009
Bismuth Bi	ICP-MS	mg/L	0.000031	0.000006	<0.000005	0.000006	0.000006	0.000009	<0.000005	0.000009	0.000009	0.000008	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	<0.000005	0.000008
Boron B	ICP-MS	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.112	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dissolved Metals																			
Cadmium Cd	ICP-MS	mg/L	0.000007	0.000009	0.000008	0.000006	0.000027	0.000006	0.000009	0.000008	0.000012	0.00001	0.000012	0.000006	0.00001	0.000006	0.000007	0.00001	0.000013
Calcium Ca	ICP-MS	mg/L	2.95	20.6	23.3	14.7	0.92	1.17	12.4	5.45	2.02	5.98	12.3	6.62	17.1	8.83	12.2	0.63	2.88
Chromium Cr	ICP-MS	mg/L	0.0031	0.0005	<0.0001	0.0003	0.0016	0.0008	0.0002	0.0005	0.0004	0.0012	<0.0001	0.0003	0.0002	0.0002	0.0001	0.0011	0.0009
Cobalt Co	ICP-MS	mg/L	0.000572	0.000163	0.00014	0.000106	0.000213	0.000155	0.000028	0.000101	0.000096	0.000221	0.000018	0.000052	0.000077	0.000108	0.000057	0.000277	0.00022
Copper Cu	ICP-MS	mg/L	0.0158	0.0094	0.0139	0.0115	0.022	0.0115	0.00805	0.00386	0.0283	0.0197	0.00498	0.01	0.00887	0.0109	0.00374	0.00963	0.0165
Iron Fe	ICP-MS	mg/L	1.52	0.214	0.005	0.119	0.276	0.287	0.036	0.198	0.188	0.586	0.008	0.052	0.062	0.088	0.041	0.288	0.348
Lead Pb	ICP-MS	mg/L	0.000876	0.000247	0.000046	0.000144	0.000195	0.000287	0.000062	0.000359	0.000166	0.000346	0.000038	0.000186	0.000135	0.000081	0.000072	0.000431	0.000345
Lithium Li	ICP-MS	mg/L	0.0022	0.0023	0.0019	0.0044	0.0008	0.0014	0.001	0.0179	0.0012	0.0079	0.0369	0.0157	0.0017	0.0039	0.0033	0.0008	0.0009
Magnesium Mg	ICP-MS	mg/L	1.54	5.33	5.77	6.42	0.36	0.58	3.56	6.03	2.2	3.03	15.7	7.18	4.69	3.2	4.59	0.46	1.16
Manganese Mn	ICP-MS	mg/L	0.0112	0.00524	0.00075	0.00151	0.00218	0.00474	0.00271	0.00231	0.00187	0.00285	0.00021	0.00102	0.00219	0.00134	0.00058	0.00297	0.00369
Mercury Hg	ICP-MS	ug/L	0.02	0.02	<0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Molybdenum Mo	ICP-MS	mg/L	0.00019	0.00121	0.00232	0.00108	0.00011	0.00007	0.00055	0.00595	0.00138	0.0077	0.0208	0.00164	0.00054	0.00411	0.00059	0.00015	0.00017
Nickel Ni	ICP-MS	mg/L	0.0041	0.00098	0.0006	0.00175	0.00169	0.0016	0.00043	0.00078	0.00128	0.00197	0.00049	0.0012	0.00076	0.00063	0.00081	0.00151	0.00729
Phosphorus P	ICP-MS	mg/L	0.034	0.045	0.016	0.051	0.053	0.052	0.011	0.052	0.02	0.019	0.016	0.048	0.038	0.018	0.03	0.046	0.051
Potassium K	ICP-MS	mg/L	0.59	1.72	0.75	0.54	0.35	0.48	0.64	0.39	0.2	0.41	0.64	0.31	0.47	0.45	0.33	0.6	0.26
Selenium Se	ICP-MS	mg/L	0.00032	0.00019	0.00017	0.00032	0.00028	0.00024	0.00026	0.0001	0.0004	0.00092	0.00021	0.00029	0.00016	0.00011	0.00036	0.00052	0.00046
Silicon Si	ICP-MS	mg/L	9.8	6.13	5.48	7.55	1.79	5.99	2.08	7.06	2.81	3.95	4.02	2.07	2.49	1.91	2.47	1.69	5.44
Silver Ag	ICP-MS	mg/L	0.000036	0.000013	<0.000005	0.000013	0.000014	0.000021	<0.000005	<0.000005	0.000023	0.000051	0.000005	0.000012	0.00001	0.000113	0.000015	0.000019	0.000116
Sodium Na	ICP-MS	mg/L	2.62	1.47	1.6	2.14	1.69	2.24	0.74	3.12	2.37	2.51	9.06	3.92	0.93	1.67	4.15	1.07	1.08
Strontium Sr	ICP-MS	mg/L	0.00482	0.0182	0.019	0.0209	0.002	0.00177	0.00955	0.0363	0.0138	0.0167	0.0619	0.0272	0.0165	0.0337	0.0213	0.00208	0.00347
Sulphur (S)	ICP-MS	mg/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Thallium Tl	ICP-MS	mg/L	0.000035	0.000009	0.000003	0.000004	0.000004	0.000007	<0.000002	0.000007	0.000005	0.000006	<0.000002	0.000003	0.000005	0.000003	0.000003	0.000005	0.000007
Tin Sn	ICP-MS	mg/L	0.00005	0.00002	0.00001	0.00001	0.00001	0.00002	0.00002	0.00001	0.00002	0.00002	0.00003	0.00002	<0.00001	0.00001	0.00002	<0.00001	0.00003
Titanium Ti	ICP-MS	mg/L	0.0754	0.0109	<0.0005	0.0069	0.0081	0.015	0.0028	0.0214	0.0067	0.0195	0.0017	0.0072	0.0055	0.0062	0.0027	0.0085	0.0139
Uranium U	ICP-MS	mg/L	0.000223	0.000406	0.000479	0.000198	0.000288	0.000143	0.000147	0.00017	0.000249	0.000085	0.00461	0.000619	0.000225	0.000082	0.000447	0.000285	0.000198
Vanadium V	ICP-MS	mg/L	0.0036	0.003	0.0045	0.005	0.0011	0.0014	0.0012	0.0101	0.0016	0.0021	0.0036	0.0058	0.0024	0.0014	0.0017	0.001	0.0015
Zinc Zn	ICP-MS	mg/L	0.0049	0.0019	0.0007	0.001	0.0035	0.0017	0.0012	0.001	0.002	0.0016	0.0006	0.0009	0.0007	0.0007	0.0011	0.0012	0.0038
Zirconium Zr	ICP-MS	mg/L	0.0033	0.0005	<0.0001	0.0007	0.0036	0.0013	0.0002	0.0005	0.0008	0.0015	0.0001	0.0004	0.0004	0.0005	0.0002	0.0035	0.002

CEMI Project #: 08121
SGS Project #: 08121
Test: 24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio
Date: September 7-9, 2009 and June 21 - July 21, 2010

Sample ID	TP09-27-53	TP09-30-59	TP09-31-62	Blank	TP10-1-5	TP10-1-53	TP10-2-65	TP10-2-90	TP10-3-25	TP10-33-58	TP10-3-83	TP10-4-50	TP10-4-70	TP10-5-65	TP10-5-125	TP10-8-50	TP10-8-135	TP10-10-200-T	TP10-11-45	TP10-13-130
Parameter																				
Volume Nanopure water	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Sample Weight	250	250	250	-	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
pH	7.83	7.51	7.84	6.66	7.87	8.20	8.26	8.31	7.90	8.02	8.06	8.07	8.12	8.15	8.21	8.14	8.08	8.11	8.16	8.10
Redox	313	339	308	318	419	415	411	412	419	419	417	410	386	384	384	385	364	377	378	384
Conductivity	150	449	113	<1	95	153	156	182	75	88	102	93	144	134	180	125	117	148	137	118
Acidity (to pH 4.5)	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	4.3	5.2	3.5	1.6	2.5	1.4	1.1	#N/A	1.8	1.7	1.6	1.4	1.7	1.8	1.4	1.7	2.2	2.3	2.0	2.0
Alkalinity	87.2	68.8	67.4	1.4	47.7	90.2	86.2	106.0	36.3	53.4	53.3	57.4	88.9	81.5	93.2	75.2	73.9	81.9	92.0	77.6
Chloride	1.9	84	1.2	1.2	0.9	1.4	0.5	0.3	0.3	0.3	0.4	0.2	0.4	0.3	0.3	0.6	0.7	0.3	0.4	0.4
Fluoride	0.56	0.56	0.45	<0.01	0.27	0.46	1.46	1.42	0.39	0.77	0.79	0.30	0.46	0.47	0.75	0.31	0.39	0.76	0.52	0.36
Sulphate	5	20	4	<1	8	4	7	6	7	2	6	4	3	6	12	5	1	10	5	4
Ion Balance																				
Major Anions	1.93	4.19	1.49	#N/A	1.16	1.95	1.96	2.33	0.90	1.16	1.24	1.25	1.88	1.79	2.16	1.64	1.54	1.89	1.98	1.66
Major Cations	1.69	4.18	1.30	#N/A	1.19	1.80	1.88	2.08	1.19	0.99	1.10	1.08	1.61	1.52	1.98	1.39	1.37	1.67	1.66	1.38
Difference	0.25	0.01	0.19	#N/A	-0.02	0.15	0.08	0.25	-0.29	0.17	0.14	0.18	0.27	0.27	0.18	0.25	0.17	0.22	0.32	0.28
Balance (%)	6.8%	0.1%	6.6%	#N/A	-1.0%	3.9%	2.1%	5.7%	-13.9%	7.8%	6.0%	7.6%	7.7%	8.2%	4.4%	8.4%	5.7%	6.3%	8.8%	9.3%
Dissolved Metals																				
Hardness CaCO3	79.5	192	60.6	<0.5	48.5	73.7	77.8	88.7	43.0	43.2	48.8	46.9	73.5	69.1	89.3	65.5	65.8	74.7	78.7	65.7
Aluminum Al	0.0343	0.013	0.0916	0.0011	0.415	0.471	0.664	0.546	1.28	0.158	0.105	0.229	0.0175	0.0165	0.0053	0.138	0.0176	0.109	0.0742	0.0626
Antimony Sb	0.00018	0.00023	0.00015	<0.00002	0.0007	0.0003	0.0003	0.0004	< 0.0002	< 0.0002	0.0004	0.0002	0.0005	0.0003	0.0007	0.0004	0.0003	0.0004	0.0010	0.0004
Arsenic As	0.00059	0.00187	0.00186	<0.00002	0.0022	0.0039	0.0027	0.0019	0.0011	0.0014	0.0019	0.0038	0.0059	0.0036	0.0035	0.0043	0.0014	0.0017	0.0096	0.0017
Barium Ba	0.00671	0.0355	0.0075	0.00004	0.0114	0.00871	0.0134	0.0155	0.0133	0.00695	0.00736	0.00847	0.00797	0.00447	0.00647	0.00884	0.00649	0.00758	0.0104	0.00633
Beryllium Be	<0.00001	<0.00001	<0.00001	<0.00001	< 0.00002	0.00003	0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002	< 0.00002
Bismuth Bi	<0.000005	<0.000005	<0.000005	<0.000005	0.00117	0.00006	0.00012	0.00013	0.00067	0.00011	0.00007	0.00010	0.00008	0.00004	0.00004	0.00002	< 0.00001	< 0.00001	0.00002	< 0.00001
Boron B	<0.05	<0.05	<0.05	<0.05	0.0223	0.0108	0.0190	0.0188	0.0489	0.0239	0.0255	0.0153	0.0168	0.0131	0.0129	0.0103	0.0117	0.0141	0.0141	0.0076
Dissolved Metals																				
Cadmium Cd	<0.000005	0.000011	<0.000005	<0.000005	0.000339	0.000044	0.000038	0.000039	0.000323	0.000037	0.000037	0.000032	< 0.000003	0.000003	0.000005	< 0.000003	< 0.000003	0.000004	0.000008	< 0.000003
Calcium Ca	16.3	44.9	15.1	<0.05	11.5	16.5	13.0	14.5	10.2	9.25	10.8	11.3	17.1	14.3	15.3	22.1	21.6	20.7	18.9	17.6
Chromium Cr	0.0001	<0.0001	0.0002	<0.0001	0.0020	0.0020	0.0015	0.0015	0.0023	0.0009	0.0009	0.0009	0.0008	0.0007	0.0007	0.0007	0.0006	0.0008	0.0009	0.0005
Cobalt Co	0.000183	0.000061	0.000055	<0.000005	0.000695	0.000566	0.000155	0.000122	0.000306	0.000055	0.000044	0.000083	0.000037	0.000031	0.000024	0.000057	0.000024	0.000036	0.000044	0.000054
Copper Cu	0.00627	0.0126	0.00684	0.00029	0.0297	0.0122	0.0075	0.0043	0.0130	0.0069	0.0053	0.0053	0.0030	0.0039	0.0052	0.0047	0.0049	0.0032	0.0082	0.0055
Iron Fe	0.029	0.01	0.095	<0.001	0.308	0.469	0.520	0.400	0.871	0.139	0.078	0.180	0.007	0.014	< 0.002	0.132	0.013	0.080	0.082	0.085
Lead Pb	0.000034	0.000452	0.000107	0.000011	0.00121	0.00089	0.00031	0.00025	0.00073	0.00012	0.00011	0.00019	0.00007	0.00004	0.00006	0.00009	0.00004	0.00007	0.00020	0.00004
Lithium Li	0.0044	0.0143	0.0026	<0.0005	< 0.001	0.004	0.016	0.019	< 0.001	0.008	0.011	0.003	0.006	0.004	0.017	0.002	0.002	0.005	0.007	< 0.001
Magnesium Mg	9.43	19.5	5.6	<0.05	4.83	7.90	11.0	12.8	4.25	4.88	5.31	4.52	7.49	8.15	12.4	2.52	2.89	5.60	7.66	5.28
Manganese Mn	0.00067	0.00061	0.00134	0.00006	0.0025	0.0032	0.0036	0.0035	0.0069	0.0010	0.0005	0.0017	< 0.0002	< 0.0002	0.0006	0.0015	< 0.0002	0.0003	0.0010	0.0009
Mercury Hg	<0.01	0.01	0.01	<0.01	0.02	0.03	0.01	< 0.01	0.01	< 0.01	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.02	< 0.01
Molybdenum Mo	0.00236	0.00656	0.00095	<0.00005	0.00722	0.00581	0.00677	0.0142	0.00612	0.00651	0.0151	0.00340	0.00347	0.00150	0.00659	0.00265	0.00131	0.00836	0.00218	0.00094
Nickel Ni	0.00047	0.00065	0.00125	0.00009	0.0029	0.0019	0.0010	0.0006	0.0039	0.0008	0.0006	0.0008	0.0005	0.0007	0.0003	0.0004	0.0003	0.0002	0.0013	0.0006
Phosphorus P	0.013	0.012	0.035	0.002	0.175	0.064	0.046	0.016	0.089	0.024	0.024	0.043	0.022	0.034	< 0.009	< 0.009	0.019	0.014	0.034	0.026
Potassium K	0.43	2.04	0.47	<0.05	3.83	0.688	0.656	0.698	0.594	0.401	0.506	0.577	0.483	0.940	0.915	0.684	0.526	0.564	0.431	0.316
Selenium Se	0.00015	0.00022	0.00023	<0.00004	0.00087	0.00101	0.00033	0.00014	0.00113	0.00024	0.00021	0.00026	< 0.00004	0.00015	< 0.00004	< 0.00004	< 0.00004	< 0.00004	0.00010	< 0.00004
Silicon Si	3.02	6.07	3.77	<0.1	2.16	4.37	6.70	6.67	5.25	3.97	4.83	4.93	5.74	2.78	5.87	4.42	4.99	6.36	7.87	4.02
Silver Ag	<0.000005	<0.000005	0.000058	<0.000005	0.00010	0.00004	0.00002	< 0.00001	0.00007	< 0.00001	< 0.00001	< 0.00001	0.00005	0.00004	0.00002	< 0.00001	< 0.00001	0.00001	0.00003	< 0.00001
Sodium Na	1.96	6.44	1.77	<0.05	1.22	5.43	4.77	4.62	2.93	2.14	2.38	2.09	2.92	2.54	4.01	0.89	0.99	3.44	1.81	1.37
Strontium Sr	0.0212	0.0751	0.0177	<0.00005	0.0215	0.0270	0.0542	0.0705	0.0308	0.0269	0.0291	0.0193	0.0267	0.0269	0.0569	0.0189	0.0197	0.0182	0.0359	0.0171
Sulphur (S)	<3	7	<3	<3	1.23	1.89	2.64	2.27	1.72	0.98	2.07	0.45	0.59	1.45	5.46	0.58	0.65	3.63	0.53	0.58
Thallium Tl	0.000003	0.000003	0.000004	<0.000002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Tin Sn	<0.00001	0.00003	<0.00001	<0.00001	< 0.00001	0.00016	0.00007	0.00018	< 0.00001	0.00015	0.00015	0.00009	0.00023	0.00012	0.00020	0.00015	0.00021	0.00017	0.00020	0.00017
Titanium Ti	0.0021	0.0009	0.004	<0.0005	0.0113	0.0698	0.0550	0.0323	0.0400	0.0148	0.0181	0.0292	0.0013	0.0049	0.0003	0.0105	0.0012	0.0111	0.0344	0.0061
Uranium U	0.000377	0.000457	0.000186	0.000003	0.000230	0.000926	0.000892	0.00195	0.000356	0.000288	0.000306	0.000291	0.000449	0.000426	0.00166	0.000220	0.000117	0.000240	0.000258	0.000237
Vanadium V	0.002	0.0041	0.0031	<0.0002	0.00225	0.00394	0.00646	0.00601	0.00367	0.00370	0.00292	0.00468	0.0108	0.00383	0.00962	0.00587	0.00260	0.00314	0.0110	0.00203
Zinc Zn	0.0006	0.0083	0.0006	0.0004	0.007	0.002	0.002	0.001	0.008	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Zirconium Zr	<0.0001	<0.0001	0.0003	<0.0001	0.00178	0.00219	0.00199	0.00143	0.00249	0.00060	0.00057	0.00069	0.00013	0.00025	0.00011	0.00035	0.00007	0.00034	0.00079	0.00032

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio**
Date: **September 7-9, 2009 and June 21 - July 21, 2010**

Sample ID	TP10-14-40	TP10-14-90	TP10-20-20	TP10-20-75	TP10-22-5	TP10-22-60	TP10-22-95	TP10-23-65	TP10-23-95	TP10-24-30	TP10-24-50	TP10-25-35	TP10-26-10	TP10-26-50	TP10-30-30	TP10-30-80	TP10-31-140	TP10-32-5	TP10-32-20
Parameter																			
Volume Nanopure water	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Sample Weight	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
pH	7.44	7.26	7.10	7.94	7.37	7.66	7.91	7.93	7.72	7.27	7.56	7.53	7.76	7.88	7.28	7.91	6.39	6.37	5.86
Redox	429	429	438	396	330	305	322	315	262	260	278	269	354	344	335	341	303	320	335
Conductivity	28	33	22	128	114	77	144	136	133	34	183	45	170	119	24	130	15	85	29
Acidity (to pH 4.5)	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	2.8	2.9	4.1	2.9	7.0	3.3	3.3	3.3	5.2	5.4	7.0	3.8	5.1	4.2	4.4	3.8	5.3	10.1	10.1
Alkalinity	15.9	12.8	10.5	82.1	51.5	46.0	82.6	84.1	78.9	12.9	86.6	24.4	94.8	74.0	10.5	80.6	2.8	10.2	3.3
Chloride	< 0.2	0.3	0.2	0.2	2.0	0.2	1.7	0.3	0.3	0.3	0.4	0.2	2.0	0.5	0.3	< 0.2	0.2	3.6	1.6
Fluoride	< 0.06	0.39	< 0.06	0.37	< 0.06	0.40	0.42	0.38	0.32	0.06	1.87	0.31	0.16	0.27	0.36	0.07	< 0.06	0.10	< 0.06
Sulphate	4	6	5	5	8	4	2	2	4	4	6	4	10	4	7	3	9	5	6
Ion Balance																			
Major Anions	0.40	0.41	0.32	1.77	1.25	1.03	1.76	1.75	1.69	0.35	1.97	0.59	2.17	1.59	0.38	1.68	0.25	0.41	0.24
Major Cations	0.38	0.78	0.37	1.56	1.20	0.89	1.54	1.39	1.36	0.55	1.95	0.87	1.93	1.38	0.70	1.57	0.38	0.94	0.40
Difference	0.02	-0.37	-0.05	0.21	0.05	0.14	0.22	0.36	0.33	-0.20	0.01	-0.27	0.24	0.21	-0.32	0.10	-0.13	-0.53	-0.17
Balance (%)	2.4%	-31.0%	-7.8%	6.2%	2.0%	7.2%	6.8%	11.5%	10.7%	-21.7%	0.3%	-18.7%	5.8%	7.0%	-29.5%	3.2%	-21.2%	-38.9%	-26.3%
Dissolved Metals																			
Hardness CaCO3	17.2	27.0	13.1	73.5	41.4	33.2	68.4	64.9	64.0	15.1	80.0	24.9	89.0	61.4	13.2	68.8	5.3	30.8	8.3
Aluminum Al	0.133	0.820	0.333	0.0927	0.856	0.580	0.151	0.0512	0.104	0.650	0.256	1.35	0.340	0.325	2.45	0.425	1.46	0.99	1.14
Antimony Sb	0.0002	0.0004	< 0.0002	0.0002	0.0015	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	0.0005	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Arsenic As	0.0004	0.0027	0.0007	0.0010	0.0456	0.0034	0.0013	0.0026	0.0019	0.0027	0.0082	0.0014	0.0025	0.0012	0.0013	0.0034	0.0017	0.0018	0.0016
Barium Ba	0.00322	0.00852	0.00308	0.00541	0.0196	0.00816	0.00743	0.00661	0.00764	0.00735	0.0174	0.0130	0.0144	0.0107	0.0127	0.0115	0.00892	0.0187	0.00846
Beryllium Be	0.00002	0.00004	0.00004	< 0.00002	0.00009	0.00004	< 0.00002	< 0.00002	< 0.00002	0.00008	< 0.00002	0.00007	0.00002	< 0.00002	0.00007	< 0.00002	0.00005	0.00006	0.00008
Bismuth Bi	0.00005	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron B	0.0082	0.0224	0.0121	0.0085	0.0469	0.0153	0.0172	0.0147	0.0094	0.0207	0.0179	0.0159	0.0151	0.0110	0.0161	0.0105	0.0084	0.0179	0.0116
Dissolved Metals																			
Cadmium Cd	0.000008	0.000004	0.000020	0.000004	0.000036	< 0.000003	< 0.000003	< 0.000003	< 0.000003	0.000007	< 0.000003	< 0.000003	0.000045	< 0.000003	0.000027	0.000004	0.000009	0.000100	0.000051
Calcium Ca	6.45	9.46	3.32	18.3	9.61	6.29	14.7	16.7	16.5	2.81	11.5	4.96	24.7	16.5	3.14	17.4	1.45	7.88	2.17
Chromium Cr	0.0011	0.0023	0.0019	0.0014	0.0036	0.0016	0.0010	0.0009	0.0009	0.0027	0.0013	0.0031	0.0023	0.0013	0.0036	0.0014	0.0030	0.0029	0.0027
Cobalt Co	0.000105	0.000157	0.000242	0.000080	0.00246	0.000213	0.000080	0.000046	0.000065	0.000522	0.000109	0.000453	0.00142	0.000103	0.00103	0.000171	0.000962	0.00185	0.00101
Copper Cu	0.0063	0.0056	0.0083	0.0072	0.0120	0.0098	0.0030	0.0069	0.0043	0.0050	0.0081	0.0147	0.0199	0.0072	0.0101	0.0076	0.0162	0.0109	0.0081
Iron Fe	0.114	1.26	0.428	0.116	0.754	0.821	0.171	0.055	0.079	0.712	0.368	2.28	0.230	0.284	1.73	0.661	1.16	0.475	0.411
Lead Pb	0.00005	0.00036	0.00040	0.00009	0.00091	0.00032	0.00010	0.00014	0.00007	0.00039	0.00041	0.00061	0.00078	0.00023	0.00087	0.00036	0.00312	0.00036	0.00196
Lithium Li	< 0.001	0.002	< 0.001	0.001	0.001	0.002	0.004	0.001	0.002	< 0.001	0.027	0.002	0.002	0.003	0.002	0.002	< 0.001	< 0.001	< 0.001
Magnesium Mg	0.276	0.815	1.16	6.77	4.22	4.25	7.73	5.64	5.54	1.97	12.5	3.04	6.64	4.91	1.29	6.19	0.406	2.72	0.707
Manganese Mn	0.0025	0.0069	0.0067	0.0033	0.146	0.0080	0.0042	0.0013	0.0018	0.0166	0.0046	0.0129	0.0336	0.0023	0.0341	0.0061	0.0223	0.249	0.0198
Mercury Hg	0.02	< 0.01	0.01	0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.02	0.02	0.02	0.02	< 0.01	0.02	< 0.01	0.02	0.03	0.02
Molybdenum Mo	0.00061	0.00072	0.00046	0.00064	0.00720	0.00042	0.00496	0.00092	0.00070	0.00146	0.00517	0.00056	0.00121	0.00124	0.00074	0.00075	0.00016	0.00099	0.00008
Nickel Ni	0.0006	0.0013	0.0020	0.0011	0.0070	0.0028	0.0010	0.0007	0.0005	0.0038	0.0019	0.0057	0.0036	0.0016	0.0031	0.0015	0.0014	0.0059	0.0027
Phosphorus P	0.011	0.018	0.064	0.035	0.162	0.042	0.037	0.028	0.023	0.080	0.101	0.068	0.049	0.035	0.049	0.056	0.035	0.477	0.075
Potassium K	0.063	0.378	1.17	0.816	4.63	0.421	0.643	1.47	0.843	2.93	0.716	0.722	1.21	1.79	1.95	1.62	0.409	3.77	0.821
Selenium Se	0.00031	0.00033	0.00038	0.00016	0.00033	0.00016	< 0.00004	< 0.00004	0.00017	0.00037	0.00097	0.00065	0.00282	0.00039	0.00099	0.00017	0.00058	0.00080	0.00046
Silicon Si	1.29	14.2	2.42	3.69	5.19	6.65	3.63	3.03	3.98	5.58	7.71	11.2	3.41	3.83	6.59	7.31	4.54	4.07	2.80
Silver Ag	0.00006	0.00005	0.00006	0.00004	0.00003	0.00002	< 0.00001	< 0.00001	< 0.00001	0.00010	0.00001	0.00003	0.00004	0.00003	0.00006	0.00002	0.00005	0.00013	0.00001
Sodium Na	0.34	1.60	0.54	1.31	2.71	2.51	2.91	1.28	1.09	1.40	6.57	1.77	1.68	1.34	0.57	1.67	1.00	1.91	1.57
Strontium Sr	0.0069	0.0115	0.0050	0.0157	0.0291	0.0143	0.0230	0.0141	0.0138	0.0143	0.0770	0.0107	0.0207	0.0146	0.0059	0.0157	0.0079	0.0207	0.0084
Sulphur (S)	0.38	1.30	0.33	0.40	2.96	0.52	1.57	0.30	0.23	0.74	2.56	0.58	1.80	0.54	0.28	0.35	0.42	3.24	1.04
Thallium Tl	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Tin Sn	0.00023	0.00020	0.00020	0.00032	0.00680	0.00012	0.00026	0.00032	0.00055	0.00157	0.00057	0.00028	0.00052	0.00021	0.00022	0.00020	0.00080	0.00027	0.00016
Titanium Ti	0.0030	0.0548	0.0143	0.0088	0.0346	0.0359	0.0089	0.0048	0.0077	0.0214	0.0307	0.0596	0.0145	0.0274	0.0683	0.0253	0.0550	0.0197	0.0115
Uranium U	0.00175	0.000124	0.000688	0.000340	0.00212	0.000132	0.000533	0.000547	0.00423	0.000889	0.00247	0.000197	0.000316	0.000342	0.000228	0.000322	0.000415	0.000341	0.000639
Vanadium V	0.00051	0.00443	0.00114	0.00197	0.00557	0.00242	0.00101	0.00190	0.00338	0.00229	0.0108	0.00458	0.00198	0.00270	0.00446	0.00515	0.00220	0.00258	0.00131
Zinc Zn	< 0.001	0.001	0.001	0.001	0.006	0.002	< 0.001	0.002	< 0.001	0.003	0.003	0.004	0.003	< 0.001	0.005	0.002	0.005	0.006	0.003
Zirconium Zr	0.00070	0.00188	0.00216	0.00050	0.00239	0.00132	0.00033	0.00022	0.00029	0.00349	0.00098	0.00333	0.00068	0.00096	0.00363	0.00111	0.00380	0.00253	0.00253

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio**
Date: **September 7-9, 2009 and June 21 - July 21, 2010**

Sample ID	TP10-33-10	TP10-33-30	TP10-34-30	TP10-34-60	TP10-35-100	TP10-36-30	TP10-36-80	TP10-38	TP10-39	TP10-40-10	TP10-40-40	TP10-42-10	TP10-42-30	TP10-45-30	TP10-45-80	TP10-46-30	TP10-46-80	TP10-47-20	TP10-47-60
Parameter																			
Volume Nanopure water	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750	750
Sample Weight	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250
pH	7.19	7.50	7.52	7.56	7.24	6.35	7.79	7.89	7.31	7.26	7.41	7.11	6.67	7.92	7.97	7.17	7.80	7.42	7.84
Redox	305	300	312	314	320	333	314	302	299	336	330	331	337	68	124	189	217	335	324
Conductivity	77	68	77	60	36	21	139	130	22	50	56	33	26	140	123	20	115	142	141
Acidity (to pH 4.5)	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	6.0	4.4	4.4	3.8	4.8	7.8	4.6	4.1	3.3	4.8	3.8	4.1	4.3	4.7	4.9	6.4	5.3	5.9	4.4
Alkalinity	30.9	35.3	39.1	34.0	16.5	4.5	85.9	82.0	10.5	23.0	31.2	15.0	6.7	88.3	81.1	7.6	74.4	61.6	80.9
Chloride	1.5	0.4	0.3	0.3	0.3	0.3	0.3	0.6	0.4	0.5	0.3	0.6	0.7	2.7	0.4	0.5	0.5	1.0	0.4
Fluoride	0.30	0.26	0.14	0.21	0.26	< 0.06	0.92	0.24	0.15	< 0.06	0.18	0.07	0.06	0.18	0.26	< 0.06	0.37	0.57	0.83
Sulphate	9	2	1	4	6	5	3	<1	2	3	2	9	8	5	2	7	5	10	<1
Ion Balance																			
Major Anions	0.86	0.77	0.82	0.78	0.48	0.20	1.84	1.67	0.27	0.54	0.68	0.51	0.32	1.96	1.69	0.31	1.62	1.50	1.67
Major Cations	1.20	1.18	1.14	1.07	1.48	1.49	1.55	1.54	0.42	1.09	2.01	0.56	1.45	1.66	1.47	1.29	1.57	1.86	1.47
Difference	-0.34	-0.41	-0.32	-0.29	-1.00	-1.29	0.29	0.13	-0.15	-0.55	-1.33	-0.06	-1.13	0.29	0.22	-0.98	0.05	-0.36	0.20
Balance (%)	-16.3%	-20.8%	-16.5%	-15.5%	-51.2%	-76.1%	8.5%	4.1%	-21.8%	-33.9%	-49.3%	-5.2%	-63.5%	8.1%	6.9%	-61.1%	1.6%	-10.7%	6.4%
Dissolved Metals																			
Hardness CaCO3	39.1	34.5	42.4	31.6	16.1	13.5	71.4	68.1	8.8	30.1	37.9	15.7	16.1	75.8	66.0	13.3	63.5	74.7	64.1
Aluminum Al	2.25	2.53	1.34	2.28	6.60	7.72	0.06	0.72	1.14	2.86	8.18	1.06	6.35	0.475	0.419	5.64	1.20	0.639	0.136
Antimony Sb	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0009	0.0003	< 0.0002	0.0008	0.0004	0.0003	0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.0003
Arsenic As	0.0020	0.0021	0.0015	0.0024	0.0015	0.0033	0.0036	0.0035	0.0008	0.0111	0.0059	0.0039	0.0035	0.0023	0.0025	0.0019	0.0029	0.0024	0.0068
Barium Ba	0.0115	0.00947	0.0143	0.0163	0.0320	0.0380	0.0129	0.0128	0.00701	0.0154	0.0349	0.00546	0.0243	0.00637	0.00804	0.0232	0.0110	0.0233	0.0142
Beryllium Be	0.00005	0.00007	0.00008	0.00006	0.00020	0.00020	< 0.00002	0.00003	0.00004	0.00006	0.00016	0.00003	0.00012	< 0.00002	< 0.00002	0.00014	< 0.00002	< 0.00002	< 0.00002
Bismuth Bi	< 0.00001	< 0.00001	< 0.00001	< 0.00001	0.00001	0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron B	0.0357	0.0280	0.0268	0.0298	0.0318	0.0444	0.0128	0.0164	0.0135	0.0437	0.0284	0.0183	0.0345	0.0141	0.0165	0.0320	0.0138	0.133	0.0398
Dissolved Metals																			
Cadmium Cd	0.000030	0.000009	0.000029	0.000009	0.000008	0.000022	< 0.000003	0.000093	0.000062	0.000080	0.000014	0.000049	0.000016	0.000003	0.000005	0.000007	< 0.000003	< 0.000003	< 0.000003
Calcium Ca	9.11	7.84	10.1	7.14	2.53	2.37	17.6	17.4	2.09	7.44	8.21	3.73	2.83	18.1	16.2	2.31	15.0	19.5	15.5
Chromium Cr	0.0023	0.0030	0.0027	0.0030	0.0104	0.0179	0.0008	0.0018	0.0021	0.0032	0.0105	0.0031	0.0090	0.0013	0.0012	0.0084	0.0021	0.0024	0.0010
Cobalt Co	0.000609	0.000383	0.000362	0.000561	0.000789	0.00106	0.000046	0.000160	0.000515	0.00160	0.000981	0.000594	0.000906	0.000144	0.000109	0.00100	0.000199	0.000721	0.000030
Copper Cu	0.0135	0.0137	0.0153	0.0140	0.0151	0.0179	0.0058	0.0168	0.0126	0.0211	0.0157	0.0044	0.0084	0.0060	0.0055	0.0093	0.0080	0.0152	0.0023
Iron Fe	1.34	1.75	0.899	1.48	5.24	4.91	0.058	0.496	0.708	1.41	4.47	0.796	5.22	0.369	0.456	4.85	0.995	0.654	0.072
Lead Pb	0.00041	0.00055	0.00086	0.00085	0.00139	0.00230	0.00008	0.00046	0.00028	0.00054	0.00096	0.00022	0.00114	0.00012	0.00019	0.00138	0.00042	0.00009	0.00015
Lithium Li	0.001	0.001	0.005	0.004	0.004	0.004	0.005	0.004	< 0.001	0.001	0.003	< 0.001	0.002	< 0.001	0.003	0.002	0.002	0.021	0.018
Magnesium Mg	3.97	3.63	4.19	3.34	2.37	1.84	6.68	6.01	0.860	2.79	4.23	1.54	2.18	7.45	6.22	1.84	6.32	6.34	6.18
Manganese Mn	0.0320	0.0113	0.0064	0.0085	0.0317	0.0255	0.0006	0.0036	0.0106	0.0888	0.0252	0.0284	0.0328	0.0037	0.0037	0.0310	0.0061	0.0067	0.0013
Mercury Hg	0.02	0.03	0.02	0.02	0.02	0.02	0.01	< 0.01	< 0.01	0.02	0.04	0.01	0.03	0.02	0.02	0.02	0.02	0.02	< 0.01
Molybdenum Mo	0.00159	0.00039	0.00101	0.00138	0.00041	0.00008	0.00098	0.00092	0.00048	0.00015	0.00028	0.00058	< 0.00001	0.00061	0.00073	< 0.00001	0.00063	0.0138	0.00684
Nickel Ni	0.0049	0.0035	0.0064	0.0044	0.0096	0.0071	0.0011	0.0009	0.0029	0.0082	0.0072	0.0036	0.0056	0.0018	0.0010	0.0045	0.0018	0.0087	0.0004
Phosphorus P	0.348	0.275	0.068	0.051	0.096	0.041	0.034	0.058	0.060	0.095	0.035	0.029	0.037	0.013	0.019	0.063	0.030	0.144	< 0.009
Potassium K	1.64	1.36	1.40	1.02	1.49	1.47	0.670	1.16	1.35	2.36	1.80	0.960	2.47	1.18	1.27	2.24	1.47	1.10	0.776
Selenium Se	0.00077	0.00085	0.00077	0.00050	0.00048	0.00081	0.00055	0.00016	0.00026	0.00082	0.00084	0.00061	0.00069	0.00077	0.00022	0.00050	0.00036	0.00407	0.00020
Silicon Si	10.2	7.99	6.56	9.75	21.9	38.7	8.26	7.97	3.88	7.03	18.4	4.33	21.1	3.22	4.72	19.5	7.59	5.97	6.78
Silver Ag	0.00002	0.00011	0.00006	0.00004	0.00003	0.00003	0.00005	0.00003	0.00002	0.00002	0.00002	0.00002	0.00003	0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001
Sodium Na	1.22	1.82	1.42	1.84	2.39	1.43	2.42	0.94	1.10	0.71	1.39	1.48	1.88	0.98	1.07	1.74	1.82	5.20	3.60
Strontium Sr	0.0138	0.0106	0.0165	0.0133	0.0100	0.0077	0.0285	0.0165	0.0101	0.0123	0.0140	0.0052	0.0074	0.0160	0.0217	0.0068	0.0151	0.0445	0.0343
Sulphur (S)	1.07	0.46	0.73	0.58	0.38	0.54	0.33	0.31	0.33	2.15	1.08	0.81	0.80	0.76	0.54	0.68	0.72	3.67	0.83
Thallium Tl	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Tin Sn	0.00025	0.00020	0.00049	0.00018	0.00018	0.00007	0.00027	0.00025	0.00018	0.00029	< 0.00001	0.00011	< 0.00001	0.00005	0.00005	0.00002	0.00007	< 0.00001	0.00043
Titanium Ti	0.0252	0.0655	0.0539	0.0952	0.297	0.384	0.0053	0.0486	0.0397	0.0579	0.245	0.0299	0.194	0.0155	0.0273	0.167	0.0722	0.0225	0.0065
Uranium U	0.000749	0.000203	0.000317	0.000432	0.00128	0.00116	0.000349	0.000303	0.000136	0.000361	0.000248	0.000089	0.000227	0.000434	0.000312	0.000230	0.000260	0.000311	0.000358
Vanadium V	0.00421	0.00432	0.00601	0.00589	0.0202	0.0388	0.00426	0.00392	0.00299	0.00442	0.00516	0.00195	0.0141	0.00171	0.00293	0.0118	0.00379	0.0546	0.0122
Zinc Zn	0.004	0.004	0.004	0.003	0.012	0.018	0.001	0.020	0.005	0.020	0.016	0.010	0.013	0.003	0.002	0.007	0.002	0.002	< 0.001
Zirconium Zr	0.00229	0.00376	0.00437	0.00354	0.00447	0.0126	0.00034	0.00160	0.00241	0.00282	0.00458	0.00190	0.00354	0.00099	0.00087	0.00368	0.00172	0.00231	0.00022

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **24 Hour NanoPure Water Leach Extraction Test at 3:1 Liquid to Solid Ratio**
Date: **September 7-9, 2009 and June 21 - July 21, 2010**

Sample ID	TP10-48-25	TP10-48-50	TP10-49-15	TP10-49-45	TP10-50-10	TP10-50-80	TP10-51-40	TP10-51-80	TP10-52-10	TP10-52-90	Blank
Parameter											
Volume Nanopure water	750	**750**	750	750	750	750	750	750	750	750	750
Sample Weight	250	**150**	250	250	250	250	250	250	250	250	250
pH	7.43	7.31	7.77	7.38	7.57	7.97	7.64	7.85	7.40	7.17	6.92
Redox	332	330	279	305	325	314	345	341	346	328	317
Conductivity	85	337	115	38	134	168	105	132	108	57	<1
Acidity (to pH 4.5)	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Total Acidity (to pH 8.3)	3.6	12.3	3.8	3.0	4.8	3.3	3.7	3.5	5.2	4.5	2.9
Alkalinity	33.7	81.6	65.4	20.1	59.6	91.2	58.8	78.7	44.9	25.3	1.8
Chloride	0.8	3.2	0.4	0.4	0.8	0.2	0.7	0.5	2.8	0.5	< 0.2
Fluoride	0.31	0.21	0.18	0.44	0.26	1.02	0.16	0.29	< 0.06	0.25	< 0.06
Sulphate	<1	60	2	2	3	2	2	4	9	5	<1
Ion Balance											
Major Anions	0.71	2.98	1.37	0.48	1.29	1.93	1.24	1.69	1.16	0.64	#N/A
Major Cations	1.67	3.57	1.44	2.18	1.50	1.79	1.42	1.91	1.09	0.60	#N/A
Difference	-0.96	-0.58	-0.07	-1.70	-0.21	0.14	-0.18	-0.22	0.07	0.04	#N/A
Balance (%)	-40.1%	-8.9%	-2.6%	-64.0%	-7.5%	3.7%	-6.7%	-6.1%	3.2%	3.1%	#N/A
Dissolved Metals											
Hardness CaCO3	44.1	155	58.9	28.7	56.6	77.4	56.3	66.9	39.2	23.7	< 0.05
Aluminum Al	4.04	0.641	0.980	9.09	1.01	0.229	0.209	4.09	1.30	0.114	< 0.01
Antimony Sb	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002	0.0002	< 0.0002	< 0.0002	< 0.0002
Arsenic As	0.0010	0.0058	0.0049	0.0074	0.0016	0.0050	0.0017	0.0071	0.0020	0.0022	< 0.0002
Barium Ba	0.0308	0.0324	0.00937	0.0585	0.0147	0.0158	0.0227	0.0128	0.0498	0.00858	0.00038
Beryllium Be	< 0.00002	< 0.00002	< 0.00002	0.00030	< 0.00002	< 0.00002	0.00010	< 0.00002	0.00004	< 0.00002	< 0.00002
Bismuth Bi	< 0.00001	< 0.00001	< 0.00001	0.00002	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron B	0.0513	0.131	0.0138	0.0229	0.0584	0.0362	0.0208	0.0147	0.0240	0.0211	0.0005
Dissolved Metals											
Cadmium Cd	< 0.000003	0.000199	< 0.000003	0.000004	< 0.000003	< 0.000003	0.000008	< 0.000003	0.000042	< 0.000003	< 0.000003
Calcium Ca	10.6	40.4	13.2	4.36	13.1	15.6	13.8	18.5	13.2	8.24	< 0.02
Chromium Cr	0.0064	0.0035	0.0019	0.0140	0.0022	0.0005	0.0035	0.0011	0.0025	0.0007	0.0013
Cobalt Co	0.000789	0.00203	0.000355	0.00147	0.000059	< 0.000002	0.000459	0.000088	0.00114	0.000008	< 0.000002
Copper Cu	0.0138	0.0194	0.0051	0.0147	0.0093	< 0.0005	0.0090	0.0035	0.0137	0.0016	0.0029
Iron Fe	2.99	0.496	0.830	7.65	0.976	0.111	3.11	0.547	0.530	0.122	< 0.002
Lead Pb	0.00108	0.00012	0.00032	0.00190	0.00016	< 0.00002	0.00076	0.00025	0.00033	0.00004	0.00003
Lithium Li	0.006	0.006	< 0.001	0.005	0.014	0.029	0.002	0.002	< 0.001	0.001	< 0.001
Magnesium Mg	4.29	13.1	6.32	4.33	5.81	9.32	5.30	5.05	1.51	0.754	< 0.001
Manganese Mn	0.0257	0.0601	0.0107	0.0484	0.0082	0.0019	0.0245	0.0039	0.294	0.0055	< 0.0002
Mercury Hg	0.03	0.05	0.02	0.04	0.04	< 0.01	0.05	0.02	0.04	< 0.01	< 0.01
Molybdenum Mo	0.00043	0.0325	0.00078	0.00032	0.00164	0.0166	0.00065	0.00181	0.00090	0.00085	0.00001
Nickel Ni	0.0119	0.0160	0.0026	0.0103	0.0076	< 0.0001	0.0051	0.0052	0.0028	0.0007	< 0.0001
Phosphorus P	0.096	0.941	0.027	0.074	0.127	< 0.009	0.070	0.028	0.163	< 0.009	< 0.009
Potassium K	1.33	1.00	1.25	2.62	1.11	0.955	1.58	0.924	3.01	0.215	< 0.005
Selenium Se	0.00106	0.00316	0.00058	0.00088	0.00185	< 0.00004	0.00079	0.00029	0.00115	0.00028	< 0.00004
Silicon Si	12.0	3.14	3.27	31.5	8.51	7.86	14.6	7.41	5.80	6.12	0.01
Silver Ag	< 0.00001	< 0.00001	0.00004	0.00003	< 0.00001	< 0.00001	0.00004	< 0.00001	0.00005	0.00001	< 0.00001
Sodium Na	3.27	8.04	1.82	2.60	4.03	4.32	1.55	1.37	1.38	2.30	0.03
Strontium Sr	0.0278	0.0981	0.0227	0.0166	0.0411	0.0640	0.0175	0.0193	0.0573	0.0333	< 0.0001
Sulphur (S)	2.51	18.7	0.88	0.62	3.45	1.85	1.36	0.67	2.31	2.93	< 0.03
Thallium Tl	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Tin Sn	< 0.00001	< 0.00001	0.00004	0.00003	< 0.00001	< 0.00001	0.00037	0.00026	0.00032	0.00005	0.00035
Titanium Ti	0.130	0.0201	0.0285	0.318	0.0345	0.0084	0.0402	0.162	0.0246	0.0040	< 0.0001
Uranium U	0.000325	0.00154	0.000148	0.000312	0.000317	0.00202	0.000130	0.000249	0.000400	0.000015	< 0.000001
Vanadium V	0.00968	0.0274	0.00212	0.0221	0.00980	0.0156	0.0152	0.0105	0.00317	0.00109	< 0.00003
Zinc Zn	0.008	0.003	0.002	0.017	0.003	0.002	0.005	0.001	0.012	< 0.001	< 0.001
Zirconium Zr	0.00643	0.00236	0.00161	0.00500	0.00219	0.00013	0.00293	0.00081	0.00175	0.00019	< 0.00001

APPENDIX IV - 2

Soil Test Results
Metals

CEMI Project #: 08121
SGS Project #: 08121
Test: Metals by Aqua Regia Digestion with ICP-MS Finish
Date: December 11, 2009 and July 8, 2010

Sample ID	Au ppm	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm
TP09-01-01	0.02	0.1	0.66	2.2	67	<1	0.1	0.52	0.1	25	7.2	84	0.7	7	1.3	3	0.1	<0.1	0.052	0.01	0.08	10	7.7	0.29	821
TP09-01-02	0.01	0.3	2.33	5.4	156	1	0.3	1.14	<0.1	103	16.1	110	2.7	31.4	3.49	10	0.2	0.4	0.097	0.04	0.38	38	24.7	0.93	736
TP09-02-03	<0.01	<0.1	0.15	0.9	58	<1	0.1	4.22	0.3	4	1.3	9	0.2	4.6	0.21	<1	<0.1	0.1	0.153	<0.01	0.02	2	0.6	0.6	58
TP09-02-04	<0.01	<0.1	0.18	0.7	56	<1	<0.1	4.15	0.2	4	0.7	8	0.2	6.2	0.12	1	<0.1	0.1	0.107	<0.01	0.02	2	0.6	0.6	55
TP09-04-05	<0.01	<0.1	0.3	0.6	38	<1	<0.1	1.73	0.1	7	1.3	20	0.3	5.7	0.24	1	0.1	<0.1	0.147	0.01	0.03	4	1.6	0.52	43
TP09-05-06	<0.01	0.2	0.4	0.8	81	<1	0.1	0.33	0.3	15	5.1	85	0.5	5.3	0.84	2	<0.1	<0.1	0.042	0.01	0.08	7	3.8	0.15	1050
TP09-05-07	<0.01	0.3	1.41	6.1	118	1	0.3	8.41	0.2	62	13.8	54	2.2	31.9	2.77	7	0.1	0.3	0.055	0.04	0.39	31	22.7	3.22	633
TP09-05-08	<0.01	0.3	1.42	5.8	115	1	0.3	9.19	0.2	60	13.5	68	2.2	30	2.71	7	0.1	0.3	0.053	0.03	0.4	29	22.7	3.21	598
TP09-05-09	<0.01	0.2	1.72	6.1	94	1	0.3	0.69	0.1	55	12.4	83	2.1	21.1	2.74	7	0.1	0.2	0.062	0.03	0.36	20	18.9	0.78	442
TP09-06-10	<0.01	0.2	1.25	1.1	128	1	0.2	>10.00	0.2	45	8	59	1.7	25.4	1.87	6	0.1	0.2	0.034	0.03	0.23	23	16	2.25	294
TP09-06-11	<0.01	0.1	1.08	3.2	56	<1	0.1	3.83	<0.1	39	7.2	88	1.3	16.4	1.67	4	0.1	0.1	0.043	0.02	0.21	22	13.2	2.21	296
TP09-07-12	<0.01	<0.1	0.18	2.2	28	<1	0.1	3.3	0.4	4	1.5	18	0.3	5.8	0.35	1	<0.1	<0.1	0.162	0.01	0.04	2	1.2	0.27	138
TP09-08-13	<0.01	0.2	1.34	6	94	1	0.2	7.39	0.1	51	11.3	68	1.7	19.7	2.21	6	0.1	0.3	0.054	0.02	0.27	26	19.4	3.99	565
TP09-08-14	<0.01	0.1	0.8	1.9	50	<1	0.1	0.34	<0.1	33	5.5	89	0.8	7.1	1.28	3	0.1	0.1	0.042	0.01	0.11	15	13.1	0.29	156
TP09-09-15	<0.01	0.2	1.51	6.6	134	1	0.3	4.81	0.1	58	11.9	68	2	24.4	2.5	7	0.1	0.3	0.053	0.03	0.29	31	20.9	2.96	541
TP09-09-16	<0.01	0.1	0.76	2.3	44	<1	0.1	0.21	<0.1	21	6.3	89	0.9	5.2	1.28	3	<0.1	<0.1	0.029	0.01	0.11	10	11	0.3	242
TP09-10-17	<0.01	0.3	1.24	3.6	161	1	0.3	2.22	0.7	50	10.2	55	1.1	17.1	1.54	5	0.1	0.2	0.156	0.03	0.15	25	14.7	0.59	1327
TP09-10-18	<0.01	0.3	2.3	5.7	183	1	0.4	5.4	0.1	85	19.4	77	3.2	41	3.79	11	0.2	0.6	0.05	0.04	0.47	43	42.8	2.7	697
TP09-11-19	<0.01	0.3	1.93	6.9	101	1	0.3	0.64	0.1	96	13.5	72	2.2	24.5	2.91	8	0.2	0.3	0.077	0.04	0.31	37	22.4	0.74	583
TP09-11-20	<0.01	0.1	0.73	1.3	48	<1	0.1	0.29	<0.1	24	7.8	81	0.9	4.8	1.32	3	0.1	<0.1	0.015	0.01	0.12	10	9.2	0.28	314
TP09-12-21	<0.01	0.1	0.36	1	112	<1	0.1	5.16	0.6	14	3	18	0.3	26.5	0.73	1	0.1	0.1	0.16	0.01	0.05	9	3.5	0.7	179
TP09-12-22	<0.01	0.1	0.61	1.6	37	<1	0.2	6.23	<0.1	32	4.2	83	0.7	11.2	1.21	3	0.1	0.1	0.029	0.01	0.1	16	10.1	3.26	170
TP09-13-23	<0.01	0.3	2.14	5.4	171	1	0.3	0.76	<0.1	73	14.5	69	2.2	31.9	2.89	8	0.1	0.6	0.047	0.03	0.29	38	28.5	1.16	482
TP09-13-24	<0.01	0.1	0.76	2.5	51	<1	0.1	0.2	<0.1	19	4.7	45	0.8	5.7	1.15	3	<0.1	0.1	0.028	0.01	0.07	10	13.6	0.33	130
TP09-14-26	<0.01	0.2	2.14	6.9	97	1	0.3	0.36	<0.1	51	11.2	52	1.8	14.8	2.71	7	0.1	0.2	0.062	0.03	0.28	21	17.2	0.55	381
TP09-14-27	<0.01	0.1	0.52	0.9	31	<1	0.1	0.18	<0.1	18	4.7	85	0.6	3.5	1.08	3	0.1	<0.1	0.026	0.01	0.11	8	7.4	0.22	179
TP09-15-28	<0.01	0.1	0.47	0.8	33	<1	<0.1	0.48	<0.1	20	2.3	82	0.4	3.4	0.7	2	0.1	0.1	0.022	0.01	0.07	10	6.8	0.28	69
TP09-15-29	<0.01	0.2	1.54	15.8	75	1	0.2	0.37	<0.1	54	8.3	79	1.1	5.9	3.06	5	0.1	0.3	0.049	0.02	0.16	23	18.1	0.46	147
TP09-16-30	<0.01	0.2	0.96	2.6	120	<1	0.2	0.61	0.4	36	10.7	55	0.8	10	1.42	4	0.1	0.2	0.052	0.02	0.13	13	11.8	0.39	855
TP09-16-31	<0.01	0.1	0.71	1.6	50	<1	0.1	0.23	<0.1	23	5.4	80	0.7	4.6	1.16	3	<0.1	0.1	0.053	0.01	0.12	10	9.2	0.27	200
TP09-17-32	<0.01	0.3	1.92	12.1	216	1	0.3	3.81	0.1	60	16.8	48	1.8	35.9	3.19	8	0.1	0.5	0.049	0.05	0.32	29	30.6	1.51	437
TP09-17-33	<0.01	0.1	1.01	1.8	66	1	0.1	3.01	<0.1	37	6.3	59	0.8	10.1	1.35	4	0.1	0.2	0.034	0.02	0.11	18	15.1	2.07	153
TP09-17-34	<0.01	0.1	1.03	1.4	85	<1	0.1	0.49	0.1	31	5.8	65	0.5	11.4	1.21	4	0.1	0.2	0.034	0.01	0.1	15	13.1	0.46	147
TP09-18-35	<0.01	0.1	0.99	3.7	69	1	0.1	9.03	0.1	35	7	46	1	16	1.52	4	0.1	0.2	0.044	0.02	0.17	17	15.1	3.42	340
TP09-18-36	<0.01	0.3	2.36	4.4	116	1	0.3	0.52	<0.1	75	11.6	64	1.7	17.7	2.75	8	0.1	0.3	0.067	0.03	0.28	30	26.5	0.73	485
TP09-19-37	<0.01	0.1	1.05	2.9	61	<1	0.1	7.32	0.1	40	7.7	54	1.2	16.4	1.62	4	0.1	0.2	0.031	0.02	0.2	21	14.5	3.2	367
TP09-19-38	<0.01	0.2	2.43	7.1	112	1	0.3	0.49	<0.1	78	13.7	73	1.9	25.2	3.19	9	0.1	0.2	0.08	0.04	0.33	29	26.5	0.76	531
TP09-20-39	<0.01	0.1	0.75	3.4	63	<1	0.1	6.56	0.1	36	6.2	35	0.8	13.3	1.31	3	0.1	0.2	0.031	0.01	0.12	18	11.3	3.86	400
TP09-20-40	<0.01	0.2	1.26	4.3	165	1	0.2	2.63	0.7	34	9.3	46	0.9	17.6	1.58	4	0.1	0.2	0.122	0.02	0.17	16	13.9	0.56	605
TP09-21-41	<0.01	0.2	2.55	5.4	111	1	0.3	0.57	<0.1	41	11.9	58	2	22.1	2.92	8	0.1	0.2	0.052	0.04	0.33	17	26.4	0.81	343
TP09-21-42	<0.01	0.2	1.37	3.5	91	1	0.2	6.31	<0.1	49	8.5	53	1.1	17.7	1.92	5	0.1	0.3	0.047	0.02	0.21	27	21	3.57	393
TP09-22-43	<0.01	0.2	1.54	2.4	123	1	0.2	0.53	0.2	43	8.5	54	0.7	18.1	1.76	5	0.1	0.3	0.032	0.02	0.14	21	16.3	0.49	436
TP09-22-44	<0.01	0.2	1.27	4	90	1	0.2	5.48	0.1	44	9	46	1.2	19.1	1.86	5	0.1	0.3	0.039	0.02	0.18	21	20.1	3.4	428
TP09-23-45	<0.01	0.2	2.05	7.7	169	2	0.4	0.55	<0.1	86	15.3	48	2.1	34.8	2.76	7	0.2	0.5	0.056	0.04	0.24	48	29.7	0.97	466
TP09-23-46	<0.01	0.1	0.86	2.2	51	<1	0.1	0.23	<0.1	27	4.8	70	1	6.2	1.28	4	0.1	0.1	0.023	0.01	0.12	13	19.4	0.37	198
TP09-24-47	<0.01	0.2	1.5	2.4	111	1	0.2	3.77	<0.1	57	11.6	68	1.7	22.5	2.08	6	0.1	0.3	0.048	0.03	0.25	28	19.9	2.58	599
TP09-24-48	<0.01	0.3	0.99	2.9	143	1	0.2	1.87	0.5	36	8.6	37	0.9	14.1	1.34	4	0.1	0.2	0.119	0.02	0.14	17	11.8	0.58	675
TP09-25-49	<0.01	0.2	0.99	2.9	91	<1	0.1	>10.00	0.2	40	7	33	1.2	14.4	1.52	4	0.1	0.3	0.03	0.02	0.16	20	15.6	4.91	438
TP09-25-50	<0.01	0.3	2.44	7	134	2	0.3	0.78	0.1	99	13	80	2.4	26.1	3.32	10	0.2	0.3	0.077	0.04	0.33	34	27.7	0.92	599
TP09-26-51	<0.01	0.2	1.17	4.5	77	1	0.2	7.55	0.2	50	11.2	62	1.7	58.1	2.11	5	0.1	0.3	0.067	0.02	0.24	27	18.8	4.35	558

CEMI Project #: **08121**
SGS Project #: **08121**
Test: **Metals by Aqua Regia Digestion with ICP-MS Finish**
Date: **December 11, 2009 and July 8, 2010**

Sample ID	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	Rb ppm	Re ppb	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
TP09-01-01	0.9	0.02	1.1	11.1	0.025	8.7	21.4	<5	<0.05	0.1	1.5	<0.5	0.4	14	<0.1	<0.1	2.8	0.036	0.1	0.4	28	0.1	2.7	35	0.9
TP09-01-02	0.5	0.02	1	46	0.039	14.2	48.4	<5	<0.05	0.2	7.2	<0.5	1.1	27	<0.1	0.1	12	0.057	0.4	1.4	71	0.2	17	77	20.5
TP09-02-03	1.9	0.01	0.7	6.9	0.077	7.8	1.6	8	0.29	0.3	0.6	0.7	0.1	68	<0.1	<0.1	0.3	0.007	<0.1	0.3	4	<0.1	1.2	13	1.7
TP09-02-04	3.7	0.01	0.4	9.7	0.061	2.7	1.6	5	0.44	0.1	0.6	0.9	0.1	72	<0.1	<0.1	0.2	0.008	<0.1	0.4	6	<0.1	1.4	17	1.6
TP09-04-05	0.5	0.01	0.4	4.8	0.045	2.4	2.9	<5	0.21	0.1	0.8	0.7	0.2	47	<0.1	<0.1	0.1	0.01	<0.1	0.4	8	0.1	1.9	13	0.6
TP09-05-06	0.8	0.02	0.7	7.1	0.035	11.9	11	<5	<0.05	0.1	1	<0.5	0.4	12	<0.1	<0.1	1.6	0.026	0.1	0.3	16	0.1	1.8	46	0.7
TP09-05-07	0.7	0.03	0.8	43.1	0.064	12.1	37.9	<5	<0.05	0.3	5.8	<0.5	0.8	64	<0.1	0.1	9.2	0.056	0.4	1.2	65	0.2	13.9	66	17
TP09-05-08	0.7	0.03	0.7	41.6	0.063	11.8	36.8	<5	<0.05	0.3	5.8	<0.5	0.8	68	<0.1	0.1	9.4	0.056	0.3	1.3	67	0.1	13.2	64	18.5
TP09-05-09	0.6	0.02	1	29.9	0.047	12.6	41.8	<5	<0.05	0.2	5.6	<0.5	0.8	19	<0.1	<0.1	10.3	0.038	0.3	1.1	58	0.1	6.4	73	11.1
TP09-06-10	0.2	0.02	0.9	27.4	0.044	8.3	24.1	<5	<0.05	0.2	4	<0.5	0.6	85	<0.1	<0.1	5.8	0.064	0.2	0.9	42	0.3	9.4	47	13.2
TP09-06-11	0.4	0.02	0.8	21.6	0.044	7	20.3	<5	<0.05	0.1	3.2	<0.5	0.5	25	<0.1	<0.1	5.5	0.037	0.2	0.7	38	0.2	8.5	34	5.6
TP09-07-12	0.7	0.17	0.3	4.9	0.088	12.1	3.2	<5	0.4	0.4	0.7	<0.5	0.3	39	<0.1	<0.1	0.2	0.008	0.1	0.2	7	0.1	1.1	15	1.2
TP09-08-13	0.8	0.03	0.4	34.9	0.053	9.6	25.9	<5	<0.05	0.2	4.5	<0.5	0.7	56	<0.1	0.1	7.6	0.044	0.3	1.1	54	0.3	12	46	16.9
TP09-08-14	0.4	0.03	0.9	12.4	0.021	6.8	17.1	<5	<0.05	0.1	2.3	<0.5	0.4	17	<0.1	<0.1	5	0.039	0.1	0.6	28	0.5	5.7	31	5.7
TP09-09-15	0.5	0.02	0.5	43.4	0.055	11.9	30.6	<5	<0.05	0.3	5.6	<0.5	0.8	40	<0.1	0.1	9.2	0.031	0.3	1.1	65	0.1	15.4	57	17.1
TP09-09-16	0.8	0.02	1	11.7	0.015	8.4	22.6	<5	<0.05	0.1	1.8	<0.5	0.4	12	<0.1	<0.1	4.3	0.044	0.1	0.5	33	0.3	2.5	35	2.4
TP09-10-17	0.8	0.01	1.1	20.4	0.097	28.4	31.6	<5	0.13	0.4	2.2	<0.5	0.8	34	<0.1	<0.1	2	0.028	0.2	1.5	29	0.1	9.2	75	4.6
TP09-10-18	0.4	0.04	0.5	57.2	0.065	23.9	45.2	<5	<0.05	0.4	8.1	<0.5	1.1	53	<0.1	0.1	14.5	0.085	0.5	1.4	82	0.1	14.8	89	28.9
TP09-11-19	0.6	0.02	0.9	37.9	0.045	15.1	38	<5	<0.05	0.2	6.2	<0.5	0.9	21	<0.1	0.1	12.2	0.041	0.4	1.4	60	0.2	16.1	67	16.8
TP09-11-20	0.6	0.02	1.1	12.3	0.02	7.9	23.3	<5	<0.05	0.1	1.6	<0.5	0.4	12	<0.1	<0.1	3.9	0.045	0.1	0.5	27	0.1	2.7	33	2.2
TP09-12-21	0.7	0.01	0.6	17.1	0.09	3.4	4.5	6	0.4	0.2	1.1	2	0.2	52	<0.1	<0.1	0.8	0.015	0.1	15.8	27	0.3	4.5	25	4.1
TP09-12-22	0.3	0.03	0.8	13.1	0.04	4.3	10.5	<5	<0.05	0.1	2.2	<0.5	0.3	32	<0.1	<0.1	4.7	0.052	0.1	0.7	24	0.3	5.4	21	5.9
TP09-13-23	0.5	0.03	0.4	47.5	0.049	12.5	32.1	<5	<0.05	0.3	6.3	<0.5	0.9	45	<0.1	<0.1	11.5	0.066	0.3	1.1	65	0.1	13	72	22.7
TP09-13-24	0.7	0.02	0.7	10.4	0.015	7.4	13.6	<5	<0.05	<0.1	2.2	<0.5	0.4	17	<0.1	<0.1	4	0.037	0.1	1	30	0.1	2.8	26	5.9
TP09-14-26	0.6	0.01	1.1	27.3	0.043	13.8	38.2	<5	<0.05	0.2	5.5	<0.5	0.8	19	<0.1	<0.1	9.9	0.04	0.4	1.2	59	0.1	5.7	64	10.6
TP09-14-27	0.4	0.02	1.1	9.6	0.034	12.5	15.2	<5	<0.05	<0.1	1.8	<0.5	0.3	11	<0.1	<0.1	3	0.051	0.1	0.4	20	0.1	2.8	32	2.3
TP09-15-28	0.3	0.02	0.7	7.1	0.031	2.5	7.2	<5	<0.05	<0.1	1.5	<0.5	0.3	13	<0.1	<0.1	3	0.037	0.1	0.4	14	0.1	3.3	12	3.8
TP09-15-29	1.2	0.02	0.8	16.8	0.024	7.8	20.4	<5	<0.05	0.1	4.6	<0.5	0.6	21	<0.1	<0.1	8	0.031	0.2	0.6	59	0.2	6.5	35	13.5
TP09-16-30	0.6	0.01	1.3	16.5	0.041	21.3	32.9	<5	0.05	0.1	2.3	<0.5	0.5	18	<0.1	<0.1	3.1	0.031	0.2	1.2	31	0.1	4.2	73	3.9
TP09-16-31	0.3	0.02	0.7	11.1	0.02	5.2	20.7	<5	<0.05	<0.1	2	<0.5	0.3	11	<0.1	<0.1	3.6	0.028	0.1	0.5	23	0.1	3.1	28	4.9
TP09-17-32	0.9	0.03	0.5	44.6	0.048	14.7	30.7	<5	<0.05	0.4	7.6	<0.5	1	78	<0.1	0.1	10.9	0.03	0.3	1.6	70	0.1	14.1	75	23.6
TP09-17-33	0.2	0.02	0.4	18.6	0.04	7	13.6	<5	<0.05	0.1	3	<0.5	0.4	25	<0.1	<0.1	5	0.027	0.1	0.6	30	0.1	7.5	30	7.6
TP09-17-34	0.2	0.02	0.9	13.2	0.023	9.1	16.3	<5	<0.05	0.1	2.5	<0.5	0.5	27	<0.1	<0.1	4	0.02	0.1	2.5	24	0.2	5.5	33	4.9
TP09-18-35	0.3	0.02	0.5	22.6	0.039	7.3	15.5	<5	<0.05	0.1	3.3	<0.5	0.5	52	<0.1	<0.1	5.3	0.036	0.2	0.8	38	0.3	7.5	31	10.3
TP09-18-36	0.3	0.01	1	32.3	0.034	12	36	<5	<0.05	0.1	5.7	<0.5	0.9	19	<0.1	<0.1	10	0.03	0.3	1.2	53	0.1	14.1	65	10.4
TP09-19-37	0.4	0.02	0.7	24.1	0.044	7.3	18.6	<5	<0.05	0.1	3.3	<0.5	0.5	41	<0.1	<0.1	6	0.044	0.2	0.8	38	0.1	8.1	32	9.3
TP09-19-38	0.6	0.02	1.2	36.5	0.033	15.5	35.9	<5	<0.05	0.2	6.7	<0.5	1	21	<0.1	<0.1	11.4	0.04	0.4	1.3	68	0.1	11.3	70	12.8
TP09-20-39	0.5	0.02	0.5	21	0.05	7.4	10.9	<5	<0.05	0.1	2.8	<0.5	0.4	38	<0.1	<0.1	5.1	0.042	0.2	0.8	35	0.1	7.6	25	11.6
TP09-20-40	0.5	0.02	1.2	18.2	0.066	12.6	26.4	<5	0.12	0.1	2.5	<0.5	1	120	<0.1	<0.1	2.5	0.025	0.2	1.3	29	1.5	6.3	59	5.6
TP09-21-41	0.5	0.02	1.1	29.8	0.017	16.3	47.5	<5	<0.05	0.2	5.7	<0.5	1	25	<0.1	0.1	10.9	0.033	0.4	1.4	63	0.1	4.7	70	9.1
TP09-21-42	0.2	0.02	0.5	29.8	0.045	8.7	19.7	<5	<0.05	0.1	4.2	<0.5	0.6	37	<0.1	<0.1	7.4	0.041	0.2	0.8	44	0.2	10.3	38	12.7
TP09-22-43	0.2	0.01	0.8	20.8	0.035	12.3	26.4	<5	<0.05	0.1	3.2	<0.5	0.6	16	<0.1	<0.1	5.2	0.019	0.2	1.4	36	0.1	8.1	44	7.7
TP09-22-44	0.3	0.02	0.4	27	0.047	9.5	17.6	<5	<0.05	0.2	3.8	<0.5	0.5	32	<0.1	<0.1	7	0.032	0.2	0.9	44	0.2	8.9	40	12.1
TP09-23-45	0.4	0.03	0.6	54.8	0.042	15.8	27.2	<5	<0.05	0.3	6.3	<0.5	0.9	33	<0.1	0.1	12.6	0.027	0.3	1.4	60	0.1	24.9	71	21.4
TP09-23-46	0.7	0.03	1.1	12.8	0.018	8.2	18.3	<5	<0.05	<0.1	2.3	<0.5	0.5	16	<0.1	<0.1	4.8	0.063	0.1	0.6	35	<0.1	3.5	28	5.4
TP09-24-47	0.2	0.03	0.6	36.7	0.054	10.5	25.9	<5	<0.05	0.1	5	<0.5	0.7	35	<0.1	<0.1	7.9	0.051	0.2	0.9	52	0.1	11.7	50	13
TP09-24-48	0.6	0.01	1.4	19.2	0.088	16.2	30.3	<5	0.17	0.2	2.2	0.8	0.6	41	<0.1	<0.1	1.9	0.029	0.2	3.8	32	0.2	7.1	56	5.1
TP09-25-49	0.4	0.02	0.6	22.6	0.045	7.3	15.7	<5	<0.05	0.1	3.4	<0.5	0.5	82	<0.1	0.1	5.5	0.059	0.2	0.9	41	0.1	8.9	31	14.1
TP09-25-50	0.5	0.02	1	36.3	0.035	15.7	39.3	<5	<0.05	0.2	7.7	<0.5	1.1	25	<0.1	<0.1	11.9	0.041	0.4	1.4	78	0.1	17.3	78	16.9
TP09-26-51	0.5	0.03	0.6	33.1	0.057	9.7	21.2	<5	0.06	0.2	4.4	<0.5	0.6	43	<0.1	<0.1	7.2	0.052	0.3	1	49	0.4	11.5	118	14

Sample ID	Au ppm	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm
TP09-26-52	<0.01	0.3	2.13	5.3	102	1	0.3	0.57	0.1	71	12.4	84	1.9	54.3	2.85	8	0.1	0.3	0.055	0.03	0.25	35	25.4	0.68	568
TP09-27-53	<0.01	0.1	1.21	2.7	89	1	0.2	9.38	0.1	46	8.8	58	1.4	21.5	1.86	5	0.1	0.3	0.041	0.02	0.19	24	16.8	4.09	531
TP09-27-54	<0.01	0.3	2.47	7.1	142	1	0.3	0.72	<0.1	93	15.5	70	2.5	30.6	3.47	10	0.2	0.3	0.07	0.04	0.33	48	27.3	1	681
TP09-28-55	<0.01	0.2	1.41	6.8	220	1	0.2	1.49	0.6	60	12.2	54	0.8	26.6	2.67	6	0.1	0.3	0.08	0.03	0.21	30	16.6	0.85	2102
TP09-28-56	<0.01	0.2	1.45	5	189	1	0.2	2.06	1.5	62	12.7	58	0.8	40.4	2.29	6	0.1	0.3	0.103	0.03	0.21	32	18.4	0.95	267
TP09-29-57	<0.01	0.1	1.64	5.4	59	1	0.2	0.43	<0.1	55	10.8	94	1.7	13.7	2.42	6	0.1	0.1	0.045	0.03	0.25	16	16.5	0.51	295
TP09-29-58	<0.01	0.1	0.56	2	29	<1	0.1	>10.00	0.1	28	4.9	84	0.7	11.5	1.13	3	<0.1	0.2	0.013	0.01	0.11	14	9.8	4.61	309
TP09-30-59	<0.01	0.3	2.37	7	221	1	0.4	6.62	0.3	78	17.7	67	3.1	37.3	3.48	11	0.1	0.6	0.039	0.05	0.54	39	42.7	2.53	651
TP09-30-60	<0.01	0.2	1.17	2.6	90	<1	0.2	7.28	<0.1	46	6.4	49	1.3	14.3	1.68	5	0.1	0.3	0.021	0.02	0.17	22	14.9	4.17	284
TP09-31-61	<0.01	0.1	1.02	2.4	95	<1	0.1	>10.00	0.2	40	7	70	1.3	15.2	1.52	4	0.1	0.3	0.015	0.02	0.18	20	15.5	3.44	341
TP09-31-62	<0.01	0.1	1.25	3.8	98	1	0.2	7.06	0.1	52	9.3	64	1.4	18.3	2.02	5	0.1	0.2	0.045	0.02	0.22	27	19.2	3.96	469
TP10-1-5	<0.05	0.1	1.02	2.1	68	<1	0.1	0.38	0.1	30	9.2	70	1	11.7	1.4	4	<0.1	0.1	0.032	0.01	0.16	13	13.9	0.36	445
TP10-1-53	<0.05	0.1	1.35	3.6	82	1	0.2	4.47	<0.1	43	9.4	61	1.7	20	1.85	5	<0.1	0.2	0.049	0.02	0.23	25	16.7	2.76	393
TP10-2-65	<0.05	0.2	1.4	2.3	98	1	0.2	5.76	<0.1	47	9.4	61	2	19.6	1.88	6	0.1	0.4	0.029	0.02	0.25	25	20.6	3.15	433
TP10-2-90	<0.05	0.1	0.99	1.9	79	<1	0.1	8.14	0.1	35	7	52	1.4	14.9	1.37	4	<0.1	0.3	0.021	0.02	0.18	19	15.2	2.96	329
TP10-3-25	<0.05	0.2	2.05	2.8	127	1	0.2	0.7	0.3	47	9.1	58	1.4	19.7	2.05	7	<0.1	0.2	0.041	0.03	0.19	24	25.1	0.54	352
TP10-3-58	<0.05	0.1	1.04	2.7	59	<1	0.1	0.85	<0.1	40	6.4	76	1.1	14.7	1.45	4	<0.1	0.2	0.022	0.01	0.14	22	12.5	0.68	204
TP10-3-83	<0.05	0.1	1.11	2.8	75	<1	0.1	1.09	<0.1	35	7.8	75	1.3	22.1	1.53	4	<0.1	0.3	0.014	0.02	0.16	18	14.2	0.91	301
TP10-4-50	<0.05	0.3	3.21	6.5	231	1	0.4	0.69	<0.1	87	20.9	82	4	49	3.88	13	0.1	0.9	0.039	0.04	0.55	43	42.4	1.32	744
TP10-4-70	<0.05	0.2	2.21	4.5	160	1	0.3	4.39	0.1	59	14.4	54	2.6	32.9	2.65	8	0.1	0.7	0.037	0.03	0.35	30	25.8	1.86	518
TP10-5-65	<0.05	0.1	1.08	2.9	64	<1	0.1	5.35	<0.1	35	7.3	57	1.4	14.1	1.49	4	<0.1	0.2	0.028	0.02	0.2	20	13.4	3.05	336
TP10-5-125	<0.05	0.2	1.03	2.1	85	<1	0.2	8.91	0.2	37	8.2	50	1.6	18.4	1.56	5	<0.1	0.4	0.02	0.02	0.22	20	16	2.25	333
TP10-8-50	<0.05	0.1	0.71	2	51	<1	0.1	9.78	0.1	27	4.6	53	0.8	17.4	1.03	3	<0.1	0.2	0.017	0.01	0.13	15	9.2	3.99	276
TP10-8-135	<0.05	0.1	0.67	1.5	48	<1	0.1	8.59	0.1	25	4.8	59	0.8	10.6	0.99	3	<0.1	0.3	0.014	0.01	0.12	13	8.3	3.57	321
TP10-10-200-T	<0.05	0.2	1.42	4.6	86	1	0.2	5.22	0.2	38	8.6	53	1.8	22.2	1.77	5	<0.1	0.4	0.024	0.03	0.26	20	15.6	2.19	342
TP10-11-45	<0.05	0.2	1.97	6.2	134	1	0.3	3.87	0.1	51	11.9	48	2.2	26.3	2.34	7	<0.1	0.4	0.044	0.04	0.31	27	21.6	1.74	470
TP10-13-130	<0.05	0.1	1.56	3	57	<1	0.1	0.83	<0.1	25	13.7	95	1	45.5	2.38	6	<0.1	0.2	0.018	0.02	0.12	12	14.7	0.87	371
TP10-14-40	<0.05	0.1	0.91	1.4	35	<1	0.1	0.39	<0.1	17	5.2	99	0.6	14.8	1.24	3	<0.1	0.1	0.01	0.01	0.08	8	13.3	0.44	217
TP10-14-90	<0.05	0.2	2.08	5.1	120	1	0.3	0.77	<0.1	58	19.5	65	2.4	31.6	2.6	8	<0.1	0.5	0.031	0.03	0.23	27	20.4	0.62	389
TP10-20-20	<0.05	0.1	1.22	1.8	51	<1	0.1	0.21	<0.1	28	7.9	82	1.3	8.4	1.51	4	<0.1	<0.1	0.005	0.01	0.2	10	14.1	0.39	217
TP10-20-75	<0.05	0.1	1.15	2.3	63	<1	0.1	6.26	<0.1	36	7.4	57	1.4	18.5	1.54	4	<0.1	0.3	0.026	0.02	0.2	20	13.4	3.32	342
TP10-22-5	<0.05	0.1	0.89	1.3	58	<1	0.1	0.36	0.1	19	4.3	87	0.8	12.7	0.88	3	<0.1	<0.1	0.026	0.01	0.1	10	9.2	0.26	141
TP10-22-60	<0.05	0.2	1.88	4.4	103	1	0.2	0.39	<0.1	75	12.1	82	1.9	23.2	2.56	8	0.1	0.4	0.032	0.03	0.2	27	20.3	0.64	225
TP10-22-95	<0.05	0.1	0.75	1.9	44	<1	0.1	10.11	0.1	27	9.7	63	0.8	25.5	1.71	4	<0.1	0.3	0.005	0.01	0.09	15	10.5	4.86	400
TP10-23-65	<0.05	0.1	1.19	3.2	74	<1	0.2	7.07	0.1	39	8.4	53	1.6	24.4	1.7	5	<0.1	0.2	0.024	0.02	0.24	21	13.5	3.16	371
TP10-23-95	<0.05	0.1	1.09	2.4	80	<1	0.1	10.2	0.1	36	7.2	56	1.5	19.9	1.49	5	<0.1	0.3	0.016	0.02	0.21	19	12.3	2.95	319
TP10-24-30	<0.05	0.1	1.72	3.9	109	1	0.2	0.49	0.1	39	23.1	57	1.5	29.3	2.06	7	<0.1	<0.1	0.017	0.03	0.26	19	21.5	0.6	978
TP10-24-50	<0.05	0.4	2.95	7.6	248	1	0.4	1.12	0.1	97	21.7	79	4	51.9	4.07	14	0.1	0.8	0.053	0.05	0.51	57	47.5	1.72	706
TP10-25-35	<0.05	0.2	1.68	1.8	105	1	0.2	0.45	<0.1	56	9.9	82	1.8	27.1	2.13	7	0.1	0.2	0.038	0.03	0.21	27	18	0.6	195
TP10-26-10	<0.05	0.3	1.95	4.8	126	1	0.2	1.06	0.3	52	11.6	77	1.5	36.2	2.28	7	0.1	0.1	0.026	0.03	0.2	26	15.7	0.76	719
TP10-26-50	<0.05	0.1	1.36	2	87	1	0.2	4.02	0.1	46	9.5	70	1.5	22.7	1.79	5	<0.1	0.1	0.022	0.02	0.25	23	15.5	2.37	502
TP10-30-30	<0.05	0.1	0.75	1.2	40	<1	0.1	0.26	<0.1	26	6.6	108	0.7	13.5	1.32	3	<0.1	0.1	<0.005	0.01	0.14	10	10.2	0.32	266
TP10-30-80	<0.05	0.2	1.48	3.3	98	1	0.2	7.07	0.1	47	10.8	55	2	30.7	2.01	6	<0.1	0.4	0.02	0.02	0.3	25	17.8	2.93	419
TP10-31-140	<0.05	0.4	1.3	5.9	53	<1	0.1	0.52	0.1	43	9.7	84	1.6	30.1	2.06	5	<0.1	0.2	0.025	0.01	0.15	23	17.4	0.56	285
TP10-32-5	<0.05	0.1	1.05	2.1	73	<1	0.1	0.36	0.1	27	8.8	95	1	15.6	1.34	4	<0.1	<0.1	0.018	0.01	0.12	13	11.5	0.44	558
TP10-32-20	<0.05	0.1	1.2	2.6	52	<1	0.1	0.22	0.1	26	6.8	91	1.1	14.9	1.35	4	<0.1	<0.1	0.015	0.01	0.1	12	12.1	0.34	207
TP10-33-10	<0.05	0.1	1.67	3.4	87	1	0.2	0.4	0.1	39	11.2	76	1.4	18.3	1.96	6	<0.1	0.1	0.038	0.02	0.24	17	17.3	0.52	462
TP10-33-30	<0.05	0.2	2.42	5.5	110	1	0.3	0.47	0.1	61	13.8	84	2.5	24.8	3.03	9	0.1	0.3	0.042	0.04	0.36	23	24.4	0.76	430
TP10-34-30	<0.05	0.2	1.69	2.3	103	1	0.2	0.52	0.1	50	10.9	82	1.4	22	2.27	7	0.1	0.2	0.018	0.03	0.26	24	20.1	0.65	215
TP10-34-60	<0.05	0.1	1.77	2.6	113	1	0.2	0.63	<0.1	56	12.2	78	1.8	23.5	2.46	8	0.1	0.2	0.031	0.03	0.29	27	20.9	0.77	259
TP10-35-100	<0.05	0.2	1.52	6.1	97	1	0.3	0.47	<0.1	89	10.9	82	1.9	33.2	2.45	7	0.1	0.2	0.044	0.03	0.22	49	17.8	0.59	451
TP10-36-30	<0.05	0.2	2.32	7.3	111	1	0.3	0.46	<0.1	43	12.5	70	2.3	31.7	3.06	10	0.1	0.3	0.045	0.05	0.3	17	22.5	0.74	265
TP10-36-80	<0.05	0.7	1.64	5.3	122	1	0.2	5.94	0.2	44	11.4	56	1.8	29.4	2.14	6	0.1	0.4	0.024	0.03	0.26	23	17.5	2.15	438
TP10-38	<0.05	0.2	1.39	3.5	87	1	0.2	4.24	0.1	38	10	64	1.6	29.5	1.87	5	<0.1	0.4	0.018	0.02	0.23	20	15.4	1.63	358
TP10-39	<0.05	0.1	1.39	1.8	53	<1	0.1	0.79	<0.1	40	13.6	109	1.4	36.8	2.3	5	0.1	0.2	0.006	0.01	0.16	20	14.1	0.9	331

Sample ID	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	Rb ppm	Re ppb	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
TP09-26-52	0.5	0.02	1	33.3	0.034	13.4	34.7	<5	<0.05	0.2	5.7	<0.5	0.8	21	<0.1	<0.1	9.5	0.037	0.3	0.8	60	0.2	13.1	88	10.4
TP09-27-53	0.4	0.03	0.5	28.2	0.055	8.6	18.7	<5	0.09	0.1	4	<0.5	0.6	51	<0.1	<0.1	7.1	0.054	0.2	0.9	47	0.4	9.9	39	13.6
TP09-27-54	0.5	0.02	1	50.8	0.052	16.3	40.4	<5	0.06	0.2	7.5	<0.5	1.1	27	<0.1	0.1	12.6	0.041	0.4	1.1	77	0.1	20.5	76	14.8
TP09-28-55	0.6	0.02	1.2	28.3	0.11	13.5	34	<5	0.13	0.1	3.4	<0.5	0.6	29	<0.1	<0.1	4.4	0.027	0.3	1.6	46	0.1	12.2	96	8.6
TP09-28-56	0.8	0.02	1.5	37.7	0.106	11.8	32.5	9	0.17	0.1	3.8	2.1	0.7	36	<0.1	<0.1	4.6	0.033	0.3	3.1	54	0.5	13.4	116	11
TP09-29-57	0.7	0.02	1	22.4	0.031	12.5	28.8	<5	<0.05	0.1	3.9	<0.5	0.7	17	<0.1	<0.1	7.8	0.036	0.3	0.9	58	0.3	4.4	49	5.3
TP09-29-58	0.5	0.02	0.6	15.9	0.03	4.7	11	<5	0.05	<0.1	1.9	<0.5	0.3	71	<0.1	<0.1	3.8	0.049	0.1	0.6	22	<0.1	4.9	20	7.4
TP09-30-59	0.7	0.04	0.5	52.6	0.058	16.8	51	<5	0.06	0.3	7.9	<0.5	1.2	72	<0.1	0.1	13.5	0.065	0.4	1.6	91	0.1	14.7	92	27.1
TP09-30-60	0.2	0.03	0.5	19.6	0.054	11.1	17.3	<5	0.06	0.1	3.9	<0.5	0.5	42	<0.1	<0.1	6.7	0.054	0.2	0.8	43	0.1	9.5	34	15.2
TP09-31-61	0.7	0.02	0.5	21.9	0.04	7.3	16.8	<5	<0.05	0.1	3.2	<0.5	0.5	72	<0.1	<0.1	5.8	0.049	0.2	0.9	39	0.1	8.1	31	14.4
TP09-31-62	0.4	0.02	0.6	28.5	0.049	9.6	23.2	<5	0.05	0.1	4.3	<0.5	0.6	41	<0.1	<0.1	7.9	0.049	0.2	1	52	0.5	10.6	42	11.1
TP10-1-5	0.6	0.02	1.7	13.7	0.032	19.3	31.9	<5	<0.05	0.2	2.6	<0.5	1.5	17	<0.1	<0.1	3.1	0.043	0.1	0.7	32	0.1	4.2	48	1.3
TP10-1-53	0.3	0.02	0.8	26.8	0.043	9	25.4	<5	<0.05	0.1	4.8	<0.5	0.7	33	<0.1	<0.1	7	0.04	0.2	0.9	48	0.1	10.2	38	9.9
TP10-2-65	0.4	0.03	0.5	31.5	0.039	8.9	27.2	<5	<0.05	0.2	5	<0.5	0.7	44	<0.1	<0.1	8.1	0.05	0.2	0.9	50	0.1	10.7	39	17.4
TP10-2-90	0.4	0.02	0.5	19.7	0.036	6.9	17.9	<5	<0.05	0.1	3.5	<0.5	0.5	63	<0.1	<0.1	5.9	0.045	0.2	0.8	36	0.1	7.6	31	14.4
TP10-3-25	0.5	0.02	1.5	22.1	0.042	11.1	38	5	<0.05	0.1	4.8	<0.5	0.8	33	<0.1	<0.1	6	0.031	0.2	2.5	46	0.1	9.9	48	6.7
TP10-3-58	0.3	0.03	0.5	17.9	0.042	6.3	18.1	<5	<0.05	0.1	3.7	<0.5	0.5	23	<0.1	<0.1	6.1	0.041	0.1	0.7	34	0.1	9	27	8.5
TP10-3-83	0.5	0.03	0.4	20.8	0.037	7.2	16.6	<5	<0.05	0.1	3.9	<0.5	0.5	26	<0.1	<0.1	6.1	0.034	0.2	0.7	36	0.1	7.3	33	13.2
TP10-4-50	0.4	0.04	0.8	59.3	0.058	17.9	62	<5	<0.05	0.3	9.5	<0.5	1.4	38	<0.1	<0.1	17.9	0.118	0.5	1.4	88	0.1	14.2	90	33.9
TP10-4-70	0.3	0.03	0.3	38.6	0.047	12.9	36.2	<5	<0.05	0.3	6.9	<0.5	0.9	49	<0.1	<0.1	11.6	0.057	0.3	1.1	72	0.1	12.2	65	25.3
TP10-5-65	0.2	0.02	0.6	21.9	0.04	7	21.6	<5	<0.05	0.1	3.7	<0.5	0.5	34	<0.1	<0.1	5.7	0.038	0.2	0.8	37	0.1	8.2	29	12.3
TP10-5-125	0.3	0.03	0.6	22.3	0.035	7.5	21.5	<5	<0.05	0.2	4	<0.5	0.6	68	<0.1	<0.1	6.5	0.053	0.2	1	40	0.1	7.5	35	15.8
TP10-8-50	0.2	0.02	0.6	13.9	0.035	4.9	12.6	<5	<0.05	0.1	2.3	<0.5	0.3	48	<0.1	<0.1	4.4	0.045	0.1	0.5	29	0.1	5.3	18	8.6
TP10-8-135	0.2	0.02	0.5	14.9	0.032	4.5	11	<5	<0.05	0.1	2.2	<0.5	0.3	42	<0.1	<0.1	4.2	0.044	0.1	0.5	23	<0.1	5	18	10.5
TP10-10-200-T	0.5	0.02	0.3	22.3	0.041	9.4	21.7	<5	<0.05	0.2	4.9	<0.5	0.7	38	<0.1	<0.1	7.2	0.028	0.2	1	54	0.1	9.2	41	15.9
TP10-11-45	0.3	0.02	0.4	34.6	0.044	12.4	29.2	<5	<0.05	0.4	6.6	<0.5	1	49	<0.1	<0.1	8.8	0.018	0.3	1.2	81	0.1	14.4	50	16.4
TP10-13-130	0.3	0.05	0.4	26.4	0.044	3.6	9.6	<5	<0.05	0.1	4.9	<0.5	0.4	29	<0.1	<0.1	3.2	0.091	0.1	0.4	53	0.1	6.4	47	9.2
TP10-14-40	0.4	0.04	0.9	13.1	0.03	4.7	7	<5	<0.05	<0.1	2.3	<0.5	0.4	16	<0.1	<0.1	3.2	0.06	0.1	0.5	23	0.1	3.2	26	5.2
TP10-14-90	0.3	0.02	0.4	24.7	0.023	12.8	20.9	<5	<0.05	0.2	6.9	<0.5	1	27	<0.1	<0.1	9.8	0.029	0.3	1.2	70	0.1	11.1	48	19.7
TP10-20-20	0.5	0.02	1.2	15	0.015	7.2	36.9	<5	<0.05	0.1	2.6	<0.5	0.5	15	<0.1	<0.1	3.9	0.046	0.2	0.5	31	0.1	2.4	36	2.2
TP10-20-75	0.3	0.02	0.6	21	0.04	6.8	20.6	<5	<0.05	0.1	3.8	<0.5	0.5	37	<0.1	<0.1	5.9	0.046	0.2	0.7	35	0.1	8.2	29	12.5
TP10-22-5	0.5	0.02	1.1	10.3	0.029	9.5	20.8	<5	0.08	0.1	1.8	<0.5	0.5	19	<0.1	<0.1	1.8	0.024	0.1	0.7	21	<0.1	2.6	26	1.1
TP10-22-60	0.3	0.02	0.6	24.2	0.026	11.5	24.8	<5	<0.05	0.2	6.7	<0.5	0.9	22	<0.1	<0.1	10.2	0.032	0.2	1.1	62	0.1	12.1	45	18.5
TP10-22-95	3.4	0.03	0.9	21.6	0.036	4.3	8.9	<5	<0.05	0.1	2.4	<0.5	0.4	44	<0.1	<0.1	4.3	0.091	0.1	0.6	41	0.1	5.9	30	10.9
TP10-23-65	0.2	0.02	0.8	24	0.047	8.1	25.8	<5	<0.05	0.1	4.1	<0.5	0.6	45	<0.1	<0.1	6.7	0.044	0.2	0.8	40	0.1	9.1	33	12.3
TP10-23-95	0.3	0.02	0.8	19.8	0.04	7.4	18.7	<5	<0.05	0.1	3.9	<0.5	0.6	62	<0.1	<0.1	6	0.05	0.2	1.2	37	0.1	7.8	31	13.7
TP10-24-30	1.1	0.02	1.6	22.2	0.023	17	45.1	<5	<0.05	0.1	4.2	<0.5	0.9	32	<0.1	<0.1	4.9	0.049	0.2	1.5	55	0.1	5.2	53	1.3
TP10-24-50	0.6	0.05	0.8	70.2	0.056	19	52.2	<5	<0.05	0.5	11	<0.5	1.5	64	<0.1	<0.1	16.6	0.078	0.5	2	113	0.2	25	95	33.3
TP10-25-35	0.2	0.02	1	24.6	0.042	10.9	28.2	<5	<0.05	0.1	5.6	<0.5	0.8	24	<0.1	<0.1	7.7	0.039	0.2	1	52	0.1	11.8	56	10
TP10-26-10	0.4	0.03	1.8	23.2	0.042	11.9	41.5	<5	<0.05	0.2	5.1	<0.5	0.8	25	<0.1	<0.1	5.6	0.056	0.2	0.6	41	0.1	8.8	63	3.6
TP10-26-50	0.3	0.03	1	27	0.047	8.3	30.7	<5	<0.05	0.1	4.2	<0.5	0.6	31	<0.1	<0.1	6.7	0.054	0.2	0.7	38	0.1	9.1	36	7.2
TP10-30-30	0.5	0.04	1.2	11.8	0.031	4.9	25.4	<5	<0.05	0.1	2.2	<0.5	0.4	18	<0.1	<0.1	4.1	0.059	0.1	0.4	22	0.1	3.7	26	4.3
TP10-30-80	0.3	0.03	0.7	29.6	0.048	9.5	32.5	<5	<0.05	0.2	5	<0.5	0.7	49	<0.1	<0.1	8.3	0.057	0.3	0.9	50	0.1	9.5	45	17.9
TP10-31-140	0.5	0.04	1.1	16.5	0.062	17.7	10.4	<5	<0.05	0.3	3.2	<0.5	0.3	34	<0.1	<0.1	4.1	0.087	0.1	0.6	33	0.2	5.4	65	7.4
TP10-32-5	0.7	0.02	1.2	14.4	0.05	10.1	22.1	<5	<0.05	0.1	2.1	<0.5	0.5	21	<0.1	<0.1	1.6	0.042	0.1	0.5	27	0.2	3.4	38	0.5
TP10-32-20	0.5	0.03	1.2	13.7	0.039	7.4	14.2	<5	<0.05	0.1	2.1	<0.5	0.4	22	<0.1	<0.1	2.1	0.047	0.1	0.4	25	0.1	2.9	29	0.6
TP10-33-10	0.6	0.02	1.6	21.2	0.046	11.8	39	<5	<0.05	0.1	3.9	<0.5	0.7	20	<0.1	<0.1	4.9	0.049	0.2	1	46	0.1	5.6	52	3.4
TP10-33-30	0.5	0.02	1.3	31.5	0.03	14.5	44	<5	<0.05	0.2	7.7	<0.5	1.1	25	<0.1	<0.1	10.9	0.046	0.4	1.2	72	0.1	9	65	15.8
TP10-34-30	0.2	0.02	1.4	24.7	0.03	12	35.5	<5	<0.05	0.1	5.4	<0.5	0.8	25	<0.1	<0.1	7	0.042	0.2	0.9	50	0.1	10	58	7.6
TP10-34-60	0.1	0.02	1	29	0.039	12.1	36.6	<5	<0.05	0.1	5.8	<0.5	0.9	26	<0.1	<0.1	7.7	0.039	0.3	0.8	51	0.1	12.3	59	6.8
TP10-35-100	0.7	0.03	1.6	33.3	0.075	12.4	23.4	<5	<0.05	0.2	5.7	<0.5	0.8	36	<0.1	<0.1	11.6	0.062	0.3	1.3	58	0.2	18.5	48	10.1
TP10-36-30	0.6	0.02	0.9	24.9	0.022	15.6	32.4	<5	<0.05	0.3	8.1	<0.5	1.2	27	<0.1	<0.1	10	0.021	0.3	1.4	93	0.1	4.9	63	15.7
TP10-36-80	0.5	0.02	0.6	31.3	0.047	10.8	22.9	<5	<0.05	0.4	5.5	<0.5	0.8	55	<0.1	<0.1	7.5	0.028	0.2	1.2	67	0.1	11.3	47	17.5
TP10-38	0.6	0.02	0.5	26.6	0.046	7.8	19.2	<5	<0.05	0.2	4.6	<0.5	0.6	43	<0.1	<0.1	6.2	0.04	0.2	0.9	53	0.1	8.8	42	14.9
TP10-39	0.5	0.05	1.1	29.4	0.085	3.8	13.1	<5	<0.05	0.1	3.7	<0.5	0.4	51	<0.1	<0.1	3.7	0.135	0.1	0.5	49	0.2	5.2	44	7.6

Sample ID	Au ppm	Ag ppm	Al %	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Fe %	Ga ppm	Ge ppm	Hf ppm	Hg ppm	In ppm	K %	La ppm	Li ppm	Mg %	Mn ppm
TP10-40-10	<0.05	0.1	0.94	1.8	53	<1	0.1	0.42	0.1	28	7.3	78	0.9	13.3	1.2	4	<0.1	<0.1	0.021	0.01	0.14	12	14.6	0.37	334
TP10-40-40	<0.05	0.1	0.89	1.4	38	<1	0.1	8.72	<0.1	29	5.6	56	1	11.9	1.32	4	<0.1	<0.1	0.025	0.01	0.13	19	12.6	4.35	273
TP10-42-10	<0.05	0.1	1.02	2	49	<1	0.1	0.35	<0.1	29	8.5	81	1.1	9.6	1.35	4	<0.1	<0.1	0.011	0.01	0.16	12	11.2	0.38	400
TP10-42-30	<0.05	0.1	1.68	4	69	1	0.2	0.28	<0.1	35	10.3	75	1.8	16.1	2.17	6	<0.1	0.2	0.027	0.03	0.28	15	17.1	0.51	334
TP10-45-30	<0.05	0.1	0.88	1.4	38	<1	0.1	8.68	<0.1	27	5.6	57	1	11.7	1.3	4	<0.1	<0.1	0.024	0.01	0.13	17	12.6	4.34	273
TP10-45-80	<0.05	0.1	0.8	1.8	46	<1	0.1	5.93	0.1	27	5.6	58	1	16.3	1.17	3	<0.1	0.1	0.016	0.01	0.15	15	10.1	2.46	249
TP10-46-30	<0.05	0.1	1.8	4.4	71	1	0.2	0.4	<0.1	36	10.4	62	1.8	18.1	2.2	6	<0.1	0.1	0.025	0.03	0.28	13	17.4	0.53	284
TP10-46-80	<0.05	0.1	1.41	3	67	1	0.2	3.83	<0.1	42	8.6	69	1.6	23.2	1.78	5	0.1	0.2	0.03	0.02	0.24	23	14.9	2.45	355
TP10-47-20	<0.05	0.2	2.14	2.5	185	1	0.2	1.24	0.2	56	11.1	49	1.1	31.9	2.3	8	0.1	0.4	0.049	0.03	0.3	26	22	0.78	161
TP10-47-60	<0.05	0.3	2.86	5.6	233	1	0.3	1.53	<0.1	79	21.8	68	3.4	45.5	3.49	12	0.1	0.8	0.032	0.04	0.51	39	41.2	1.66	536
TP10-48-25	<0.05	0.2	1.72	3.7	119	1	0.2	0.61	0.2	48	12.3	66	1.2	23	2.4	7	0.1	0.3	0.037	0.03	0.22	23	20.3	0.61	335
TP10-48-50	<0.05	0.3	2.74	4.8	195	1	0.3	0.94	0.2	67	15.3	62	2.7	40.4	3.18	11	0.1	0.3	0.044	0.04	0.39	39	34.5	0.97	495
TP10-49-15	<0.05	0.1	1.4	2.7	65	<1	0.2	0.28	<0.1	27	11.2	73	1.4	11.8	1.76	5	<0.1	0.1	0.011	0.02	0.19	12	15.1	0.45	394
TP10-49-45	<0.05	0.2	2.25	4.9	128	1	0.3	0.43	<0.1	71	14	68	2.4	31.7	2.79	9	0.1	0.5	0.041	0.03	0.33	27	23.9	0.81	462
TP10-50-10	<0.05	0.3	2.79	4.7	181	1	0.3	0.94	0.2	67	15.1	60	1.8	40.1	3.12	11	0.1	0.5	0.036	0.04	0.36	39	32.3	0.94	491
TP10-50-80	<0.05	0.2	2.07	5	176	1	0.3	5.31	0.2	62	15.8	53	2.8	39.2	2.83	9	0.1	0.7	0.027	0.03	0.4	31	33.4	1.97	515
TP10-51-40	<0.05	0.2	1.85	3.7	126	1	0.2	0.52	0.1	59	11.9	64	1.7	22.7	2.38	7	0.1	0.1	0.04	0.03	0.24	28	19	0.63	683
TP10-51-80	<0.05	0.1	0.94	3.1	79	<1	0.1	9.31	0.2	33	7.6	37	1.2	20.8	1.51	4	<0.1	0.2	0.022	0.02	0.16	18	11.4	3.43	391
TP10-52-10	<0.05	0.4	1.72	3.2	213	1	0.2	0.43	0.4	72	23	56	6.1	36.1	1.92	6	0.1	<0.1	0.064	0.02	0.08	29	21.7	0.28	2252
TP10-52-90	<0.05	0.2	1.72	4.8	128	1	0.2	0.49	<0.1	51	11	56	1.9	34.9	2.2	6	0.1	0.4	0.034	0.03	0.18	36	13.1	0.37	491
Duplicates																									
TP09-01-01	<0.01	0.1	0.64	2.1	62	<1	0.1	0.47	0.1	22	6.7	80	0.7	6.2	1.21	3	<0.1	<0.1	0.022	0.01	0.08	9	9.2	0.29	753
TP09-06-10	<0.01	0.2	1.22	0.7	129	1	0.2	>10.00	0.2	45	8	57	1.6	25	1.82	5	0.1	0.2	0.031	0.02	0.23	22	16.6	2.21	287
TP09-11-20	<0.01	0.1	0.76	1.1	44	<1	0.1	0.3	<0.1	22	7.4	79	0.9	4.7	1.29	3	<0.1	<0.1	0.018	0.01	0.12	9	10.1	0.3	309
TP09-13-23	<0.01	0.2	1.98	5.1	167	1	0.3	0.7	<0.1	72	13.8	63	2.3	30	2.7	7	0.1	0.5	0.037	0.03	0.26	37	35.3	1.15	461
TP09-17-33	<0.01	0.1	0.98	1.5	65	<1	0.1	2.67	<0.1	37	5.8	54	0.8	9.3	1.26	3	0.1	0.2	0.029	0.01	0.11	18	15.6	1.9	141
TP09-22-43	<0.01	0.2	1.74	2.5	131	1	0.2	0.53	0.2	46	8.7	59	0.7	18.6	1.87	5	0.1	0.3	0.032	0.02	0.15	22	18.8	0.5	440
TP09-23-46	<0.01	0.1	0.81	2	48	<1	0.1	0.2	<0.1	24	4.7	63	0.9	5.5	1.21	3	0.1	0.1	0.046	0.01	0.11	12	18	0.33	187
TP09-28-55	<0.01	0.2	1.31	6.2	211	1	0.3	1.44	0.6	59	11.7	54	0.8	25.4	2.62	5	0.1	0.3	0.068	0.03	0.21	30	17.8	0.83	2010
TP10-1-5	<0.05	0.1	1.18	2.1	74	<1	0.1	0.41	0.1	31	9.8	75	1.1	13	1.51	4	<0.1	<0.1	0.028	0.02	0.18	13	15.6	0.4	478
TP10-5-65	<0.05	0.1	1.18	3	63	<1	0.1	5.4	<0.1	35	7.1	59	1.4	13.5	1.52	4	<0.1	0.2	0.025	0.02	0.21	20	14.3	3.28	338
TP10-20-75	<0.05	0.1	1.2	2.3	62	<1	0.1	6.4	<0.1	36	7.5	59	1.4	19.1	1.57	4	<0.1	0.2	0.026	0.02	0.21	20	13.7	3.39	349
TP10-22-95	<0.05	0.1	0.83	2.1	45	<1	0.1	10.08	<0.1	29	9.7	63	0.8	23.2	1.77	4	<0.1	0.3	0.005	0.01	0.1	16	11.2	5.12	407
TP10-30-80	<0.05	0.2	1.66	3.6	102	1	0.2	7.27	0.1	48	11.1	55	2.2	28	2.1	7	<0.1	0.4	0.012	0.02	0.33	25	19.5	3.12	435
TP10-36-80	<0.05	0.2	1.74	4.9	124	1	0.2	6	0.2	44	11.3	57	1.8	30.3	2.14	7	<0.1	0.4	0.023	0.03	0.27	23	19.2	2.21	435
TP10-40-10	<0.05	0.1	0.92	1.9	53	<1	0.1	0.41	0.1	26	7.4	77	0.8	10.8	1.21	4	<0.1	<0.1	0.016	0.01	0.13	12	14.1	0.36	341
TP10-47-60	<0.05	0.2	2.72	5.7	238	1	0.3	1.58	<0.1	81	22.5	70	3.4	46.6	3.58	12	0.1	0.8	0.027	0.04	0.51	40	42	1.7	543
TP10-52-90	<0.05	0.2	1.64	4.8	130	1	0.2	0.51	<0.1	53	11	58	1.9	33	2.25	6	0.1	0.4	0.036	0.03	0.19	37	13.4	0.38	501

Sample ID	Mo ppm	Na %	Nb ppm	Ni ppm	P %	Pb ppm	Rb ppm	Re ppb	S %	Sb ppm	Sc ppm	Se ppm	Sn ppm	Sr ppm	Ta ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm
TP10-40-10	0.4	0.02	1.4	12.4	0.02	9	29	<5	<0.05	0.1	2.4	<0.5	0.5	16	<0.1	<0.1	3.5	0.044	0.1	0.6	26	0.1	3.9	32	2.2
TP10-40-40	0.3	0.02	0.9	15.8	0.032	4.6	18.5	<5	<0.05	0.1	2.7	<0.5	0.4	37	<0.1	<0.1	4.6	0.05	0.1	0.6	27	0.1	6.6	25	2.4
TP10-42-10	0.6	0.02	1.3	12.8	0.015	8.6	30.9	<5	<0.05	0.1	2.7	<0.5	0.5	15	<0.1	<0.1	4.4	0.054	0.1	0.5	30	0.1	3.6	34	2.5
TP10-42-30	0.5	0.02	1	21	0.023	10.3	38.1	<5	<0.05	0.1	4.8	<0.5	0.7	17	<0.1	<0.1	7.2	0.039	0.2	0.7	49	0.1	4.8	46	9.3
TP10-45-30	0.2	0.02	0.9	16.2	0.032	4.8	17.9	<5	<0.05	0.1	2.7	<0.5	0.4	37	<0.1	<0.1	4.1	0.05	0.1	0.6	29	0.1	6.4	26	2.4
TP10-45-80	0.2	0.02	0.6	16.3	0.036	5.2	16	<5	<0.05	0.1	2.7	<0.5	0.4	36	<0.1	<0.1	4.1	0.04	0.1	0.5	24	0.1	5.9	22	7.7
TP10-46-30	0.5	0.02	1.1	21	0.022	10.7	43.7	<5	<0.05	0.1	4.7	<0.5	0.7	18	<0.1	<0.1	7.4	0.038	0.3	0.7	48	0.1	4.1	45	7.8
TP10-46-80	0.4	0.02	0.6	24.5	0.044	7.8	25.9	<5	<0.05	0.1	4.6	<0.5	0.6	28	<0.1	<0.1	6.3	0.039	0.2	0.7	44	0.1	10.4	37	11.2
TP10-47-20	0.2	0.02	1.9	32.2	0.037	13.3	40.4	<5	<0.05	0.1	5.7	<0.5	0.9	45	<0.1	<0.1	7.6	0.037	0.3	2.4	63	0.1	11.3	75	13.5
TP10-47-60	0.3	0.04	0.7	53.1	0.056	14.8	52.2	<5	<0.05	0.3	9	<0.5	1.2	44	<0.1	<0.1	14.6	0.089	0.5	1.1	82	0.1	13.7	86	29.8
TP10-48-25	0.4	0.02	1.5	27.2	0.051	13	31.6	<5	<0.05	0.2	5.1	<0.5	0.8	30	<0.1	<0.1	7.1	0.037	0.2	1.8	53	0.1	9.6	60	12.6
TP10-48-50	0.3	0.02	2	39.8	0.036	15.2	65.3	<5	<0.05	0.2	7.7	<0.5	1.2	48	<0.1	<0.1	9.6	0.064	0.4	4.3	90	0.1	15.8	78	12
TP10-49-15	0.6	0.02	1.3	16.7	0.022	10	37.5	<5	<0.05	0.1	3.4	<0.5	0.6	19	<0.1	<0.1	4.9	0.05	0.2	0.6	42	0.1	3.6	40	4.7
TP10-49-45	0.3	0.02	0.8	32.6	0.032	11.9	39.7	<5	<0.05	0.2	7.5	<0.5	1	26	<0.1	<0.1	11.1	0.046	0.3	1	71	0.1	13.1	59	21.4
TP10-50-10	0.3	0.02	2	39.2	0.037	14.7	57.6	<5	<0.05	0.2	7.4	<0.5	1.1	46	<0.1	<0.1	9.9	0.046	0.3	4.3	81	0.1	15.6	78	17.8
TP10-50-80	0.6	0.03	0.5	44.6	0.046	12.9	38.7	<5	<0.05	0.3	7.2	<0.5	1	68	<0.1	<0.1	11.7	0.065	0.4	1.4	72	0.1	11.9	69	27.5
TP10-51-40	0.4	0.02	1.1	30.3	0.031	11.9	37.2	<5	<0.05	0.2	5.5	<0.5	0.8	20	<0.1	<0.1	7.6	0.033	0.3	0.7	49	0.1	13.3	65	6.4
TP10-51-80	0.3	0.02	0.6	20.7	0.044	7.1	15.1	<5	<0.05	0.2	3.5	<0.5	0.5	56	<0.1	<0.1	5.2	0.043	0.2	0.8	37	0.1	8	31	11.6
TP10-52-10	2.1	0.02	1.1	16.2	0.064	17.4	17.9	<5	<0.05	0.2	2.3	<0.5	0.7	31	<0.1	<0.1	2.7	0.027	0.3	1.4	35	0.6	4.6	280	0.8
TP10-52-90	0.5	0.02	0.4	23.7	0.027	11.1	17.2	<5	<0.05	0.3	5.5	<0.5	0.8	35	<0.1	<0.1	8	0.026	0.2	1.6	55	0.1	12.9	40	15
Duplicates																									
TP09-01-01	0.8	0.02	0.9	10.1	0.023	9.2	18.8	<5	<0.05	0.1	1.3	<0.5	0.4	12	<0.1	<0.1	2.6	0.033	0.1	0.4	27	0.1	2.4	32	0.7
TP09-06-10	0.2	0.02	0.8	27.1	0.044	8.1	22.9	<5	<0.05	0.1	4.2	<0.5	0.6	81	<0.1	0.1	5.8	0.06	0.2	0.9	40	0.1	9	40	13.1
TP09-11-20	0.6	0.02	1	11.7	0.02	7.4	21.9	<5	<0.05	0.1	1.6	<0.5	0.4	11	<0.1	<0.1	3.5	0.044	0.1	0.4	26	0.1	2.6	31	1.9
TP09-13-23	0.5	0.03	0.4	44.3	0.048	12.7	29.7	<5	<0.05	0.2	5.6	<0.5	0.8	40	<0.1	<0.1	12.1	0.057	0.3	1.2	58	0.1	12.2	66	20.9
TP09-17-33	0.2	0.02	0.4	17.2	0.036	6.8	13.2	<5	<0.05	0.1	2.8	<0.5	0.4	24	<0.1	<0.1	5.1	0.028	0.1	0.6	29	0.1	6.9	27	7.1
TP09-22-43	0.2	0.01	1	21.5	0.035	12.2	27.2	<5	<0.05	0.1	3.6	<0.5	0.6	17	<0.1	<0.1	5.7	0.023	0.2	1.5	40	0.1	8.3	44	8.6
TP09-23-46	0.7	0.02	1	11.8	0.017	8.4	16.4	<5	0.05	<0.1	2	<0.5	0.4	13	<0.1	<0.1	5	0.052	0.1	0.6	31	1.2	3	27	4.5
TP09-28-55	0.6	0.02	1.2	27.2	0.105	13.9	32.7	<5	0.11	0.1	3.3	<0.5	0.6	28	<0.1	<0.1	4.6	0.027	0.3	1.6	45	0.1	11.7	90	8.4
TP10-1-5	0.6	0.02	1.4	14.3	0.034	17	34.2	<5	0.06	0.2	2.8	<0.5	1.5	19	<0.1	<0.1	3.1	0.048	0.1	0.8	34	0.1	4.3	51	1.4
TP10-5-65	0.2	0.02	0.5	21.9	0.041	6.9	21.6	<5	<0.05	0.1	3.9	<0.5	0.5	34	<0.1	<0.1	5.9	0.041	0.2	0.7	40	0.1	8.1	28	11.8
TP10-20-75	0.3	0.02	0.6	21.5	0.043	7	21.2	<5	<0.05	0.1	4	<0.5	0.5	38	<0.1	<0.1	6.1	0.049	0.2	0.7	37	0.1	8.3	30	12.8
TP10-22-95	2.4	0.03	0.9	21.8	0.038	4.3	9.2	<5	<0.05	0.1	2.5	<0.5	0.4	45	<0.1	<0.1	5.2	0.102	0.1	0.6	43	0.1	6	29	11.3
TP10-30-80	0.3	0.03	0.7	30.5	0.049	10.1	34.1	<5	<0.05	0.2	5.4	<0.5	0.8	51	<0.1	<0.1	8.7	0.065	0.3	0.9	53	0.1	9.7	46	18.4
TP10-36-80	0.5	0.02	0.6	30.7	0.047	10.9	23.1	<5	<0.05	0.4	5.8	<0.5	0.8	55	<0.1	<0.1	8	0.03	0.2	1.2	70	0.1	11.3	46	17.2
TP10-40-10	0.4	0.02	1.3	12.1	0.019	8.8	28.4	<5	<0.05	0.1	2.2	<0.5	0.5	15	<0.1	<0.1	3.6	0.041	0.1	0.6	25	0.1	3.8	30	2.2
TP10-47-60	0.3	0.04	0.6	54.6	0.057	15.2	52.6	<5	<0.05	0.3	9	<0.5	1.2	44	<0.1	<0.1	15.2	0.089	0.5	1.1	83	0.1	13.9	87	30.2
TP10-52-90	0.5	0.02	0.4	23.5	0.029	11.2	17.4	<5	<0.05	0.3	5.6	<0.5	0.8	35	<0.1	<0.1	8.1	0.026	0.3	1.6	56	0.1	13.1	41	15.2

APPENDIX IV - 2

Soil Test Results
CEC

Maxxam Job #: A944192 (2009), B037022 (2010)
Report Date: 2009/09/02 and 2010/06/07

Results of Chemical Analyses of Soil

Maxxam ID		Q31545	Q32110	Q32111	Q32112	Q32113	Q32114	Q32115	Q32116	Q32117	Q32118	Q32134	Q32135	Q32136		Q32137	Q32137	Q32138	Q32139
Sampling Date		8/12/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/13/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009		8/14/2009	8/14/2009	8/14/2009	8/14/2009
COC Number		70280-02	70280-02	70280-02	70280-02	70280-02	70280-02	70280-02	70280-02	70280-02	70280-02	70280-03	70280-03	70280-03		70280-03	70280-03	70280-03	70280-03
	Units	**TP09-07-12**	**TP09-08-13**	**TP09-08-14**	**TP09-09-15**	**TP09-09-16**	**TP09-10-17**	**TP09-10-18**	**TP09-11-19**	**TP09-11-20**	**TP09-12-21**	**TP09-12-22**	**TP09-13-23**	**TP09-13-24**	**QC Batch**	**TP09-13-25**	**TP09-13-25 Lab-Dup**	**TP09-14-26**	**TP09-14-27**
Elements																			
Cation exchange capacity	cmol+/Kg	120	20	11	28	ND	66	36	24	ND	200	ND	28	ND	3361418	34	32	24	ND
Soil Properties																			
Exchangeable (OAc) Calcium (Ca)	meq/100g	513	260	165	15.6	15.6	260	115	67.4	5.7	844	29.5	54.4	11.6	3372818	57.1		70.9	6.8
Exchangeable (OAc) Magnesium (Mg)	meq/100g	66.1	48.0	21.9	52.3	9.8	68.0	60.0	48.1	2.4	150	11.6	82.8	19.3	3372818	105		39.6	1.8
Exchangeable (OAc) Sodium (Na)	meq/100g	26.4	1.5	1.6	1.6	1.2	1.3	1.7	1.5	1.3	1.8	1.3	2.3	1.5	3372818	2.0		1.4	1.4

Results of Chemical Analyses of Soil

Maxxam ID		U36830	U36830	U36836	U36840	U36841	U36842		U36843		U36844	U36845	U36846		U36847		U36935	U36939	U36940
Sampling Date																			
COC Number		70280-07	70280-07	70280-07	70280-07	70280-07	70280-07		70280-07		70280-07	70280-07	70280-07		70280-07		70280-09	70280-09	70280-09
	Units	**TP10-10-200**	**TP10-10-200 Lab-Dup**	**TP10-42-30**	**TP10-45-80**	**TP10-45-30**	**TP10-42-10**	**QC Batch**	**TP10-40-10**	**QC Batch**	**TP10-34-30**	**TP10-36-30**	**TP10-40-40**	**RDL**	**TP10-47-20**	**RDL**	**TP10-50-80**	**TP10-50-10**	**TP10-46-80**
Elements																			
Cation exchange capacity	cmol+/Kg	55	63	18	18	19	<10	3992347	16	3992347	34	40	25	10	220	10	57	58	21
Soil Properties																			
Exchangeable (OAc) Calcium (Ca)	meq/100g	189	181	55.6	186	93.6	24.3	3998223	53.2	4004462	105	122	79.8	0.2	699	0.4	238	178	90.9
Exchangeable (OAc) Magnesium (Mg)	meq/100g	27.7	26.3	31.9	22.0	30.8	8.7	3998223	16.4	4004462	50.7	63.5	41.3	0.4	165	0.8	85.9	90.7	30.0
Exchangeable (OAc) Potassium (K)	meq/100g	0.7	0.5	2.1	1.1	1.3	0.9	3998223	1.4	4004462	2.4	3.6	1.8	0.1	1.0	0.2	3.9	4.0	1.3
Exchangeable (OAc) Sodium (Na)	meq/100g	0.6	0.2	0.4	0.3	<0.2	<0.2	3998223	<0.2	4004462	0.5	0.8	0.2	0.2	2.4	0.4	1.1	1.1	0.2
Exchangeable (OAc) Total Exchangeable Cations	meq/100g	218	208	90.0	209	126	34.0	3998223	71.0	4004462	159	190	123	0.4	868	0.8	329	274	122

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: A944192 (2009), B037022 (2010)
Report Date: 2009/09/02 and 2010/06/07

Results of Chemical Analyses of Soil

Maxxam ID		Q32140	Q32141	Q32142	Q32143	Q32151	Q32176	Q32177	Q32178	Q32179	Q32180	Q32181	Q32182	Q32183	Q32184	Q32190	Q32192	Q32193		Q32194
Sampling Date		8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/11/2009	8/11/2009	8/11/2009	8/11/2009	8/11/2009	8/12/2009	8/12/2009	8/12/2009	8/12/2009	8/12/2009	8/15/2009	8/15/2009	8/15/2009		8/15/2009
COC Number		70280-03	70280-03	70280-03	70280-03	70280-01	70280-01	70280-01	70280-01	70280-01	70280-01	70280-01	70280-01	70280-01	70280-01	70280-04	70280-04	70280-04		70280-04
	Units	**TP09-15-28**	**TP09-15-29**	**TP09-16-30**	**TP09-16-31**	**TP09-01-01**	**TP09-01-02**	**TP09-02-03**	**TP09-02-04**	**TP09-04-05**	**TP09-05-06**	**TP09-05-07**	**TP09-05-09**	**TP09-06-10**	**TP09-06-11**	**TP09-17-32**	**TP09-17-33**	**TP09-17-34**	**QC Batch**	**TP09-18-35**
Elements																				
Cation exchange capacity	cmol+/Kg	ND	20	34	15	ND	31	110	180	65	14	25	23	26	15	49	19	38	3363043	20
Soil Properties																				
Exchangeable (OAc) Calcium (Ca)	meq/100g	11.3	54.4	126	45.9	20.4	93.2	444	709	229	54.0	83.0	67.0	92.2	51.6	88.7	34.0	101	3372838	72.7
Exchangeable (OAc) Magnesium (Mg)	meq/100g	8.8	39.5	36.9	24.0	6.1	55.2	110	186	91.4	9.5	30.5	37.2	29.5	17.9	149	52.5	83.1	3372838	25.6
Exchangeable (OAc) Sodium (Na)	meq/100g	1.3	1.5	1.4	1.4	1.3	1.5	1.3	1.6	1.5	1.5	2.7	3.3	2.6	2.2	4.3	2.7	3.1	3372838	1.4

Results of Chemical Analyses of Soil

Maxxam ID		U36941	U36942		U36943		U36944	U36945	U36946	U36972		U36979	U36979	U36980	U36981	U36982	U36983	U36984	U36985	U36986
Sampling Date																				
COC Number		70280-09	70280-09		70280-09		70280-09	70280-09	70280-09	70280-10		70280-10	70280-10	70280-10	70280-10	70280-10	70280-10	70280-10	70280-10	70280-10
	Units	**TP10-49-45**	**TP10-48-25**	**RDL**	**TP10-48-50**	**RDL**	**TP10-46-30**	**TP10-47-60**	**TP10-49-15**	**TP10-14-90**	**QC Batch**	**TP10-14-40**	**TP10-14-40 Lab-Dup**	**TP10-11-45**	**TP10-03-83**	**TP10-03-25**	**TP10-03-58**	**TP10-01-53**	**TP10-01-5**	**TP10-02-90**
Elements																				
Cation exchange capacity	cmol+/Kg	34	35	10	130	10	16	42	17	17	3992347	<10	<10	39	13	38	19	23	21	39
Soil Properties																				
Exchangeable (OAc) Calcium (Ca)	meq/100g	90.0	129	0.2	442	0.4	46.9	160	48.0	176	3998223	12.7	12.5	238	35.4	114	54.4	87.5	63.5	172
Exchangeable (OAc) Magnesium (Mg)	meq/100g	73.8	51.9	0.4	124	0.8	26.3	70.3	32.5	14.2	3998223	0.6	0.6	56.9	22.6	47.2	36.0	38.2	23.6	43.9
Exchangeable (OAc) Potassium (K)	meq/100g	2.7	1.6	0.1	0.8	0.2	1.8	3.7	1.8	2.3	3998223	<0.1	0.2	3.2	1.0	1.7	1.8	1.6	2.1	1.5
Exchangeable (OAc) Sodium (Na)	meq/100g	0.6	0.6	0.2	1.6	0.4	0.3	1.0	0.4	0.5	3998223	0.3	0.3	1.3	0.6	0.8	0.6	2.1	0.2	0.8
Exchangeable (OAc) Total Exchangeable Cations	meq/100g	167	183	0.4	569	0.8	75.3	235	82.7	193	3998223	13.6	13.5	299	59.6	164	92.8	129	89.5	218

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: A944192 (2009), B037022 (2010)
Report Date: 2009/09/02 and 2010/06/07

Results of Chemical Analyses of Soil

Maxxam ID		Q32194	Q32195	Q32196	Q32197				Q32198	Q32199	Q32200	Q32209	Q32222	Q32224	Q32225	Q32226			Q32227
Sampling Date		8/15/2009	8/15/2009	8/15/2009	8/15/2009				8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/16/2009	8/16/2009	8/16/2009	8/16/2009			8/16/2009
COC Number		70280-04	70280-04	70280-04	70280-04				70280-04	70280-04	70280-04	70280-05	70280-05	70280-05	70280-05	70280-05			70280-05
	Units	**TP09-18-35 Lab-Dup**	**TP09-18-36**	**TP09-19-37**	**TP09-19-38**				**TP09-20-39**	**TP09-20-40**	**TP09-21-41**	**TP09-21-42**	**TP09-22-43**	**TP09-22-44**	**TP09-23-45**	**TP09-23-46**			**TP09-24-47**
Elements																			
Cation exchange capacity	cmol+/Kg	21	23	16	24				11	66	32	20	34	21	45	ND			22
Soil Properties																			
Exchangeable (OAc) Calcium (Ca)	meq/100g		71.4	59.0	72.4				34.9	275	94.6	65.3	111	56.4	106	8.5			57.3
Exchangeable (OAc) Magnesium (Mg)	meq/100g		41.4	16.9	44.3				19.3	51.1	51.1	30.2	55.9	4300	113	8.8			46.5
Exchangeable (OAc) Sodium (Na)	meq/100g		1.5	1.2	1.4				1.5	1.5	2.3	2.1	1.7	1.5	2.9	1.4			1.6

Results of Chemical Analyses of Soil

Maxxam ID		U36987	U36996	U36998	U36999		U37000		U37001	U37003	U37004	U37005	U37018	U37020	U37022		U37023	U37023	U37024
Sampling Date																			
COC Number		70280-10	70280-11	70280-11	70280-11		70280-11		70280-11	70280-11	70280-11	70280-11	70280-12	70280-12	70280-12		70280-12	70280-12	70280-12
	Units	**TP10-02-65**	**TP10-05-65**	**TP10-05-125**	**TP10-04-70**	**QC Batch**	**TP10-04-50**	**QC Batch**	**TP10-51-80**	**TP10-51-40**	**TP10-52-90**	**TP10-52-10**	**TP10-20-20**	**TP10-22-60**	**TP10-22-5**	**QC Batch**	**TP10-23-95**	**TP10-23-95 Lab-Dup**	**TP10-36-80**
Elements																			
Cation exchange capacity	cmol+/Kg	31	19	61	32	3992348	38	3992348	19	33	27	24	12	28	21	3992348	23	22	33
Soil Properties																			
Exchangeable (OAc) Calcium (Ca)	meq/100g	69.6	89.1	190	194	4004450	120	4004462	166	105	111	93.9	40.6	79.6	70.3	4004450	169	165	186
Exchangeable (OAc) Magnesium (Mg)	meq/100g	68.1	30.4	48.0	45.9	4004450	59.4	4004462	18.8	43.1	13.6	8.4	17.6	60.7	22.2	4004450	23.4	22.4	46.3
Exchangeable (OAc) Potassium (K)	meq/100g	2.2	1.7	2.0	2.4	4004450	3.8	4004462	1.6	2.5	2.9	2.2	1.9	2.1	1.7	4004450	1.6	1.6	2.0
Exchangeable (OAc) Sodium (Na)	meq/100g	1.0	0.6	1.0	1.5	4004450	0.6	4004462	0.7	0.5	1.5	0.3	0.4	0.7	0.3	4004450	<0.2	<0.2	0.5
Exchangeable (OAc) Total Exchangeable Cations	meq/100g	141	122	241	244	4004450	184	4004462	187	151	129	105	60.5	143	94.5	4004450	195	189	235

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: A944192 (2009), B037022 (2010)
Report Date: 2009/09/02 and 2010/06/07

Results of Chemical Analyses of Soil

Maxxam ID		Q32228	Q32229	Q32231	Q32233	Q32258	Q32263	Q32264			Q32265	Q32266	Q32267	Q32268	Q32269	Q32270	Q32271		
Sampling Date		8/16/2009	8/16/2009	8/16/2009	8/16/2009	8/16/2009	8/17/2009	8/17/2009			8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009	8/17/2009		
COC Number		70280-05	70280-05	70280-05	70280-05	70280-06	70280-06	70280-06			70280-06	70280-06	70280-06	70280-06	70280-06	70280-06	70280-06		
	Units	**TP09-24-48**	**TP09-25-49**	**TP09-25-50**	**TP09-26-51**	**TP09-26-52**	**TP09-27-53**	**TP09-27-54**	**QC Batch**		**TP09-28-55**	**TP09-28-56**	**TP09-29-57**	**TP09-30-60**	**TP09-30-59**	**TP09-31-61**	**TP09-31-62**	**RDL**	**QC Batch**
Elements																			
Cation exchange capacity	cmol+/Kg	ND	ND	ND	20	27	42	33	3364055		41	72	21	13	36	47	20	10	3364066
Soil Properties																			
Exchangeable (OAc) Calcium (Ca)	meq/100g	1.5	2.5	ND	63.9	90.7	172	92.1	3373493		151	283	64.1	38.5	117	209	65.0	0.2	3373494
Exchangeable (OAc) Magnesium (Mg)	meq/100g	ND	ND	ND	28.5	39.0	35.3	68.8	3373493		48.1	72.0	34.7	20.8	58.4	22.9	32.1	0.4	3373494
Exchangeable (OAc) Sodium (Na)	meq/100g	0.3	1.1	3.7	2.0	1.1	1.0	1.3	3373493		2.0	2.1	1.9	1.6	2.8	1.8	1.9	0.2	3373494

Results of Chemical Analyses of Soil

Maxxam ID		U37025	U37029	U37030	U37031	U37032	U37042	U37043	U37044	U37045	U37046	U37047	U37048	U37049	U37050	U37051		
Sampling Date																		
COC Number		70280-12	70280-12	70280-12	70280-12	70280-12	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13		
	Units	**TP10-23-65**	**TP10-34-60**	**TP10-20-75**	**TP10-32-20**	**TP10-25-35**	**TP10-32-5**	**TP10-24-30**	**TP10-26-10**	**TP10-24-50**	**TP10-30-80**	**TP10-30-30**	**TP10-26-50**	**TP10-33-10**	**TP10-22-95**	**TP10-33-30**	**RDL**	**QC Batch**
Elements																		
Cation exchange capacity	cmol+/Kg	19	31	22	12	32	18	27	35	51	22	<10	21	24	18	28	10	3992349
Soil Properties																		
Exchangeable (OAc) Calcium (Ca)	meq/100g	101	96.1	120	15.5	76.0	39.2	119	119	130	163	13.2	99.5	68.4	96.0	82.7	0.2	4004462
Exchangeable (OAc) Magnesium (Mg)	meq/100g	22.1	50.5	25.5	5.6	43.9	12.8	36.2	33.1	114	24.6	5.3	19.7	29.4	24.8	42.6	0.4	4004462
Exchangeable (OAc) Potassium (K)	meq/100g	1.6	2.4	1.3	2.0	1.6	1.4	4.5	2.1	2.8	1.6	0.6	1.7	1.8	0.8	2.4	0.1	4004462
Exchangeable (OAc) Sodium (Na)	meq/100g	<0.2	0.3	<0.2	0.4	0.3	<0.2	<0.2	<0.2	1.6	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	0.2	4004462
Exchangeable (OAc) Total Exchangeable Cations	meq/100g	124	149	147	23.5	122	53.4	159	154	248	190	19.1	121	99.6	122	128	0.4	4004462

ND = Not detected
RDL = Reportable Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate

APPENDIX IV - 2

Soil Test Results
NPKS

Maxxam Job #: A944192 (2009), B037022 (2010)
Report Date: 2009/09/02 and 2010/06/07

NPKS (AVAILABLE, PLUS TEXTURE, PH & EC)

Maxxam ID		Q31545		Q32110	Q32110	Q32111		Q32112		Q32113	Q32114		Q32115		Q32116	Q32117		Q32118		Q32134		Q32135	Q32136	Q32137	Q32138	Q32139	Q32139	Q32140	Q32141	Q32141		Q32142	Q32143	Q32143		Q32151	Q32176	Q32177	Q32178	Q32179		Q32180	Q32181	Q32182		Q32183
Sampling Date		8/12/2009		8/13/2009	8/13/2009	8/13/2009		8/13/2009		8/13/2009	8/13/2009		8/13/2009		8/13/2009	8/13/2009		8/14/2009		8/14/2009		8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009	8/14/2009		8/14/2009	8/14/2009	8/14/2009		8/11/2009	8/11/2009	8/11/2009	8/11/2009	8/11/2009		8/12/2009	8/12/2009	8/12/2009		8/12/2009
COC Number		70280-02		70280-02	70280-02	70280-02		70280-02		70280-02	70280-02		70280-02		70280-02	70280-02		70280-02		70280-03		70280-03	70280-03	70280-03	70280-03	70280-03	70280-03	70280-03	70280-03	70280-03		70280-03	70280-03	70280-03		70280-01	70280-01	70280-01	70280-01	70280-01		70280-01	70280-01	70280-01		70280-01
	Units	**TP09-07-12**	**QC Batch**	**TP09-08-13**	**TP09-08-13 Lab-Dup**	**TP09-08-14**	**QC Batch**	**TP09-09-15**	**QC Batch**	**TP09-09-16**	**TP09-10-17**	**QC Batch**	**TP09-10-18**	**QC Batch**	**TP09-11-19**	**TP09-11-20**	**QC Batch**	**TP09-12-21**	**QC Batch**	**TP09-12-22**	**QC Batch**	**TP09-13-23**	**TP09-13-24**	**TP09-13-25**	**TP09-14-26**	**TP09-14-27**	**TP09-14-27 Lab-Dup**	**TP09-15-28**	**TP09-15-29**	**TP09-15-29 Lab-Dup**	**QC Batch**	**TP09-16-30**	**TP09-16-31**	**TP09-16-31 Lab-Dup**	**QC Batch**	**TP09-01-01**	**TP09-01-02**	**TP09-02-03**	**TP09-02-04**	**TP09-04-05**	**QC Batch**	**TP09-05-06**	**TP09-05-07**	**TP09-05-09**	**QC Batch**	**TP09-06-10**
Nutrients																																														
Available (NH4F) Nitrogen (N)	mg/kg	2	3366021	ND		ND	3366021	ND	3366021	ND	ND	3366021	ND	3366021	ND	ND	3366021	ND	3366021	ND	3366021	ND	ND	ND	ND	ND		ND	ND	ND	3366021	2	ND		3366027	ND	ND	ND	ND	ND	3366027	ND	ND	ND	3363415	ND
Available (NH4F) Phosphorus (P)	mg/kg	3	3367468	ND		ND	3367468	1	3367468	2	7	3367468	ND	3367468	3	2	3367468	3	3367468	2	3367468	ND	ND	ND	4	20		3	ND	ND	3367468	4	2		3367782	2	5	31	5	2	3367782	22	ND	9	3366966	ND
Available (NH4OAc) Potassium (K)	mg/kg	19	3367487	19		17	3367487	96	3367487	29	14	3367487	52	3367487	109	20	3367487	7	3367487	23	3367487	32	14	60	105	16		12	43	40	3367487	50	46		3367821	38	659	35	18	2	3367821	104	83	128	3366964	52
Available (CaCl2) Sulphur (S)	mg/kg	55.1	3371534	2.1		1.7	3371534	1.5	3371534	0.7	13.4	3371534	2.2	3371534	0.6	ND	3371534	16.3	3371534	0.7	3371534	1.3	1.0	0.6	0.4	0.6		30.7	1.3		3371534	0.7	2.0	0.8	3371534	1.6	0.7	10.2	7.4	3.9	3371537	3.4	0.4	0.5	3371537	1.0
Soluble Parameters																																													
Soluble Conductivity	dS/m	0.69	3364900	0.24		0.30	3363559	0.21	3363559	0.22	0.21	3363559	0.19	3363559	0.25	0.13	3363559	0.14	3364900	0.44	3363559	0.17	0.12	0.11	0.09	0.07	0.08	0.28	0.17		3364900	0.21	0.15		3364900	0.11	0.10	0.15	0.12	0.10	3365708	0.14	0.18	0.10	3365708	0.17
Soluble pH	N/A	6.87	3364390	8.24		8.09	3365693	7.87	3365693	5.18	7.29	3365693	7.79	3365693	6.31	5.64	3365693	7.04	3364390	7.49	3365693	8.29	7.28	7.84	5.33	5.36	5.37	8.18	7.83		3364390	7.43	7.48		3364390	5.55	6.10	6.36	5.94	4.75	3364939	5.30	7.92	5.39	3364939	8.16
Saturation %	%	566	3363666	43.4		27.2	3363461	58.0	3363461	25.1	178	3363461	81.4	3363461	47.7	24.5	3363461	442	3363666	23.8	3363461	55.3	22.4	62.9	53.4	13.4	14.3	36.4	33.0		3363666	45.9	26.2		3363666	45.5	64.2	402	477	365	3363667	72.5	46.8	48.9	3363667	61.4
Physical Properties																																													
% sand by hydrometer	%			36	37	68	3366802	34	3372912	46		3366802	11	3372912	29	59	3366802			77	3366802	27	72	20	12	78		92	58		3366802	56	66		3366802	73	24				3366802	73	21	36	3366802	24
% silt by hydrometer	%			24	23	16	3366802	23	3372912	30		3366802	11	3372912	15	25	3366802			12	3366802	13	24	10	26	11		ND	12		3366802	25	20		3366802	15	10				3366802	22	25	12	3366802	15
Clay Content	%			40	40	16	3366802	43	3372912	24		3366802	79	3372912	56	16	3366802			12	3366802	60	4	70	62	11		8	30		3366802	19	14		3366802	12	66				3366802	5	54	52	3366802	61
Texture	N/A			CLAY		SANDY LOAM	3359804	CLAY	3359804	LOAM		3359804	HEAVY CLAY	3359804	CLAY	SANDY LOAM	3359804			SANDY LOAM	3359804	HEAVY CLAY	SANDY LOAM	HEAVY CLAY	HEAVY CLAY	SANDY LOAM		SAND	SNDY CL LO		3359804	SANDY LOAM	SANDY LOAM		3359804	SANDY LOAM	HEAVY CLAY				3359804	SANDY LOAM	CLAY	CLAY	3359804	HEAVY CLAY

ND = Not detected
RDL = Reportable Detection Limit
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Maxxam Job #: A944192 (2009), B037022 (2
Report Date: 2009/09/02 and 2010/06/07

NPKS (AVAILABLE, PLUS TEXTURE, PH &

Maxxam ID		Q32183	Q32184	Q32184		Q32190	Q32192	Q32193		Q32194	Q32194	Q32195	Q32196	Q32197	Q32198	Q32199	Q32200	Q32200		Q32209		Q32222		Q32224	Q32225	Q32225		Q32226	Q32227	Q32228	Q32229	Q32231		Q32233	Q32258	Q32263	Q32263	Q32264		Q32265	Q32266	Q32266		Q32267	Q32268
Sampling Date		8/12/2009	8/12/2009	8/12/2009		8/15/2009	8/15/2009	8/15/2009		8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/15/2009	8/15/2009		8/15/2009		8/16/2009		8/16/2009	8/16/2009	8/16/2009		8/16/2009	8/16/2009	8/16/2009	8/16/2009	8/16/2009		8/16/2009	8/16/2009	8/17/2009	8/17/2009	8/17/2009		8/17/2009	8/17/2009	8/17/2009		8/17/2009	8/17/2009
COC Number		70280-01	70280-01	70280-01		70280-04	70280-04	70280-04		70280-04	70280-04	70280-04	70280-04	70280-04	70280-04	70280-04	70280-04	70280-04		70280-05		70280-05		70280-05	70280-05	70280-05		70280-05	70280-05	70280-06	70280-06	70280-06		70280-05	70280-06	70280-06	70280-06	70280-06		70280-06	70280-06	70280-06		70280-06	70280-06
	Units	**TP09-06-10 Lab-Dup**	**TP09-06-11**	**TP09-06-11 Lab-Dup**	**QC Batch**	**TP09-17-32**	**TP09-17-33**	**TP09-17-34**	**QC Batch**	**TP09-18-35**	**TP09-18-35 Lab-Dup**	**TP09-18-36**	**TP09-19-37**	**TP09-19-38**	**TP09-20-39**	**TP09-20-40**	**TP09-21-41**	**TP09-21-41 Lab-Dup**	**QC Batch**	**TP09-21-42**	**QC Batch**	**TP09-22-43**	**QC Batch**	**TP09-22-44**	**TP09-23-45**	**TP09-23-45 Lab-Dup**	**QC Batch**	**TP09-23-46**	**TP09-24-47**	**TP09-24-48**	**TP09-25-49**	**TP09-25-50**	**QC Batch**	**TP09-26-51**	**TP09-26-52**	**TP09-27-53**	**TP09-27-53 Lab-Dup**	**TP09-27-54**	**QC Batch**	**TP09-28-55**	**TP09-28-56**	**TP09-28-56 Lab-Dup**	**QC Batch**	**TP09-29-57**	**TP09-30-60**
Nutrients																																														
Available (NH4F) Nitrogen (N)	mg/kg		ND		3363415	ND	ND	ND	3363415	ND		ND	ND	ND	ND	ND	ND		3363415	ND	3363415	ND	3366028	ND	ND	ND	3363415	ND	ND	ND	ND	ND	3366027	ND	ND	ND		ND	3366027	2	ND	ND	3366027	2	ND
Available (NH4F) Phosphorus (P)	mg/kg		2		3366966	ND	2	2	3366966	ND		1	ND	1	2	6	1		3366966	ND	3366966	1	3367824	ND	2	2	3366966	2	1	17	ND	1	3367782	ND	2	ND		ND	3367782	4	2	2	3367782	1	ND
Available (NH4OAc) Potassium (K)	mg/kg		42		3366964	68	57	33	3366964	24		77	67	117	13	77	142		3366964	34	3366964	77	3367826	37	94	98	3366964	24	45	128	18	89	3367821	50	95	15		56	3367821	92	94	113	3367821	51	14
Available (CaCl2) Sulphur (S)	mg/kg		0.6		3371537	5.4	2.1	1.8	3371537	0.4		1.1	0.8	0.7	1.3	5.0	0.9	1.0	3371537	0.7	3371541	2.9	3371541	ND	3.7		3371541	0.6	3.3	14.1	0.4	0.6	3371541	2.2	3.5	2.1		4.5	3371541	2.8	9.3		3371541	0.8	1.9
Soluble Parameters																																													
Soluble Conductivity	dS/m		0.16	0.17	3365708	0.22	0.23	0.32	3365708	0.17		0.18	0.18	0.11	0.17	0.25	0.08		3365708	0.16	3364900	0.20	3364900	0.15	0.33		3364900	0.09	0.18	0.37	0.17	0.41	3364900	0.20	0.26	0.26	0.34	0.28	3366101	0.47	0.57		3366101	0.33	0.44
Soluble pH	N/A		8.02	8.06	3364939	8.45	8.23	7.78	3364939	8.22		6.60	8.06	6.32	8.05	7.90	5.64		3364939	8.19	3364390	7.09	3364390	8.10	7.57		3364390	5.47	7.95	6.95	8.24	6.84	3364390	7.78	7.27	8.12	8.08	7.49	3365693	7.44	7.27		3365693	7.19	8.16
Saturation %	%		33.5	33.6	3363667	90.3	39.5	44.7	3363667	34.4		40.4	38.6	64.0	34.1	47.9	62.3		3363667	41.5	3363666	47.4	3363666	44.2	90.8		3363666	32.0	50.0	162	35.6	62.5	3363666	48.0	46.6	35.5	37.0	58.2	3363671	45.1	99.7		3363671	36.3	38.4
Physical Properties																																													
% sand by hydrometer	%	24	67		3366805	13	44	54	3366805	32	32	32	38	25	25	51	20		3366792	30	3366792	32	3366792	32	14		3366792	36	25	60	16	32	3366792	16	22	38		21	3366792	48	25		3366805	43	22
% silt by hydrometer	%	14	9		3366805	9	31	23	3366805	25	25	21	25	17	55	23	15		3366792	28	3366792	30	3366792	28	6		3366792	44	39	34	38	16	3366792	44	28	35		27	3366792	28	37		3366805	20	58
Clay Content	%	62	24		3366805	78	25	23	3366805	43	43	47	37	58	20	26	65		3366792	42	3366792	38	3366792	40	80		3366792	20	36	6	46	52	3366792	40	50	27		52	3366792	24	38		3366805	37	20
Texture	N/A		SNDY CL LO		3359804	HEAVY CLAY	LOAM	SNDY CL LO	3359805	CLAY		CLAY	CLAY LOAM	CLAY	SILT LOAM	SNDY CL LO	HEAVY CLAY		3359805	CLAY	3359805	CLAY LOAM	3359805	CLAY LOAM	HEAVY CLAY		3359805	LOAM	CLAY LOAM	SANDY LOAM	CLAY	CLAY	3359805	SILTY CLAY	CLAY	LOAM		CLAY	3359805	LOAM	CLAY LOAM		3359805	CLAY LOAM	SILT LOAM

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: A944192 (2009), B037022 (2
Report Date: 2009/09/02 and 2010/06/07

NPKS (AVAILABLE, PLUS TEXTURE, PH &

Maxxam ID		Q32269	Q32270	Q32271	Q32271			U36830	U36830		U36836	U36840	U36841		U36842	U36842		U36843		U36844	U36845	U36846		U36847		U36935	U36939	U36940	U36940	U36941	U36941	U36942		U36943		U36944		U36945	U36945	U36946	U36972		U36979	U36979	U36980		U36981
Sampling Date		8/17/2009	8/17/2009	8/17/2009	8/17/2009																																									
COC Number		70280-06	70280-06	70280-06	70280-06			70280-07	70280-07		70280-07	70280-07	70280-07		70280-07	70280-07		70280-07		70280-07	70280-07	70280-07		70280-07		70280-09	70280-09	70280-09	70280-09	70280-09	70280-09	70280-09		70280-09		70280-09		70280-09	70280-09	70280-09	70280-10		70280-10	70280-10	70280-10		70280-10
	Units	**TP09-30-59**	**TP09-31-61**	**TP09-31-62**	**TP09-31-62 Lab-Dup**	**RDL**	**QC Batch**	**TP10-10-200**	**TP10-10-200 Lab-Dup**	**QC Batch**	**TP10-42-30**	**TP10-45-80**	**TP10-45-30**	**QC Batch**	**TP10-42-10**	**TP10-42-10 Lab-Dup**	**QC Batch**	**TP10-40-10**	**QC Batch**	**TP10-34-30**	**TP10-36-30**	**TP10-40-40**	**RDL**	**TP10-47-20**	**RDL**	**TP10-50-80**	**TP10-50-10**	**TP10-46-80**	**TP10-46-80 Lab-Dup**	**TP10-49-45**	**TP10-49-45 Lab-Dup**	**TP10-48-25**	**RDL**	**TP10-48-50**	**RDL**	**TP10-46-30**	**QC Batch**	**TP10-47-60**	**TP10-47-60 Lab-Dup**	**TP10-49-15**	**TP10-14-90**	**QC Batch**	**TP10-14-40**	**TP10-14-40 Lab-Dup**	**TP10-11-45**	**QC Batch**	**TP10-03-83**
Nutrients																																														
Available (NH4F) Nitrogen (N)	mg/kg	ND	ND	ND	ND	2	3366028	<2	<2	4005362	<2	<2	<2	4005362	<2		4005362	<2	4005362	<2	<2	<2	2	<2	2	<2	<2	<2		<2		<2	2	4	2	<2	4005362	<2		<2	<2	4005362	<2	<2	<2	4005448	<2
Available (NH4F) Phosphorus (P)	mg/kg	ND	ND	ND	ND	1	3367824	<1	<1	3999590	<1	<1	<1	3999590	2		3999590	3	3999590	<1	<1	<1	1	19	5	<1		1	<1		<1		2	1	20	5	<1	3999590	<1		2	<1	3999590	<1	<1	<1	4001389	<1
Available (NH4OAc) Potassium (K)	mg/kg	87	21	87	77	1	3367826	40	39	3995934	143	74	77	3995934	53		3995934	78	3995934	138	197	123	2	69	10	195	206	98		159		106	2	57	10	120	3995934	194		102	111	3995934	6	6	165	3996757	59
Available (CaCl2) Sulphur (S)	mg/kg	8.1	0.7	0.9	0.9	0.4	3371541	8.0	8.3	3995266	0.8	0.6	1.8	3995266	0.9		3995266	2.4	3995266	1.9	0.8	1.3	0.4	35	2	4.9	6.3	0.8		0.6		5.0	0.4	64	2	0.9	3995266	1.6		1.1	2.5	3995266	0.6	0.6	1.1	4008543	2.6
Soluble Parameters																																													
Soluble Conductivity	dS/m	1.3	0.29	0.27		0.02	3366101	0.26		3992081	0.11	0.29	0.45	3994794	0.23		3992081	0.21	3994794	0.23	0.11	0.18	0.02	0.34	0.02	0.31	0.32	0.26	0.22	0.17		0.33	0.02	0.28	0.02	0.11	3994794	0.24		0.22	0.18	3994794	0.11		0.31	3994794	0.25
Soluble pH	N/A	7.83	8.17	7.66		N/A	3365693	7.39		3992748	5.65	6.50	6.59	3992748	6.31		3992748	6.09	3992748	7.10	5.11	6.12	N/A	6.88	N/A	7.10	6.96	6.91		6.56	6.50	6.49	N/A	6.33	N/A	4.85	3992754	6.66		6.29	6.08	3992754	6.04		6.73	3992754	6.71
Saturation %	%	78.6	34.2	37.0		N/A	3363671	59.3		3991781	42.0	37.7	37.9	3992756	28.5		3991781	56.7	3992756	53.4	62.7	45.9	N/A	396	N/A	76.5	68.4	42.4	42.0	53.4		62.2	N/A	345	N/A	43.1	3992756	69.2		35.0	58.0	3992756	17.0		74.1	3992756	29.6
Physical Properties																																													
% sand by hydrometer	%	17	43	38		2	3366805	34		3992351	37	47	59	3992351	43	43	3995131	43	3995131	27	18	38	2	45	2	3	11	33		30		29	2	58	2	40	3995131	7	6	37	28	3998384	94		15	3998384	73
% silt by hydrometer	%	7	43	46		2	3366805	19		3992351	19	19	17	3992351	34	34	3995131	36	3995131	22	12	20	2	39	2	9	21	27		8		29	2	35	2	18	3995131	9	9	28	13	3998384	3		11	3998384	7
Clay Content	%	76	14	16		2	3366805	47		3992351	44	34	25	3992351	23	24	3995131	21	3995131	50	69	41	2	16	2	87	67	39		62		41	2	7	2	42	3995131	85	85	36	60	3998384	4		75	3998384	21
Texture	N/A	HEAVY CLAY	LOAM	LOAM		N/A	3359805	CLAY		3989132	CLAY	SNDY CL LO	SNDY CL LO	3989132	LOAM		3989132	LOAM	3989132	CLAY	HEAVY CLAY	CLAY	N/A	LOAM	N/A	HEAVY CLAY	HEAVY CLAY	CLAY LOAM		HEAVY CLAY		CLAY	N/A	SANDY LOAM	N/A	CLAY	3989132	HEAVY CLAY		CLAY LOAM	CLAY	3989132	SAND		HEAVY CLAY	3989132	SNDY CL LO

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

Maxxam Job #: A944192 (2009), B037022 (2
Report Date: 2009/09/02 and 2010/06/07

NPKS (AVAILABLE, PLUS TEXTURE, PH &

Maxxam ID		U36982	U36983	U36983	U36984		U36985	U36986	U36986	U36987	U36996		U36998	U36999	U37000	U37001	U37003		U37004	U37004	U37005	U37018	U37020	U37022		U37024		U37025	U37029	U37030	U37031		U37032	U37042	U37043	U37044	U37045	U37046	U37047	U37048	U37049		U37050	U37051		
Sampling Date																																														
COC Number		70280-10	70280-10	70280-10	70280-10		70280-10	70280-10	70280-10	70280-10	70280-11		70280-11	70280-11	70280-11	70280-11	70280-11		70280-11	70280-11	70280-11	70280-12	70280-12	70280-12		70280-12		70280-12	70280-12	70280-12	70280-12		70280-12	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13	70280-13		70280-13	70280-13		
	Units	**TP10-03-25**	**TP10-03-58**	**TP10-03-58 Lab-Dup**	**TP10-01-53**	**QC Batch**	**TP10-01-5**	**TP10-02-90**	**TP10-02-90 Lab-Dup**	**TP10-02-65**	**TP10-05-65**	**QC Batch**	**TP10-05-125**	**TP10-04-70**	**TP10-04-50**	**TP10-51-80**	**TP10-51-40**	**QC Batch**	**TP10-52-90**	**TP10-52-90 Lab-Dup**	**TP10-52-10**	**TP10-20-20**	**TP10-22-60**	**TP10-22-5**	**QC Batch**	**TP10-36-80**	**QC Batch**	**TP10-23-65**	**TP10-34-60**	**TP10-20-75**	**TP10-32-20**	**QC Batch**	**TP10-25-35**	**TP10-32-5**	**TP10-24-30**	**TP10-26-10**	**TP10-24-50**	**TP10-30-80**	**TP10-30-30**	**TP10-26-50**	**TP10-33-10**	**QC Batch**	**TP10-22-95**	**TP10-33-30**	**RDL**	**QC Batch**
Nutrients																																													
Available (NH4F) Nitrogen (N)	mg/kg	<2	<2		<2	4005448	<2	<2		<2	<2	4005448	<2	<2	<2	<2	<2	4005448	<2		<2	<2	<2	<2	4005448	<2	4005726	<2	<2	<2	<2	4005726	<2	2	<2	<2	<2	<2	<2	<2	4005726	<2	<2	2	4005726
Available (NH4F) Phosphorus (P)	mg/kg	<1	<1		<1	4001389	<1	<1		<1	<1	4001389	<1	<1	<1	<1	<1	4001389	<1		1	<1	<1	1	4001389	<1	4001194	<1	<1	<1	8	4001194	1	11	2	2	<1	<1	<1	<1	8	4001194	<1	1	1	4001194
Available (NH4OAc) Potassium (K)	mg/kg	86	94		87	3996757	100	78		121	76	3996757	99	119	151	77	128	3996757	146		101	90	103	91	3996757	103	3996096	84	123	70	111	3996096	78	71	212	104	134	83	28	82	92	3996096	50	124	2	3996096
Available (CaCl2) Sulphur (S)	mg/kg	3.7	2.3		5.2	4008543	3.7	5.0		7.7	3.1	4008543	16.8	1.0	0.6	1.1	2.1	4008543	9.3		4.0	0.8	0.6	5.6	4008543	0.5	3995278	0.4	1.0	<0.4	8.0	3995278	0.7	6.4	1.3	5.9	5.9	0.5	0.5	1.3	1.9	3995278	7.7	1.0	0.4	3995278
Soluble Parameters																																													
Soluble Conductivity	dS/m	0.37	0.28	0.28	0.33	3995541	0.57	0.34		0.37	0.31	3995541	0.41	0.24	0.23	0.27	0.58	3995541	0.36		0.37	0.20	0.12	0.47	3995541	0.29	3995541	0.24	0.22	0.26	0.47	3999128	0.16	0.40	0.15	0.81	0.36	0.29	0.14	0.27	0.41	3999128	0.57	0.20	0.02	3999128
Soluble pH	N/A	6.63	6.80		6.89	3992754	6.17	7.00	6.92	7.33	7.31	3993007	7.63	7.38	7.20	7.28	7.04	3993007	6.52		6.09	5.95	5.85	5.34	3993007	7.09	3993007	7.16	7.03	7.24	5.62	3993007	6.35	5.12	5.42	6.60	6.69	6.81	6.33	7.20	6.36	3993059	6.80	6.70	N/A	3993059
Saturation %	%	58.6	37.6	37.3	43.0	3992761	56.1	45.0		50.2	42.4	3992761	57.9	56.4	62.7	45.0	51.4	3992761	63.6		71.9	33.4	47.2	62.2	3992761	55.9	3992761	43.8	62.8	39.1	38.2	3992764	46.1	57.0	44.4	54.6	87.5	46.2	25.0	40.8	49.3	3992764	34.3	47.6	N/A	3992764
Physical Properties																																													
% sand by hydrometer	%	36	57		31	3998384	42	27		39	39	3998384	19	15	7	11	22	3998384	23	22	33	36	44	60	4001661	24	4001661	35	32	32	44	4001661	36	36	22	42	10	25	87	41	38	4001661	63	31	2	4005273
% silt by hydrometer	%	30	18		26	3998384	34	26		16	26	3998384	18	16	10	49	28	3998384	25	26	51	28	13	26	4001661	15	4001661	30	20	31	40	4001661	25	50	38	28	8	30	5	25	29	4001661	20	20	2	4005273
Clay Content	%	35	26		43	3998384	24	47		44	34	3998384	62	68	84	41	51	3998384	52	52	16	36	43	14	4001661	61	4001661	35	48	37	16	4001661	39	14	40	30	82	45	8	34	33	4001661	17	49	2	4005273
Texture	N/A	CLAY LOAM	SNDY CL LO		CLAY	3989132	LOAM	CLAY		CLAY	CLAY LOAM	3989132	HEAVY CLAY	HEAVY CLAY	HEAVY CLAY	SILTY CLAY	CLAY	3989133	CLAY		SILT LOAM	CLAY LOAM	CLAY	SANDY LOAM	3989133	HEAVY CLAY	3989133	CLAY LOAM	CLAY	CLAY LOAM	LOAM	3989133	CLAY LOAM	SILT LOAM	CLAY	CLAY LOAM	HEAVY CLAY	CLAY	LOAMY SAND	CLAY LOAM	CLAY LOAM	3989133	SANDY LOAM	CLAY	N/A	3989133

ND = Not detected
RDL = Reportable Detection Limit
EDL = Estimated Detection Limit
Lab-Dup = Laboratory Initiated Duplicate

APPENDIX IV - 2

Soil Test Results
QAQC

Quality Assurance Report
Maxxam Job Number: CA944192 (2009), CB037022 (2010)

QA/QC Batch Num	Init	QC Type	Date Analyzed Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
3361418	SD9	RPD	Cation exchange capacity	8/23/2009	1		%	35
3363043	SD9	RPD	Cation exchange capacity	8/25/2009	NC		%	35
3363415	KB0	Matrix Spike	Available (NH4F) Nitrogen (N)	8/20/2009		99	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	8/20/2009		102	%	80 - 120
		Method Blank	Available (NH4F) Nitrogen (N)	8/20/2009	ND	RDL=2	mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	8/20/2009	NC		%	35
3363461	RK3	QC Standard	Saturation %	8/20/2009		98	%	83 - 117
		RPD	Saturation %	8/20/2009	3		%	12
3363559	SR0	QC Standard	Soluble Conductivity	8/20/2009		96	%	82 - 118
		Spiked Blank	Soluble Conductivity	8/20/2009		97	%	95 - 104
		Method Blank	Soluble Conductivity	8/20/2009	0.03	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	8/20/2009	1		%	35
3363666	LZ0	QC Standard	Saturation %	8/21/2009		101	%	83 - 117
		RPD	Saturation %	8/21/2009	6.6		%	12
3363667	LZ0	QC Standard	Saturation %	8/21/2009		96	%	83 - 117
		RPD	Saturation %	8/21/2009	0.4		%	12
3363671	NG2	QC Standard	Saturation %	8/21/2009		97	%	83 - 117
		RPD	Saturation %	8/21/2009	4.1		%	12
3364055	SD9	RPD	Cation exchange capacity	8/23/2009	NC		%	35
3364066	SD9	RPD	Cation exchange capacity	8/25/2009	NC		%	35
3364390	LZ0	QC Standard	Soluble pH	8/21/2009		99	%	98 - 102
		Spiked Blank	Soluble pH	8/21/2009		100	%	99 - 101
		RPD	Soluble pH	8/21/2009	0.2		%	5
3364900	HN	QC Standard	Soluble Conductivity	8/21/2009		83	%	82 - 118
		Spiked Blank	Soluble Conductivity	8/21/2009		99	%	95 - 104
		Method Blank	Soluble Conductivity	8/21/2009	0.03	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	8/21/2009	NC		%	35
3364939	LZ0	QC Standard	Soluble pH	8/21/2009		99	%	98 - 102
		Spiked Blank	Soluble pH	8/21/2009		101	%	99 - 101
		RPD	Soluble pH	8/21/2009	0.5		%	5
3365693	SR0	QC Standard	Soluble pH	8/21/2009		98	%	98 - 102
		Spiked Blank	Soluble pH	8/21/2009		101	%	99 - 101
		RPD	Soluble pH	8/21/2009	0.5		%	5
3365708	NG2	QC Standard	Soluble Conductivity	8/21/2009		95	%	82 - 118
		Spiked Blank	Soluble Conductivity	8/21/2009		100	%	95 - 104
		Method Blank	Soluble Conductivity	8/21/2009	0.02	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	8/21/2009	6.1		%	35
3366021	KB0	Matrix Spike	Available (NH4F) Nitrogen (N)	8/21/2009		101	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	8/21/2009		98	%	80 - 120
		Method Blank	Available (NH4F) Nitrogen (N)	8/21/2009	ND	RDL=2	mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	8/21/2009	NC		%	35
3366027	KB0	Matrix Spike	Available (NH4F) Nitrogen (N)	8/21/2009		99	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	8/21/2009		99	%	80 - 120
		Method Blank	Available (NH4F) Nitrogen (N)	8/21/2009	ND	RDL=2	mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	8/21/2009	NC		%	35

QA/QC Batch Num	Init	QC Type	Date Analyzed Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
3366028	KB0	Matrix Spike	Available (NH4F) Nitrogen (N)	8/22/2009		99	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	8/22/2009		99	%	80 - 120
		Method Blank	Available (NH4F) Nitrogen (N)	8/22/2009	ND	RDL=2	mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	8/21/2009	NC		%	35
3366101	NG2	QC Standard	Soluble Conductivity	8/21/2009		102	%	82 - 118
		Spiked Blank	Soluble Conductivity	8/21/2009		98	%	95 - 104
		Method Blank	Soluble Conductivity	8/21/2009	ND	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	8/21/2009	26.7		%	35
3366792	SMB	QC Standard	% sand by hydrometer	8/23/2009		104	%	75 - 125
			% silt by hydrometer	8/23/2009		91	%	75 - 125
			Clay Content	8/23/2009		103	%	75 - 125
		RPD	% sand by hydrometer	8/23/2009	0.6		%	35
			% silt by hydrometer	8/23/2009	0.4		%	35
			Clay Content	8/23/2009	0.9		%	35
3366802	NG2	QC Standard	% sand by hydrometer	8/23/2009		96	%	75 - 125
			% silt by hydrometer	8/23/2009		107	%	75 - 125
			Clay Content	8/23/2009		92	%	75 - 125
		RPD	% sand by hydrometer	8/23/2009	2.5		%	35
			% silt by hydrometer	8/23/2009	3.4		%	35
			Clay Content	8/23/2009	0.2		%	35
3366805	NG2	QC Standard	% sand by hydrometer	8/23/2009		100	%	75 - 125
			% silt by hydrometer	8/23/2009		96	%	75 - 125
			Clay Content	8/23/2009		103	%	75 - 125
		RPD	% sand by hydrometer	8/23/2009	1.3		%	35
			% silt by hydrometer	8/23/2009	6.8		%	35
			Clay Content	8/23/2009	2.1		%	35
3366964	FL1	QC Standard	Available (NH4OAc) Potassium (K)	8/24/2009		106	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	8/24/2009		109	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	8/24/2009	1	RDL=1	mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	8/24/2009	3.5		%	35
3366966	FL1	Spiked Blank	Available (NH4F) Phosphorus (P)	8/25/2009		92	%	89 - 109
		Method Blank	Available (NH4F) Phosphorus (P)	8/24/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	8/24/2009	NC		%	35
3367468	DP3	Spiked Blank	Available (NH4F) Phosphorus (P)	8/25/2009		96	%	89 - 109
		Method Blank	Available (NH4F) Phosphorus (P)	8/25/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	8/25/2009	NC		%	35
3367487	DP3	QC Standard	Available (NH4OAc) Potassium (K)	8/25/2009		109	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	8/25/2009		95	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	8/25/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	8/25/2009	8.3		%	35
3367782	FL1	Spiked Blank	Available (NH4F) Phosphorus (P)	8/25/2009		104	%	89 - 109
		Method Blank	Available (NH4F) Phosphorus (P)	8/25/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	8/25/2009	NC		%	35
3367821	FL1	QC Standard	Available (NH4OAc) Potassium (K)	8/25/2009		82	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	8/25/2009		102	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	8/25/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	8/25/2009	19.3		%	35
3367824	FL1	Spiked Blank	Available (NH4F) Phosphorus (P)	8/25/2009		103	%	89 - 109
		Method Blank	Available (NH4F) Phosphorus (P)	8/24/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	8/24/2009	NC		%	35
3367826	FL1	QC Standard	Available (NH4OAc) Potassium (K)	8/24/2009		112	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	8/25/2009		93	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	8/24/2009	ND	RDL=1	mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	8/24/2009	12.6		%	35

QA/QC Batch Num	Init	QC Type	Date Analyzed Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
3371534	FL1	Spiked Blank	Available (CaCl2) Sulphur (S)	8/25/2009		93	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	8/25/2009	1.7	RDL=0.4	mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	8/25/2009	NC		%	35
3371537	FL1	Spiked Blank	Available (CaCl2) Sulphur (S)	8/25/2009		89	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	8/25/2009	ND	RDL=0.4	mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	8/25/2009	NC		%	35
3371541	FL1	Spiked Blank	Available (CaCl2) Sulphur (S)	8/25/2009		93	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	8/25/2009	ND	RDL=0.4	mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	8/25/2009	NC		%	35
3372912	SMB	QC Standard	% sand by hydrometer	8/25/2009		96	%	75 - 125
			% silt by hydrometer	8/25/2009		104	%	75 - 125
			Clay Content	8/25/2009		98	%	75 - 125
		RPD	% sand by hydrometer	8/25/2009	3.1		%	35
			% silt by hydrometer	8/25/2009	4.3		%	35
			Clay Content	8/25/2009	3.2		%	35
3991781	RK3	QC Standard	Saturation %	5/29/2010		99	%	93 - 107
		RPD	Saturation %	5/29/2010	2.5		%	12
3992081	HN	QC Standard	Soluble Conductivity	5/30/2010		96	%	84 - 116
		Spiked Blank	Soluble Conductivity	5/30/2010		101	%	95 - 105
		Method Blank	Soluble Conductivity	5/30/2010	<0.02		dS/m	
		RPD	Soluble Conductivity	5/30/2010	1.2		%	35
3992347	SMB	RPD	Cation exchange capacity	6/1/2010	13.2		%	35
3992348	SMB	RPD	Cation exchange capacity	6/1/2010	NC		%	35
3992349	SMB	RPD	Cation exchange capacity	5/31/2010	NC		%	35
3992351	LZ0	QC Standard	% sand by hydrometer	5/31/2010		93	%	75 - 125
			% silt by hydrometer	5/31/2010		99	%	75 - 125
			Clay Content	5/31/2010		117	%	75 - 125
		RPD	% sand by hydrometer	5/31/2010	NC		%	35
			% silt by hydrometer	5/31/2010	1.3		%	35
			Clay Content	5/31/2010	8.5		%	35
3992748	YW2	QC Standard	Soluble (CaCl2) pH	5/31/2010		97	%	97 - 103
		Spiked Blank	Soluble (CaCl2) pH	5/31/2010		101	%	97 - 102
3992754	SMZ	QC Standard	Soluble (CaCl2) pH	5/31/2010		99	%	97 - 103
		Spiked Blank	Soluble (CaCl2) pH	5/31/2010		101	%	97 - 102
		RPD	Soluble (CaCl2) pH	5/31/2010	0.9		%	5
3992756	RSM	QC Standard	Saturation %	5/31/2010		105	%	93 - 107
		RPD	Saturation %	5/31/2010	0.8		%	12
3992761	HZ	QC Standard	Saturation %	5/31/2010		95	%	93 - 107
		RPD	Saturation %	5/31/2010	0.9		%	12
3992764	RK3	QC Standard	Saturation %	6/1/2010		105	%	93 - 107
		RPD	Saturation %	6/1/2010	0.3		%	12
3993007	YW2	QC Standard	Soluble (CaCl2) pH	5/31/2010		97	%	97 - 103
		Spiked Blank	Soluble (CaCl2) pH	5/31/2010		99	%	97 - 102
		RPD	Soluble (CaCl2) pH	5/31/2010	1.1		%	5
3993059	YW2	QC Standard	Soluble (CaCl2) pH	5/31/2010		100	%	97 - 103
		Spiked Blank	Soluble (CaCl2) pH	5/31/2010		100	%	97 - 102
3994794	SH4	QC Standard	Soluble Conductivity	5/31/2010		91	%	84 - 116
		Spiked Blank	Soluble Conductivity	5/31/2010		97	%	95 - 105
		Method Blank	Soluble Conductivity	5/31/2010	0.02	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	5/31/2010	13		%	35
3995131	LZ0	QC Standard	% sand by hydrometer	6/1/2010		93	%	75 - 125
			% silt by hydrometer	6/1/2010		102	%	75 - 125
			Clay Content	6/1/2010		110	%	75 - 125
		RPD	% sand by hydrometer	6/1/2010	0.7		%	35
			% silt by hydrometer	6/1/2010	2.1		%	35

QA/QC Batch Num	Init	QC Type	Date Analyzed Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
			Clay Content	6/1/2010	1.7		%	35
3995266	SP8	Spiked Blank	Available (CaCl2) Sulphur (S)	6/1/2010		100	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	6/1/2010	<0.4		mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	6/1/2010	3.8		%	35
3995278	SP8	Spiked Blank	Available (CaCl2) Sulphur (S)	6/1/2010		99	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	6/1/2010	<0.4		mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	6/1/2010	NC		%	35
3995541	RSM	QC Standard	Soluble Conductivity	6/1/2010		97	%	84 - 116
		Spiked Blank	Soluble Conductivity	6/1/2010		97	%	95 - 105
		Method Blank	Soluble Conductivity	6/1/2010	<0.02		dS/m	
		RPD	Soluble Conductivity	6/1/2010	2.9		%	35
3995934	SP8	QC Standard	Available (NH4OAc) Potassium (K)	6/2/2010		113	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	6/2/2010		101	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	6/2/2010	<2		mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	6/2/2010	1.3		%	35
3996096	SP8	QC Standard	Available (NH4OAc) Potassium (K)	6/2/2010		113	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	6/2/2010		100	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	6/2/2010	<2		mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	6/2/2010	5.6		%	35
3996757	SP8	QC Standard	Available (NH4OAc) Potassium (K)	6/2/2010		109	%	75 - 125
		Spiked Blank	Available (NH4OAc) Potassium (K)	6/2/2010		99	%	80 - 120
		Method Blank	Available (NH4OAc) Potassium (K)	6/2/2010	<2		mg/kg	
		RPD	Available (NH4OAc) Potassium (K)	6/2/2010	NC		%	35
3998223	DP0	Spiked Blank	Exchangeable (OAc) Calcium (Ca)	6/2/2010		99	%	88 - 111
			Exchangeable (OAc) Magnesium (Mg)	6/2/2010		92	%	91 - 113
			Exchangeable (OAc) Potassium (K)	6/2/2010		91	%	80 - 120
			Exchangeable (OAc) Sodium (Na)	6/2/2010		89	%	80 - 119
		Method Blank	Exchangeable (OAc) Calcium (Ca)	6/2/2010	<0.2		meq/100g	
			Exchangeable (OAc) Magnesium (Mg)	6/2/2010	<0.4		meq/100g	
			Exchangeable (OAc) Potassium (K)	6/2/2010	0.1	RDL=0.1	meq/100g	
			Exchangeable (OAc) Sodium (Na)	6/2/2010	<0.2		meq/100g	
		RPD	Exchangeable (OAc) Calcium (Ca)	6/2/2010	4.7		%	35
			Exchangeable (OAc) Magnesium (Mg)	6/2/2010	5.1		%	35
			Exchangeable (OAc) Potassium (K)	6/2/2010	NC		%	35
			Exchangeable (OAc) Sodium (Na)	6/2/2010	NC		%	35
			Exchangeable (OAc) Total Exchangeable Cations	6/2/2010	5		%	35
3998384	LZ0	QC Standard	% sand by hydrometer	6/2/2010		94	%	75 - 125
			% silt by hydrometer	6/2/2010		103	%	75 - 125
			Clay Content	6/2/2010		107	%	75 - 125
		RPD	% sand by hydrometer	6/2/2010	NC		%	35
			% silt by hydrometer	6/2/2010	NC		%	35
			Clay Content	6/2/2010	0		%	35
3999128	HZ	QC Standard	Soluble Conductivity	6/2/2010		102	%	84 - 116
		Spiked Blank	Soluble Conductivity	6/2/2010		102	%	95 - 105
		Method Blank	Soluble Conductivity	6/2/2010	0.03	RDL=0.02	dS/m	
		RPD	Soluble Conductivity	6/2/2010	0.4		%	35
3999590	DP0	Spiked Blank	Available (NH4F) Phosphorus (P)	6/3/2010		99	%	87 - 116
		Method Blank	Available (NH4F) Phosphorus (P)	6/2/2010	<1		mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	6/2/2010	NC		%	35
4001194	DP0	Spiked Blank	Available (NH4F) Phosphorus (P)	6/2/2010		98	%	87 - 116
		Method Blank	Available (NH4F) Phosphorus (P)	6/2/2010	<1		mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	6/2/2010	NC		%	35
4001389	SP8	Spiked Blank	Available (NH4F) Phosphorus (P)	6/3/2010		102	%	87 - 116
		Method Blank	Available (NH4F) Phosphorus (P)	6/3/2010	<1		mg/kg	
		RPD	Available (NH4F) Phosphorus (P)	6/3/2010	NC		%	35

QA/QC Batch Num	Init	QC Type	Date Analyzed Parameter	yyyy/mm/dd	Value	Recovery	Units	QC Limits
4001661	LZ0	QC Standard	% sand by hydrometer	6/3/2010		92	%	75 - 125
			% silt by hydrometer	6/3/2010		107	%	75 - 125
			Clay Content	6/3/2010		104	%	75 - 125
		RPD	% sand by hydrometer	6/3/2010	4.9		%	35
			% silt by hydrometer	6/3/2010	3.9		%	35
			Clay Content	6/3/2010	0.2		%	35
4004450	PL	Spiked Blank	Exchangeable (OAc) Calcium (Ca)	6/3/2010		98	%	88 - 115
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010		96	%	87 - 117
			Exchangeable (OAc) Potassium (K)	6/3/2010		96	%	85 - 117
			Exchangeable (OAc) Sodium (Na)	6/3/2010		95	%	84 - 118
		Method Blank	Exchangeable (OAc) Calcium (Ca)	6/3/2010	<0.2		meq/100g	
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010	<0.4		meq/100g	
			Exchangeable (OAc) Potassium (K)	6/3/2010	<0.1		meq/100g	
			Exchangeable (OAc) Sodium (Na)	6/3/2010	<0.2		meq/100g	
			Exchangeable (OAc) Total Exchangeable Cations	6/3/2010	<0.4		meq/100g	
		RPD	Exchangeable (OAc) Calcium (Ca)	6/3/2010	1.4		%	35
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010	NC		%	35
			Exchangeable (OAc) Potassium (K)	6/3/2010	NC		%	35
			Exchangeable (OAc) Sodium (Na)	6/3/2010	NC		%	35
			Exchangeable (OAc) Total Exchangeable Cations	6/3/2010	0.7		%	35
4004462	PL	Spiked Blank	Exchangeable (OAc) Calcium (Ca)	6/3/2010		99	%	88 - 115
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010		97	%	87 - 117
			Exchangeable (OAc) Potassium (K)	6/3/2010		96	%	85 - 117
			Exchangeable (OAc) Sodium (Na)	6/3/2010		96	%	84 - 118
		Method Blank	Exchangeable (OAc) Calcium (Ca)	6/3/2010	<0.2		meq/100g	
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010	<0.4		meq/100g	
			Exchangeable (OAc) Potassium (K)	6/3/2010	<0.1		meq/100g	
			Exchangeable (OAc) Sodium (Na)	6/3/2010	<0.2		meq/100g	
			Exchangeable (OAc) Total Exchangeable Cations	6/3/2010	<0.4		meq/100g	
		RPD	Exchangeable (OAc) Calcium (Ca)	6/3/2010	2.7		%	35
			Exchangeable (OAc) Magnesium (Mg)	6/3/2010	4.7		%	35
			Exchangeable (OAc) Potassium (K)	6/3/2010	1.2		%	35
			Exchangeable (OAc) Sodium (Na)	6/3/2010	NC		%	35
			Exchangeable (OAc) Total Exchangeable Cations	6/3/2010	2.9		%	35
4005273	LZ0	QC Standard	% sand by hydrometer	6/4/2010		92	%	75 - 125
			% silt by hydrometer	6/4/2010		110	%	75 - 125
			Clay Content	6/4/2010		99	%	75 - 125
		RPD	% sand by hydrometer	6/4/2010	3.1		%	35
			% silt by hydrometer	6/4/2010	1.8		%	35
			Clay Content	6/4/2010	4		%	35
4005362	KB0	Matrix Spike	Available (NH4F) Nitrogen (N)	6/4/2010		101	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	6/4/2010		107	%	90 - 111
		Method Blank	Available (NH4F) Nitrogen (N)	6/4/2010	<2		mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	6/4/2010	NC		%	35
4005448	KKL	Matrix Spike	Available (NH4F) Nitrogen (N)	6/4/2010		100	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	6/4/2010		100	%	83 - 118
		Method Blank	Available (NH4F) Nitrogen (N)	6/4/2010	<2		mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	6/4/2010	NC		%	35
4005726	SMB	Matrix Spike	Available (NH4F) Nitrogen (N)	6/4/2010		93	%	80 - 120
		Spiked Blank	Available (NH4F) Nitrogen (N)	6/4/2010		100	%	83 - 118
		Method Blank	Available (NH4F) Nitrogen (N)	6/4/2010	<2		mg/kg	
		RPD	Available (NH4F) Nitrogen (N)	6/4/2010	NC		%	35
4008543	DP0	Spiked Blank	Available (CaCl2) Sulphur (S)	6/4/2010		102	%	80 - 120
		Method Blank	Available (CaCl2) Sulphur (S)	6/4/2010	0.5	RDL=0.4	mg/kg	
		RPD	Available (CaCl2) Sulphur (S)	6/4/2010	NC		%	35

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

APPENDIX V - 1

Catch per Unit Effort (CPUE) for Fish Sampling in the Local Area 2010

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
MARCH	Pinewood River @ SW1	19-03-2010	1335	20-03-2010	1600	26.5	4	106	3	BS		March field notes lost with personnel change
									1	MM		
									4	Total	0.04	
	Pinewood River @ SW3	24-03-2010	1250	25-03-2010	1240	24	4	96	3	BS	0.03	
	West Creek @ Roen Rd	"""	1450	""""	1320	22.5	4	90	150	DA		
									100	BS		
									10	MM		
									260	Total	2.89	
	West Creek @ DR 600	20-03-2010	1740	21-03-2010		24	4	96	150	DA		
									100	BS		
									20	MM		
									20	SH		
									10	LC		
									300	Total	3.13	
	Trib 1 to West Creek	""""	1755	""""		24	4	96	10	DA		
									10	BS		
									20	Total	0.21	
	Trib 2 to West Creek	""""		""""		24	4	96	30	DA		
									20	BS		
									10	MM		
									60	Total	0.63	
	Trib 3 to West Creek	""""		""""		24	4	96	10	DA		
									10	BS		
									20	Total	0.21	
	Marr Creek @ DR 600	"""	1405	""""		24	4	96	150	DA		
									150	BS		
									10	SH		
									20	MM		
									10	BM		
									340	Total	3.54	
	Clark Ck @ DR 600	"""	1800	""""		24	4	96	100	DA		
									50	BS		
									10	CH		
									10	SH		
									170	Total	1.77	
	Tait Creek	""""		""""		24	4	96	50	DA		
									50	MM		
									100	Total	1.04	
	Upper Tribs 4 and 5 to Pinewood R.	21-03-2010	1445	22-03-2010		24	6	144	0	No fish	0.00	Streams heavily damaged - cleared, grubbed, cattle crossings
	Wetlands in Rainy Lake W/S	22-03-2010		3/22/2010		24	4	96	150	Total	1.56	Wetland on Marr Road at SW
	SW5 - Muskrat Creek	23-03-2010	1608	24-03-2010		24	4	96	200	Total	2.08	
MAY	Pinewood River @ SW3	19-05-2010	1030	20-05-2010	0900	22.5	6	135	15	BS	0.11	
	Pinewood River @ SW10	""""	1410	""""	1435	24.3	1	24.3	18	CC		2 - 3100 mm CSC; Bevan used to fish for NP here
									9	SH		emerald shiners
									1	DA		
									1	BS		
									29	Total	1.19	Sign re elk in the area
	Pinewood River @ SW1	23-05-2010	1535	24-05-2010	1200	20.5	1	20.5	6	NP		gillnet
									5	BB		
									5	WS		
									1	LC		
									1	CC		
									3	SH		golden shiners
									1	Other		unidentified remains
									22	Total	1.07	River Index Net (RIN) gillnet
	Pinewood River @ SW3	""""	1615	""""	940	17.4	5	87	3	BS		
									3	Crayfish		not counted in totals
									3	Total	0.03	
	West Creek @ DR 600	""""	1240	""""	1400	25.3	2	50.6	258	DA		
									12	SH		
									2	LC		
									33	BS		
									6	BM		
									111	Total	2.19	
	Marr Creek @ DR 600	""""	1210	""""	1130	23.6	3	70.8	313	BS		3 - 1500 mm CSC
									254	DA		2-3 species
									8	SH		
									7	LC		
									1	BM		
									583	Total	8.23	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
	Marr Creek in Community Pasture	""""	1300	""""""	1445	25.7	1	25.7	121	DA		
									12	BS		
									6	SH		
									1	LC		
									1	CC		
									3	BM		
									144	Total	5.60	
	Loslo Creek @ DR 600	""""	1120	""""	1015	22.9	3	68.7	156	BS		D/S of 3 - 1500 mm CSC
									63	DA		
									23	SH		
									7	LC		
									2	BM		
									8	CC		
									1	MM		
									260	Total	3.78	
	Pinewood Lake	20-05-2010	1645	22-05-2010	950	41.1	3	123.3	9	SH		51 shiners?
									350	LC		
									18	BS		
									34	DA		
									8	CC		
									1	WS		not in traps
									1	BM		
									454	Total	3.68	
	West Creek at Roen Road	21-05-2010	1130	22-05-2010	1120	23.8	3	71.4	197	DA		single 1180 mm CSC
									215	BS		
									4	LC		
									1	MM		
									417	Total	5.84	
	West Creek Trib 3 @ upper wetland	22-05-2010	1240	23-05-2010	1000	21.3	3	63.9	104	DA		upper creek at private road
									53	BS		
									49	LC		
									3	MM		
									209	Total	3.27	
	West Ck Trib 3 @ Roen Road	""""	1310	""""	1045	21.5	3	64.5	133	BS		at Roen Rd
									53	DA		
									20	LC		
									6	MM		
									212	Total	3.29	
	West Creek Trib 2 @ Roen Road	""""	1315	""""	1120	21.1	3	63.3	131	BS		single 1200 mm CSC
									128	DA		
									16	LC		
									10	MM		
									9	SH		spot-tail shiners
									294	Total	4.64	
	West Creek Trib 1A @ Roen Road	""""	1320	""""	1200	22.6	1	22.6	0	No fish	0.00	single 600 mm CSC; creek intermittent
	West Creek Trib 1 @ McLain Property	""""	1330	23-05-2010	1205	22.5	2	45	29	DA		on McLain property; 700 mm CSC
									22	BS		
									10	LC		
									7	CC		
									1	BM		
									1	SH		
									70	Total	1.56	1 clam
	West Creek Trib 0	""""	1335	""""	1310	23.6	1	23.6	2	BS	0.08	1 leopard frog - photo
	Clark Creek @ DR 600	""""	1345	""""	1355	24.2	1	24.2	110	DA		2 - 2000 mm CSC
									55	BS		
									30	LC		
									6	SH		emerald shiners
									1	MM		
									1	BM		
									203	Total	8.39	
	Loslo Creek @ DR 600	""""	1630	""""	950	17.3	3	51.9	142	BS		Loslo Ck at DR 600
									149	DA		
									87	LC		
									21	SH		spot-trail shiners
									2	BM		
									1	SH		emerald shiner
									402	Total	7.75	
	Pinewood River @ SW8 (SW107)	""""	1705	""""	845	15.6	3	46.8	101	DA		2 CSC
									37	LC		
									22	BS		
									11	CC		
									4	SH		emeraLd shiners
									2	SH		spot-tail shiners
									1	LS		juvenile longnose sucker
									178	Total	3.80	
	Clark Creek @ Teeple Road (SW11)	24-05-2010	1320	25-05-2010	930	20.2	3	60.6	141	LC		Clark Ck at Teeple Rd
									91	DA		
									53	BS		
									2	MM		
									2	BM		
									289	Total	4.77	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
AUGUST	West Ck @ Roen Rd	30-07-2010	1600	7/31/2010	1030	18.5	2	37	10	DA		
									9	CH		
									8	BS		
									4	BM		
									31	Total	0.84	
	West Ck @ DR 600	""	1615	""""	1235	20.3	2	40.6	10	SH		
									6	DA		
									2	BS		
									2	CH		
									20	Total	0.49	
	West Creek Trib 4	01-08-2010	1745	8/2/2010	1415	20.5	2	41	11	DA		
									5	CH		
									4	BS		
									3	SH		
									1	BM		
									1	Unknown		
									25	Total	0.61	
	Clark Ck @ DR 600	""	1630	""""	1330 & 1415	21.4	2	42.8	9	BM		
									8	CH		
									7	SH		
									4	DA		
									3	WS		
									2	BS		
									2	BD		blackside darter
									8	Unknown		red fins, sharply forked tail
									43	Total	1.00	
	Marr Rd Wetland (Rainy Lake W/S)	31-07-2010	1630	8/1/2010	1000	17.5	2	35	8	MM		
									8	Total	0.23	
	Marr Creek headwater wetland	""""	1700	""""	900	16	4	64	7	MM		
									7	Total	0.11	
	Loslo Creek isolated Pond	02-08-2010	1145	8/3/2010	915	21.5	3	64.5	7	MM		pond in community pasture
									2	SB		
									9	Total	0.14	
	Muskrat Creek (L of Woods W/S)	01-08-2020	1530	8/2/2010	900	17.5	2	34	1	Dace		
									1	MM		
									2	Total	0.059	
	Jones Ck (upper)	01-08-2010	1115	8/2/2010	1330	26.3	3	78.9	5	MM		
									3	BS		
									1	Dace		
									9	Total	0.11	
	Pinewood R. @ SW10	03-08-2010	1630	8/4/2010	845	16.3	4	65.2	35	Brassy Minnow		
									15	Chub		
									11	Shiner		
									9	White Sucker		
									5	Dace		
									2	Unknown		red fin, spots on head, red spots on cheeks
									1	Unknown		red fins
									78	Total	1.20	
SEPTEMBER	Upper Tributary 6 on South Side	15-09-2010	1040	9/16/2010	1655	29.3	1	29.3	5	Shiner		South side tributary to Pinewood River
									3	Brassy Minnow		
									2	BSB		
									1	Dace		
									11	Total	0.38	
	Tait Ck Trib 3 @ Caul Rd. (east)	""""	1745	""""	1324	20.6	1	20.6	6	BSB	0.29	
	Tait Ck Trib 3 @ Caul Rd. (west)	""""	1750	""""	1300	19.3	1	19.3	12	BSB		
									7	Dace		
									3	Brassy Minnow		
									22	Total	1.14	
	Tait Ck Trib 4 @ Caul Rd (west)	""""	1820	""""	1515	20.9	1	20.9	20	Brassy Minnow		
									17	Dace		
									16	BSB		
									12	Chub		
									2	Shiner		
									67	Total	3.21	
	Tait Ck Trib 4 @ Caul Rd (east)	""""	""""	""""	1545	21.4	1	21.4	30	Dace		
									18	Brassy Minnow		
									6	BSB		
									3	Shiner		
									2	Chub		
									1	Mud Minnow		
									1	Unknown		
									61	Total	2.85	
	Blackhawk Ck Trib 1 @ Atkinson Rd.	""""	1840	""""	1622	21.6	1	21.6	15	Mud Minnow		
									2	BSB		
									2	Brassy Minnow		
									1	Shiner		
									20	Total	0.93	
	Upper Tributary 5	""""	1900	""""	1740	22.6	1	22.6	2	Dace		Upper Tributary 6 to Pinewood River on south side of valley
									1	Brassy Minnow		
									3	Total	0.13	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
OCTOBER	Core Shack Creek	05-10-2010	1140	10/6/2010	1702	29.3	3	87.9	4	BSB		2 other traps caught no fish; add 24 hrs to soak time
									4	Total	0.05	
	Marr Ck @ Comm. Pasture	"	1249	"	945	21.0	1	21	9	Dace		Redbelly dace
									7	BSB		
									16	Total	0.76	
	Marr Creek @ DR 600	"	1407	"	1445	24.5	1	24.5	4	BSB		
									3	CC		
									2	DA		
									2	UK		2 unknown
									11	Total	0.45	
	Loslo Creek	"	1413	"	14:55	23.0	1	23	20	BSB		
									8	DA		
									1	MM		
									29	Total	1.26	
	Clark Ck @ Blackhawk Rd	"	1422	"	1205	21.6	1	21.6	12	Common Shiner		
									12	Creek Chub		
									8	Golden Shiner		
									8	Dace		
									6	Lake Chub		
									2	Spottail Shiner		
									1	BSB		
									49	Total	2.27	
	Pinewood R. @ SW3	06-10-2010	1602	10/7/2010	921	17.3	1	17.3	0	no fish	0.0	at Dearlock Rd
	Pinewood @ SW1	05-10-2010	1526	10/6/2010	1005	18.5	1	18.5	9	NP		gillnet
									1	WS		
									10	Total	0.54	
	Pinewood @ SW3	06-10-2010	1548	10/7/2010	957	18.3	1	18.3	1	NP		gillnet
									1	WS		
									1	SH		
									3	Total	0.16	
	West Ck Trib 3	05-10-2010	1346	10/6/2010	910	19.5	1	19.5	4	DA		
									4	Total	0.21	
	West Ck Trib 2 @ Roen ranch	05-10-2010	1444	10/6/2010	1245	22.0	1	22.0	50	BS		
									33	DA		
									83	Total	3.77	
	West Ck @ Roen Rd	"	1322	"	1223	23.0	1	23.0	15	BS		
									10	DA		
									25	Total	1.09	
	West Ck @ DR 600	06-10-2010	1415	10/7/2010	14:28	24.2	1	24.2	19	Dace		
									11	Unknown		
									9	BSB		
									1	Mimic Shiner		
									40	Total	1.65	
	Ron Brunell and MNR Properties	06-10-2010	1635 to 1723	10/7/2010	1610 to 1720	24	5	120	39	BSB		Wetland and channels
									20	DA		
									22	MM		
									81	Total	0.68	
	T/L along Blackhawk Road	06-10-2010	1735 to 1755	10/7/2010	14:25	24.0	4	96.0	10	BSB		1 of 3 streams had fish in October 2010
									3	MM		
									13	Total	0.14	
											1.77	Mean of all CPUE's
TOTALS	All areas	March to October 2010 as above					161	3639.2	**6314**	ALL SPECIES	1.73	Overall # trap sets, trap-hrs, total catch and CPUE

2010 TOTALS	
Pinewood River	
SW10 (U/S)	285
SW1 (U/S)	36
SW3 (D/S)	50
Pinewood Lake	454
West Creek	1204
Tributary 0	2
Tributary 1	90
Tributary 2	437
Tributary 3	445
Tributary 4	25
Marr Creek	1101
Core Shack Creek	4
Loslo Creek	700
Jones Creek	9
Clark Creek	768
Teeple Creek	
Gallinger Creek	
Tait Creek	256
Blackhawk Creek	20
Upper Trib 1	
Upper Trib 2	
Upper Trib 3	
L of Woods W/S	201
Rainy Lake W/S	158
T/L Creeks (3)	13
MNR Land	81
TOTALS	**6339**

APPENDIX V - 2

Benthic Invertebrate Sample Data
2010

Site:	SW1		SW1		SW1		SW3		SW3		SW3		West Creek Pit		West Creek Pit		West Creek Pit		Pond	
Sample:	Rep 1		Rep 2		Rep 3		Rep 1		Rep 2		Rep 3		Rep 1		Rep 2		Rep 3		Rep 1	
CC#:	CC111006		CC111007		CC111008		CC111009		CC111010		CC111011		CC111012		CC111013		CC111014		CC111015	
EMS:																				
Phylum: Arthropoda																				
Subphylum: Hexapoda																				
| Class: Insecta																				
| Order: Ephemeroptera							2	3.51												
| Family: Baetidae															7	3.65				
| Family: Caenidae																				
Caenis sp.									1	4.35	7	6.60								
| Family: Ephemerellidae															1	0.52	10	0.99		
| Family: Ephemeridae											1	0.94								
| Family: Heptageniidae							1	1.75			1	0.94								
| Order: Trichoptera											1	0.94								
| Family: Hydropsychidae																				
Cheumatopsyche sp.																	20	1.98		
| Family: Leptoceridae											1	0.94								
| Family: Phryganeidae																				
Ptilostomis sp.									1	4.35										
| Order: Coleoptera																				
| Family: Dytiscidae																				
Dytiscus sp.																			1	33.33
| Family: Elmidae																				
Dubiraphia sp.							10	17.54	2	8.70	3	2.83	3	0.94	1	0.52				
| Order: Diptera			12	1.06																
| Family: Ceratopogonidae									1	4.35							10	0.99		
Sphaeromias sp.	1	0.83																		
| Family: Chironomidae	2	1.67																		
| Subfamily: Chironominae																				
| Tribe: Chironomini																				
Chironomus sp.			16	1.41																
Cryptochironomus sp.													17	5.33	6	3.13	40	3.96		
| Tribe: Tanytarsini																				
Micropsectra sp.			12	1.06	1	0.64									35	18.23				
Microtendipes sp.							3	5.26	10	43.48	8	7.55								
Polypedilum sp.															10	5.21	20	1.98		
Rheotanytarsus sp.															3	1.56	340	33.66		
| Subfamily: Orthocladiinae																				
Orthocladius complex													183	57.37	75	39.06	220	21.78		
Thienemanniella													11	3.45	26	13.54	120	11.88		
Tvetenia sp.													9	2.82						
| Subfamily: Tanypodinae																	150	14.85		
| Tribe: Pentaneurini																				
Ablabesmyia sp.																				
| Tribe: Procladiini																				
Procladius sp.			24	2.11	2	1.28														
Thienemannimyia group													29	9.09						
| Family: Empididae															1	0.52	10	0.99		
| Order: Hemiptera																				
| Family: Belostomatidae																				
Lethocerus americanus																			2	66.67
| Class: Entognatha																				
| Order: Collembola																				
| Family: Poduridae					1	0.64							3	0.94	1	0.52				
Subphylum: Crustacea																				

Site:	SW1		SW1		SW1		SW3		SW3		SW3		West Creek Pit		West Creek Pit		West Creek Pit		Pond	
Sample:	Rep 1		Rep 2		Rep 3		Rep 1		Rep 2		Rep 3		Rep 1		Rep 2		Rep 3		Rep 1	
CC#:	CC111006		CC111007		CC111008		CC111009		CC111010		CC111011		CC111012		CC111013		CC111014		CC111015	
EMS:																				
| Class: Ostracoda	98	81.67	960	84.51	141	90.38	22	38.60	1	4.35	68	64.15			3	1.56				
| Class: Copepoda																				
| Order: Cyclopoida							8	14.04			9	8.49								
| Order: Harpacticoida			52	4.58	6	3.85	1	1.75	1	4.35										
| Class: Malacostraca																				
| Order: Amphipoda							1	1.75							1	0.52	10	0.99		
| Family: Hyalellidae																				
Hyalella sp.															1	0.52				
| Family: Talitridae																				
Daphnia sp.											1	0.94	3	0.94						
Subphylum: Chelicerata																				
| Class: Arachnida																				
| Order: Trombidiformes																				
| Family: Hygrobatidae																				
Hygrobates sp.							1	1.75												
| Family: Lebertiidae																				
Lebertia sp.													6	1.88	4	2.08				
Suborder: Prostigmata											2	1.89	6	1.88						
Phylum: Mollusca																				
| Class: Bivalvia																				
| Order: Veneroida																				
| Family: Sphaeriidae					1	0.64														
Pisidium sp.									2	8.70										
| Class: Gastropoda			0						3	13.04										
| Order: Heterostropha																				
| Family: Valvatidae							7	12.28			3	2.83								
Phylum: Annelida																				
Subphylum: Clitellata																				
| Class: Oligochaeta	10	8.33	12	1.06	3	1.92									2	1.04	30	2.97		
| Order: Tubificida																				
| Family: Naididae	1	0.83																		
Phylum: Nemata	8	6.67	48	4.23	1	0.64	1	1.75	1	4.35	1	0.94	49	15.36	15	7.81	30	2.97		
Totals:	**120**		**1136**		**156**		**57**		**23**		**106**		**319**		**192**		**1010**		**3**	
#/m^2 and %	**1250**	**100.0**	**11833**	**100.0**	**1625**	**100.0**	**594**	**100.0**	**240**	**100.0**	**1104**	**100.0**	**3323**	**100.0**	**2000**	**100.00**	**10521**	**100.0**	**31**	**100.0**

NOTES Area sampled by Hess cylindrical sampler: 0.096 m2

#/m^2 = above numbers divided by 0.096

APPENDIX V - 3

Sediment Chemistry in the Local Study Area
2009

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
MARCH	Pinewood River @ SW1	19-03-2010	1335	20-03-2010	1600	26.5	4	106	3	BS		March field notes lost with personnel change
									1	MM		
									4	Total	0.04	
	Pinewood River @ SW3	24-03-2010	1250	25-03-2010	1240	24	4	96	3	BS	0.03	
	West Creek @ Roen Rd	"	1450	"	1320	22.5	4	90	150	DA		
									100	BS		
									10	MM		
									260	Total	2.89	
	West Creek @ DR 600	20-03-2010	1740	21-03-2010		24	4	96	150	DA		
									100	BS		
									20	MM		
									20	SH		
									10	LC		
									300	Total	3.13	
	Trib 1 to West Creek	"	1755	"		24	4	96	10	DA		
									10	BS		
									20	Total	0.21	
	Trib 2 to West Creek	"		"		24	4	96	30	DA		
									20	BS		
									10	MM		
									60	Total	0.63	
	Trib 3 to West Creek	"		"		24	4	96	10	DA		
									10	BS		
									20	Total	0.21	
	Marr Creek @ DR 600	"	1405	"		24	4	96	150	DA		
									150	BS		
									10	SH		
									20	MM		
									10	BM		
									340	Total	3.54	
	Clark Ck @ DR 600	"	1800	"		24	4	96	100	DA		
									50	BS		
									10	CH		
									10	SH		
									170	Total	1.77	
	Tait Creek	"		"		24	4	96	50	DA		
									50	MM		
									100	Total	1.04	
	Upper Tribs 4 and 5 to Pinewood R.	21-03-2010	1445	22-03-2010		24	6	144	0	No fish	0.00	Streams heavily damaged - cleared, grubbed, cattle crossings
	Wetlands in Rainy Lake W/S					24	4	96	150	Total	1.56	Wetland on Marr Road at SW
	SW5 - Muskrat Creek	23-03-2010	1608	24-03-2010		24	4	96	200	Total	2.08	
MAY	Pinewood River @ SW3	19-05-2010	1030	20-05-2010	0900	22.5	6	135	15	BS	0.11	
	Pinewood River @ SW10	"	1410	"	1435	24.3	1	24.3	18	CC		2 - 3100 mm CSC; Bevan used to fish for NP here
									9	SH		emerald shiners
									1	DA		
									1	BS		
									29	Total	1.19	Sign re elk in the area
	Pinewood River @ SW1	23-05-2010	1535	24-05-2010	1200	20.5	1	20.5	6	NP		gillnet
									5	BB		
									5	WS		
									1	LC		
									1	CC		
									3	SH		golden shiners
									1	Other		unidentified remains
									22	Total	1.07	River Index Net (RIN) gillnet
	Pinewood River @ SW3	"	1615	"	940	17.4	5	87	3	BS		
									3	Crayfish		not counted in totals
									3	Total	0.03	
	West Creek @ DR 600	"	1240	"	1400	25.3	2	50.6	258	DA		
									12	SH		
									2	LC		
									33	BS		
									6	BM		
									111	Total	2.19	
	Marr Creek @ DR 600	"	1210	"	1130	23.6	3	70.8	313	BS		3 - 1500 mm CSC
									254	DA		2-3 species
									8	SH		
									7	LC		
									1	BM		
									583	Total	8.23	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
	Marr Creek in Community Pasture	""	1300	""	1445	25.7	1	25.7	121	DA		
									12	BS		
									6	SH		
									1	LC		
									1	CC		
									3	BM		
									144	Total	5.60	
	Loslo Creek @ DR 600	""	1120	""	1015	22.9	3	68.7	156	BS		D/S of 3 - 1500 mm CSC
									63	DA		
									23	SH		
									7	LC		
									2	BM		
									8	CC		
									1	MM		
									260	Total	3.78	
	Pinewood Lake	20-05-2010	1645	22-05-2010	950	41.1	3	123.3	9	SH		51 shiners?
									350	LC		
									18	BS		
									34	DA		
									8	CC		
									1	WS		not in traps
									1	BM		
									454	Total	3.68	
	West Creek at Roen Road	21-05-2010	1130	22-05-2010	1120	23.8	3	71.4	197	DA		single 1180 mm CSC
									215	BS		
									4	LC		
									1	MM		
									417	Total	5.84	
	West Creek Trib 3 @ upper wetland	22-05-2010	1240	23-05-2010	1000	21.3	3	63.9	104	DA		upper creek at private road
									53	BS		
									49	LC		
									3	MM		
									209	Total	3.27	
	West Ck Trib 3 @ Roen Road	""	1310	""	1045	21.5	3	64.5	133	BS		at Roen Rd
									53	DA		
									20	LC		
									6	MM		
									212	Total	3.29	
	West Creek Trib 2 @ Roen Road	""	1315	""	1120	21.1	3	63.3	131	BS		single 1200 mm CSC
									128	DA		
									16	LC		
									10	MM		
									9	SH		spot-tail shiners
									294	Total	4.64	
	West Creek Trib 1A @ Roen Road	""	1320	""	1200	22.6	1	22.6	0	No fish	0.00	single 600 mm CSC; creek intermittent
	West Creek Trib 1 @ McLain Property	""	1330	23-05-2010	1205	22.5	2	45	29	DA		on McLain property; 700 mm CSC
									22	BS		
									10	LC		
									7	CC		
									1	BM		
									1	SH		
									70	Total	1.56	1 clam
	West Creek Trib 0	""	1335	""	1310	23.6	1	23.6	2	BS	0.08	1 leopard frog - photo
	Clark Creek @ DR 600	""	1345	""	1355	24.2	1	24.2	110	DA		2 - 2000 mm CSC
									55	BS		
									30	LC		
									6	SH		emerald shiners
									1	MM		
									1	BM		
									203	Total	8.39	
	Loslo Creek @ DR 600	""	1630	""	950	17.3	3	51.9	142	BS		Loslo Ck at DR 600
									149	DA		
									87	LC		
									21	SH		spot-trail shiners
									2	BM		
									1	SH		emerald shiner
									402	Total	7.75	
	Pinewood River @ SW8 (SW107)	""	1705	""	845	15.6	3	46.8	101	DA		2 CSC
									37	LC		
									22	BS		
									11	CC		
									4	SH		emeraLd shiners
									2	SH		spot-tail shiners
									1	LS		juvenile longnose sucker
									178	Total	3.80	
	Clark Creek @ Teeple Road (SW11)	24-05-2010	1320	25-05-2010	930	20.2	3	60.6	141	LC		Clark Ck at Teeple Rd
									91	DA		
									53	BS		
									2	MM		
									2	BM		
									289	Total	4.77	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
AUGUST	West Ck @ Roen Rd	30-07-2010	1600	7/31/2010	1030	18.5	2	37	10	DA		
									9	CH		
									8	BS		
									4	BM		
									31	Total	0.84	
	West Ck @ DR 600	""	1615	""""	1235	20.3	2	40.6	10	SH		
									6	DA		
									2	BS		
									2	CH		
									20	Total	0.49	
	West Creek Trib 4	01-08-2010	1745	8/2/2010	1415	20.5	2	41	11	DA		
									5	CH		
									4	BS		
									3	SH		
									1	BM		
									1	Unknown		
									25	Total	0.61	
	Clark Ck @ DR 600	""	1630	""""	1330 & 1415	21.4	2	42.8	9	BM		
									8	CH		
									7	SH		
									4	DA		
									3	WS		
									2	BS		
									2	BD		blackside darter
									8	Unknown		red fins, sharply forked tail
									43	Total	1.00	
	Marr Rd Wetland (Rainy Lake W/S)	31-07-2010	1630	8/1/2010	1000	17.5	2	35	8	MM		
									8	Total	0.23	
	Marr Creek headwater wetland	""""	1700	""""	900	16	4	64	7	MM		
									7	Total	0.11	
	Loslo Creek isolated Pond	02-08-2010	1145	8/3/2010	915	21.5	3	64.5	7	MM		pond in community pasture
									2	SB		
									9	Total	0.14	
	Muskrat Creek (L of Woods W/S)	01-08-2020	1530	8/2/2010	900	17.5	2	34	1	Dace		
									1	MM		
									2	Total	0.059	
	Jones Ck (upper)	01-08-2010	1115	8/2/2010	1330	26.3	3	78.9	5	MM		
									3	BS		
									1	Dace		
									9	Total	0.11	
	Pinewood R. @ SW10	03-08-2010	1630	8/4/2010	845	16.3	4	65.2	35	Brassy Minnow		
									15	Chub		
									11	Shiner		
									9	White Sucker		
									5	Dace		
									2	Unknown		red fin, spots on head, red spots on cheeks
									1	Unknown		red fins
									78	Total	1.20	
SEPTEMBER	Clark Ck Trib 6 @ Teeple Rd	15-09-2010	1040	9/16/2010	1655	29.3	1	29.3	5	Shiner		
									3	Brassy Minnow		
									2	BSB		
									1	Dace		
									11	Total	0.38	
	Tait Ck Trib 3 @ Caul Rd. (east)	""""	1745	""""	1324	20.6	1	20.6	6	BSB	0.29	
	Tait Ck Trib 3 @ Caul Rd. (west)	""""	1750	""""	1300	19.3	1	19.3	12	BSB		
									7	Dace		
									3	Brassy Minnow		
									22	Total	1.14	
	Tait Ck Trib 4 @ Caul Rd (west)	""""	1820	""""	1515	20.9	1	20.9	20	Brassy Minnow		
									17	Dace		
									16	BSB		
									12	Chub		
									2	Shiner		
									67	Total	3.21	
	Tait Ck Trib 4 @ Caul Rd (east)	""""	""""	""""	1545	21.4	1	21.4	30	Dace		
									18	Brassy Minnow		
									6	BSB		
									3	Shiner		
									2	Chub		
									1	Mud Minnow		
									1	Unknown		
									61	Total	2.85	
	Blackhawk Ck Trib 1 @ Atkinson Rd.	""""	1840	""""	1622	21.6	1	21.6	15	Mud Minnow		
									2	BSB		
									2	Brassy Minnow		
									1	Shiner		
									20	Total	0.93	
	Clark Ck Trib 5 lake	""""	1900	""""	1740	22.6	1	22.6	2	Dace		
									1	Brassy Minnow		
									3	Total	0.13	

MONTH	LOCATION	DATE IN	TIME IN	DATE OUT	TIME OUT	HOURS	# TRAPS	TRAP-HOURS	CATCH	SPECIES	CPUE (# FISH/TRAP-HOUR)	COMMENTS
OCTOBER	Core Shack Creek	05-10-2010	1140	10/6/2010	1702	29.3	3	87.9	4	BSB		2 other traps caught no fish; add 24 hrs to soak time
									4	Total	0.05	
	Marr Ck @ Comm. Pasture	"	1249	"	945	21.0	1	21	9	Dace		Redbelly dace
									7	BSB		
									16	Total	0.76	
	Marr Creek @ DR 600	"	1407	"	1445	24.5	1	24.5	4	BSB		
									3	CC		
									2	DA		
									2	UK		2 unknown
									11	Total	0.45	
	Loslo Creek	"	1413	"	14:55	23.0	1	23	20	BSB		
									8	DA		
									1	MM		
									29	Total	1.26	
	Clark Ck @ Blackhawk Rd	"	1422	"	1205	21.6	1	21.6	12	Common Shiner		
									12	Creek Chub		
									8	Golden Shiner		
									8	Dace		
									6	Lake Chub		
									2	Spottail Shiner		
									1	BSB		
									49	Total	2.27	
	Pinewood R. @ SW3	06-10-2010	1602	10/7/2010	921	17.3	1	17.3	0	no fish	0.0	at Dearlock Rd
	Pinewood @ SW1	05-10-2010	1526	10/6/2010	1005	18.5	1	18.5	9	NP		gillnet
									1	WS		
									10	Total	0.54	
	Pinewood @ SW3	06-10-2010	1548	10/7/2010	957	18.3	1	18.3	1	NP		gillnet
									1	WS		
									1	SH		
									3	Total	0.16	
	West Ck Trib 3	05-10-2010	1346	10/6/2010	910	19.5	1	19.5	4	DA	0.21	
	West Ck Trib 2 @ Roen ranch	05-10-2010	1444	10/6/2010	1245	22.0	1	22.0	50	BS	2.27	
									33	DA		
									83	Total	3.77	
	West Ck @ Roen Rd	"	1322	"	1223	23.0	1	23.0	15	BS	0.65	
									10	DA		
									25	Total	1.09	
	West Ck @ DR 600	06-10-2010	1415	10/7/2010	14:28	24.2	1	24.2	19	Dace		
									11	Unknown		
									9	BSB		
									1	Mimic Shiner		
									40	Total	1.65	
	Ron Brunell and MNR Properties	06-10-2010	1635 to 1723	10/7/2010	1610 to 1720	24	5	120	39	BSB		Wetland and channels
									20	DA		
									22	MM		
									81	Total	0.68	
	T/L along Blackhawk Road	06-10-2010	1735 to 1755	10/7/2010	14:25	24.0	4	96.0	10	BSB		1 of 3 streams had fish in October 2010
									3	MM		
									13	Total	0.14	
											1.76	Mean of all CPUE's
TOTALS	All areas	March to October 2010 as above					161	3639.2	**6314**	ALL SPECIES	1.73	Overall # trap sets, trap-hrs, total catch and CPUE

2010 TOTALS	
Pinewood River	
SW10 (U/S)	285
SW1 (U/S)	36
SW3 (D/S)	50
Pinewood Lake	454
West Creek	1204
Tributary 0	2
Tributary 1	90
Tributary 2	437
Tributary 3	445
Tributary 4	25
Marr Creek	1101
Core Shack Creek	4
Loslo Creek	700
Jones Creek	9
Clark Creek	768
Teeple Creek	
Gallinger Creek	
Tait Creek	256
Blackhawk Creek	20
Upper Trib 1	
Upper Trib 2	
Upper Trib 3	
L of Woods W/S	201
Rainy Lake W/S	158
T/L Creeks (3)	13
MNR Land	81
TOTALS	**6339**

Maxxam Job #: A984650
Report Date: 2009/07/15

Klohn Crippen Berger Ltd
Client Project #: Rainy River
Project name: RRR
Sampler Initials: RT

RESULTS OF ANALYSES OF SOIL

Maxxam ID		DA0175	DA0176	DA0176		DA0177		
Sampling Date		7/4/2009	7/4/2009	7/4/2009		7/4/2009		
COC Number		149321-0	149321-0	149321-0		149321-0		
Inorganics	**Units**	**SED-1**	**SED-2**	**SED-2 Lab-Dup**	**QC Batch**	**SED-3**	**RDL**	**QC Batch**
Moisture	%	42	35	N/A	1873330	29	0.2	1873330
Total Organic Carbon	mg/kg	14000	13000	N/A	1875073	26000	500	1875073
Available (CaCl2) pH	pH	7.00	7.02	N/A	1875483	7.68	N/A	1875339
Nitrite (N)	ug/g	ND	ND	N/A	1875676	ND	0.5	1875676
Chloride (Cl)	ug/g	25	23	22	1875679	28	10	1875679
Nitrate (N)	ug/g	ND	ND	N/A	1875676	ND	2	1875676
Nitrate + Nitrite	ug/g	ND	ND	N/A	1875676	ND	3	1875676
Bromide (Br-)	ug/g	ND	ND	ND	1875679	ND	20	1875679
Phosphate-P	ug/g	ND	ND	ND	1875679	ND	20	1875679
Sulphate (SO4)	ug/g	ND	ND	ND	1875679	ND	20	1875679

ND = Not detected
N/A = Not Applicable
RDL = Reportable Detection Limit
Lab-Dup = Laboratory Initiated Duplicate
QC Batch = Quality Control Batch

Maxxam Job #: A984650
Report Date: 2009/07/15

Klohn Crippen Berger Ltd
Client Project #: Rainy River
Project name: RRR
Sampler Initials: RT

ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)

Maxxam ID		DA0175	DA0176	DA0177		
Sampling Date		7/4/2009	7/4/2009	7/4/2009		
COC Number		149321-0	149321-0	149321-0		
Metals	**Units**	**SED-1**	**SED-2**	**SED-3**	**RDL**	**QC Batch**
Acid Extractable Sulphur (S)	ug/g	300	200	110	50	1875309
Acid Extractable Aluminum (Al)	ug/g	6900	6100	7600	50	1875305
Acid Extractable Antimony (Sb)	ug/g	ND	ND	ND	0.2	1875305
Acid Extractable Arsenic (As)	ug/g	2	2	3	1	1875305
Acid Extractable Barium (Ba)	ug/g	46	48	80	0.5	1875305
Acid Extractable Beryllium (Be)	ug/g	0.3	0.2	0.4	0.2	1875305
Acid Extractable Cadmium (Cd)	ug/g	0.2	0.1	0.2	0.1	1875305
Acid Extractable Calcium (Ca)	ug/g	4300	6700	53000	50	1875305
Acid Extractable Chromium (Cr)	ug/g	16	14	20	1	1875305
Acid Extractable Cobalt (Co)	ug/g	5.9	4.7	7.3	0.1	1875305
Acid Extractable Copper (Cu)	ug/g	7.4	7.9	15	0.5	1875305
Acid Extractable Iron (Fe)	ug/g	9000	8800	13000	50	1875305
Acid Extractable Lead (Pb)	ug/g	5	5	6	1	1875305
Acid Extractable Magnesium (Mg)	ug/g	3200	4400	28000	50	1875305
Acid Extractable Manganese (Mn)	ug/g	130	160	470	1	1875305
Acid Extractable Molybdenum (Mo)	ug/g	ND	ND	ND	0.5	1875305
Acid Extractable Nickel (Ni)	ug/g	11	10	19	0.5	1875305
Acid Extractable Phosphorus (P)	ug/g	420	340	490	50	1875305
Acid Extractable Potassium (K)	ug/g	740	600	1400	200	1875305
Acid Extractable Selenium (Se)	ug/g	ND	ND	ND	0.5	1875305
Acid Extractable Silver (Ag)	ug/g	ND	ND	ND	0.2	1875305
Acid Extractable Sodium (Na)	ug/g	ND	ND	130	100	1875305
Acid Extractable Strontium (Sr)	ug/g	14	10	31	1	1875305
Acid Extractable Thallium (Tl)	ug/g	0.08	0.06	0.15	0.05	1875305
Acid Extractable Vanadium (V)	ug/g	18	18	25	5	1875305
Acid Extractable Zinc (Zn)	ug/g	46	37	39	5	1875305
Acid Extractable Mercury (Hg)	ug/g	ND	ND	ND	0.05	1875305

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Results relate only to the items tested.

Klohn Crippen Berger Ltd
Attention: Ryan Todd
Client Project #: Rainy River
P.O. #:
Project name: RRR

Quality Assurance Report
Maxxam Job Number: MA984650

QA/QC BATCH NUMBER	INIT	QC TYPE	ANALYZED PARAMETER	yyyy/mm/dd	VALUE	RECOVERY	UNITS	
1873330	C_A	RPD	Moisture	7/9/2009	9		%	50
1875073	OK	QC STANDARD	Total Organic Carbon	7/13/2009		97	%	80 - 120
		Method Blank	Total Organic Carbon	7/13/2009	ND	RDL=500	mg/kg	
		RPD	Total Organic Carbon	7/13/2009	1.2		%	50
1875305	VIV	MATRIX SPIKE	Acid Extractable Aluminum (Al)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Antimony (Sb)	7/13/2009		98	%	75 - 125
			Acid Extractable Arsenic (As)	7/13/2009		92	%	75 - 125
			Acid Extractable Barium (Ba)	7/13/2009		95	%	75 - 125
			Acid Extractable Beryllium (Be)	7/13/2009		97	%	75 - 125
			Acid Extractable Cadmium (Cd)	7/13/2009		97	%	75 - 125
			Acid Extractable Calcium (Ca)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Chromium (Cr)	7/13/2009		94	%	75 - 125
			Acid Extractable Cobalt (Co)	7/13/2009		94	%	75 - 125
			Acid Extractable Copper (Cu)	7/13/2009		90	%	75 - 125
			Acid Extractable Iron (Fe)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Lead (Pb)	7/13/2009		95	%	75 - 125
			Acid Extractable Magnesium (Mg)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Manganese (Mn)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Molybdenum (Mo)	7/13/2009		100	%	75 - 125
			Acid Extractable Nickel (Ni)	7/13/2009		94	%	75 - 125
			Acid Extractable Phosphorus (P)	7/13/2009		NC (1)	%	80 - 120
			Acid Extractable Potassium (K)	7/13/2009		96	%	75 - 125
			Acid Extractable Selenium (Se)	7/13/2009		95	%	75 - 125
			Acid Extractable Silver (Ag)	7/13/2009		97	%	75 - 125
			Acid Extractable Sodium (Na)	7/13/2009		88	%	75 - 125
			Acid Extractable Strontium (Sr)	7/13/2009		NC (1)	%	75 - 125
			Acid Extractable Thallium (Tl)	7/13/2009		95	%	75 - 125
			Acid Extractable Vanadium (V)	7/13/2009		95	%	75 - 125
			Acid Extractable Zinc (Zn)	7/13/2009		91	%	75 - 125
			Acid Extractable Mercury (Hg)	7/13/2009		95	%	75 - 125
		QC STANDARD	Acid Extractable Aluminum (Al)	7/13/2009		101	%	75 - 125
			Acid Extractable Antimony (Sb)	7/13/2009		90	%	75 - 125
			Acid Extractable Arsenic (As)	7/13/2009		91	%	75 - 125
			Acid Extractable Barium (Ba)	7/13/2009		95	%	75 - 125
			Acid Extractable Beryllium (Be)	7/13/2009		108	%	75 - 125
			Acid Extractable Cadmium (Cd)	7/13/2009		91	%	75 - 125
			Acid Extractable Calcium (Ca)	7/13/2009		100	%	75 - 125
			Acid Extractable Chromium (Cr)	7/13/2009		94	%	75 - 125
			Acid Extractable Cobalt (Co)	7/13/2009		95	%	75 - 125
			Acid Extractable Copper (Cu)	7/13/2009		104	%	75 - 125
			Acid Extractable Iron (Fe)	7/13/2009		96	%	75 - 125
			Acid Extractable Lead (Pb)	7/13/2009		103	%	75 - 125
			Acid Extractable Magnesium (Mg)	7/13/2009		99	%	75 - 125
			Acid Extractable Manganese (Mn)	7/13/2009		99	%	75 - 125
			Acid Extractable Molybdenum (Mo)	7/13/2009		75	%	75 - 125
			Acid Extractable Nickel (Ni)	7/13/2009		95	%	75 - 125
			Acid Extractable Phosphorus (P)	7/13/2009		102	%	75 - 125
			Acid Extractable Potassium (K)	7/13/2009		96	%	75 - 125
			Acid Extractable Selenium (Se)	7/13/2009		64	%	50 - 150
			Acid Extractable Silver (Ag)	7/13/2009		109	%	75 - 125
			Acid Extractable Sodium (Na)	7/13/2009		90	%	75 - 125
			Acid Extractable Strontium (Sr)	7/13/2009		97	%	75 - 125
			Acid Extractable Thallium (Tl)	7/13/2009		95	%	75 - 125
			Acid Extractable Vanadium (V)	7/13/2009		98	%	75 - 125
			Acid Extractable Zinc (Zn)	7/13/2009		94	%	75 - 125
			Acid Extractable Mercury (Hg)	7/13/2009		82	%	75 - 125
		Method Blank	Acid Extractable Aluminum (Al)	7/13/2009	ND	RDL=50	ug/g	
			Acid Extractable Antimony (Sb)	7/13/2009	ND	RDL=0.2	ug/g	
			Acid Extractable Arsenic (As)	7/13/2009	ND	RDL=1	ug/g	
			Acid Extractable Barium (Ba)	7/13/2009	ND	RDL=0.5	ug/g	
			Acid Extractable Beryllium (Be)	7/13/2009	ND	RDL=0.2	ug/g	
			Acid Extractable Cadmium (Cd)	7/13/2009	ND	RDL=0.1	ug/g	
			Acid Extractable Calcium (Ca)	7/13/2009	ND	RDL=50	ug/g	
			Acid Extractable Chromium (Cr)	7/13/2009	ND	RDL=1	ug/g	
			Acid Extractable Cobalt (Co)	7/13/2009	ND	RDL=0.1	ug/g	
			Acid Extractable Copper (Cu)	7/13/2009	ND	RDL=0.5	ug/g	
			Acid Extractable Iron (Fe)	7/13/2009	ND	RDL=50	ug/g	
			Acid Extractable Lead (Pb)	7/13/2009	ND	RDL=1	ug/g	
			Acid Extractable Magnesium (Mg)	7/13/2009	ND	RDL=50	ug/g	
			Acid Extractable Manganese (Mn)	7/13/2009	ND	RDL=1	ug/g	
			Acid Extractable Molybdenum (Mo)	7/13/2009	ND	RDL=0.5	ug/g	
			Acid Extractable Nickel (Ni)	7/13/2009	ND	RDL=0.5	ug/g	
			Acid Extractable Phosphorus (P)	7/13/2009	ND	RDL=50	ug/g	
			Acid Extractable Potassium (K)	7/13/2009	ND	RDL=200	ug/g	
			Acid Extractable Selenium (Se)	7/13/2009	ND	RDL=0.5	ug/g	
			Acid Extractable Silver (Ag)	7/13/2009	ND	RDL=0.2	ug/g	
			Acid Extractable Sodium (Na)	7/13/2009	ND	RDL=100	ug/g	
			Acid Extractable Strontium (Sr)	7/13/2009	ND	RDL=1	ug/g	
			Acid Extractable Thallium (Tl)	7/13/2009	ND	RDL=0.05	ug/g	
			Acid Extractable Vanadium (V)	7/13/2009	ND	RDL=5	ug/g	
			Acid Extractable Zinc (Zn)	7/13/2009	ND	RDL=5	ug/g	
			Acid Extractable Mercury (Hg)	7/13/2009	ND	RDL=0.05	ug/g	

QA/QC BATCH NUMBER	INIT	QC TYPE	ANALYZED PARAMETER	yyyy/mm/dd	VALUE	RECOVERY	UNITS	
		RPD	Acid Extractable Antimony (Sb)	7/13/2009	NC		%	35
			Acid Extractable Arsenic (As)	7/13/2009	NC		%	35
			Acid Extractable Barium (Ba)	7/13/2009	1.7		%	35
			Acid Extractable Beryllium (Be)	7/13/2009	NC		%	35
			Acid Extractable Cadmium (Cd)	7/13/2009	NC		%	35
			Acid Extractable Chromium (Cr)	7/13/2009	8.4		%	35
			Acid Extractable Cobalt (Co)	7/13/2009	2.3		%	35
			Acid Extractable Copper (Cu)	7/13/2009	5.6		%	35
			Acid Extractable Lead (Pb)	7/13/2009	4.1		%	35
			Acid Extractable Molybdenum (Mo)	7/13/2009	NC		%	35
			Acid Extractable Nickel (Ni)	7/13/2009	1.2		%	35
			Acid Extractable Selenium (Se)	7/13/2009	NC		%	35
			Acid Extractable Silver (Ag)	7/13/2009	NC		%	35
			Acid Extractable Thallium (Tl)	7/13/2009	NC		%	35
			Acid Extractable Vanadium (V)	7/13/2009	NC		%	35
			Acid Extractable Zinc (Zn)	7/13/2009	NC		%	35
			Acid Extractable Mercury (Hg)	7/13/2009	NC		%	35
1875309	APT	MATRIX SPIKE	Acid Extractable Sulphur (S)	7/13/2009		101	%	75 - 125
		QC STANDARD	Acid Extractable Sulphur (S)	7/13/2009		102	%	75 - 125
		Method Blank	Acid Extractable Sulphur (S)	7/13/2009	ND	RDL=50	ug/g	
1875676	CCI	MATRIX SPIKE	Nitrite (N)	7/13/2009		96	%	75 - 125
			Nitrate (N)	7/13/2009		NC (1)	%	75 - 125
		Spiked Blank	Nitrite (N)	7/13/2009		96	%	75 - 125
			Nitrate (N)	7/13/2009		104	%	75 - 125
		Method Blank	Nitrite (N)	7/13/2009	ND	RDL=0.5	ug/g	
			Nitrate (N)	7/13/2009	ND	RDL=2	ug/g	
			Nitrate + Nitrite	7/13/2009	ND	RDL=3	ug/g	
		RPD	Nitrite (N)	7/13/2009	NC		%	25
			Nitrate (N)	7/13/2009	1		%	25
			Nitrate + Nitrite	7/13/2009	NC		%	25
1875679	FD	MATRIX SPIKE	Chloride (Cl)	7/14/2009		101	%	75 - 125
			Bromide (Br-)	7/14/2009		98	%	75 - 125
			Phosphate-P	7/14/2009		73 (2)	%	75 - 125
			Sulphate (SO4)	7/14/2009		98	%	75 - 125
		Spiked Blank	Chloride (Cl)	7/14/2009		103	%	75 - 125
			Bromide (Br-)	7/14/2009		103	%	75 - 125
			Phosphate-P	7/14/2009		100	%	75 - 125
			Sulphate (SO4)	7/14/2009		102	%	75 - 125
		Method Blank	Chloride (Cl)	7/14/2009	ND	RDL=10	ug/g	
			Bromide (Br-)	7/14/2009	ND	RDL=20	ug/g	
			Phosphate-P	7/14/2009	ND	RDL=20	ug/g	
			Sulphate (SO4)	7/14/2009	ND	RDL=20	ug/g	
		RPD	Chloride (Cl)	7/14/2009	NC		%	35
			Bromide (Br-)	7/14/2009	NC		%	35
			Phosphate-P	7/14/2009	NC		%	35
			Sulphate (SO4)	7/14/2009	NC		%	35

ND = Not detected
NC = Non-calculable
RPD = Relative Percent Difference
QC Standard = Quality Control Standard
SPIKE = Fortified sample
(1) The recovery in the matrix spike was not calculated (NC). Because of the high concentration of this analyte in the parent sample, the relative difference between the spiked and unspiked concentrations is not sufficiently significant to permit a reliable recovery calculation.
(2) The recovery in the matrix spike was below the lower control limit. This may represent a low bias in some results for this specific analyte.

APPENDIX V - 4

Aquatic Photos

PHOTOGRAPHS

FISH



Juvenile walleye (*Stizostedion vitreum*) from Rainy River at Pinewood River confluence



Brassy Minnow (*Hybognathus hankinsoni*)



Brown Bullhead (*Ictalurus nebulosus*)



Northern Redbelly Dace (*Chrosomus eos*)



Common Shiner (*Notropis cornutus*)



White Sucker (*Catostomus commersoni*) from Pinewood Lake



White Sucker from Pinewood River



Northern Pike (*Esox lucius*)



Spot-tail Shiner (*Notropis hudsonius*)



Mimic shiner (*Notropis volucellus*)



Fathead Minnow (*Pimephales promelas*)



Golden Shiner (*Notemigonus crysoleucas*)



Iowa Darter (*Etheostoma exile*)

PHOTOS
INVERTEBRATES



Crayfish



Virile crayfish (blue claws)



Snail



Snail



Ramshorn Snail (Family Planorbidae)



Leech



Leeches



Clam shell

APPENDIX VI - 1

Owl Survey Data
Rainy River Resources Study Area.
April 30 - May 1 2010

Observers are Leeann Graham (LG) and Leanne Hollingsworth (LH).

Route Number:	1 of 1	**Route Name:**		Stations 1 - 6											
Surveyor:	LG + LH														
Date:	30/04/2010														
Temperature:	Start	11	End		°C		**Cloud Cover:**		Start	100	%	End	100	%	
Precipitation:	None		Light	x	Medium	x	/	Snow			Rain		x		
Snow Cover:	None	x	Patchy		Continuous		/	Max Depth:			Min Depth:			cm	

Station 1 Start time: 9:30pm Wind: 5

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers
0								
0								
0								

Station 2 Start time: 9:55pm Wind: 3

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers
0								Wood frog
0								
0								

Station 3 Start time: 10:20pm Wind: 2

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
Great Gray?	1	50m				1	0	No spring peepers white-taild deer a few chorus frogs lots of wood frogs

Station 4 Start time: Wind:

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers chorus frogs Wood frogs
0								
0								
0								

Station 5 Start time: 11:10pm Wind: 3

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers chorus frogs
0								
0								
0								

Station 6 Start time: 11:25pm Wind:

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	1 car	Spring peepers (far away) chorus frogs
0								
0								
0								

Route Number:	1 of 1	**Route Name:**	Station 7-12													
Surveyor:	LG + LH															
Date:	01/05/2010															
Temperature:	Start	10	End	5	°C		**Cloud Cover:**	Start	100	%	End	100	%			
Precipitation:	None	x	Light		Medium		/	Snow		Rain		x				
Snow Cover:	None	x	Patchy		Continuous		/	Max Depth:		Min Depth:			cm			

Station 7 Start time: 9:10pm Wind: 1

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Wilson's snipe
0								Am. Bittern
0								heron
0								chorus frogs

Station 8 Start time: 9:40pm Wind: 1

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers
0								chorus frogs
0								
0								

Station 9 Start time: 9:55pm Wind: 1

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
Great horned	1	100m		x	x	1	0	

Station 10 Start time: 10:22pm Wind: 1

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	(heard great horned but likely same as last station)
0								
0								
0								

Station 11 Start time: 10:50pm Wind: 1

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	0	Spring peepers chorus frogs dogs
0								
0								
0								

Station 12 Start time: 11:08pm Wind: 3

Species	Owl #	Distance / Direction	During First Minute	During Second Minute	After Broadcast	Noise Level	Traffic Count	Comments
0						1	1	Spring peepers (far away)
0								
0								
0								

APPENDIX VI – 2

Waterfowl and Marsh Bird Monitoring (WF) Station Coordinates and Dates
Rainy River Resources Study Area
2009 - 2010

Observers are Leeann Graham (LG), Allan Harris (AGH), Leanne Hollingsworth (LH), Brian Ratcliff (BR).

NEW STATION	EASTING	NORTHING	DATE 1	OBSERVER	DATE 2	DATE 3
WF1	424909	5414422	April 30 2010	LH+LG		
WF2	427224	5412415	April 30 2010	LH+LG		
WF3	427224	5412415	April 30 2010	LH+LG		
WF4	426376	5412045	May 1 2010	LH+LG		
WF5	427227	5412415	May 1 2010	LH+LG		
WF6	427707	5407089	May 1 2010	LH+LG		
WF7	427835	5410714	May 1 2010	LH+LG		
WF8	429556	5409077	May 2 2010	LG+BR		
WF9	429563	5409930	May 2 2010	LG+BR		
WF10			May 2 2010	LH+AH		
WF11	424188	5406814	May 2 2010	LH+AH		
WF12	424618	5408872	May 2 2010	LH+AH		
WF13	432830	5413410	May 2 2010	LG+BR		
WF14	432773	5409775	May 2 2010	LG+BR		
WF15			May 9 2009	LH+AH	June 3 2009	July 7 2009
WF16			May 9 2009	LH+AH	June 3 2009	
WF17			May 9 2009	LH+AH		
WF18			May 9 2009	LH+AH	June 3 2009	July 5 2009
WF19			May 13 2009	LH+AH		

APPENDIX VI - 3

Marsh Bird and Waterfowl Survey Data
Rainy River Resources Study Area
2009 - 2010.

SPECIES	WF10-1	WF10-2	WF10-3	WF11-1	WF11-2	WF11-3	WF12-1	WF12-2	WF12-3	WF13-1	WF13-2	WF13-3	WF14-1	WF14-2	WF14-3	WF15-1-1	WF15-2-1	WF15-2-2	WF15-3-1	WF16-1-1	WF16-2-1	WF17-1-1	WF18-1-1	WF18-2-1	WF18-2-2	WF19-1-1
American Bittern				1		1	2		2	1		1				1	4				4	2				
American Crow																										
American Goldfinch																										
American Robin	1		1																				2			
Am. White Pelican																	5		6		3					
American Woodcock																									1	
Belted Kingfisher													1		1											
Bl-capped Chickadee	1		1																							
Blue-winged teal																1										2
Brewer's Blackbird										1		1														
Bufflehead																										
Canada Goose																								1		1
Common Loon										2		2														
Common Nighthawk																									1	
Common Raven																										
C.Yellowthroat																	1				1				1	
Great Blue Heron																	2				2			1		
Green-winged teal							1		1																	
Hermit Thrush																										
Mallard	2		2	2		2				2		2	1		1					1						
Marsh Wren				2		2	1		1																	
Nashville Warbler																									2	
Northern Harrier				1		1																				
Ovenbird																									4	

SPECIES	WF10-1	WF10-2	WF10-3	WF11-1	WF11-2	WF11-3	WF12-1	WF12-2	WF12-3	WF13-1	WF13-2	WF13-3	WF14-1	WF14-2	WF14-3	WF15-1-1	WF15-2-1	WF15-2-2	WF15-3-1	WF16-1-1	WF16-2-1	WF17-1-1	WF18-1-1	WF18-2-1	WF18-2-2	WF19-1-1
Philadelphia Vireo																										
Red-eyed Vireo																										
Redhead																				1						
Red-winged Blackbird	3		3							1		1				3	5	1	9		5		1		5	1
Ring-necked Duck	1		1																	2						5
Ruffed Grouse	1		1										1		1			1								
Sandhill Crane	1		1	1		1																				
Sedge Wren				1		1												2	1							
Song Sparrow							1		1																	
Sora		2	2														1				1					
Swamp Sparrow				2		2				1		1						3								
Veery																	1	3			1			3	2	
Virginia Rail		1	1				1		1																	
Whippoorwill																										
White-throated Sparrow																		1	2		1					
Wilson's Snipe	1		1				3		3	1		1				1	1				2					
Wood Duck										1		1														

APPENDIX VI - 4

Forest Bird Monitoring (FBM) Station Coordinates and Dates
Rainy River Resources study area
2009 – 2010

Observers are Robert Foster (RFF), Leeann Graham (LG), Allan Harris (AGH), Leanne Hollingsworth (LH), Matt MacKinnon(MTM), Brian Ratcliff (BR).

STATION	SURVEYORS	DATE	NORTHING	EASTING
FBMP01	LH+AH	June 1 2009	5409891	426225
FBMP02	LH+AH	June 2 2009	5409127	424737
FBMP03	LH+AH	June 1 2009	5409860	425556
FBMP04	LH+AH	June 1 2009	5409871	425051
FBMP05	LH+AH	June 1 2009	5409915	424749
FBMP06	LH+AH	June 6 2009	5409472	426344
FBMP07	LH+AH	June 6 2009	5409485	425938
FBMP08	LH+AH	June 6 2009	5409345	425662
FBMP09	LH+AH	June 6 2009	5409318	425255
FBMP10	LH+AH	June 6 2009	5409075	426332
FBMP11	LH+AH	June 6 2009	5409090	425913
FBMP12	LH+AH	June 6 2009	5409109	425535
FBMP13	LH+AH	June 6 2009		
FBMP14	LH+AH	June 6 2009	5409123	424740
FBMP15	LH+AH	June 2 2009	5408539	426341
FBMP16	LH+AH	June 2 2009	5408548	425937
FBMP17	LH+AH	June 2 2009	5408550	425537
FBMP18	LH+AH	June 2 2009	5408553	425131
FBMP19	LH+AH	June 2 2009	5408562	424728
FBMP20	LH+AH	June 7 2010	5412760	425751
FBMP21	LH+AH	June 7 2010	5412260	425776
FBMP22	LH+AH	June 7 2010	5413253	425683
FBMP23	LH+AH	June 7 2010	5413245	425180
FBMP24	LH+AH	June 7 2010	5412750	425143
FBMP25	LH+AH	June 7 2010	5412249	425172
FBMP26	LH+AH	June 7 2010	5412209	426635
FBMP27	LH+AH	June 7 2010	5412643	426882
FBMP28	MTM+BR	June 8 2010	5412315	423956
FBMP29	MTM+BR	June 8 2010	5412454	423437
FBMP30	MTM+BR	June 8 2010	5412898	423461
FBMP31	MTM+BR	June 8 2010	5413375	423373
FBMP32	MTM+BR	June 8 2010	5413343	423914
FBMP33	MTM+BR	June 8 2010	5413274	424366
FBMP34	MTM+BR	June 8 2010	5412817	424536
FBMP35	MTM+BR	June 8 2010	5412286	424369
FBMP36	MTM+BR	June 8 2010	5412805	423953

STATION	SURVEYORS	DATE	NORTHING	EASTING
FBMP37	MTM+BR	June 9 2010	5411662	426165
FBMP38	MTM+BR	June 9 2010	5411396	426037
FBMP39	MTM+BR	June 9 2010	5411173	425867
FBMP40	MTM+BR	June 9 2010	5410934	425947
FBMP41	MTM+BR	June 9 2010	5410954	426239
FBMP42	MTM+BR	June 9 2010	5410886	426508
FBMP43	MTM+BR	June 9 2010	5410957	426797
FBMP44	MTM+BR	June 9 2010	5411034	427094
FBMP45	MTM+BR	June 9 2010	5411307	427050
FBMP46	MTM+BR	June 9 2010	5411586	427043
FBMP47	MTM+BR	June 9 2010	5411812	427180
FBMP48	LH+AH	June 9 2010	5411572	423972
FBMP49	LH+AH	June 9 2010	5411046	423956
FBMP50	LH+AH	June 9 2010	5410769	423945
FBMP51	LH+AH	June 9 2010	5410518	423944
FBMP52	LH+AH	June 9 2010	5410448	424361
FBMP53	LH+AH	June 9 2010	5410688	424293
FBMP54	LH+AH	June 9 2010	5410934	424289
FBMP55	LH+AH	June 9 2010	5411185	424255
FBMP56	LH+AH	June 9 2010	5411441	424255
FBMP57	MTM+BR	June 10 2010	5411428	429587
FBMP58	MTM+BR	June 10 2010	5411933	429578
FBMP59	MTM+BR	June 10 2010	5412460	429556
FBMP60	MTM+BR	June 10 2010	5412170	429136
FBMP61	MTM+BR	June 10 2010	5411857	428733
FBMP62	MTM+BR	June 10 2010	5411367	428628
FBMP63	MTM+BR	June 10 2010	5411091	429036
FBMP64	LH+AH	June 10 2010	5412427	427459
FBMP65	LH+AH	June 10 2010	5412746	427843
FBMP66	LH+AH	June 10 2010	5412912	428317
FBMP67	LH+AH	June 10 2010	5412877	428748
FBMP68	LH+AH	June 10 2010	5412405	428547
FBMP69	LH+AH	June 10 2010	5412213	428195
FBMP70	LH+AH	June 10 2010	5412045	427921
FBMP71	LG+RF	June 23 2010	5411757	426376
FBMP72	LG+RF	June 23 2010	5411661	426166

STATION	SURVEYORS	DATE	NORTHING	EASTING
FBMP73	LG+RF	June 23 2010	5411395	426038
FBMP74	LG+RF	June 23 2010	5411172	425868
FBMP75	LG+RF	June 23 2010	5410933	425948
FBMP76	LG+RF	June 23 2010	5410953	426240
FBMP77	LG+RF	June 23 2010	5410885	426508
FBMP78	LG+RF	June 23 2010	5410956	426797
FBMP79	LG+RF	June 23 2010	5411033	427094
FBMP80	LG+RF	June 23 2010	5411306	427051
FBMP81	LG+RF	June 23 2010	5409900	432782
FBMP82	LG+RF	June 23 2010	5411585	427044
FBMP83	LG+RF	June 23 2010	5411811	427180
FBMP84	LH+AH	June 23 2010	5409389	427954
FBMP85	LH+AH	June 23 2010	5409366	427448
FBMP86	LH+AH	June 23 2010	5409283	426953
FBMP87	LH+AH	June 23 2010	5408785	426913
FBMP88	LH+AH	June 23 2010	5408961	427383
FBMP89	LH+AH	June 23 2010	5409150	427860
FBMP90	LH+AH	June 23 2010	5411606	423180
FBMP91	LH+AH	June 23 2010	5411352	423163
FBMP92	LH+AH	June 23 2010	5411103	423387
FBMP93	LH+AH	June 24 2010	5412020	425382
FBMP94	LH+AH	June 24 2010	5411718	424842
FBMP95	LH+AH	June 24 2010	5411487	425186
FBMP96	LH+AH	June 24 2010	5411973	424587
FBMP97	LH+AH	June 23 2010	5411098	423150
FBMP98	LH+AH	June 24 2010	5411224	424926
FBMP99	LH+AH	June 24 2010		
FBMP100	LH+AH	June 24 2010	5412188	425741
FBMP101	LH+AH	June 24 2010	5412817	425749
FBMP102	LH+AH	June 24 2010	5412167	425113

APPENDIX VI - 5

Forest Bird Monitoring Data
Rainy River Resources study area 2009 - 2010

Refer to Appendix VII – 1 for locations and dates.

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM01	Alder Flycatcher		1					1
FBM01	American Goldfinch		1					1
FBM01	American Robin		6					6
FBM01	Brown-headed Cowbird		1					1
FBM01	Canada Goose		2					2
FBM01	Cedar Waxwing		2					2
FBM01	Chestnut-sided Warbler		1					1
FBM01	Clay-colored Sparrow		2					2
FBM01	Common Grackle		1					1
FBM01	Common Raven		3					3
FBM01	Common Yellowthroat		2					2
FBM01	Eastern Phoebe		1					1
FBM01	Gray Catbird		1					1
FBM01	Least Flycatcher		1					1
FBM01	Nashville Warbler		1					1
FBM01	Ovenbird		2					2
FBM01	Red-eyed Vireo		4					4
FBM01	Red-winged Blackbird		1					1
FBM01	Rose-breasted Grosbeak		3					3
FBM01	Song Sparrow		2					2
FBM01	Veery		1					1
FBM01	White-throated Sparrow		6					6
FBM01	Winter Wren		1					1
FBM02	American Goldfinch		1					1
FBM02	American Robin		2					2
FBM02	Brown Thrasher		1					1
FBM02	Brown-headed Cowbird		1					1
FBM02	Canada Goose		2					2
FBM02	Chestnut-sided Warbler		1					1
FBM02	Common Yellowthroat		2					2
FBM02	Least Flycatcher		2					2
FBM02	Lincoln's Sparrow		1					1
FBM02	Nashville Warbler		1					1
FBM02	Northern Flicker		1					1
FBM02	Ovenbird		1					1
FBM02	Red-eyed Vireo		4					4
FBM02	Red-winged Blackbird		1					1
FBM02	Rose-breasted Grosbeak		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM02	Ruffed Grouse		1					1
FBM02	Song Sparrow		3					3
FBM02	Swamp Sparrow		3					3
FBM02	Veery		4					4
FBM02	White-throated Sparrow		1					1
FBM02	Wilson's Snipe		1					1
FBM03	American Bittern		1					1
FBM03	American Redstart		1					1
FBM03	American Robin		5					5
FBM03	Black-and-white Warbler		1					1
FBM03	Brown Thrasher		1					1
FBM03	Brown-headed Cowbird		1					1
FBM03	Common Yellowthroat		3					3
FBM03	Greater Yellowlegs		1					1
FBM03	Least Flycatcher		1					1
FBM03	Nashville Warbler		1					1
FBM03	Ovenbird		1					1
FBM03	Red-eyed Vireo		3					3
FBM03	Red-winged Blackbird		3					3
FBM03	Rose-breasted Grosbeak		1					1
FBM03	Sedge Wren		1					1
FBM03	Swamp Sparrow		1					1
FBM03	Veery		1					1
FBM03	Wilson's Snipe		3					3
FBM03	Wood Duck		1					1
FBM03	Yellow Warbler		2					2
FBM04	American Goldfinch		1					1
FBM04	American Robin		2					2
FBM04	American White Pelican		4					4
FBM04	Brown Thrasher		1					1
FBM04	Cedar Waxwing		2					2
FBM04	Chestnut-sided Warbler		2					2
FBM04	Common Raven		1					1
FBM04	Common Yellowthroat		3					3
FBM04	Gray Catbird		1					1
FBM04	Least Flycatcher		1					1
FBM04	Philadelphia Vireo		1					1
FBM04	Red-eyed Vireo		3					3

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM04	Red-winged Blackbird		4					4
FBM04	Ruffed Grouse		1					1
FBM04	Sandhill Crane		1					1
FBM04	Sedge Wren		1					1
FBM04	Swamp Sparrow		3					3
FBM04	Turkey Vulture		1					1
FBM04	Veery		2					2
FBM04	White-throated Sparrow		1					1
FBM04	Wilson's Snipe		3					3
FBM04	Yellow Warbler		2					2
FBM05	American Bittern		2					2
FBM05	American Redstart		2					2
FBM05	American Robin		3					3
FBM05	Black-and-white Warbler		1					1
FBM05	Blue Jay		1					1
FBM05	Canada Goose		1					1
FBM05	Canada Warbler		1					1
FBM05	Chestnut-sided Warbler		2					2
FBM05	Common Yellowthroat		3					3
FBM05	Least Flycatcher		1					1
FBM05	Ovenbird		2					2
FBM05	Red-eyed Vireo		1					1
FBM05	Red-winged Blackbird		3					3
FBM05	Song Sparrow		1					1
FBM05	Veery		3					3
FBM05	White-throated Sparrow		3					3
FBM05	Wilson's Snipe		1					1
FBM05	Wood Duck		1					1
FBM05	Yellow Warbler		1					1
FBM05	Yellow-bellied Sapsucker		1				1	1
FBM06	American Bittern		1					1
FBM06	American Crow		1					1
FBM06	American Goldfinch		1					1
FBM06	American Robin		1					1
FBM06	Black-and-white Warbler		1					1
FBM06	Blue Jay		1					1
FBM06	Brown Thrasher		1					1
FBM06	Brown-headed Cowbird		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM06	Chestnut-sided Warbler		2					2
FBM06	Common Raven		2					2
FBM06	Common Yellowthroat		1					1
FBM06	Gray Catbird		2					2
FBM06	Herring Gull		1					1
FBM06	Least Flycatcher		1					1
FBM06	Ovenbird		4					4
FBM06	Red-eyed Vireo		4					4
FBM06	Red-winged Blackbird		1					1
FBM06	Rose-breasted Grosbeak		1					1
FBM06	Ruffed Grouse		1					1
FBM06	Song Sparrow		2					2
FBM06	Veery		4					4
FBM06	White-throated Sparrow		3					3
FBM06	Wilson's Snipe		1					1
FBM06	Yellow Warbler		1					1
FBM07	Alder Flycatcher		1					1
FBM07	American Bittern		1					1
FBM07	American Crow		2					2
FBM07	American Kestrel		1					1
FBM07	American Robin		3					3
FBM07	Canada Goose		1					1
FBM07	Cedar Waxwing		1					1
FBM07	Chestnut-sided Warbler		1					1
FBM07	Chipping Sparrow		1					1
FBM07	Clay-colored Sparrow		2					2
FBM07	Common Raven		2					2
FBM07	Common Yellowthroat		2					2
FBM07	Gray Catbird		1					1
FBM07	House Wren		1					1
FBM07	Lincoln's Sparrow		1					1
FBM07	Mourning Warbler		2					2
FBM07	Nashville Warbler		1					1
FBM07	Northern Flicker		1					1
FBM07	Ovenbird		1					1
FBM07	Red-eyed Vireo		4					4
FBM07	Song Sparrow		4					4
FBM07	Sora		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM07	Swamp Sparrow		1					1
FBM07	Veery		3					3
FBM07	White-throated Sparrow		4					4
FBM07	Wilson's Snipe		1					1
FBM08	Alder Flycatcher		1					1
FBM08	American Goldfinch		1					1
FBM08	American Robin		6					6
FBM08	Blue Jay		1					1
FBM08	Chestnut-sided Warbler		2					2
FBM08	Common Grackle		5					5
FBM08	Common Raven		2					2
FBM08	Common Yellowthroat		2					2
FBM08	Gray Catbird		1					1
FBM08	House Wren		1					1
FBM08	Least Flycatcher		1					1
FBM08	Mourning Warbler		2					2
FBM08	Ovenbird		1					1
FBM08	Red-eyed Vireo		3					3
FBM08	Red-winged Blackbird		1					1
FBM08	Song Sparrow		3					3
FBM08	Veery		3					3
FBM08	Wilson's Snipe		1					1
FBM09	American Bittern		1					1
FBM09	American Goldfinch		1					1
FBM09	American Robin		2					2
FBM09	American Woodcock		1					1
FBM09	Brown-headed Cowbird		3					3
FBM09	Chipping Sparrow		2					2
FBM09	Common Raven		1					1
FBM09	Common Yellowthroat		2					2
FBM09	Killdeer		1					1
FBM09	Least Flycatcher		2					2
FBM09	Nashville Warbler		1					1
FBM09	Northern Flicker		1					1
FBM09	Ovenbird		1					1
FBM09	Red-eyed Vireo		3					3
FBM09	Red-winged Blackbird		3					3
FBM09	Rose-breasted Grosbeak		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM09	Savannah Sparrow		1					1
FBM09	Song Sparrow		4					4
FBM09	Sora		1					1
FBM09	Veery		4					4
FBM09	White-throated Sparrow		3					3
FBM10	American Bittern		1					1
FBM10	American Crow		1					1
FBM10	American Goldfinch		1					1
FBM10	American Robin		2					2
FBM10	Blue Jay		1					1
FBM10	Canada Goose		12					12
FBM10	Clay-colored Sparrow		2					2
FBM10	Common Yellowthroat		1					1
FBM10	Eastern Kingbird		4					4
FBM10	Least Flycatcher		1					1
FBM10	Nashville Warbler		1					1
FBM10	Northern Flicker		1					1
FBM10	Ovenbird		1					1
FBM10	Red-eyed Vireo		4					4
FBM10	Ruffed Grouse		1					1
FBM10	Savannah Sparrow		4					4
FBM10	Sedge Wren		3					3
FBM10	Song Sparrow		2					2
FBM10	Swamp Sparrow		5					5
FBM10	Veery		2					2
FBM10	Yellow Warbler		1					1
FBM100	American Robin		1		1			2
FBM100	Blue Jay		1					1
FBM100	Brown-headed Cowbird	1						1
FBM100	Chestnut-sided Warbler		1					1
FBM100	Chipping Sparrow		1					1
FBM100	Common Yellowthroat		3					3
FBM100	Hermit Thrush			1				1
FBM100	Nashville Warbler				1			1
FBM100	Northern Flicker						1	1
FBM100	Ovenbird		3			1		4
FBM100	Red-eyed Vireo		4					4
FBM100	Ruby-throated Hummingbird					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM100	Song Sparrow	1			1	1		3
FBM100	Veery		3			1		4
FBM100	White-throated Sparrow	1				1		2
FBM100	Wood Thrush					1		1
FBM101	American Crow			1				1
FBM101	American Goldfinch					1		1
FBM101	Chestnut-sided Warbler	1	1					2
FBM101	Common Yellowthroat		2					2
FBM101	Hermit Thrush		2					2
FBM101	Lincoln's Sparrow		1					1
FBM101	Mourning Warbler		1					1
FBM101	Ovenbird	2				1		3
FBM101	Red-eyed Vireo		3			2		5
FBM101	Song Sparrow		1		1	1		3
FBM101	Veery		3					3
FBM101	White-throated Sparrow	1	2					3
FBM102	American Crow		1	1				2
FBM102	American Redstart	1						1
FBM102	Black-and-white Warbler	1						1
FBM102	Hermit Thrush		3	1				4
FBM102	Ovenbird		2					2
FBM102	Red-eyed Vireo		1					1
FBM102	Rose-breasted Grosbeak	1	1					2
FBM102	Veery	1	2					3
FBM11	American Redstart		1					1
FBM11	American Robin		1					1
FBM11	Blue Jay		2					2
FBM11	Common Raven		2					2
FBM11	Common Yellowthroat		1					1
FBM11	Least Flycatcher		2					2
FBM11	Ovenbird		3					3
FBM11	Red-eyed Vireo		4					4
FBM11	Red-winged Blackbird		1					1
FBM11	Rose-breasted Grosbeak		1					1
FBM11	Ruffed Grouse		2					2
FBM11	Song Sparrow		1					1
FBM11	Swamp Sparrow		1					1
FBM11	Veery		2					2

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM11	Warbling Vireo		1					1
FBM11	White-throated Sparrow		1					1
FBM11	Wilson's Snipe		2					2
FBM12	Alder Flycatcher		1					1
FBM12	American Goldfinch		1					1
FBM12	American Robin		1					1
FBM12	Canada Goose		3					3
FBM12	Cedar Waxwing		1					1
FBM12	Chestnut-sided Warbler		1					1
FBM12	Common Yellowthroat		1					1
FBM12	House Wren		1					1
FBM12	Least Flycatcher		2					2
FBM12	Ovenbird		1					1
FBM12	Red-breasted Nuthatch		1					1
FBM12	Red-eyed Vireo		5					5
FBM12	Rose-breasted Grosbeak		1					1
FBM12	Ruffed Grouse		1					1
FBM12	Song Sparrow		2					2
FBM12	Spotted Sandpiper		1					1
FBM12	Swamp Sparrow		1					1
FBM12	Veery		2					2
FBM12	White-throated Sparrow		3					3
FBM12	Wilson's Snipe		2					2
FBM12	Yellow Warbler		1					1
FBM13	American Crow		1					1
FBM13	American Goldfinch		1					1
FBM13	American Robin		4					4
FBM13	Black-and-white Warbler		2					2
FBM13	Brown-headed Cowbird		1					1
FBM13	Chestnut-sided Warbler		1					1
FBM13	Common Raven		1					1
FBM13	Common Yellowthroat		1					1
FBM13	Least Flycatcher		1					1
FBM13	Northern Flicker		1					1
FBM13	Ovenbird		3					3
FBM13	Red-eyed Vireo		5					5
FBM13	Ruffed Grouse		1					1
FBM13	Sandhill Crane		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM13	Song Sparrow		1					1
FBM13	Sora		1					1
FBM13	Veery		3					3
FBM13	Warbling Vireo		1					1
FBM13	White-throated Sparrow		1					1
FBM13	Wilson's Snipe		1					1
FBM14	Alder Flycatcher		1					1
FBM14	American Goldfinch		2					2
FBM14	American Robin		3					3
FBM14	Blue Jay		1					1
FBM14	Cedar Waxwing		2					2
FBM14	Clay-colored Sparrow		2					2
FBM14	Common Raven		1					1
FBM14	Common Yellowthroat		1					1
FBM14	Lincoln's Sparrow		1					1
FBM14	Nashville Warbler		1					1
FBM14	Northern Waterthrush		1					1
FBM14	Red-breasted Nuthatch		1					1
FBM14	Red-eyed Vireo		5					5
FBM14	Red-winged Blackbird		2					2
FBM14	Rose-breasted Grosbeak		3					3
FBM14	Sandhill Crane		1					1
FBM14	Savannah Sparrow		3					3
FBM14	Sedge Wren		1					1
FBM14	Song Sparrow		2					2
FBM14	Veery		2					2
FBM14	White-throated Sparrow		2					2
FBM14	Wilson's Snipe		2					2
FBM15	American Bittern		1					1
FBM15	American Crow		2					2
FBM15	American Goldfinch		2					2
FBM15	American Robin		1					1
FBM15	Canada Goose		9					9
FBM15	Common Raven		1					1
FBM15	Common Yellowthroat		3					3
FBM15	European Starling		2					2
FBM15	Gray Catbird		1					1
FBM15	Least Flycatcher		3					3

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM15	Mallard		3					3
FBM15	Northern Harrier		1					1
FBM15	Purple Finch		1					1
FBM15	Red-eyed Vireo		1					1
FBM15	Red-winged Blackbird		7					7
FBM15	Ruffed Grouse		1					1
FBM15	Sandhill Crane		2					2
FBM15	Song Sparrow		3					3
FBM15	Swamp Sparrow		2					2
FBM15	Veery		3					3
FBM15	Wilson's Snipe		1					1
FBM15	Yellow Warbler		1					1
FBM16	American Crow		1					1
FBM16	American Goldfinch		4					4
FBM16	American Robin		2					2
FBM16	Bobolink		1					1
FBM16	Brown-headed Cowbird		1					1
FBM16	Canada Goose		12					12
FBM16	Cedar Waxwing		4					4
FBM16	Common Raven		1					1
FBM16	Common Yellowthroat		4					4
FBM16	Hairy Woodpecker		1					1
FBM16	Northern Flicker		1					1
FBM16	Red-eyed Vireo		2					2
FBM16	Red-winged Blackbird		5					5
FBM16	Rose-breasted Grosbeak		1					1
FBM16	Ruffed Grouse		1					1
FBM16	Sandhill Crane		1					1
FBM16	Song Sparrow		2					2
FBM16	Swamp Sparrow		5					5
FBM16	Veery		6					6
FBM16	Warbling Vireo		2					2
FBM16	White-throated Sparrow		2					2
FBM16	Wilson's Snipe		2					2
FBM16	Yellow Warbler		3					3
FBM17	American Crow		1					1
FBM17	American Goldfinch		4					4
FBM17	American Redstart		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM17	American Robin		3					3
FBM17	Barn Swallow		2					2
FBM17	Blue-winged Teal		1					1
FBM17	Bobolink		1					1
FBM17	Brewer's Blackbird		3					3
FBM17	Brown-headed Cowbird		1					1
FBM17	Canada Goose		1					1
FBM17	Common Yellowthroat		4					4
FBM17	Gray Catbird		2					2
FBM17	Least Flycatcher		2					2
FBM17	LeConte's Sparrow		2					2
FBM17	Mallard		1					1
FBM17	Red-winged Blackbird		3					3
FBM17	Rose-breasted Grosbeak		1					1
FBM17	Ruffed Grouse		1					1
FBM17	Sandhill Crane		1					1
FBM17	Sedge Wren		2					2
FBM17	Short-eared Owl		1					1
FBM17	Swamp Sparrow		3					3
FBM17	Tree Swallow		1					1
FBM17	Veery		4					4
FBM17	Warbling Vireo		1					1
FBM17	Wilson's Snipe		1					1
FBM17	Yellow Warbler		1					1
FBM18	American Bittern		1					1
FBM18	American Goldfinch		1					1
FBM18	American Robin		2					2
FBM18	Blue-winged Teal		1					1
FBM18	Brown Thrasher		1					1
FBM18	Brown-headed Cowbird		1					1
FBM18	Canada Goose		1					1
FBM18	Cedar Waxwing		20					20
FBM18	Chipping Sparrow		1					1
FBM18	Common Raven		1					1
FBM18	Common Yellowthroat		4					4
FBM18	Eastern Kingbird		1					1
FBM18	Red-eyed Vireo		1					1
FBM18	Red-winged Blackbird		5					5

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM18	Rose-breasted Grosbeak		1					1
FBM18	Sedge Wren		1					1
FBM18	Song Sparrow		1					1
FBM18	Sora		1					1
FBM18	Swamp Sparrow		3					3
FBM18	Veery		1					1
FBM18	Virginia Rail		1					1
FBM18	Wilson's Snipe		2					2
FBM18	Wilson's Warbler		1					1
FBM18	Yellow Warbler		1					1
FBM19	Alder Flycatcher		1					1
FBM19	American Bittern		2					2
FBM19	American Goldfinch		1					1
FBM19	American Robin		3					3
FBM19	Blue Jay		2					2
FBM19	Bobolink		1					1
FBM19	Brown-headed Cowbird		1					1
FBM19	Canada Goose		1					1
FBM19	Common Grackle		1					1
FBM19	Common Yellowthroat		1					1
FBM19	Gray Catbird		1					1
FBM19	Least Flycatcher		3					3
FBM19	Philadelphia Vireo		1					1
FBM19	Red-winged Blackbird		6					6
FBM19	Ruffed Grouse		2					2
FBM19	Sedge Wren		1					1
FBM19	Swamp Sparrow		4					4
FBM19	Veery		1					1
FBM19	White-throated Sparrow		1					1
FBM19	Wilson's Snipe		2					2
FBM19	Yellow Warbler		2					2
FBM20	American Robin	1				1		2
FBM20	Chestnut-sided Warbler	2			1			3
FBM20	Common Yellowthroat	1						1
FBM20	Hermit Thrush	1	1			1		3
FBM20	Mourning Warbler	2						2
FBM20	Nashville Warbler	1						1
FBM20	Ovenbird	1						1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM20	Red-eyed Vireo				1			1
FBM20	White-throated Sparrow	1			1	1		3
FBM20	Wilson's Snipe			1				1
FBM21	American Robin	1	1					2
FBM21	Common Yellowthroat	1						1
FBM21	Hermit Thrush		1					1
FBM21	Mourning Warbler	1				1		2
FBM21	Ovenbird	1	1					2
FBM21	Red-eyed Vireo		1		1			2
FBM21	Song Sparrow	2	2					4
FBM21	Swamp Sparrow		1					1
FBM21	Veery		1					1
FBM21	White-throated Sparrow		1					1
FBM21	Wilson's Snipe		1			1		2
FBM22	American Goldfinch			1				1
FBM22	American Redstart	1						1
FBM22	American Robin		2					2
FBM22	Chestnut-sided Warbler	2						2
FBM22	Common Yellowthroat	1						1
FBM22	Indigo Bunting	1						1
FBM22	Mourning Warbler				2			2
FBM22	Ovenbird		1					1
FBM22	Pileated Woodpecker	1						1
FBM22	Red-eyed Vireo	2			1			3
FBM22	White-throated Sparrow		1					1
FBM23	American Robin		1			1		2
FBM23	Blackburnian Warbler				1			1
FBM23	Blue Jay				1			1
FBM23	Eastern Wood-Pewee					1		1
FBM23	Mourning Warbler	1						1
FBM23	Nashville Warbler	1						1
FBM23	Ovenbird	3	1					4
FBM23	Purple Finch	1	1					2
FBM23	Red-breasted Nuthatch	1						1
FBM23	Red-eyed Vireo		1					1
FBM24	Blue Jay	1				3		4
FBM24	Great Crested Flycatcher				1			1
FBM24	Hermit Thrush		3					3

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM24	Mourning Warbler	1						1
FBM24	Nashville Warbler	2						2
FBM24	Ovenbird	3	1					4
FBM24	Red-breasted Nuthatch				1			1
FBM24	Red-eyed Vireo	1						1
FBM24	Tree Swallow		1					1
FBM24	White-throated Sparrow				1			1
FBM25	American Redstart	1						1
FBM25	American Robin	1						1
FBM25	Blue Jay		1					1
FBM25	Chestnut-sided Warbler	2						2
FBM25	Nashville Warbler	1						1
FBM25	Northern Flicker					1		1
FBM25	Ovenbird	1				1		2
FBM25	Rose-breasted Grosbeak	1						1
FBM25	Sandhill Crane					1		1
FBM25	Swamp Sparrow				1			1
FBM25	White-throated Sparrow				1			1
FBM26	American Robin		2					2
FBM26	Nashville Warbler	1			1			2
FBM26	Red-eyed Vireo	4						4
FBM26	Veery				1	1		2
FBM26	White-throated Sparrow		1		1			2
FBM27	American Robin					1		1
FBM27	Clay-colored Sparrow	1						1
FBM27	Common Yellowthroat	1						1
FBM27	Hermit Thrush		1					1
FBM27	Nashville Warbler	1						1
FBM27	Ovenbird	3						3
FBM27	Red-eyed Vireo	1	2			1		4
FBM27	Rose-breasted Grosbeak					1		1
FBM27	Veery					1		1
FBM27	Warbling Vireo					1		1
FBM27	White-throated Sparrow		1			1		2
FBM28	Alder Flycatcher		1					1
FBM28	American Crow		1					1
FBM28	American Robin		1					1
FBM28	Bobolink	1	1			3		5

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM28	Red-eyed Vireo		1					1
FBM28	Red-winged Blackbird	1	1			2		4
FBM28	Savannah Sparrow	2	1					3
FBM28	Sharp-tailed Grouse				12			12
FBM29	American Crow					1		1
FBM29	Blue Jay		1					1
FBM29	Bobolink					1		1
FBM29	Common Yellowthroat	1						1
FBM29	LeConte's Sparrow	1			1	1		3
FBM29	Lincoln's Sparrow	1						1
FBM29	Northern Flicker		1					1
FBM29	Savannah Sparrow	2	1					3
FBM29	Sedge Wren				1			1
FBM29	Veery		1					1
FBM29	Wood Duck		1					1
FBM30	American Crow		2					2
FBM30	Bobolink		1					1
FBM30	LeConte's Sparrow	1						1
FBM30	Northern Flicker		1					1
FBM30	Red-eyed Vireo		1					1
FBM30	Red-winged Blackbird	1						1
FBM30	Sandhill Crane		1					1
FBM30	Savannah Sparrow		2		1			3
FBM30	Swainson's Thrush		1					1
FBM30	White-throated Sparrow		1					1
FBM30	Wilson's Snipe		1					1
FBM31	American Robin	2						2
FBM31	Bobolink		1					1
FBM31	Common Grackle		2					2
FBM31	Common Yellowthroat		1					1
FBM31	Eastern Kingbird		1					1
FBM31	Red-eyed Vireo		1					1
FBM31	Red-winged Blackbird	2						2
FBM31	Sedge Wren		1					1
FBM31	Song Sparrow		1					1
FBM31	Veery	1						1
FBM32	American Crow		1					1
FBM32	American Robin		2					2

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM32	Common Yellowthroat	1						1
FBM32	Ovenbird		1					1
FBM32	Veery	1						1
FBM32	White-throated Sparrow		2					2
FBM33	Alder Flycatcher	1						1
FBM33	American Robin		1			1		2
FBM33	Blue Jay		1		1			2
FBM33	Common Yellowthroat	1	1			2		4
FBM33	Nashville Warbler		1			1		2
FBM33	Northern Flicker		1			1		2
FBM33	Red-eyed Vireo		1			1		2
FBM33	Red-winged Blackbird		1					1
FBM33	Song Sparrow	1			1			2
FBM33	Veery		2					2
FBM33	White-throated Sparrow	1				1		2
FBM34	American Crow		1					1
FBM34	American Robin		1					1
FBM34	Brown-headed Cowbird	2	1					3
FBM34	Cedar Waxwing	3						3
FBM34	Common Yellowthroat	1						1
FBM34	Least Flycatcher		1					1
FBM34	Mourning Warbler	1						1
FBM34	Nashville Warbler		1					1
FBM34	Northern Flicker		1					1
FBM34	Red-eyed Vireo	1						1
FBM34	Red-winged Blackbird		1					1
FBM34	Veery	1						1
FBM34	White-throated Sparrow		1					1
FBM35	American Goldfinch					1		1
FBM35	American Robin		1					1
FBM35	Blue Jay		1					1
FBM35	Cedar Waxwing	4						4
FBM35	Nashville Warbler					1		1
FBM35	Red-eyed Vireo	1						1
FBM35	Ruffed Grouse		1					1
FBM35	Savannah Sparrow		2					2
FBM35	White-throated Sparrow					1		1
FBM36	American Bittern					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM36	American Crow		1					1
FBM36	Blue Jay		1					1
FBM36	Hermit Thrush		1			1		2
FBM36	Least Flycatcher		2					2
FBM36	Northern Flicker	1						1
FBM36	Red-eyed Vireo		1					1
FBM36	Red-winged Blackbird					1		1
FBM36	Song Sparrow		1			1		2
FBM36	White-throated Sparrow		1					1
FBM37	American Robin		1					1
FBM37	Baltimore Oriole						1	1
FBM37	Black-and-white Warbler	1						1
FBM37	Cedar Waxwing		1					1
FBM37	Chipping Sparrow						1	1
FBM37	Nashville Warbler						1	1
FBM37	Northern Flicker	1						1
FBM37	Ovenbird		2				1	3
FBM37	Red-breasted Nuthatch					1		1
FBM37	Red-eyed Vireo		1			1		2
FBM37	Red-winged Blackbird	1				1		2
FBM37	Rock Pigeon	1						1
FBM38	Black-capped Chickadee	2						2
FBM38	Hermit Thrush		2					2
FBM38	Least Flycatcher				2			2
FBM38	Nashville Warbler		1					1
FBM38	Northern Flicker		2					2
FBM38	Ovenbird		1					1
FBM38	Red-eyed Vireo	1						1
FBM38	Red-winged Blackbird	1						1
FBM38	Veery		1					1
FBM38	White-throated Sparrow		1					1
FBM38	Yellow Warbler		1					1
FBM39	American Redstart	1			1			2
FBM39	Common Grackle					1		1
FBM39	Downy Woodpecker					1		1
FBM39	Least Flycatcher					1		1
FBM39	Nashville Warbler		1					1
FBM39	Red-eyed Vireo		2					2

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM39	Red-winged Blackbird		2					2
FBM39	Swamp Sparrow				1			1
FBM39	Veery	1						1
FBM39	White-throated Sparrow		1					1
FBM39	Wilson's Snipe		1					1
FBM39	Yellow Warbler	1						1
FBM40	American Robin		1					1
FBM40	Blue Jay	1						1
FBM40	Common Yellowthroat	1						1
FBM40	Hermit Thrush					1		1
FBM40	Ovenbird		3					3
FBM40	Red-eyed Vireo				1			1
FBM40	Veery		2					2
FBM40	White-throated Sparrow					1		1
FBM40	Wilson's Snipe		1					1
FBM41	American Bittern	2						2
FBM41	Black-capped Chickadee	2						2
FBM41	Hermit Thrush	1	1					2
FBM41	Nashville Warbler		1					1
FBM41	Ovenbird		2					2
FBM41	Red-eyed Vireo		1					1
FBM41	White-throated Sparrow	1						1
FBM41	Wood Duck		1					1
FBM42	American Crow				1			1
FBM42	Brown Thrasher	1						1
FBM42	Clay-colored Sparrow		1					1
FBM42	Common Yellowthroat				1			1
FBM42	Nashville Warbler	1			1			2
FBM42	Northern Parula					1		1
FBM42	Ovenbird	1	1					2
FBM42	Savannah Sparrow	1						1
FBM42	Song Sparrow	1						1
FBM42	White-throated Sparrow					1		1
FBM43	American Goldfinch					1		1
FBM43	Clay-colored Sparrow	1						1
FBM43	Common Yellowthroat		1					1
FBM43	Hermit Thrush					2		2
FBM43	Ovenbird		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM43	Red-winged Blackbird				1			1
FBM43	Song Sparrow	1	1			1		3
FBM43	Veery	1			1			2
FBM43	Wilson's Snipe		1					1
FBM44	American Goldfinch	1						1
FBM44	American Redstart	1	1					2
FBM44	American Robin	1						1
FBM44	Clay-colored Sparrow	2						2
FBM44	Hermit Thrush		1		2			3
FBM44	Mourning Warbler				1			1
FBM44	Ovenbird					2		2
FBM44	Red-breasted Nuthatch					1		1
FBM44	Song Sparrow	1						1
FBM44	White-throated Sparrow	1				1		2
FBM44	Wilson's Snipe					2		2
FBM45	American Robin		2					2
FBM45	Blue Jay					1		1
FBM45	Canada Goose		1					1
FBM45	Magnolia Warbler				1			1
FBM45	Nashville Warbler	1				1		2
FBM45	Ovenbird	2				1		3
FBM45	Red-winged Blackbird	1						1
FBM45	Wilson's Snipe	1						1
FBM45	Yellow-bellied Sapsucker	1						1
FBM46	Blue Jay		2					2
FBM46	Common Yellowthroat				1			1
FBM46	Hermit Thrush					1		1
FBM46	Least Flycatcher	1						1
FBM46	Nashville Warbler		1					1
FBM46	Ovenbird		1					1
FBM46	Pileated Woodpecker	1						1
FBM46	Red-eyed Vireo		1					1
FBM46	Red-winged Blackbird		1					1
FBM46	Song Sparrow					1		1
FBM46	Veery					1		1
FBM46	Wilson's Snipe		1					1
FBM47	American Crow		1					1
FBM47	Black-and-white Warbler				1			1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM47	Nashville Warbler	1	1					2
FBM47	Ovenbird	1						1
FBM47	Red-eyed Vireo	1						1
FBM47	Veery		1					1
FBM47	White-throated Sparrow		1					1
FBM47	Wilson's Snipe		1			1		2
FBM48	American Bittern			1				1
FBM48	American Crow		1			1		2
FBM48	Barn Swallow			1				1
FBM48	Black-billed Magpie	1	1					2
FBM48	Brown Thrasher		1					1
FBM48	Common Yellowthroat	2						2
FBM48	Gray Catbird				1			1
FBM48	Ovenbird	2						2
FBM48	Red-winged Blackbird		4			2		6
FBM48	Savannah Sparrow				2			2
FBM48	Veery		1					1
FBM49	American Crow		2					2
FBM49	American Kestrel				1			1
FBM49	American Robin					1		1
FBM49	Barn Swallow		5					5
FBM49	Black-billed Magpie	1	1					2
FBM49	Brown Thrasher		1					1
FBM49	Cliff Swallow	5						5
FBM49	Common Raven	1						1
FBM49	Common Yellowthroat	2						2
FBM49	House Sparrow	1			5			6
FBM49	House Wren					1		1
FBM49	Mourning Warbler					1		1
FBM49	Northern Flicker		1					1
FBM49	Ovenbird	1						1
FBM49	Pine Siskin			1				1
FBM49	Song Sparrow		1					1
FBM49	Tree Swallow		8					8
FBM49	Veery		1					1
FBM49	Wilson's Snipe		1			1		2
FBM50	American Crow			2				2
FBM50	American Robin					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM50	Barn Swallow	1						1
FBM50	Black-billed Magpie		2					2
FBM50	Blue Jay						1	1
FBM50	Bobolink			1				1
FBM50	Common Raven		1					1
FBM50	Common Yellowthroat	2	1					3
FBM50	Eastern Bluebird				1			1
FBM50	Mourning Warbler	1						1
FBM50	Northern Flicker		1					1
FBM50	Red-winged Blackbird	1	2			1		4
FBM50	Sandhill Crane						1	1
FBM50	Savannah Sparrow	1						1
FBM50	Song Sparrow					1		1
FBM50	Veery	1				1		2
FBM50	White-throated Sparrow		1					1
FBM50	Wilson's Snipe		3					3
FBM51	American Crow			1				1
FBM51	American Crow			1				1
FBM51	American Goldfinch		1					1
FBM51	American Robin	1			1			2
FBM51	American Robin		1					1
FBM51	Black-billed Magpie			1				1
FBM51	Blue Jay		1					1
FBM51	Brown-headed Cowbird	1	1		10			12
FBM51	Chestnut-sided Warbler				1			1
FBM51	Common Raven		1					1
FBM51	Common Raven		1					1
FBM51	Common Yellowthroat	1	1					2
FBM51	Common Yellowthroat	1					1	2
FBM51	Downy Woodpecker					1		1
FBM51	Eastern Bluebird	1	1					2
FBM51	European Starling		1					1
FBM51	Killdeer			1				1
FBM51	LeConte's Sparrow					1		1
FBM51	Northern Flicker		1		1			2
FBM51	Red-eyed Vireo		1					1
FBM51	Red-eyed Vireo		1	1		1		3
FBM51	Red-winged Blackbird		2		1			3

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM51	Red-winged Blackbird		2					2
FBM51	Rose-breasted Grosbeak	1						1
FBM51	Sandhill Crane					1		1
FBM51	Savannah Sparrow	1						1
FBM51	Sedge Wren	1						1
FBM51	Sedge Wren		1					1
FBM51	Song Sparrow		1					1
FBM51	Swamp Sparrow		1					1
FBM51	Veery		3					3
FBM51	Veery		2					2
FBM51	Wilson's Snipe	1				1		2
FBM51	Wilson's Snipe		2			1		3
FBM51	Yellow Warbler	1						1
FBM51	Yellow Warbler	1						1
FBM53	American Crow		1					1
FBM53	American Robin	1						1
FBM53	Cedar Waxwing	1						1
FBM53	Common Raven		1					1
FBM53	Common Yellowthroat	1			2			3
FBM53	Least Flycatcher	3						3
FBM53	Nashville Warbler	1			1			2
FBM53	Red-eyed Vireo	2			1			3
FBM53	Swamp Sparrow				1			1
FBM53	Veery	1						1
FBM54	Alder Flycatcher	1	2					3
FBM54	American Goldfinch					1		1
FBM54	Black-billed Magpie						1	1
FBM54	Common Yellowthroat	2	1		1			4
FBM54	Hermit Thrush			1				1
FBM54	Nashville Warbler	1						1
FBM54	Red-eyed Vireo	1						1
FBM54	Red-winged Blackbird		1					1
FBM54	Sedge Wren				1			1
FBM54	Song Sparrow					1		1
FBM54	Veery		2			1		3
FBM54	Wilson's Snipe		2					2
FBM54	Wilson's Warbler		1					1
FBM54	Yellow Warbler	1						1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM55	Alder Flycatcher	1						1
FBM55	American Crow			1				1
FBM55	American Robin		1					1
FBM55	Blue Jay					1		1
FBM55	Brown Thrasher				1			1
FBM55	Brown-headed Cowbird	1						1
FBM55	Chestnut-sided Warbler	1						1
FBM55	Common Grackle				1			1
FBM55	Nashville Warbler		1					1
FBM55	Red-eyed Vireo	2						2
FBM55	Ruby-crowned Kinglet					1		1
FBM55	Ruffed Grouse		1					1
FBM55	Wilson's Snipe		1				1	2
FBM56	American Goldfinch				1			1
FBM56	Barn Swallow				1			1
FBM56	Bobolink						1	1
FBM56	Brown Thrasher		1					1
FBM56	Canada Goose						1	1
FBM56	Common Yellowthroat	1						1
FBM56	Hermit Thrush			1				1
FBM56	Northern Flicker			1		1		2
FBM56	Red-eyed Vireo						1	1
FBM56	Red-winged Blackbird	1	6	1	1			9
FBM56	Ruffed Grouse		1					1
FBM56	Sandhill Crane	1						1
FBM56	Savannah Sparrow					1		1
FBM56	Wilson's Snipe			1				1
FBM57	Black-and-white Warbler		1					1
FBM57	Hermit Thrush		1					1
FBM57	Least Flycatcher	1						1
FBM57	Mourning Warbler				1			1
FBM57	Nashville Warbler	1	1					2
FBM57	Northern Flicker		1					1
FBM57	Ovenbird		2					2
FBM57	Ruffed Grouse					1		1
FBM57	White-throated Sparrow		1					1
FBM58	American Redstart	1						1
FBM58	American Robin					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM58	Blue Jay		2					2
FBM58	Cedar Waxwing				2			2
FBM58	Common Yellowthroat	1						1
FBM58	Least Flycatcher		1					1
FBM58	Nashville Warbler	1						1
FBM58	Olive-sided Flycatcher		1					1
FBM58	Red-eyed Vireo		1					1
FBM58	Red-winged Blackbird		2					2
FBM58	Sora					1		1
FBM58	Swamp Sparrow	1				1		2
FBM58	White-throated Sparrow		1					1
FBM58	Wilson's Snipe		1					1
FBM59	American Redstart	1						1
FBM59	Black-capped Chickadee	1						1
FBM59	Blue Jay		2					2
FBM59	Common Loon		1					1
FBM59	Downy Woodpecker	1						1
FBM59	Eastern Wood-Pewee	1						1
FBM59	Hermit Thrush				1			1
FBM59	Nashville Warbler		1					1
FBM59	Ovenbird	1	1					2
FBM59	Red-eyed Vireo	1	1					2
FBM59	Veery	1	1					2
FBM60	American Robin					1		1
FBM60	Black-and-white Warbler		1					1
FBM60	Blue Jay					1		1
FBM60	Eastern Wood-Pewee		1					1
FBM60	Great Crested Flycatcher					1		1
FBM60	Least Flycatcher	2						2
FBM60	Ovenbird		2					2
FBM60	Red-eyed Vireo		2					2
FBM60	Veery	2						2
FBM60	White-throated Sparrow		1					1
FBM60	Wilson's Snipe		1					1
FBM60	Yellow-bellied Sapsucker	1						1
FBM61	American Robin		1					1
FBM61	Black-and-white Warbler		1					1
FBM61	Blue Jay		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM61	Canada Goose					25		25
FBM61	Great Crested Flycatcher					1		1
FBM61	Mourning Warbler		1					1
FBM61	Nashville Warbler	1						1
FBM61	Northern Flicker		1					1
FBM61	Ovenbird	1						1
FBM61	Red-breasted Nuthatch		1					1
FBM61	Red-eyed Vireo	2						2
FBM61	Swamp Sparrow	1						1
FBM61	White-throated Sparrow		1					1
FBM61	Wilson's Snipe		2					2
FBM62	American Robin		1					1
FBM62	Chestnut-sided Warbler	2						2
FBM62	Common Raven					1		1
FBM62	Common Yellowthroat	1						1
FBM62	Eastern Phoebe					1		1
FBM62	Least Flycatcher	1						1
FBM62	Nashville Warbler	1						1
FBM62	Ovenbird		1					1
FBM62	Red-eyed Vireo		1					1
FBM62	Ruffed Grouse				1			1
FBM62	Veery		1					1
FBM62	Wilson's Snipe		1			1		2
FBM63	Least Flycatcher	1						1
FBM63	Ovenbird		2					2
FBM63	Red-eyed Vireo	1	1					2
FBM63	Veery	1						1
FBM63	Wilson's Snipe		1					1
FBM64	American Redstart	1						1
FBM64	American Robin	1						1
FBM64	Brown-headed Cowbird	5						5
FBM64	Chestnut-sided Warbler	1						1
FBM64	Common Raven		1					1
FBM64	Common Yellowthroat	2						2
FBM64	Mourning Warbler	2						2
FBM64	Northern Saw-whet Owl					1		1
FBM64	Red-eyed Vireo				2			2
FBM64	Veery	2				1		3

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM64	White-throated Sparrow	1						1
FBM64	Wilson's Snipe		1			1		2
FBM65	Alder Flycatcher	2						2
FBM65	American Bittern			1				1
FBM65	American Goldfinch	1						1
FBM65	American Robin	1						1
FBM65	Chestnut-sided Warbler	2			1			3
FBM65	Common Yellowthroat	2						2
FBM65	Mourning Warbler		2					2
FBM65	Northern Flicker		1		2			3
FBM65	Ovenbird		1					1
FBM65	Red-eyed Vireo	1				1		2
FBM65	Song Sparrow		1			2		3
FBM65	Veery	1				1	1	3
FBM65	White-throated Sparrow		2		1	1		4
FBM65	Wilson's Snipe		1					1
FBM66	American Robin		2					2
FBM66	Chestnut-sided Warbler	2						2
FBM66	Hermit Thrush			2				2
FBM66	Nashville Warbler				1			1
FBM66	Northern Flicker					1		1
FBM66	Ovenbird	1						1
FBM66	Red-eyed Vireo	2	1					3
FBM66	Song Sparrow	1				1		2
FBM66	Veery	1	1					2
FBM66	White-throated Sparrow		1					1
FBM66	Wilson's Snipe			1				1
FBM66	Yellow-bellied Sapsucker					1		1
FBM67	Black-and-white Warbler				1			1
FBM67	Blue-winged Teal						1	1
FBM67	Chestnut-sided Warbler	1						1
FBM67	Common Loon			1				1
FBM67	Common Yellowthroat	1						1
FBM67	Gray Jay	1						1
FBM67	Mourning Warbler	1	1					2
FBM67	Ovenbird	2				1		3
FBM67	Red-eyed Vireo	1			1			2
FBM67	Red-winged Blackbird		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM67	Sandhill Crane						1	1
FBM67	Song Sparrow				1			1
FBM67	Veery		2			1		3
FBM67	White-throated Sparrow		2		1			3
FBM67	Wilson's Snipe			1			1	2
FBM67	Yellow-bellied Sapsucker					1		1
FBM68	Blue Jay	1						1
FBM68	Least Flycatcher	3						3
FBM68	Ovenbird	2						2
FBM68	Red-breasted Nuthatch				1			1
FBM68	Red-eyed Vireo	8	1		2			11
FBM68	Veery	1						1
FBM69	American Robin	2	1	1				4
FBM69	Black-and-white Warbler				1			1
FBM69	Blue Jay				1	1		2
FBM69	Canada Goose					1		1
FBM69	Eastern Phoebe	1						1
FBM69	Red-eyed Vireo	3	2			2		7
FBM69	Veery	1						1
FBM69	Yellow-bellied Sapsucker				1			1
FBM70	Alder Flycatcher	1			1			2
FBM70	American Goldfinch	1						1
FBM70	American Robin		2			1		3
FBM70	Chestnut-sided Warbler	1			1			2
FBM70	Common Raven			1				1
FBM70	Common Yellowthroat	1						1
FBM70	Ovenbird		1			1		2
FBM70	Pied-billed Grebe			1				1
FBM70	Red-eyed Vireo	2	1			2	1	6
FBM70	Red-winged Blackbird		1		3			4
FBM70	Sandhill Crane			1				1
FBM70	Swamp Sparrow	1						1
FBM70	Veery	2						2
FBM70	Wilson's Snipe			1				1
FBM71	American Robin		3					3
FBM71	Black-and-white Warbler	1						1
FBM71	Chipping Sparrow			1				1
FBM71	Mourning Warbler					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM71	Nashville Warbler	1				1		2
FBM71	Ovenbird		2			1		3
FBM71	Red-breasted Nuthatch		1					1
FBM71	Red-eyed Vireo	1			1			2
FBM71	Red-winged Blackbird					1		1
FBM71	Veery		2					2
FBM71	White-throated Sparrow		2			1		3
FBM72	Black-capped Chickadee	5						5
FBM72	Blue Jay		1					1
FBM72	Clay-colored Sparrow	1						1
FBM72	Common Yellowthroat					1		1
FBM72	Hermit Thrush		1					1
FBM72	Nashville Warbler		1					1
FBM72	Northern Flicker					1		1
FBM72	Ovenbird	1						1
FBM72	Red-breasted Nuthatch	1						1
FBM72	Red-eyed Vireo	3						3
FBM72	Red-winged Blackbird	1						1
FBM72	Veery					1		1
FBM72	White-throated Sparrow	3						3
FBM73	American Robin				1			1
FBM73	Chestnut-sided Warbler				1			1
FBM73	Chipping Sparrow	1						1
FBM73	Common Yellowthroat	1	1					2
FBM73	Eastern Wood-Pewee	1						1
FBM73	Hairy Woodpecker	1						1
FBM73	Least Flycatcher	1			1	1		3
FBM73	Northern Flicker		1					1
FBM73	Ovenbird	1						1
FBM73	Red-eyed Vireo	2						2
FBM73	Red-winged Blackbird	1						1
FBM73	Swainson's Thrush	1						1
FBM73	Veery	1	1					2
FBM74	American Bittern	1						1
FBM74	Chestnut-sided Warbler	1			1			2
FBM74	Common Yellowthroat	1						1
FBM74	Hermit Thrush					1		1
FBM74	Least Flycatcher				1			1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM74	Northern Flicker				1			1
FBM74	Pine Siskin		1					1
FBM74	Red-eyed Vireo	1						1
FBM74	Red-winged Blackbird		1			1		2
FBM74	Song Sparrow	1			1			2
FBM74	Swainson's Thrush	1						1
FBM74	Swamp Sparrow		1					1
FBM74	Veery	1						1
FBM74	White-throated Sparrow	1			1			2
FBM74	Wood Duck	1						1
FBM75	American Robin					1		1
FBM75	Black-and-white Warbler		1					1
FBM75	Black-capped Chickadee	1						1
FBM75	Hermit Thrush		1					1
FBM75	Mourning Warbler	1						1
FBM75	Nashville Warbler	1	1					2
FBM75	Northern Flicker	1						1
FBM75	Ovenbird	1				1		2
FBM75	Red-breasted Nuthatch		1					1
FBM75	Red-winged Blackbird		1					1
FBM75	Swainson's Thrush		1					1
FBM75	Veery	1	2					3
FBM75	White-throated Sparrow	1	1					2
FBM75	Wilson's Snipe					1		1
FBM75	Yellow-bellied Sapsucker					1		1
FBM76	American Robin					1		1
FBM76	Baltimore Oriole		1					1
FBM76	Black-and-white Warbler	1						1
FBM76	Blue Jay		1					1
FBM76	Brown-headed Cowbird		1					1
FBM76	Chipping Sparrow		1					1
FBM76	Hermit Thrush	1						1
FBM76	Nashville Warbler	1	2					3
FBM76	Northern Flicker	1						1
FBM76	Ovenbird	3						3
FBM76	Veery	3						3
FBM76	White-throated Sparrow		2					2
FBM76	Wilson's Snipe		1					1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM77	American Robin		1					1
FBM77	Chestnut-sided Warbler	2						2
FBM77	Clay-colored Sparrow	3						3
FBM77	Common Yellowthroat				1			1
FBM77	Eastern Bluebird		1					1
FBM77	Nashville Warbler				1			1
FBM77	Northern Flicker	1				1		2
FBM77	Ovenbird					1		1
FBM77	Pileated Woodpecker		1					1
FBM77	Red-eyed Vireo	1						1
FBM77	Red-winged Blackbird		2					2
FBM77	Savannah Sparrow	1						1
FBM77	Song Sparrow	1			1			2
FBM77	White-throated Sparrow					1		1
FBM78	American Goldfinch					1		1
FBM78	American Robin		1		1			2
FBM78	Chipping Sparrow				2			2
FBM78	Clay-colored Sparrow		2					2
FBM78	Nashville Warbler	1						1
FBM78	Song Sparrow	3						3
FBM78	Yellow Warbler	1						1
FBM79	American Robin				1	1		2
FBM79	Black-and-white Warbler		1					1
FBM79	Brown Thrasher		1					1
FBM79	Chestnut-sided Warbler	1						1
FBM79	Chipping Sparrow	2						2
FBM79	Clay-colored Sparrow	1						1
FBM79	Common Yellowthroat				1			1
FBM79	Mourning Warbler				1			1
FBM79	Nashville Warbler	2						2
FBM79	Savannah Sparrow	1						1
FBM79	Song Sparrow	2						2
FBM79	White-throated Sparrow	2						2
FBM80	American Robin	1						1
FBM80	Baltimore Oriole	1						1
FBM80	Chipping Sparrow				1			1
FBM80	Nashville Warbler		1		1			2
FBM80	Ovenbird	1						1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM80	Purple Finch		1					1
FBM80	Red-breasted Nuthatch	1						1
FBM80	Swainson's Thrush	1						1
FBM80	White-throated Sparrow		1			1		2
FBM80	Winter Wren							0
FBM81	American Robin		1		1			2
FBM81	Blue Jay	1						1
FBM81	Chestnut-sided Warbler	1						1
FBM81	Swamp Sparrow				1			1
FBM81	Veery		1					1
FBM81	White-throated Sparrow	1						1
FBM82	Chestnut-sided Warbler	1			1			2
FBM82	Northern Flicker		1					1
FBM82	Veery				1			1
FBM82	White-throated Sparrow	2						2
FBM83	American Bittern				1			1
FBM83	American Robin	1						1
FBM83	Black-and-white Warbler				1			1
FBM83	Chipping Sparrow		1					1
FBM83	Common Yellowthroat	1						1
FBM83	Swamp Sparrow		1					1
FBM83	Veery	1						1
FBM83	White-throated Sparrow	2						2
FBM84	American Crow		3					3
FBM84	American Robin	1						1
FBM84	Blue Jay		1					1
FBM84	Chestnut-sided Warbler				1			1
FBM84	Common Yellowthroat					1		1
FBM84	Hermit Thrush		1				1	2
FBM84	Northern Flicker						1	1
FBM84	Ovenbird	1						1
FBM84	Red-breasted Nuthatch	1						1
FBM84	Red-eyed Vireo	2	2		1	1		6
FBM84	Song Sparrow	2			1			3
FBM84	White-throated Sparrow		1			1		2
FBM84	Wood Thrush		1					1
FBM85	American Robin	1	1					2
FBM85	Brown Thrasher					1		1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM85	Cedar Waxwing			1				1
FBM85	Clay-colored Sparrow	1						1
FBM85	Common Yellowthroat	1						1
FBM85	Hermit Thrush		1	1				2
FBM85	Nashville Warbler	1			1			2
FBM85	Northern Flicker		1					1
FBM85	Ovenbird	1						1
FBM85	Red-eyed Vireo	2	1					3
FBM85	Song Sparrow	1				1		2
FBM85	Veery	2			1			3
FBM85	White-throated Sparrow		1	1				2
FBM86	American Robin		2					2
FBM86	Belted Kingfisher	1						1
FBM86	Brown-headed Cowbird				1			1
FBM86	Clay-colored Sparrow	1			1			2
FBM86	Gray Catbird	1			2			3
FBM86	House Wren	1						1
FBM86	Red-eyed Vireo	1				1		2
FBM86	Red-winged Blackbird				1	1		2
FBM86	Savannah Sparrow	2						2
FBM86	Song Sparrow		1					1
FBM86	Veery	1	1			1		3
FBM87	American Crow					1		1
FBM87	American Goldfinch						1	1
FBM87	American Robin	2				1		3
FBM87	Barn Swallow		1					1
FBM87	Bobolink	1			2			3
FBM87	Clay-colored Sparrow	1			1			2
FBM87	European Starling						3	3
FBM87	House Wren	1				1		2
FBM87	Killdeer			1				1
FBM87	LeConte's Sparrow				1			1
FBM87	Northern Flicker		1					1
FBM87	Northern Harrier						1	1
FBM87	Red-eyed Vireo		1				1	2
FBM87	Red-winged Blackbird			1				1
FBM87	Savannah Sparrow	2						2
FBM87	Sedge Wren	1						1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM87	Song Sparrow	2						2
FBM88	American Crow		1					1
FBM88	American Robin					1		1
FBM88	Bobolink	3	4					7
FBM88	Clay-colored Sparrow	1						1
FBM88	Common Yellowthroat				1			1
FBM88	European Starling					3		3
FBM88	House Wren	1	1					2
FBM88	Killdeer		1					1
FBM88	Red-eyed Vireo	1						1
FBM88	Red-winged Blackbird				1	1		2
FBM88	Savannah Sparrow	3						3
FBM88	Song Sparrow	2	1		1			4
FBM88	Yellow Warbler	2			1			3
FBM89	American Goldfinch					1		1
FBM89	American Robin			1				1
FBM89	Common Yellowthroat	2						2
FBM89	Great Crested Flycatcher					1		1
FBM89	Least Flycatcher	1	1					2
FBM89	Mourning Warbler		1					1
FBM89	Nashville Warbler					1		1
FBM89	Northern Flicker		1					1
FBM89	Ovenbird		1					1
FBM89	Red-eyed Vireo		1					1
FBM89	Red-winged Blackbird		3	1				4
FBM89	Song Sparrow	2				1		3
FBM89	Turkey Vulture					1		1
FBM90	Alder Flycatcher		1					1
FBM90	American Robin		1					1
FBM90	Blackburnian Warbler				1			1
FBM90	Black-throated Green Warbler	1						1
FBM90	Blue Jay		1					1
FBM90	Chestnut-sided Warbler	1						1
FBM90	Common Yellowthroat	1			1			2
FBM90	Golden-crowned Kinglet	1						1
FBM90	Gray Jay					1		1
FBM90	Great Crested Flycatcher				1			1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM90	Hermit Thrush		5			1	1	7
FBM90	Nashville Warbler	4	1					5
FBM90	Ovenbird	2			2			4
FBM90	Red-breasted Nuthatch	1			1			2
FBM90	Red-eyed Vireo	2			2			4
FBM90	Veery	2	1			1		4
FBM90	White-throated Sparrow					1		1
FBM90	Yellow-bellied Flycatcher	1						1
FBM92	American Crow			1				1
FBM92	Blue Jay	1						1
FBM92	Broad-winged Hawk					1		1
FBM92	Ovenbird	1	2					3
FBM92	Red-eyed Vireo	2			1			3
FBM92	Veery				1			1
FBM92	White-throated Sparrow		1			1		2
FBM93	American Crow		1	1				2
FBM93	Chestnut-sided Warbler		1					1
FBM93	Ovenbird	1	1			1		3
FBM93	Red-eyed Vireo	2	3		1			6
FBM93	Red-winged Blackbird		2					2
FBM93	Rose-breasted Grosbeak		1					1
FBM93	Song Sparrow		1					1
FBM93	Veery		1		1	1		3
FBM93	White-throated Sparrow	1				1		2
FBM93	Wilson's Snipe					1		1
FBM94	American Crow		1					1
FBM94	American Goldfinch					1		1
FBM94	Blue Jay		1			1		2
FBM94	Chestnut-sided Warbler	3						3
FBM94	Hermit Thrush		1					1
FBM94	Ovenbird	1	1					2
FBM94	Red-eyed Vireo	1	2		1	1		5
FBM94	Rose-breasted Grosbeak				1			1
FBM94	Song Sparrow	2				1		3
FBM94	Veery		1					1
FBM94	White-throated Sparrow		3			1		4
FBM95	American Crow			1				1
FBM95	Black-and-white Warbler	1						1

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM95	Chestnut-sided Warbler				1			1
FBM95	Clay-colored Sparrow	1						1
FBM95	Great Crested Flycatcher		1					1
FBM95	Hermit Thrush			3				3
FBM95	LeConte's Sparrow	1						1
FBM95	Ovenbird			3		1		4
FBM95	Red-eyed Vireo		1					1
FBM95	Veery			1				1
FBM95	White-throated Sparrow					1		1
FBM96	American Crow			1				1
FBM96	Black-and-white Warbler	1						1
FBM96	Mourning Warbler	1						1
FBM96	Ovenbird		2					2
FBM96	Red-eyed Vireo	1	5					6
FBM96	Rose-breasted Grosbeak		1					1
FBM96	Veery		2					2
FBM97	American Robin	1						1
FBM97	Black-throated Green Warbler	1						1
FBM97	Blue Jay				1			1
FBM97	Cedar Waxwing	1						1
FBM97	Chestnut-sided Warbler	1						1
FBM97	Chipping Sparrow				1			1
FBM97	Common Yellowthroat	1						1
FBM97	Great Crested Flycatcher	1						1
FBM97	Hermit Thrush			1				1
FBM97	Ovenbird	1						1
FBM97	Rose-breasted Grosbeak	1						1
FBM97	Swamp Sparrow	1						1
FBM97	Veery	1						1
FBM97	White-throated Sparrow		1		1			2
FBM97	Wood Thrush				1			1
FBM97	Yellow-bellied Sapsucker	1						1
FBM98	American Crow			1				1
FBM98	American Robin				1		1	2
FBM98	Brown-headed Cowbird				1			1
FBM98	Least Flycatcher	3						3
FBM98	Northern Flicker		1		1			2

STATION	SPECIES	1ST 0 - 50	1ST 51 - 100	1ST >100	2ND 0 - 50	2ND 51 - 100	2ND >100	TOTAL
FBM98	Northern Waterthrush	2						2
FBM98	Red-eyed Vireo	1	1		2	1		5
FBM98	Song Sparrow		1					1
FBM98	Veery	1				1		2
FBM98	Wilson's Snipe		1					1
FBM99	American Crow					1		1
FBM99	Black-billed Magpie			4				4
FBM99	Common Raven		1					1
FBM99	Ovenbird					1		1
FBM99	Red-eyed Vireo	2						2
FBM99	Red-winged Blackbird					1		1
FBM99	Song Sparrow						1	1
FBM99	Turkey Vulture			1				1
FBM99	Veery	1	1					2
FBM99	White-throated Sparrow						1	1
FBM99	Wilson's Snipe		1	1				2

APPENDIX VI - 6

Breeding Bird Survey (BBS) Station Coordinates
Rainy River Resources study area
June 22 2010

Observers are Robert Foster (RFF), Leeann Graham (LG), Allan Harris (AGH), and Leanne Hollingsworth (LH)

BBS STATION	NORTHING	EASTING	OBSERVERS
BBS-1-1	5406662	432536	LG+ RFF
BBS-1-2	5406655	431707	LG+ RFF
BBS-1-3	5406652	430877	LG+ RFF
BBS-1-4	5406661	430043	LG+ RFF
BBS-1-5	5406680	429231	LG+ RFF
BBS-1-6	5406695	428406	LG+ RFF
BBS-1-7	5406478	427688	LG+ RFF
BBS-1-8	5405648	427679	LG+ RFF
BBS-1-9	5404826	427670	LG+ RFF
BBS-1-10	5404007	427658	LG+ RFF
BBS-1-11	5405099	428426	LG+ RFF
BBS-1-12	5406917	426957	LG+ RFF
BBS-1-13	5406923	426131	LG+ RFF
BBS-1-14	5406942	425315	LG+ RFF
BBS-1-15	5406962	424485	LG+ RFF
BBS-1-16	5406136	424399	LG+ RFF
BBS-1-17	5405307	424391	LG+ RFF
BBS-1-18	5404487	424387	LG+ RFF
BBS-1-19	5403675	424355	LG+ RFF
BBS-1-20	5407333	427703	LG+ RFF
BBS-1-21	5408152	427718	LG+ RFF
BBS-1-22	5408944	427950	LG+ RFF
BBS-1-23	5409791	427960	LG+ RFF
BBS-1-24	5410580	427969	LG+ RFF
BBS-1-25	5408496	428577	LG+ RFF
BBS-1-26	5408485	429462	LG+ RFF
BBS-1-27	5408478	430197	LG+ RFF
BBS-1-28	5408465	431032	LG+ RFF
BBS-2-1	5414552	424806	LH + AGH
BBS-2-2	5413722	424782	LH + AGH
BBS-2-3	5413061	424874	LH + AGH
BBS-2-4	5412254	424770	LH + AGH
BBS-2-5	5411777	424407	LH + AGH
BBS-2-6	5411766	425223	LH + AGH
BBS-2-7	5411761	426073	LH + AGH
BBS-2-8	5411206	426364	LH + AGH

BBS STATION	NORTHING	EASTING	OBSERVERS
BBS-2-9	5410366	426356	LH + AGH
BBS-2-10	5410119	426120	LH + AGH
BBS-2-11	5410174	425287	LH + AGH
BBS-2-12	5410188	424439	LH + AGH
BBS-2-13	5410197	423615	LH + AGH
BBS-2-14	5410210	422774	LH + AGH
BBS-2-15	5410222	421949	LH + AGH
BBS-2-16	5410235	421102	LH + AGH
BBS-2-17	5410249	420242	LH + AGH
BBS-2-18	5409989	419673	LH + AGH
BBS-2-19	5409169	419660	LH + AGH
BBS-2-20	5408385	419600	LH + AGH
BBS-2-21	5409409	421521	LH + AGH
BBS-2-22	5411060	421547	LH + AGH
BBS-2-23	5409274	426339	LH + AGH
BBS-2-24	5408539	426539	LH + AGH

APPENDIX VI - 7

Breeding Bird Survey Data
Rainy River Resources study area
June 22 2010.

Refer to Appendix VII – 3 for station coordinates

STATION	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	1-18	1-19	1-20	1-21	1-22	1-23	1-24	1-25	1-26	1-27	1-28
Wilson's Snipe			1					1							1			1	1		1			1			1	1
Killdeer														1														
Sandhill Crane																												1
Rock Dove			2																									6
Yellow-bellied Sapsucker																							2					
Downy Woodpecker																												1
Hairy Woodpecker																								1				
Pileated Woodpecker																		1										
Northern Flicker					1			1					1		1										1	1		1
Tree Swallow				1					1																			
Alder Flycatcher	1							1	1	1	1			1	1		1											
Least Flycatcher	3	1																						3				
Eastern Phoebe	1								1																			
Great-crested Flycatcher																							2					
Eastern Kingbird																								1				
Philadelphia Vireo									1																			
Red-eyed Vireo	1	1			1	1		1	1		1		2	1		1				1	1			1	1	1	2	1
Gray Jay													1															
Blue Jay			1				1				1	1	2				1										1	
American Crow		1		1			1						3	1			1	1		3						3	1	2
Common Raven										1							1	1				1				4		
Tree Swallow						8							2								2							2
Black-capped Chickadee	1						2																			2		

STATION	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	1-18	1-19	1-20	1-21	1-22	1-23	1-24	1-25	1-26	1-27	1-28
Golden-crowned Kinglet	1																											
Ruby-crowned Kinglet							1				2	1																
Gray Catbird				1		1																						
Eastern Bluebird						1																						
Veery	1		1	1		1	1	2			1	1	1	2	2	2	1	1	1		1		3	1			1	
Swainson's Thrush										1	2																	
Hermit Thrush	1			1	1				1		2	1			3						1		1		4	3		
American Robin	2		1											1							1						1	
European Starling							1																					1
Tennessee Warbler							1																					
Nashville Warbler				2	1				1	3	1		1		2	2		2	2	2	3				2			
Yellow Warbler												1																
Chestnut-sided Warbler		1			1				1			1			1	1	2				1		2	1		3		1
Magnolia Warbler																										1		
Black-and-white Warbler		1	2				1					1									1					1		
Ovenbird			1	1	2		1					1		1		2	1	2	1	1					1	1	2	
Northern Waterthrush	1																											
Mourning Warbler							1					1				1		1										
Common Yellowthroat	1			1	1			2	2		1			1	1		2	1					2	2			1	
Leconte's Sparrow		1																										
Clay-colored Sparrow		3	2	3	1	4	2	3	2			2	4	1			2		3	2	1	**3**	1			1	1	1
Chipping Sparrow		1		1			1						1				1	1			1				1		2	
Savannah Sparrow				2		1						2										2						2

STATION	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	1-18	1-19	1-20	1-21	1-22	1-23	1-24	1-25	1-26	1-27	1-28
Lincoln Sparrow										1																		
Song Sparrow	1	4	1	1	2	1	1	2	1	2	2	2	2				2	1	2	2	2	2		1		3	1	1
Swamp Sparrow															1									1				
White-throated Sparrow	3	2	1	1	2		2	1	1	2	4	1	2	1	1		3	1	1				1	1	2	2	1	
Brown-headed Cowbird																											2	
Red-winged Blackbird		5	3	1	3									1			2	2	4			6	4	2				1
Common Grackle			1																									
Bobolink						2	1												1	2		1						1
American Goldfinch						2	2	1				1			1			1	1				2	1	1			1
Pine Siskin						1																			2			

Klohn Crippen Berger

STATION	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	2-20	2-21	2-22	2-23	2-24	2-25
American Bittern					1																				
Sandhill Crane			1																						
Wilson's Snipe												1	1						1		1	1			
Bald Eagle															1										
Northern Harrier																									1
Yel-bell Sapsucker		1	1																						
Downy Woodpecker										1															
Yellow-shafted Flicker												1	1												
Alder Flycatcher					1								1	2	2				1						
Least Flycatcher		1						2		1														1	2
Warbling Vireo																								1	
Red-eyd Vireo		6	2	4	4	6	5	5	1	3	5	2		5	3		1	2	6	3	1	3	4	2	2
Blue Jay						1	2		2																
Gray Jay						1																			
American Crow		1			1		1	1				1			1										
Common Raven				1		1									2	1									
Black-billed Magpie																	3								
Tree Swallow								1																	4
Barn Swallow																		1							
Black-cap Chickadee												1				2									
Red-br. Nuthatch																2									
House Wren					1		1	2	2							2									1

STATION	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	2-20	2-21	2-22	2-23	2-24	2-25
Sedge Wren											1		2												2
Eastern Bluebird										1															
Veery	3	4		3	3	2	2	3	2	3	4	1	1		1			1	4	1	1	3		1	
Swainson's Thrush																						1			
Hermit Thrush	2	1		1		1															3	1			
American Robin	1		3	1	1		1	1	1	1	3			1	2			2				1			2
European Starling																		1						3	
Cedar Waxwing							1	1	2																
Nashville Warbler	3					2	1						1							1	1				
Yellow Warbler													2						1						
Chest-sided Warbler				1						1					1				2			2	1		
Wilson Warbler	1																								
American Redstart			2				1			1															
Ovenbird		1	4	2			2		1	1						1	1			1	1	2			
Mourning Warbler	2		2	1								1		1	1					1	1			1	
Common Yellowthroat					1				2	2	2	1	2				1	1						1	
Chipping Sparrow												1													
Clay-colored Sparrow																	2	2							
Savannah Sparrow															1		1	1						2	3
Song Sparrow					1				1		2	1	2	1		1	3	2	1	1			1	2	2
Swamp Sparrow											1	2													
Wh-throated Sparrow	2	1		2	2	1	1		1	2				2	1				1	1	2	1	3		2

Klohn Crippen Berger

STATION	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19	2-20	2-21	2-22	2-23	2-24	2-25
Rose-breast Grosbeak						1												1							
Bobolink															3		6	2						2	1
Red-winged Blackbird						3	3	1	1		2	2	2				4	1						5	
Brn-headed Cowbird												1													
American Goldfinch				1								2					1	2					1	2	

APPENDIX VI - 8

Bird Migration Monitoring Data
Rainy River Resources Study Area
October 5 – 8 2010.

Monitoring location is in Teeple Field, south of Pinewood River (425745E 5408591N)
Height codes are: 0: on ground; A: 0 to XX m; B: XX to XX m; C: XX to XX m

October 5 2010

TIME (STD)	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2
Wind Speed		0	0	2	2	2	3	3
Wind Direction		NE	NE	SE	SE	SE	SE	SE
Cloud Cover (%)		0	0	0	0	0	0	0
Visibility (km)		10km unlim	0	0	0	0	0	0
Precipitation		0	0	0	0	0	0	0
No. of observers		2	2	2	2	2	2	2
Dur. Of observers (min.)		30	60	60	60	60	60	30

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
7:30	10	American Robin	2	SW	C				
	15	Common Raven	1	E	A				
	12	Blackbird sp	2	SE	B				
	1	Eastern Bluebird	1		A				
	2	Dark-eyed Junco	1		A				
	2	American Tree Sparrow	1		A				
7:45	1	Northern Harrier	2		A	A	M		
	30	Canada Goose	2		0				Flock on field to W
	1	Sharp-tailed Grouse	2		0				In field to W
	1	Northern Harrier	2		A	J	M		In field to W
	2	Bald Eagle	2		B	A			Hunting
	2	Black-billed Magpie							Heard
	5	American Crow							Hunting
	1	Red-tailed Hawk	2	W	A	A		DARK	Heard
	1	Lapland Longspur							Heard
	1	Downy Woodpecker							Hunting
8:00	1	Red-tailed Hawk	2	W	A	J		DARK	Heard only
8:06	2	Red-breasted Nuthatch							
8:08	1	Horned Lark	2	W	A				
8:10	3	Sharp-tailed Grouse	1	E	A				

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
8:10	8	Canada Goose	1	W	B				
8:12	2	Passerine sp.	2	W	A				
8:14	1	Sharp-tailed Grouse	2	E	A				
	5	Passerine sp.	2	W	A				
8:16	1	American Kestrel	2	SE	A				
8:19	1	Turkey Vulture	2	SW	A				
8:21	1	Gray Jay	1		0				on ground
8:22	1	Sharp-tailed Grouse	2	E	A				
8:24	10	Passerine sp.	2	SW	A				
8:26	1	Sharp-tailed Grouse	2	E	A				
8:30	2	Canada Goose	2	SW	A				
8:30	1	Red-winged Blackbird	2						
8:30	2	Horned Lark	1	SW	A				
8:31	19	Canada Goose	3	E	B				
	1	Gray Jay	2	E	A				
8:37	4	Canada Goose	2	E	A				
8:37	6	Passerine sp.	2	W	A				
8:40	14	Sandhill Crane	1	NE	A				flock
8:40	2	Trumpeter Swan	2	W	A				pair(swan)
8:40	1	Wood Duck	2	NE	A				
8:50	1	Bald Eagle	3	S	B	J			
8:50	2	Bald Eagle	3	S	B	A			pair
9:03	9	Horned Lark	1	E	A				
9:05	2	American Robin	2	W	B				
9:16	1	Black-billed Magpie	1	E	A				
9:26	3	Passerine sp.	2	W	A				
9:37	1	Passerine sp.	2	E	B				
	1	Hairy Woodpecker							hanging out
9:40	10	Passerine sp.	2	W	A				
9:40	1	Passerine sp.	1	S	A				
9:45	4	Canada Goose	2	NW	B				
9:51	1	Turkey Vulture	2	S	B				

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
9:53	3	European Starling	2	E	A				
9:58	15	American Pipit	2	S	A				
10:02	4	Passerine sp.	1	S	B				
10:03	1	Sharp-shinned Hawk	1	S	B				
10:03	2	American Pipit	1	W	A				
10:09	1	Blue Jay							hang around
10:14	1	Bald Eagle	3	S	B				
10:15	2	Common Grackle	2	S	C				
10:17	2	Eastern Bluebird	1	S	B				
10:20	1	Blue Jay	1	S	A				
11:10	1	Northern Shrike	2		A				landed in field
11:15	20	Horned Lark	2		A				
11:20	140	Canada Goose	2	SW	A				
11:20	20	Canada Goose	2	N	A				maybe Cackling Goose
11:42	2	Blue Jay							heard
11:45	2	Red-tailed Hawk	3	S	A				
11:45	9	Sandhill Crane	3	W	C				
11:46	1	American Pipit	2	E	A				
11:46	1	Passerine sp.	2	SE	B				
	1	Northern Flicker							heard
11:55	15	Canada Goose	3	S	E				
12:03	1	Bald Eagle	3	S	C				
12:04	1	Lapland Longspur	1	S	A				
12:05	1	Red-tailed Hawk	3	S	C	A			
12:13	1	Pileated Woodpecker							heard only
12:16	3	Brewer's Blackbird	3	W	B			DARK	
12:16	1	Red-tailed Hawk	3	S	B				
12:55	3	Red-tailed Hawk	3	S	C				
1:15	1	Red-tailed Hawk	3	S	C				
1:30	1	Red-tailed Hawk	3	S	C				

6 HOUR SURVEY ENDING AT 1:30

October 6 2010

TIME (STD)	7-8	8-9	9-10	10-11	11-12	12-1	end
Wind Speed	1	1	2-3	3	3	3	3-4
Wind Direction	NW	NW	NW	NW	NW	NW	NW
Temp (Celsius)	9	9	10	10	12	~15	~17
Cloud Cover (%)	0	0	0	0	0	0	0
Visibility (km)	unlim.	unlim.	unlim.	unlim.	unlim.	unlim.	unlim.
Precipitation	0	0	0	0	0	0	0
No. of observers	2	2	2	2	2	2	2
Dur. Of observers (min.)	50	60	60	60	60	60	60

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
7:10	4	Tree Swallow	1	S	C				
	6	Passerine sp.	1	S	B				
	1	Bald Eagle	1	E	A	A			
	8	American Crow							non migratory
	1	Canada Goose	3	S	C				
7:15	1	Blue Jay							heard
7:21	3	European Starling	1	E	C				
7:23	12	Passerine sp.	2	E	B				
7:26	200	Canada Goose							landed in vview
	1	American Robin	1	N	A				
	1	Red-winged Blackbird	2	N	B				
	4	Duck Sp.	3	E	B				
	1	Common Raven	1	E	A				
7:35	1	Common Raven	3	E	B				
7:38	2	Canada Goose	3	W	C				
7:38	20	Passerine Sp.	2	W	B				
7:42	1	Lapland Longspur	2	N	A				
7:43	3	Sandhill Crane							non migratory
7:50	1	Bald Eagle	2	E	A				
7:50	1	Black-billed Magpie							non migratory
7:52	3	Common Raven				A	M		non migratory

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
7:55	1	Northern Harrier							non migratory
8:00	1	House Wren							heard only
	6	Passerine sp.	2	NE	A				
	1	American Robin	2	E	A				
8:05	1	Red-breasted Nuthatch							non migratory
8:20	2	Northern Shrike							On fence. Maybe Northern Shrike
8:25	1	Mallard	3	N	B				
8:40	2	Bald Eagle							non migratory. Foraging
8:50	3	Canada Goose	3	E	A				
8:50	10	Passerine sp.	3	W	C				
8:53	100	Canada Goose	3	S	C				
8:54	25	Canada Goose	3	S	C				
9:00	1	Osprey	3	S	C				
9:00	1	Blue Jay	1	S	A				
9:00	1	Gray Jay							not migrating
9:00	10	Passerine sp.	2	W	B				
9:30	1	Horned Lark	1	W	A				
9:32	6	Dark-eyed Junco	1	S	A				
9:33	1	Red-tailed Hawk	3	S	B	A			
9:33	1	Red-tailed Hawk	3	S	C				
9:33	4	Canada Goose	2	W	A				
9:36	2	Mallard	3	SE	C				
9:37	1	Sharp-shinned Hawk	3	S	B	A			
9:37	1	Horned Lark							
9:40	1	Sharp-shinned Hawk	3	S	2				
9:45	4	Passerine sp.	2	W	A				
10:00	1	Red-tailed Hawk	3	S	B				
10:01	1	Black-capped Chickadee							non migratory

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
10:40	200	Canada Goose							not migrating yet. Landed in field (may be same as before). May include Cackling Geese
10:43	12	Passerine sp.	3	W	C				
10:43	2	Turkey Vulture	3	S	C				
10:40	1	Red-tailed Hawk	3	S	C				
10:45	2	Red-tailed Hawk	3	S	C				
10:45	8	Passerine sp.	3	W	B				
10:46	5	Passerine sp.	2	W	B				
10:47	1	Bald Eagle	3	S	C	J			
11:45	2	Bald Eagle	3	S	E	A			pair
11:46	6	American Robin	3	W	C				
11:48	1	American Tree Sparrow							not migrating. In trees
11:50	2	Passerine sp.	2	N	B				
11:50	6	American Pipit	1	E	A				
11:52	1	Palm Warbler	1	W	A				
11:53	2	American Tree Sparrow	1	W	A				
11:53	1	Gray Jay							non migratory
11:53	1	American Robin	1	S	A				
12:35	1	Peregrine Falcon	3	S	C				Peregrine Falcon
12:50	5	Passerine sp.	3	N	B				

End of survey at 1:00pm

October 7 2010

TIME (STD)	7-8	8-9	9-10	10-11	11-12	12-1
Wind Speed	0	0	0	0	0	2
Wind Direction	W			W	W	SW
Temp (Celsius)	1	5	5	10	15	16
Cloud Cover (%)	0	0	0	0	0	0
Visibility (km)	UNLIM.	UNLIM.	UNLIM.	UNLIM.	UNLIM.	UNLIM.
Precipitation	0	0	0	0	0	0
No. of observers	2	2	2	2	2	2
Dur. Of observers (min.)	60	60	60	60	60	60

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
7:00	5	American Crow							not migrating
7:00	1	Blue Jay							heard only
7:00	4	Canada Goose							
7:38	2	Mallard	2	E	B				
7:45	1	Passerine Sp.	1	S	B				
7:45	4	American Crow							NOT MIGRATING
7:48	11	Sharp-tailed Grouse							NOT MIGRATING
7:48	5	Canada Goose	3	E	A				
7:52	2	Canada Goose	3	N W	B				
7:58	1	Bald Eagle	1		A				NOT MIGRATING
7:58	1	Bald Eagle	2		A				NOT MIGRATING
8:00	4	Passerine Sp.	3	W	B				
8:13	2	Red-breasted Nuthatch							NOT MIGRATING
8:14	4	Mallard	3	W	A				
8:14	1	Sandhill Crane							HEARD ONLY
8:15	1	Rusty Blackbird	2	W	C				
8:15	1	Dark-eyed Junco							NOT MIGRATING
8:20	1	Passerine Sp.	2	E	A				
8:32	9	Canada Goose	2	E	A				
8:49	1	Passerine sp	2	W	B				
9:00	1	Black-billed Magpie							NOT MIGRATING

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
9:00	1	American Robin							NOT MIGRATING
9:32	1	Pileated Woodpecker							NOT MIGRATING
9:40	12	Passerine Sp.	2		A				LANDED IN ?
9:52	1	Passerine Sp.	1	W	A				
10:00	2	Red-winged Blackbird	1	SW	A				
10:02	1	Purple Finch	2	S	A				
10:02	3	Eastern Bluebird	1	S	A				
10:15	1	Merlin	1	SW	A				
10:33	1	Northern Harrier	1		A	A	M		NOT MIGRATING
10:50	1	Northern Goshawk	1	S	A	A	M		
10:52	1	Merlin	3	E	A				
11:00	1	Black-billed Magpie							NOT MIGRATING
11:01	2	Turkey Vulture	3	W	C				
11:03	6	Snow Bunting	2	SE	A				
11:06	10	Snow Bunting	2	W	A				
11:10	8	Canada Goose	2	N W	A				
11:12	1	Red-tailed Hawk	3	S	B				
11:15	6	Blue Jay	3	W	C				
11:20	4	Canada Goose	3	W	C				
11:20	13	Canada Goose	3	N W	B				
11:40	2	Canada Goose	3	E	A				
11:40	1	Sharp-shinned Hawk	1	S	B				
11:41	1	Bald Eagle	3	S	E				
11:47	1	Bald Eagle	3	S	E				
11:50	1	Gray Jay							NOT MIGRATING
12:23	1	Bald Eagle	3	S	C				
12:24	3	Bald Eagle	3	S	E				
12:24	3	Black-billed Magpie	3	E	C				
12:30	1	American Robin	1	E	A				
12:35	150	Canada Goose	2		A				MOSTLY CACKLING GEESE. LANDED IN FIELD

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
12:35	5	Passerine Sp.	2	E	A				
12:35	1	Bald Eagle	2	E	A				
12:55	1	Bald Eagle	2	E	C				

END OF SURVEY AT 1:03PM

October 8 2010

TIME (STD)	6-7	7-8	8-9	9-10	10-11
Wind Speed		0	0	0	0
Wind Direction					
Temp (Celsius)		4	6	9	13
Cloud Cover (%)		15	10	0	0
Visibility (km)		Unlimited	Unlimited	Unlimited	Unlimited
Precipitation				0	
No. of observers		2	2	0	2
Dur. Of observers (min.)		60	60	0	60

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
7:10	30	Canada Goose	2	N	A				
7:10	1	Red-breasted Nuthatch							NOT MIGRATING
7:10	1	Downy Woodpecker							NOT MIGRATING
7:10		American Robin							NOT MIGRATING
7:10		American Crow							NOT MIGRATING
7:10		Common Raven							NOT MIGRATING
7:15	7	Passerine Sp.	2	S	C				
7:15	1	Mallard							
7:40	1	Lapland Longspur	1	SW	A				
7:50	1	Blue Jay	1	N	A				
7:50	1	Bald Eagle							HEARD
7:58	1	Northern Harrier				A	M		NOT MIGRATING
8:00	10	Sharp-tailed Grouse							NOT MIGRATING. IN FIELD CALLING- COYOTE THERE TOO.
8:00	1	Pileated Woodpecker							HEARD
8:08	1	Canada Goose	2	S	B				
8:10	4	Horned Lark	1	S	A				
8:12	8	Sharp-tailed Grouse							NOT MIGRATING
8:30	2	Canada Goose	2	S	B				
8:50	1	American Robin	1	S	B				

TIME	#	SPECIES	DISTANCE	DIRECTION	HEIGHT	AGE	SEX	MORPH	COMMENT
8:58	2	Rusty Blackbird	2	E	B				
8:59	1	Purple Finch	1	SW	B				
9:00	2	Common Grackle	3	E	B				
9:15	1	Northern Harrier	1		A				HUNTING
9:20	1	Black-backed Woodpecker	1	NE	A				
9:35	15	Horned Lark	2	W	B				
9:40	1	Purple Finch	2	S	B				
9:49	1	Black-billed Magpie							NOT MIGRATING
10:00	1	Sharp-shinned Hawk	2	S	C				
10:02	1	Blue Jay							NOT MIGRATING
10:06	1	Purple Finch	1	SW	A				
10:06	3	Lapland Longspur	1	W	A				
10:12	1	Hermit Thrush							HEARD
10:12	1	Sharp-shinned Hawk	3	S	C				
10:12	1	Bald Eagle	3	S	C				
10:12	1	Horned Lark	1	S	B				
10:45	19	American Robin	2	W	A				
11:54	12	European Starling	2	W	B				

START OF SURVEY 7:10
END OF SURVEY 11:AM

APPENDIX VI - 9

Amphibian Survey Station Coordinates and Dates
Rainy River Resources Study Area
2009 - 2010

Observers are Robert Foster (RFF), Leeann Graham (LG), Allan Harris (AGH), Leanne Hollingsworth (LH), Matt MacKinnon (MTM), Brian Ratcliff (BR)

STATION	LOCATION		2009 SAMPLING			2010 SAMPLING		
	Easting	Northing	Survey 1	Survey 2	Survey 3	Survey 1	Survey 2	Survey 3
AM1	419558	5408072	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM2	422221	5410212	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM3	423633	5410187	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM4 (PSAM1)	425245	5410148	May 10, May 11	June 2, June 3, June 4	July 3, July 5	29-Apr	8-Jun	24-Jun
AM5	426288	5411753	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM6	424771	5413305	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM7 (A1AM4)	424798	5414458	May 10, May 11	June 2, June 3, June 4	July 3, July 5	29-Apr	8-Jun	24-Jun
AM8 (A1AM1)	424634	5416610	May 10, May 11	June 2, June 3, June 4	July 3, July 5	29-Apr	8-Jun	24-Jun
AM9	424222	5406965	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM10	427703	5407091	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM11 (PSAM4)	427707	5407089	May 10, May 11	June 2, June 3, June 4	July 3, July 5	29-Apr	8-Jun	24-Jun
AM12	427971	5410812	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM13	427949	5409180	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM14	430040	5408479	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM15 (A2AM1)	432829	5413297	May 10, May 11	June 2, June 3, June 4	July 3, July 5	29-Apr	8-Jun	24-Jun
AM16	431194	5411667	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM17	432805	5411417	NA	NA	NA	29-Apr	8-Jun	24-Jun
AM18	432751	5409144	NA	NA	NA	29-Apr	8-Jun	24-Jun
PSAM2	426323	5408817	May 10, May 11	June 2, June 3, June 4	July 3, July 5	NA*	NA*	NA*
PSAM3	425216	5409746	May 10, May 11	June 2, June 3, June 4	July 3, July 5	NA*	NA*	NA*

NA - Station was not part of the 2009 program. Not surveyed in 2009.

NA* - Station was not part of the 2010 program. Not surveyed in 2010

APPENDIX VI - 10

Amphibian Survey Data
Rainy River Resources Study Area
2009 – 2010

Refer to Appendix VII – 6 for station coordinates

COMMON NAME			Eastern American Toad				Boreal Chorus Frog				Gray Treefrog				Green Frog				Mink Frog				Northern Lepord Frog				Northern Spring Peeper				Wood Frog			
FAMILY			Bufonidae				Hylidae				Hylidae				Ranidae				Ranidae				Ranidae				Hylidae				Ranidae			
SCIENTIFIC NAME			*Bufo americanus americanus*				*Pseudacris maculata*				*Hyla versicolor*				*Rana clamitans*				*Rana septentrionalis*				*Rana pipiens*				*Pseudacris crucifer crucifer*				*Rana sylvatica*			
CODE			AMTO				CHFR				GRTF				GRFR				MIFR				NLFR				SPPE				WFR			
			CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT	
			1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min
	AM1	AM1-1																					1		1		3	3	~100	~100	2	1	~7	~2
		AM1-2					3		30																		3	1	~20	3		1		1
		AM1-2									1		1																					
		AM1-3	1		1						1		1						1		1													
	AM2	AM2-1																									3		~100's		2		~10	
		AM2-2					2		7																		3		~20			1		7
		AM2-2	1		2						1		5																					
		AM2-3	1		1						1		1																					
	AM3	AM3-1					1		1															1		2	3	3	~100's	~100's	1	1	3	1
		AM3-2					3	1	200	2																	3	2	100	3				
		AM3-2	2		5		1	1	5	3/5	1	1	2	3													1		4					
		AM3-3	2		10		1		1		1		5																					
	AM4	AM4-1	1		3		1	1	1	1													1		1		2	1	10	3				
		AM4-2					3	1	~100	2																	2		10					
		AM4-2		1		2	1		3			1		1													1	1	2	3		1		1
		AM4-3	1		3						1		6																					
	AM5	AM5-1																									3		100's					
		AM5-2					1	1	2	3																	3	3	200	200				
		AM5-2																																
		AM5-3																																
	AM6	AM6-1																									2	2						
		AM6-2																									3		~100					
		AM6-2					1		1																									
		AM6-3									2		8																					
	AM7	AM7-1																									3		~100's					
		AM7-2					1	1	3	8																	3	3	~300	300	1		1	
		AM7-2					2		10		1		1																		1		3	
		AM7-3									1		4																					
	AM8	AM8-1																									3		100's					
		AM8-2																																
		AM8-2																																
		AM8-3																																
	AM9	AM9-1																									3	3	400	400				
		AM9-2					1		1														1		1		3	3	~400	~400	2		5	
		AM9-2																																
		AM9-3																																
	AM10	AM10-1																									3	3	30	30				
		AM10-2					3	3																			2		3			1		2
		AM10-2							3				1																					
		AM10-3									1		2										1		2									
	AM11	AM11-1																					1	1	2	2								
		AM11-2					3		20																		2		5					
		AM11-2			1				4				5																					
		AM11-3									2		3										1		1									

COMMON NAME			Eastern American Toad				Boreal Chorus Frog				Gray Treefrog				Green Frog				Mink Frog				Northern Lepord Frog				Northern Spring Peeper				Wood Frog			
FAMILY			Bufonidae				Hylidae				Hylidae				Ranidae				Ranidae				Ranidae				Hylidae				Ranidae			
SCIENTIFIC NAME			*Bufo americanus americanus*				*Pseudacris maculata*				*Hyla versicolor*				*Rana clamitans*				*Rana septentrionalis*				*Rana pipiens*				*Pseudacris crucifer crucifer*				*Rana sylvatica*			
CODE			AMTO				CHFR				GRTF				GRFR				MIFR				NLFR				SPPE				WFR			
			CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT		CL CODE		COUNT	
			1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min	1-3min	4-5min
	AM12	AM12-1																									3	3	30	30	1	1	2	7
		AM12-2					3	3	100	100																	2	2	15	20				
		AM12-2											3																					
		AM12-3									1		2																					
	AM13	AM13-1	0				0				0				0				0				0				0				0			
		AM13-2					1	1	1	1																								
		AM13-2			1				1				1																					
		AM13-3									1		3																					
	AM14	AM14-1					1		2														1	1	1	2	2	2	10	10	1			
		AM14-2																									3	3	12	12				
		AM14-2										3																						
		AM14-3		1		1					3																							
	AM15	AM15-1																									3		~100's					
		AM15-2					1		1																		3	3	100's	100's				
		AM15-2							1		3		5																					
		AM15-3									3	3	100's	100's					1		2													
	AM16	AM16-1																									3	3	40	40	1		1	
		AM16-2																									3	3	200	200				
		AM16-2																																
		AM16-3									3																							
	AM17	AM17-1					3	3	100's	100's																	3	3	100's	100's	1	1	3	1
		AM17-2					3	3	100	100																	2	2	10	10	1	1	1	1
		AM17-2																																
		AM17-3	1	1	2	2	1				3	3																						
	AM18	AM18-1					1		1																		3	3	100's	100's	1		1	
		AM18-2						2		10																	2	2	30	40				
		AM18-2											1																					
		AM18-3					1	1	1		3	3	100's	100's																				
	CALL CODE SUMMARY																																	
	TOTAL CALL '0'		1	—			1	—			1	—			1	—			1	—			1	—			1	—			1	—		
	TOTAL CALL '1'		6	3			14	8			12	2			—	—			2	—			7	3			2	3			9	9		
	TOTAL CALL '2'		2	—			2	1			2	—			—	—			—	—			—	—			9	6			3	—		
	TOTAL CALL '3'		—	—			8	4			6	3			—	—			—	—			—	—			23	14			—	—		
	COUNT SUMMARY																																	
	TOTAL CALLS HEARD				29	5			>699	>331			>259	>204			—	—			3	—			9	6			>2951	>2204			37	23

APPENDIX VI - 11

Whip-poor-will and Common Nighthawk Survey Data
Rainy River Resources Study Area
2010.

Date	Observer(s)	Stop 1	Stop 2	Stop 3	Stop 4	Stop 5	Stop 6	Stop 7
June 9,2010	MTM + BR							
June 9,2010	LH + AH					2 WP: 207		
June 22, 2010	RF							
June 22, 2010 June 23, 2010	LH							
June 22, 2010	AH		1 WP: 205		3 WP: 207	1 WP: 208	1 WP: 209	1 WP: 210
June 24, 2010								
June 24, 2010								
TOTAL INDIVIDUALS OBSERVED PER STOP		0	1	0	3	3	1	1

Stop 8	Stop 9	Stop 10	TOTAL INDIVIDUALS OBSERVED PER SURVEY
	1 WP: 04.32781, 54.0990		1
1 WP: 211	1 WP: 212		4
			0
			0
			7
1 WP:			1
2	2	0	13

Date	Observer(s)	Stop 1	Stop 2	Stop 3	Stop 4	Stop 5	Stop 6	Stop 7	Stop 8	Stop 9	Stop 10	TOTAL INDIVIDUALS OBSERVED PER SURVEY
June 9,2010	MTM + BR							1 possible WP: 04.31208, 54.1250				1 possible
June 9,2010	LH + AH		2 WP: 205									2
June 22, 2010	RF											0
June 22, 2010	LH				1 WP:	1 WP:	1 WP:					6
June 23, 2010									1 WP:	1 WP:	1 WP:	
June 22, 2010	AH					3 WP: 208						3
June 24, 2010												
June 24, 2010												0
TOTAL INDIVIDUALS OBSERVED PER STOP		0	2	0	1	4	1	1	1	1	1	

APPENDIX VI - 12

Bird Species of the Rainy River Resources Study Area

The following species were observed or heard in or near the Rainy River Resources study area in 2009 and 2010. Taxonomic order and nomenclature follow AOU (1998).

Nesting Evidence

Nest evidence codes follow the Ontario Breeding Bird Atlas (Cadman et al. 2007):

Possible nesting

H - Species observed in breeding season in suitable habitat.

S – Singing male present or breeding calls heard observed in breeding season in suitable habitat.

Probable nesting

T - Permanent territory presumed through territorial song

D - Courtship or display

Confirmed Nesting

FY – Recently fledged young or downy young

NE - Nest containing eggs

Non-nesting

X - Species observed during its breeding season (no evidence of breeding)

M - Migrant

Conservation Status

* Partners in Flight Priority Species (Ontario Partners in Flight 2006)

+ Species at Risk (COSEWIC or COSSARO listed species)

			Status
Loons		**FAMILY GAVIIDAE**	
	Common Loon	*Gavia immer*	**T**
Grebes		**FAMILY PODICIPEDIDAE**	
	Pied-billed Grebe	*Podilymbus podiceps*	**H**
Pelicans		**FAMILY PELECANIDAE**	
	American White Pelican	*Pelecanus erythrorhynchos*	**X**
Bitterns and Herons		**FAMILY ARDEIDAE**	
	American Bittern	*Botaurus lentiginosus*	**NE**
	Great Blue Heron	*Ardea herodias*	**H**
Ducks and Geese		**FAMILY ANATIDAE**	
	Canada Goose	*Branta canadensis*	**FY**
	Trumpeter Swan	*Cygnus buccinator*	**P**
	Wood Duck	*Aix sponsa*	**H**
	Mallard	*Anas platyrhynchos*	**FY**
	Blue-winged Teal	*Anas discors*	**P**
	Green-winged Teal	*Anas crecca*	**P**
	Ring-necked Duck	*Aythya collaris*	**P**
	Common Goldeneye	*Bucephala clangula*	**P**
	Hooded Merganser	*Lophodytes cucullatus*	**P**
Vultures		**FAMILY CATHARTIDAE**	
	Turkey Vulture	*Cathartes aura*	**H**
Eagles and Hawks		**FAMILY ACCIPITRIDAE**	
	Osprey	*Pandion haliaetus*	**M**
	Northern Harrier	*Circus cyaneus*	**T**
	Sharp-shinned Hawk	*Accipiter striatus*	**H**
+	Northern Goshawk	*Accipiter gentilis*	**M?**
+	Broad-winged Hawk	*Buteo platypterus*	**H**
	Red-tailed Hawk	*Buteo jamaicensis*	**H**
Falcons		**FAMILY FALCONIDAE**	
	American Kestrel	*Falco sparverius*	**H**
	Merlin	*Falco columbarius*	**H**
* +	Peregrine Falcon	*Falco peregrinus*	**M**

Grouse and Quail		**FAMILY PHASIANIDAE**	
+	Ruffed Grouse	*Bonasa umbellus*	**S**
	Sharp-tailed Grouse	*Tympanuchus phasianellus*	**D**
Rails		**FAMILY RALLIDAE**	
	Virginia Rail	*Rallus limicola*	**S**
	Sora	*Porzana carolina*	**S**
Cranes		**FAMILY GRUIDAE**	
	Sandhill Crane	*Grus canadensis*	**P**
Plovers		**FAMILY CHARADRIIDAE**	
	Killdeer	*Charadrius vociferus*	**H**
Sandpipers		**FAMILY SCOLOPACIDAE**	
	Greater Yellowlegs	*Tringa melanoleuca*	**M?**
	Spotted Sandpiper	*Actitis macularia*	**P**
	Whimbrel	*Numenius phaeopus*	**M**
	Wilson's Snipe	*Gallinago delicata*	**T**
	American Woodcock	*Scolopax minor*	**NE**
Gulls and Terns		**FAMILY LARIDAE**	
	Herring Gull	*Larus argentatus*	**X**
	Forster's Tern	*Sterna forsteri*	**H**
Doves and Pigeons		**FAMILY COLUMBIDAE**	
	Rock Pigeon	*Columba livia*	**H**
Typical Owls		**FAMILY STRIGIDAE**	
	Great Horned Owl	*Bubo virginianus*	**S**
	Northern Hawk Owl	*Surnia ulula*	**H**
	Barred Owl	*Strix varia*	**S**
* +	Great Gray Owl	*Strix nebulosa*	**S**
	Long-eared Owl	*Asio otus*	**S**
* +	Short-eared Owl	*Asio flammeus*	**H**
	Northern Saw-whet Owl	*Aegolius acadicus*	**S**

		Goatsuckers	**FAMILY CAPRIMULGIDAE**	
*	+	Common Nighthawk	*Chordeiles minor*	**T**
*	+	Whip-poor-will	*Caprimulgus vociferus*	**T**
		Hummingbirds	**FAMILY TROCHILIDAE**	
		Ruby-throated Hummingbird	*Archilochus colubri*	**H**
		Kingfishers	**FAMILY ALCEDINIDAE**	
	+	Belted Kingfisher	*Ceryle alcyon*	**H**
		Woodpeckers	**FAMILY PICIDAE**	
	+	Yellow-bellied Sapsucker	*Sphyrapicus varius*	**S**
		Hairy Woodpecker	*Picoides villosus*	**H**
		Black-backed Woodpecker	*Picoides arcticus*	**H**
	+	Northern Flicker	*Colaptes auratus*	**H**
		Pileated Woodpecker	*Dryocopus pileatus*	**H**
		Tyrant Flycatchers	**FAMILY TYRANNIDAE**	
*	+	Olive-sided Flycatcher	*Contopus borealis*	**H**
	+	Eastern Wood-Pewee	*Contopus virens*	**T**
		Yellow-bellied Flycatcher	*Empidonax flaviventris*	**S**
		Alder Flycatcher	*Empidonax alnorum*	**T**
	+	Least Flycatcher	*Empidonax minimus*	**T**
		Eastern Phoebe	*Sayornis phoebe*	**T**
		Great Crested Flycatcher	*Myiarchus crinitus*	**S**
		Eastern Kingbird	*Tyrannus tyrannus*	**P**
		Larks	**FAMILY ALAUDIDAE**	
		Horned Lark	*Eremophila alpestris*	**M?**
		Swallows	**FAMILY HIRUNDINIDAE**	
		Tree Swallow	*Tachycineta bicolor*	**H**
	+	Northern Rough-winged	*Stelgidopteryx serripennis*	**H**
	+	Bank Swallow	*Riparia riparia*	**H**
		Cliff Swallow	*Hirundo pyrrhonota*	**H**
	+	Barn Swallow	*Hirundo rustica*	**H**

Jays, Crows and Ravens	**FAMILY CORVIDAE**		
	Gray Jay	*Perisoreus canadensis*	**H**
	Blue Jay	*Cyanocitta cristata*	**H**
	Black-billed Magpie	*Pica pica*	**P**
	American Crow	*Corvus brachyrhynchos*	**H**
	Common Raven	*Corvus corax*	**H**
Chickadees	**FAMILY PARIDAE**		
	Black-capped Chickadee	*Parus atricapillus*	**H**
Nuthatches	**FAMILY SITTIDAE**		
	Red-breasted Nuthatch	*Sitta canadensis*	**H**
Creepers	**FAMILY CERTHIIDAE**		
	Brown Creeper	*Certhia americana*	**H**
Wrens	**FAMILY TROGLODYTIDAE**		
	House Wren	*Troglodytes aedon*	**T**
	Winter Wren	*Troglodytes troglodytes*	**T**
+	Sedge Wren	*Cistothorus platensis*	**T**
	Marsh Wren	*Cistothorus palustris*	**S**
Kinglets	**FAMILY REGULIDAE**		
	Golden-crowned Kinglet	*Regulus satrapa*	**S**
	Ruby-crowned Kinglet	*Regulus calendula*	**S**
Thrushes	**FAMILY TURDIDAE**		
	Eastern Bluebird	*Sialia sialis*	**H**
+	Veery	*Catharus fuscescens*	**T**
	Swainson's Thrush	*Catharus ustulatus*	**T**
	Hermit Thrush	*Catharus guttatus*	**T**
+	Wood Thrush	*Catharus mustelinus*	**S**
	American Robin	*Turdus migratorius*	**T**
Mockingbirds and Thrashers	**FAMILY MIMIDAE**		
	Gray Catbird	*Dumetella carolinensis*	**T**
+	Brown Thrasher	*Toxostoma rufum*	**T**

Wagtails and Pipits	**FAMILY MOTACILLIDAE**		
	American Pipit	*Anthus rubescens*	**M**
Waxwings	**FAMILY BOMBYCILLIDAE**		
	Cedar Waxwing	*Bombycilla cedrorum*	**H**
Shrikes	**FAMILY LANIIDAE**		
	Northern Shrike	*Lanius excubitor*	**M**
Starlings	**FAMILY STURNIDAE**		
	European Starling	*Sturnus vulgaris*	**H**
Vireos	**FAMILY VIREONIDAE**		
	Blue-headed Vireo	*Vireo solitarius*	**S**
	Warbling Vireo	*Vireo gilvus*	**T**
	Philadelphia Vireo	*Vireo philadelphicus*	**S**
	Red-eyed Vireo	*Vireo olivaceus*	**T**
Wood-warblers	**FAMILY PARULIDAE**		
+	Nashville Warbler	*Vermivora ruficapilla*	**T**
	Northern Parula	*Parula americana*	**S**
	Yellow Warbler	*Dendroica petechia*	**T**
	Chestnut-sided Warbler	*Dendroica pensylvanica*	**T**
	Magnolia Warbler	*Dendroica magnolia*	**S**
	Yellow-rumped Warbler	*Dendroica coronata*	**S**
	Palm Warbler	*Dendroica palmarum*	**S**
+	Black-throated Green Warbler	*Dendroica virens*	**T**
+	Blackburnian Warbler	*Dendroica fusca*	**S**
+	Bay-breasted Warbler	*Dendroica castanea*	**S**
	Black-and-white Warbler	*Mniotilta varia*	**T**
	American Redstart	*Setophaga ruticilla*	**T**
	Ovenbird	*Seiurus aurocapillus*	**NE**
	Northern Waterthrush	*Seiurus noveboracensis*	**S**
+	Connecticut Warbler	*Oporornis agilis*	**S**
+	Mourning Warbler	*Oporornis philadelphia*	**T**
+	Common Yellowthroat	*Geothlypis trichas*	**T**
	Wilson's Warbler	*Wilsonia pusilla*	**S**
* +	Canada Warbler	*Wilsonia canadensis*	**S**

Cardinals and Allies	**FAMILY CARDINALIDAE**		
+	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	**T**
	Indigo Bunting	*Passerina cyanea*	**S**
New World Sparrows	**FAMILY EMBERIZIDAE**		
	American Tree Sparrow	*Spizella arborea*	**M**
	Chipping Sparrow	*Spizella passerina*	**T**
	Clay-colored Sparrow	*Spizella pallida*	**T**
	Savannah Sparrow	*Passerculus sandwichensis*	**NE**
	LeConte's Sparrow	*Ammodramus leconteii*	**T**
	Song Sparrow	*Melospiza melodia*	**T**
	Lincoln's Sparrow	*Melospiza lincolnii*	**S**
+	Swamp Sparrow	*Melospiza georgiana*	**T**
+	White-throated Sparrow	*Zonotrichia albicollis*	**T**
	Dark-eyed Junco	*Junco hyemalis*	**M?**
	Lapland Longspur	*Calcarius lapponicus*	**M**
	Snow Bunting	*Plectrophenax nivalis*	**M**
New World Blackbirds	**FAMILY ICTERIDAE**		
+	Bobolink	*Dolichonyx oryzivorus*	**D**
	Red-winged Blackbird	*Agelaius phoeniceus*	**P**
* +	Rusty Blackbird	*Euphagus carolinus*	**M**
	Brewer's Blackbird	*Euphagus cyanocephalus*	**P**
	Common Grackle	*Quiscalus quiscula*	**H**
	Brown-headed Cowbird	*Molothrus ater*	**H**
	Baltimore Oriole	*Icterus galbula*	**S**
Finches	**FAMILY FRINGILLIDAE**		
+	Purple Finch	*Carpodacus purpureus*	**S**
	White-winged Crossbill	*Loxia leucoptera*	**H**
	Pine Siskin	*Carduelis pinus*	**H**
	American Goldfinch	*Carduelis tristis*	**P**
Old World Sparrows	**FAMILY PASSERIDAE**		
	House Sparrow	*Passer domesticus*	**H**

APPENDIX VI - 13

Reptile and Amphibian Species of the Rainy River Resources Study Area

The following species were observed in or near the Rainy River Resources study area in 2009 and 2010. Taxonomic authority is Cook (1984).

REPTILES	
Box and Water Turtles	**FAMILY EMYDIDAE**
Western Painted Turtle	*Chrysemys picta belli*
Snapping Turtles	**FAMILY CHELYDRIDAE**
Snapping Turtle	*Chelydra serpentina*
Colubrids	**FAMILY COLUBRIDAE**
Eastern Garter Snake	*Thamnophis sirtalis sirtalis*
AMPHIBIANS	
Toads	**FAMILY BUFONIDAE**
Eastern American Toad	*Bufo americanus americanus*
Treefrogs	**FAMILY HYLIDAE**
Tetraploid Gray Treefrog	*Hyla versicolor*
Northern Spring Peeper	*Pseudacris crucifer crucifer*
Boreal Chorus Frog	*Pseudacris maculata*
True Frogs	**FAMILY RANIDAE**
Leopard Frog	*Rana pipiens*
Mink Frog	*Rana septentrionalis*
Wood Frog	*Rana sylvatica*

APPENDIX VI - 14

Dragonfly and Damselfly Species of the Rainy River Resources Study Area

The following species were observed in or near the Rainy River Resources study area in 2009 and 2010. Provincially rare species (NHIC 2011) are marked "P".

Dragonflies

Spiketails		**FAMILY CORDULEGASTERIDAE**
	Twin-spotted Spiketail	*Cordulegaster maculata*
P	Arrowhead Spiketail	*Cordulegaster obliqua*
Emeralds		**FAMILY CORDULIIDAE**
	American Emerald	*Cordulia shurtleffi*
	Racket-tailed Emerald	*Dorocordulia libera*
Clubtails		**FAMILY GOMPHIDAE**
P	Horned Clubtail	*Arigomphus cornutus*
Skimmers		**FAMILY LIBELLULIDAE**
	Frosted Whiteface	*Leucorrhinia frigida*
	Chalk-fronted Skimmer	*Libellula julia*
	Common Whitetail	*Libellula lydia*
	Twelve-spotted Skimmer	*Libellula pulchella*
	Four-spotted Skimmer	*Libellula quadrimaculata*

Damselflies

Jewelwings		**FAMILY CALOPTERYGIDAE**
	River Jewelwing	*Calopteryx aequabilis*
Bluets		**FAMILY COENAGRIONIDAE**
	Aurora Damsel	*Chromagrion conditum*

APPENDIX VII - 1

Vascular Plant Species Observed at the Rainy River Resources Regional Study Area 2009 and 2010

FAMILY EQUISETACEAE	**Horsetail Family**
Equisetum fluviatile L.	Water Horsetail
Equisetum sylvaticum L.	Woodland Horsetail
FAMILY DENNSTAETIACEAE	**Bracken Family**
Pteridium aquilinum (L.) Kuhn	Bracken
FAMILY DRYOPTERIDACEAE	**True Fern Family**
Athyrium filix-femina (L.) Roth.	Lady Fern
Cystopteris bulbifera (L.) Bernh.	Bladder Fern
Dryopteris carthusiana (Villars) H.P.Fuchs	Spinulose Wood Fern
Dryopteris cristata (L.) A.Gray	Crested Wood Fern
Gymnocarpium dryopteris (L.) Newman	Oak Fern
Matteuccia struthiopteris (L.) Todara	Ostrich Fern
Onoclea sensibilis L.	Sensitive Fern
Woodsia ilvensis (L.) R.Br.	Rusty Woodsia
FAMILY OPHIOGLOSSACEAE	**Succulent Fern Family**
Botrychium virginianum (L.) Sw.	Rattlesnake Fern
FAMILY OSMUNDACEAE	**Flowering Fern Family**
Osmunda claytoniana L.	Interrupted Fern
FAMILY THELYPTERIDACEAE	**Marsh Fern Family**
Thelypteris palustris (Salisb.) Schott	Marsh Fern
FAMILY LYCOPODIACEAE	**Clubmoss Family**
Lycopodium annotinum L.	Bristly Clubmoss
Lycopodium clavatum L.	Common Clubmoss
FAMILY PINACEAE	**Pine Family**
Abies balsamea (L.) Miller	Balsam Fir
Juniperus communis L.	Common Ground Juniper
Larix laricina (Duroi) K.Koch	Tamarack
Picea glauca (Moench) Voss	White Spruce
Picea mariana (Miller) BSP	Black Spruce
Pinus banksiana Lambert	Jack Pine
Pinus strobus L.	White Pine
Thuja occidentalis L.	Eastern White Cedar

FAMILY ALISMATACEAE	**Water Plantain Family**
Alisma plantago-aquatica L.	Broad-leaved Water Plantain
Sagittaria latifolia Willd.	Broad-leaf Arrowhead
FAMILY ARACEAE	**Arum Family**
Acorus americanus L.	Sweet Flag
Calla palustris L.	Water Calla
FAMILY CYPERACEAE	**Sedge Family**
Carex adusta Boott	Burnt Sedge
Carex aenea Fern.	Copper Sedge
Carex aquatilis Wahlenb.	Water Sedge
Carex atherodes Sprengel	Slough Sedge
Carex bebbii (L. Bailey) Olney ex Fern.	Bebb's Sedge
Carex canescens L.	Silvery Sedge
Carex castanea Wahlenb.	Chestnut Sedge
Carex chordorrhiza Ehrh. ex L.f.	Creeping Sedge
Carex conoidea Schk. Ex Willd.	Prairie Gray Sedge
Carex crinita Lam.	Fringed Sedge
Carex diandra Schrank	Two-stamened Sedge
Carex disperma Dewey	Two-seeded Sedge
Carex gracillima Schwein.	Graceful Sedge
Carex gynocrates Wormskj. ex Drejer	Ridged Sedge
Carex intumescens Rudge	Bladder Sedge
Carex lacustris Willd.	Lake Sedge
Carex lasiocarpa Ehrh.	Wire Sedge
Carex leptalea Wahlenb.	Bristle-stalked Sedge
Carex leptonervia (Fern.) Fern.	Finely-nerved Sedge
Carex limosa L.	Mud Sedge
Carex magellanica ssp. irrigua Lam.	Quaking Sedge
Carex pauciflora Light.	Few-flowered Sedge
Carex retrorsa Schwein.	Retrorse Sedge
Carex stipata Muhlenb. ex Willd.	Stipitate Sedge
Carex stricta Lam.	Tussock Sedge
Carex tenera Dewey	Weak Sedge
Carex tenuiflora Wahlenb.	Sparse-flowered Sedge
Carex trisperma Dewey	Three-fruited Sedge
Carex utriculata Boott	Beaked Sedge
Carex vaginata Tausch	Sheathed Sedge

Carex vulpinoidea Michaux	Fox Sedge
Dulichium arundinaceum (L.) Britton	Three-way Sedge
Eleocharis obtusa (Willd.) Schultes	Blunt Spikerush
Eleocharis smallii Britton	Marsh Spikerush
Eriophorum gracile Koch ex Roth	Slender Cottongrass
Eriophorum scheuchzeri Hoppe	Scheuchzer's Cotton-grass
Eriophorum vaginatum (Fern.) Hulten	Dense Cottongrass
Eriophorum viridi-carinatum (Engelm.) Fern.	Green Cottongrass
Scirpus microcarpus C. Presl	Small-fruited Bulrush
Scirpus validus L.	Softstem Bulrush
FAMILY IRIDACEAE	**Iris Family**
Iris versicolor L.	Wild Iris
Sisyrinchium montanum E. Greene	Common Blue-eyed Grass
FAMILY JUNCACEAE	**Rush Family**
Juncus bufonius L.	Toad Rush
Juncus nodosus L.	Knotted Rush
Juncus tenuis Willd.	Slender, Path Rush
Luzula acuminata Raf.	Hairy Wood Rush
FAMILY JUNCAGINACEAE	**Arrow Grass Family**
Triglochin maritimum L.	Greater Arrow Grass
FAMILY LEMNACEAE	**Duckweed Family**
Lemna minor L.	Lesser Duckweed
Lemna trisulca L.	Star Duckweed
FAMILY LILIACEAE	**Lily Family**
Clintonia borealis (Aiton) Raf.	Blue Bead Lily
Maianthemum canadense Desf.	Wild Lily-of-the-valley
Maianthemum trifolium (L.) Sloboda	Three-leaved Solomon's Seal
Streptopus roseus Michaux	Rose Twisted Stalk
Trillium cernuum L.	Nodding Trillium
FAMILY ORCHIDACEAE	**Orchid Family**
Amerorchis rotundifolia (Banks ex Pursh) Hulten	Small Round-leaved Orchis
Arethusa bulbosa L.	Arethusa
Corallorhiza maculata (Raf.) Raf.	Spotted Coral Root

Corallorhiza trifida Chatel	Early Coral Root
Cypripedium acaule Aiton	Stemless Ladyslipper
Cypripedium calceolus var.pubescens L.	Yellow Ladyslipper
Cypripedium reginae Walter	Showy Ladyslipper
Listera cordata (L.) R.Br.	Heartleaf Twayblade
Platanthera hookeri (Torrey ex A.Gray) Lindley	Hooker's Orchis
Platanthera hyperborea (L.) Lindley	Northern Green Orchis
Platanthera obtusata (Banks ex Pursh) Lindley	Blunt-leaf Orchis
FAMILY POACEAE	**Grass Family**
Agrostis scabra Willd.	Ticklegrass
Alopecurus aequalis Sobol.	Short-awned Foxtail
Bromus inermis var. inermis Leyss.	Awnless Brome
Calamagrostis canadensis (Michaux)	Bluejoint Grass
Cinna latifolia (Trevir. ex Goeppinger) Griseb. in Ledeb.	Drooping Woodreed
Danthonia spicata (L.) P.Beauv. ex Roemer & Schultes	Poverty Grass
Elymus trachycaulus (Link) Gould in Shinn.	Slender Wheat Grass
Festuca trachyphylla (Hack.) Krajina	Sheep Fescue
Glyceria borealis (Nash) Batch.	Northern Manna Grass
Glyceria grandis S. Watson	Tall Manna Grass
Glyceria striata (Lam.) A. Hitchc.	Fowl Manna Grass
Panicum depauperatum Muhlenb.	Impoverished Panic Grass
Phalaris arundinacea L.	Reed Canary Grass
Phleum pratense L.	Timothy
Phragmites australis (Cav.) Trin. ex Steudel	Giant Reed
Poa palustris L.	Fowl Blue Grass
Poa pratensis L.	Kentucky Blue Grass
Schizachne purpurascens (Torrey) Swallen	Purple Melic Grass
FAMILY POTAMOGETONACEAE	**Pondweed Family**
Potamogeton alpinus Balbis	Alpine Pondweed
Potamogeton amplifolius Tuckerman	Large-leaf Pondweed
Potamogeton foliosus Raf.	Leafy Pondweed
Potamogeton natans L.	Floating-leaved Pondweed
Potamogeton pusillus L.	Slender Pondweed
Potamogeton richardsonii (A. Bennett) Rydb.	Richardson's Pondweed
Potamogeton zosteriformis Fern.	Flat-stemmed Pondweed

FAMILY SPARGANIACEAE	**Bur-reed Family**
Sparganium angustifolium Michaux.	Narrow-leaved Floating Bur-reed
Sparganium emersum Rehmann	Common Bur-reed
Sparganium eurycarpum Engelm.ex A. Gray	Large-fruited Bur-reed
FAMILY TYPHACEAE	**Cattail Family**
Typha latifolia L.	Common Cattail
FAMILY ACERACEAE	**Maple Family**
Acer spicatum Lam.	Mountain Maple
FAMILY ANACARDIACEAE	**Sumac Family**
Rhus glabra L.	Smooth Sumac
Rhus radicans L.	Poison Ivy
FAMILY APIACEAE	**Parsley Family**
Cicuta bulbifera L.	Bulblet-bearing Water Hemlock
Cicuta maculata L.	Spotted Cowbane
Daucus carota L.	Queen Anne's Lace
Heracleum lanatum Michaux	Cow Parsnip
Osmorhiza claytonii (Michaux) C.B. Clark	Bland Sweet Cicely
Sanicula marilandica L.	Black Snakeroot
Sium suave Walter	Water Parsnip
FAMILY APOCYNACEAE	**Dogbane Family**
Apocynum androsaemifolium L.	Spreading Dog Bane
FAMILY ARALIACEAE	**Ginseng Family**
Aralia hispida Vent.	Bristly Sarsaparilla
Aralia nudicaulis L.	Wild Sarsaparilla
FAMILY ARISTOLOCHIACEAE	**Birthwort Family**
Asarum canadense L.	Wild Ginger
FAMILY ASTERACEAE	**Sunflower Family**
Achillea millefolium L.	Common Yarrow
Anaphalis margaritacea (L.) Benth. & Hook. f.ex C.B. Clarke	Pearly Everlasting

Antennaria neglecta E. Greene	Field Pussytoes
Aster ciliolatus Lindley	Ciliate Wood Aster
Aster macrophyllus L.	Large-leaved Aster
Aster puniceus L.	Purple-stemmed Aster
Aster umbellatus Miller	Flat-topped Aster
Chrysanthemum leucanthemum L.	Ox-eye Daisy
Cirsium arvense (L.) Scop.	Canada Thistle
Cirsium muticum Michaux	Swamp Thistle
Cirsium vulgare (Savi) Ten.	Bull Thistle
Erigeron philadelphicus L.	Philadelphia Fleabane
Eupatorium maculatum L.	Joe Pye Weed
Lactuca canadensis L.	Wild Lettuce
Petasites frigidus (L.) Fries	Sweet Coltsfoot
Petasites sagittatus (Banks ex Pursh) A.Gray	Arrow-leaved Coltsfoot
Prenanthes alba L.	White Lettuce
Senecio pauperculus Michaux	Northern Ragwort
Solidago uliginosa Nutt.	Marsh Goldenrod
Taraxacum officinale G. Weber	Common Dandelion
FAMILY BALSAMINACEAE	**Touch-me-not Family**
Impatiens capensis Meerb.	Jewel Weed
FAMILY BETULACEAE	**Birch Family**
Alnus incana (L.) Moench	Speckled Alder
Betula papyrifera Marshall	White Birch
Betula pumila L.	Dwarf Birch
Corylus cornuta Marshall	Beaked Hazelnut
FAMILY BORAGINACEAE	**Borage Family**
Mertensia paniculata (Aiton) G. Don	Northern Lungwort
FAMILY BRASSICACEAE	**Mustard Family**
Rorippa palustris (L.) Besser	Marsh Yellow Cress
F**AMILY CABOMBACEAE**	**Water Shield Family**
Brasenia schreberi J. Gmelin	Water Shield
FAMILY CALLITRICHACEAE	**Water Starwort Family**
Callitriche palustris L.	Common Water Starwort

FAMILY CAMPANULACEAE	**Harebell Family**
Campanula aparinoides Pursh	Marsh Bellflower
FAMILY CANNABACEAE	**Hemp Family**
Humulus lupulus L.	Common Hops
FAMILY CAPRIFOLIACEAE	**Honeysuckle Family**
Diervilla lonicera Miller	Bush Honeysuckle
Linnaea borealis L.	Twinflower
Lonicera canadensis Bartram	Canada Fly Honeysuckle
Lonicera dioica L.	Limber Honeysuckle
Lonicera hirsuta Eaton	Hairy Honeysuckle
Lonicera involucrata (Richardson) Banks	Bracted Honeysuckle
Lonicera oblongifolia (Goldie) Hook.	Swamp Fly Honeysuckle
Lonicera villosa (Michaux) Roemer & Schultes	Mountain Fly Honeysuckle
Viburnum rafinesquianum Schultes	Downy Arrow Wood
Viburnum trilobum Marshall	High-bush Cranberry
FAMILY CARYOPHYLLACEAE	**Pink Family**
Cerastium nutans Raf.	Nodding Chickweed
Stellaria longifolia Muhlenb. ex Willd.	Long-leaved Stitchwort
FAMILY CERATOPHYLLACEAE	**Hornwort Family**
Ceratophyllum demersum L.	Coontail
FAMILY CORNACEAE	**Dogwood Family**
Cornus canadensis L.	Bunchberry
Cornus stolonifera Michaux	Red Osier Dogwood
FAMILY DROSERACEAE	**Sundew Family**
Drosera rotundifolia L.	Round-leaved Sundew
FAMILY ERICACEAE	**Heath Family**
Andromeda polifolia L.	Bog Rosemary
Chamaedaphne calyculata (L.) Moench	Leatherleaf
Gaultheria hispidula (L.) Muhlenb. ex Bigelow	Creeping Snowberry
Kalmia polifolia Wangenh.	Bog Laurel
Ledum groenlandicum Oeder	Labrador Tea
Vaccinium angustifolium Aiton	Low Blueberry

Vaccinium myrtilloides Michaux	Velvet-leaved Blueberry
Vaccinium oxycoccos L.	Small Cranberry
Vaccinium vitis-idaea L.	Rock Cranberry
FAMILY FABACEAE	**Pea Family**
Lathyrus ochroleucus Hook.	Pale Vetchling
Lathyrus palustris L.	Marsh Vetchling
Lathyrus venosus Muhlenb.ex Willd.	Wild Sweet Pea
Lotus corniculatus L.	Birdsfoot Trefoil
Medicago lupulina L.	Black Medick, Hop Medick
Medicago sativa L.	Alfalfa
Melilotus alba Medikus	White Sweet Clover
Trifolium hybridum L.	Alsike Clover
Trifolium pratense L.	Red Clover
Trifolium repens L.	White Clover
Vicia americana Muhlenb. ex Willd.	Common Vetch
FAMILY GERANIACEAE	**Geranium Family**
Geranium bicknellii Britton	Bicknell's Cranesbill
FAMILY GROSSULARIACEAE	**Currant Family**
Ribes hirtellum Michaux	Wild Gooseberry
Ribes lacustre (Pers.) Poiret	Bristly Black Currant
Ribes oxyacanthoides L.	Bristly Wild Gooseberry
Ribes triste Pall.	Swamp Red Currant
FAMILY GUTTIFERAE	**St. John's-wort Family**
Triadenum fraseri (Spach) Gleason	Marsh St. Johnswort
FAMILY HALORAGACEAE	**Water Milfoil Family**
Myriophyllum sibiricum Komarov	Northern Water Milfoil
FAMILY HIPPURIDACEAE	**Mare's-tail Family**
Hippuris vulgaris L.	Mare's Tail
FAMILY LAMIACEAE	**Mint Family**
Galeopsis tetrahit L.	Common Hemp Nettle
Lycopus uniflorus Michaux	Northern Bugleweed
Mentha arvensis L.	Field Mint
Prunella vulgaris L.	Heal-all

Scutellaria galericulata L.	Common Skullcap
Stachys palustris L.	Woundwort
FAMILY LENTIBULARIACEAE	**Bladderwort Family**
Utricularia intermedia Hayne	Flat-leaved Bladderwort
Utricularia minor L.	Lesser Bladderwort
Utricularia vulgaris L.	Common Bladderwort
FAMILY MENYANTHACEAE	**Bogbean Family**
Menyanthes trifoliata L.	Buckbean, Bogbean
FAMILY MONOTROPACEAE	**Indian Pipe Family**
Monotropa uniflora L.	Indian Pipe
FAMILY MYRICACEAE	**Bayberry Family**
Myrica gale L.	Sweet Gale
FAMILY NYMPHAEACEAE	**Water-lily Family**
Nuphar variegata Durand in Clinton	Yellow Pond Lily
Nymphaea leibergii Morong	Small White Water-lily
Nymphaea odorata Dryander ex Aiton	Fragrant Water Lily
FAMILY OLEACEAE	**Olive Family**
Fraxinus nigra Marshall	Black Ash
FAMILY ONAGRACEAE	**Evening-primrose Family**
Circaea alpina L.	Small Enchanter's Nightshade
Epilobium angustifolium L.	Fireweed
Oenothera biennis L.	Common Evening Primrose
F**AMILY PLANTAGINACEAE**	**Plantain Family**
Plantago major L.	Common Plantain
FAMILY POLYGALACEAE	**Milkwort Family**
Polygala paucifolia Willd.	Fringed Polygala
FAMILY POLYGONACEAE	**Buckwheat Family**
Polygonum amphibium L.	Water Smartweed
Polygonum cilinode Michaux	Fringed Bindweed
Polygonum lapathifolium L.	Common Smartweed
Polygonum scandens L.	Climbing False Buckwheat

FAMILY PRIMULACEAE	**Primrose Family**
Lysimachia ciliata L.	Fringed Loosestrife
Lysimachia thyrsiflora L.	Tufted Loosestrife
Trientalis borealis Raf.	Starflower
FAMILY PYROLACEAE	**Wintergreen Family**
Moneses uniflora (L.) A.Gray	One-flowered Pyrola
Orthilia secunda (L.) House	One-sided Wintergreen
Pyrola asarifolia Michaux	Pink Wintergreen
FAMILY RANUNCULACEAE	**Buttercup Family**
Actaea rubra (Aiton) Willd.	Red Baneberry
Anemone canadensis L.	Canada Anemone
Anemone quinquefolia L.	Wood Anemone
Anemone virginiana L.	Thimbleweed
Aquilegia canadensis L.	Wild Columbine
Caltha palustris L.	Marsh Marigold
Coptis trifolia (L.) Salisb.	Three-leaved Gold Thread
Ranunculus acris L.	Common or Tall Buttercup
Ranunculus gmelinii DC.	Small Yellow Water Crowfoot
Ranunculus longirostris Godron	Curly White Water Crowfoot
Ranunculus pensylvanicus L.f.	Bristly Buttercup
Thalictrum dasycarpum Fischer & Ave-Lall.	Tall Meadowrue
FAMILY RHAMNACEAE	**Buckthorn Family**
Rhamnus alnifolia L'Her.	Alder-leaved Buckthorn
FAMILY ROSACEAE	**Rose Family**
Crategus sp.	Hawthorn sp.
Fragaria virginiana Miller	Wild Strawberry
Geum aleppicum Jacq.	Common Avens
Potentilla norvegica L.	Rough Cinquefoil
Potentilla palustris (L.) Scop.	Marsh Cinquefoil
Prunus virginiana L.	Chokecherry
Rosa acicularis Lindley	Prickly Wild Rose
Rubus chamaemorus L.	Cloudberry, Bakeapple
Rubus idaeus L.	Common Raspberry
Rubus pubescens Raf.	Dwarf Raspberry
Sorbus decora (Sarg.) C.Schneider	Showy Mountain Ash
Spiraea alba Duroi	Narrow-leaved Meadow Sweet

FAMILY RUBIACEAE	**Bedstraw Family**
Galium asprellum Michaux	Rough Bedstraw
Galium boreale L.	Northern Bedstraw
Galium labradoricum (Wieg.) Wieg.	Smooth Bedstraw
Galium trifidum L.	Small Bedstraw
Galium triflorum Michaux	Sweet-scented Bedstraw
FAMILY SALICACEAE	**Willow Family**
Populus balsamifera L.	Balsam Poplar
Populus tremuloides Michaux	Trembling Aspen
Salix bebbiana Sarg.	Bebb's Willow
Salix candida Fluegge ex Willd.	Hoary Willow
Salix discolor Muhlenb.	Lowland Pussy Willow
Salix pedicellaris Pursh	Bog Willow
Salix petiolaris Smith	Slender Willow
Salix pyrifolia Andersson	Balsam Willow
FAMILY SANTALACEAE	**Sandalwood Family**
Comandra umbellata (L.) Nutt.	Toadflax
Geocaulon lividum (Richardson) Fern.	Northern Comandra
FAMILY SARRACENIACEAE	**Pitcher Plant Family**
Sarracenia purpurea L.	Pitcher Plant
FAMILY SAXIFRAGACEAE	**Saxifrage Family**
Mitella nuda L.	Naked Mitrewort
FAMILY SCROPHULARIACEAE	**Figwort Family**
Castilleja coccinea (L.) Spreng.	Indian Paintbrush
Verbascum thapsus L.	Common Mullein
Veronica peregrina var. xalapensis (Kunth) Pennell	Purslane Speedwell
Veronica scutellata L.	Marsh Speedwell
FAMILY ULMACEAE	**Elm Family**
Ulmus americana L.	White Elm
FAMILY URTICACEAE	**Nettle Family**
Urtica dioica L.	Stinging Nettle

FAMILY VIOLACEAE	Violet Family
Viola novae-angliae House	New England Violet
Viola pubescens Aiton	Smooth Yellow Violet
Viola renifolia A. Gray	Kidney-leaved Violet

Species observed at the Project Site (PS) and waste option 1 (O1) and waste option 2 (O2) are indicated.
rare species (NHIC 2011) are indicated PR.

APPENDIX VII - 2

Ecosite
Spreadsheet with Coordinates and ES Type

SURVEYORS	DATE	NORTHING	EASTING	ECOSITE
LH+AH	June 7 2010	5412760.0	425751.0	29
LH+AH	June 7 2010	5412260.0	425776.0	29
LH+AH	June 7 2010	5413253.0	425683.0	30
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SURVEYORS	DATE	NORTHING	EASTING	ECOSITE
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SURVEYORS	DATE	NORTHING	EASTING	ECOSITE
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LH+AH	June 6, 2009	5409472.9	425961.7	33
LH+AH	June 6, 2009	5409472.9	425961.7	33
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LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44

SURVEYORS	DATE	NORTHING	EASTING	ECOSITE
LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44
LH+AH	June 6, 2009	5408548.6	426175.2	44

APPENDIX VIII - 1

Rainy River Consultation Material Summary

Environmental Baseline Study

For the past two years Rainy River Resources has been active in the development and implementation of an environmental baseline study. The study is ongoing and has been focused on the following areas;

- -Aquatic Assessments
- -Terrestrial Environment
- -Wetlands
- -Geochemistry
- -Soils
- -Climate
- -Hydrology
- -Hydrogeology
- -Water Quality
- -Air Quality and Noise

The environmental baseline study is designed to establish the existing environmental condition of the area, and identify environmental components that may require further investigation. In addition, the study aims to provide Rainy River Resources with practical guidance for how the potential development should be managed to minimize negative impacts, as well as provide information that will be useful for the development of any future environmental assessments.









Contact Us:
If you have any information or concerns you want to share, please contact us.

By Mail
P.O. Box 5,
5967 Highway 11/71
Emo, Ontario P0W 1E0

By Phone
807-482-2501

By Fax
807-482-2834

On the Web
www.rainyriverresources.com

Fall 2010
Volume 1, Issue 1

In this issue:

- The Rainy River Gold Project
- Advanced Exploration
- An Office in Emo
- Open House
- Working Together
  - Rainy River Resources and Fort Frances Tribal Area First Nations
- Environmental Baseline Study

TSX-V: RR

Rainy River RESOURCES LTD.

Who we are

Rainy River Resources Ltd. is a Canadian mineral exploration company based in Toronto, Ontario.

The Company's principal focus is its Rainy River Gold Project, located 65 kilometres northwest of Fort Frances in Richardson Township. The company also has another high potential gold project, "TPK" located in Northern Ontario's Ring of Fire region.

Rainy River Resources has an experienced management team led by Raymond Threlkeld, President and CEO.

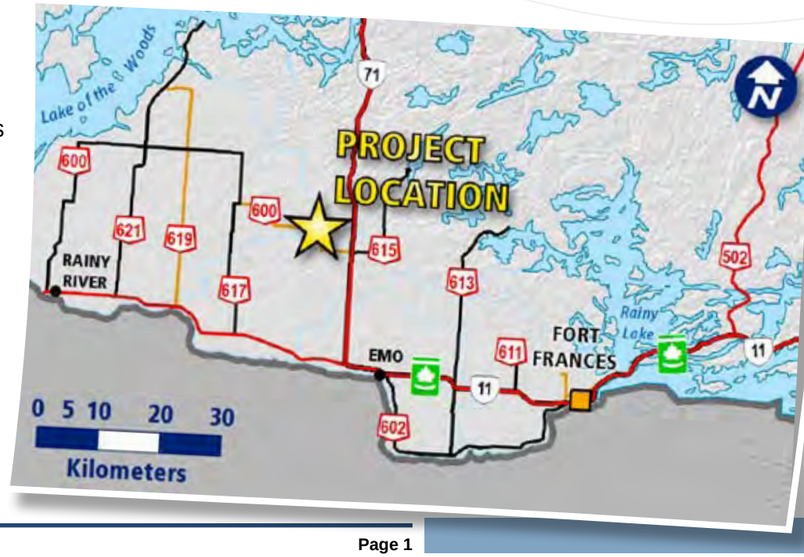
The company's shares trade on the TSX Venture Exchange ("TSX-V") under the symbol "RR".

The Rainy River Gold Project

The Rainy River Gold Project is a gold exploration project situated in the southern half of Richardson Township in the Rainy River District.

In June 2005, Rainy River Resources Limited acquired a 100% interest in the project from Nuinsco Resources Limited and has since added approximately 4 million ounces in total gold resources to the deposit in this emerging Canadian gold district.
The location of the Rainy River Gold Project is excellent - it has tremendous infrastructure including year round road access, power lines in close proximity and a railway line within 21 kilometres. The Rainy River District has a population of approximately 20,000+, people, including skilled trades people, which would be invaluable in the event that the property becomes a mine.

In 2011, Rainy River Resources will continue to carry out an aggressive exploration plan, including advanced exploration. The Company will also be completing a preliminary economic assessment in the first quarter of 2011 and continue to focus on metallurgical testing and environmental baseline and geotechnical studies.



BLING!

Gold isn't just for jewelry.

Worldwide, gold is used in medicine, electronics and even spacecraft.

Advanced Exploration

Rainy River Resources' advanced exploration program at the Rainy River Gold Project will involve the excavation of a tunnel/decline ramp from surface to a depth of approximately 300 metres.

The objective of the program is to establish access into the deeper areas of the gold mineralization to allow for further exploration drilling within the resource and the collection of a bulk sample.

This work will happen over a two year period, commencing in early 2011.

Excavated rock will be stored on surface at the project site with water management methods such as settling ponds, containment berms and impermeable liners used to control water flow and quality.

Rainy River RESOURCES LTD.



Working Together

In May 2010, Rainy River Resources signed a Memorandum of Understanding with the Fort Frances Chiefs Secretariat, as representative of Couchiching First Nation, Lac La Croix First Nation, Naicatchewenin First Nation, Nigigoonsiminikaaning First Nation, Mitaanjigamiing First Nation, Rainy River First Nations and Seine River First Nation.

The Company's Rainy River gold exploration project is located within the traditional territory of these seven First Nations communities.

The First Nations and Rainy River Resources entered into the Memorandum of Understanding to demonstrate their commitment to forge a mutually beneficial relationship, founded on respect, through a process of ongoing dialogue and regular interaction. To that end, the Company has agreed to inform the First Nations in advance of its exploration proposals and timetables, and to conduct all exploration activities in an environmentally responsible manner. Rainy River Resources has also committed to offer employment opportunities to qualified First Nations members, as well as the opportunity to bid on contracts for services and equipment in an open bidding process. The Company has also supported the hiring of a First Nation Engagement Specialist, Stacey Jack to act as a liaison between the Company and the First Nations. Under the MOU, the Company and the First Nations have also committed to develop and implement an Impact and Benefits Agreement (IBA).

Coming Home
An office in Emo

We are very pleased to announce that we now have an office in Emo at the Corner Closet Building.

The office is staffed by Andrea Curtis, Administrative Assistant and Stacey Jack, First Nation Engagement Specialist.

The office is open Monday through Friday, 8:30 am to 4:30 pm.
We invite you to drop by and have a cup of coffee and get caught up on the latest Rainy River Resources' news.

Open House

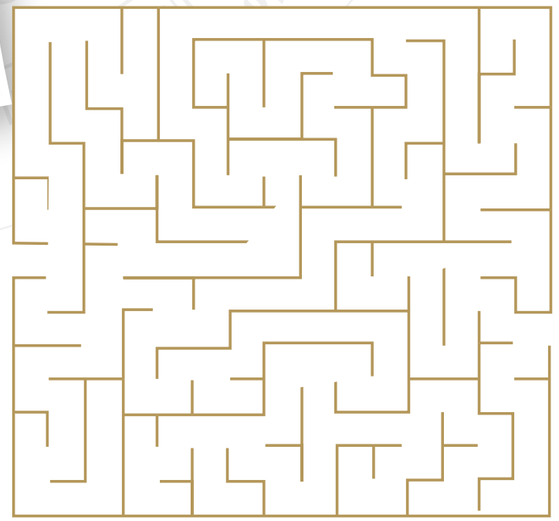
To celebrate the opening of our Emo Office, we will be hosting an Open House on Wednesday, October 6th from 12 noon until 4:00 pm.

We will also be hosting a public information session that same evening beginning at 7:00 pm at the Emo Legion.

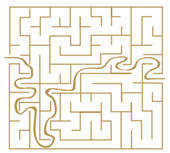
Kid's Corner

MAZE CRAZE

Find your way through the maze.



Answer



COLOURING

Colour the prospector



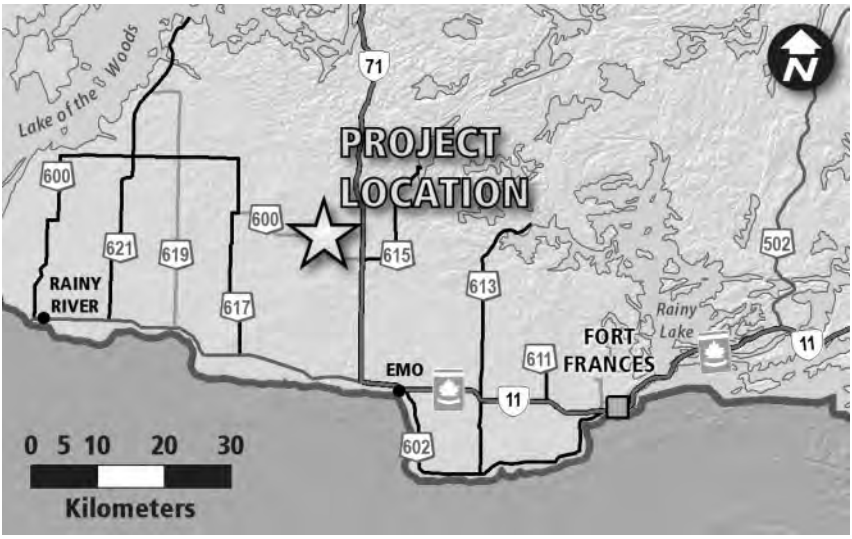
BLING!

An assay is an analysis to determine the presence and quality of a particular metal in a sample of rock.

Rainy River Advanced Exploration Project
Notice of Public Information Session

Project Location and Description: The Rainy River Gold Project (the Project) is located in Richardson Township, approximately 60 km northwest of Fort Frances, Ontario. Rainy River Resources is proposing to conduct an advanced exploration program involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

The underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The Project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with Project construction proposed to commence in the first and second quarter of 2011.





Date and Location of Public Information Session:
Wednesday, October 6, 2010
beginning at 7:00 p.m.
at the Royal Canadian Legion Branch #99
123 Jessie Street, Emo, ON

Rainy River Resources Ltd.
1 Richmond Street West, Suite 701
Toronto, ON M5H 3W4
Tel: 647-476-5406
Fax: 416-642-9312

Contact Person:
Kyle Stanfield, P.Eng.
Director of Environment and Sustainability
Rainy River Resources Ltd.
1 Richmond Street West, Suite 701
Toronto, ON M5H 3W4
kstanfield@rainyriverresources.com
807-621-6152

www.rainyriverresources.com

Welcome to the Information Session

Rainy River Resources Ltd. (the "Company") is a Canadian precious metals exploration company, the key asset of which is the Rainy River Gold Project.

Part VII of the* Mining Act *(Ontario) requires proponents of all advanced exploration projects to give public notice and to hold a public information session related to the advanced exploration program. As part of the Company's information session, the Company will be collecting personal information from those individuals attending the public information session, specifically, each individual's name, address and phone number. The Company will submit this list to the Ministry of Northern Development, Mines and Forestry ("MNDMF") as proof that the Company has held a public information session. The Company will not be using this information for any other purpose.

By signing below you are indicating that you consent to the Company's collection, use and disclosure of this information to MNDM.

Date	Time	Name	Address	Phone Number
Oct. 6, 2010		COLIN NIELSON	RR1 Stratton On	807 407 2579
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Morris Wonfor	905 Banta Blvd Ft Frances P9A 3N4	807-274-6764
Oct. 6, 2010		Henry Beth Pettaie	Box 660 Emo ON	482-2983
Oct. 6, 2010		Peggy Desjardins	149 4th St W Fort Frances	276-4079
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	7:30	Louise Cousineau	P.O. Box 33	807-274-9402
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		[signature]	430 First St.	274-3923
Oct. 6, 2010		Mark Mose	Fort Frances	274-3483
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	6	George Martha Siemens	Box 455 Emo Ont	482-2115
Oct. 6, 2010		Robert Marvin	1774 OFF LAKE RD Emo ONT	
Oct. 6, 2010		CLARE BRUNETTA	FR	274-4809
Oct. 6, 2010		DON HAITIKKA	RR#2 Emo ON.	482-2191
Oct. 6, 2010		Cheryl Barker	Kenora, ON	
Oct. 6, 2010		JIM Leonard	RRFN	

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Keith Munro	RR 1 DEVLIN POWICO	486-1062
Oct. 6, 2010		Emma Bonneta	800 Hyland E.F.	807-214-9475
Oct. 6, 2010		Mike Hart		
Oct. 6, 2010		Richard CLARK	Thunder Bay	807 623 6463
Oct. 6, 2010		Andrew Elsey	"	807 251 4269
Oct. 6, 2010		Jason Reid	Ennio	807 276 4834

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Delbert Redford	Emo	4822327
Oct. 6, 2010		Doug Kaemargl	EMO	482-2390
Oct. 6, 2010		Lucie Therrien	Rainy River	852-1056
Oct. 6, 2010		Rick Seidel	Rainy River	852-1056
Oct. 6, 2010		Colleen Doyle McCabe	Ft Frances	274-5967
Oct. 6, 2010		Jim McAuley	Fort Frances	274-9620

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Paul Wepruk	Fort Frances.	
Oct. 6, 2010		Wepruk	Fort Frances	
Oct. 6, 2010		Murray Wepruk	Fort Frances	
Oct. 6, 2010			Blackhawk.	
Oct. 6, 2010		Carol McClain	Black Hawk	
Oct. 6, 2010		Alvin McClain	Black Hawk	

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	0647	JOE TIBOLD	BOX 575 EMO	482-2098
Oct. 6, 2010		VINCE SHEPPARD SHIRLEY SHEPPARD	BOX 161 EMO	482-2819
Oct. 6, 2010		WES FRIESEN	BOX 546 Emo	482-2624
Oct. 6, 2010		PamWilson	RR#2 EMO	487-1396
Oct. 6, 2010		DOUG ~~Dale~~ GIBB	140 THUNDER BAY	766-8348
Oct. 6, 2010		DAVE GOODMAN	EMO Ont	482-2829

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		[signature]	~~BOX~~ EMO	482-2311
Oct. 6, 2010		Eric Rude	1129 Church St F-F	274-5594
Oct. 6, 2010		Patrick LeMaistre	RR2 Emo, Ontario	482-2125
Oct. 6, 2010		DAN TEEPLE	RR 1 STRATTON	487-1299
Oct. 6, 2010		JOHN [illegible]	Emo	487-3012
Oct. 6, 2010		Anthony Leek	Emo	4821070

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Carolyn Stafford	RR#1 Stratton Powi NO	276 7543
Oct. 6, 2010		KATHY JUDSON	Box 503 Emo, ON	275-5633
Oct. 6, 2010		Brend EMO wuelinga		
Oct. 6, 2010		Ted Kemmgh.	Emo	482-2719
Oct. 6, 2010		Ian Friesen	Box 546 Emo ON	487-2624
Oct. 6, 2010		Alwine Teeple	RR1 Stratton	487-2417

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		Melissa Teeple	Blackchawlc	487-1374
Oct. 6, 2010		Peter Hinz	Thunder Bay	475-1331
Oct. 6, 2010		SYDNEY CURTIS	EMC	482-2094
Oct. 6, 2010		Cal STAFFORD	STRATTON	487-2631
Oct. 6, 2010		Bill LaVerne Cook	Stratton	487 2234
Oct. 6, 2010		Nancy Vesta Teeple	Stratton	487-2416

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	6:40	KEN ANGUS	Bx 295 Emo Ont. P0W1E0	482-2475
Oct. 6, 2010	6:41	MURRAY OERLA	RR#1 STRATTON	487-1297
Oct. 6, 2010	642	BILL BARANOWSKI	PO Box 34 EMO	482-2005
Oct. 6, 2010		Willard Peters	Rt 1 Sleeman	8523719
Oct. 6, 2010		Gordon Peters DON KINNEAR		482-2506
Oct. 6, 2010		Jane Seiler	922 South St. Fort Frances P9A 1J4	8012745320

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	1840	Rhonda Ruymar	RR#1 Stratton	487 9966
Oct. 6, 2010	1840	Wayne Johnson	RR#1 Stratton	487 9966
Oct. 6, 2010	6:40	PAUL STROMNESS	RR#1 STRATTON	483-5423
Oct. 6, 2010	18:45	Harold Bowen	Bx 163 Emo, ON	482-2963
Oct. 6, 2010		Kathleen Leek	Box 509 Emo, On	482-2806
Oct. 6, 2010	18:46.75	MEL JACK	Emo	482-2895

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010		CLAUDE SÉGUIN	PINEWOOD	483-5959
Oct. 6, 2010		Melanie Murray	Rainy River	852-3308
Oct. 6, 2010		Carl Cates	Emo Ont.	482-2634
Oct. 6, 2010		Mark Hyatt	Barwick	4871252
Oct. 6, 2010		Dorothy Sylvester	Box 36 Emo	482-2045
Oct. 6, 2010		BILL SYLVESTER	BOX 36 EMO.	482-3118

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	6.45	Frank Curtis	EMO	482-2189
Oct. 6, 2010	6:45	Donna Bates	Emo	487 1608.
Oct. 6, 2010	6:45	Carol Burnett	Emo	487-2107
Oct. 6, 2010		Carol Patti	Nestor Falls	484-2159
Oct. 6, 2010		Elaine Altbaum	Finland	487-9965
Oct. 6, 2010		STEFAN SZEDER	Emo	482-2605

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Date	Time	Name	Address	Phone Number
Oct. 6, 2010	6:35	Dan Wilson	Box 331 Emo	482 2015
Oct. 6, 2010	6:35	Jami Burnell	RR 1 Stratton, ON POW 1N0	807-487-1104
Oct. 6, 2010	6:40	Steve & Sharon McLeod	B4 63 Nestor Falls ON POX 1K0	807-484-2564
Oct. 6, 2010	6.40	Peter van Heeyst	Box 762 Emo	482-2265
Oct. 6, 2010	6.40	BRIAN GERULA	RR#1 STRATTON ONT.	487-2162
Oct. 6, 2010	6 40	MORRIS HALVERSON	Box 53 Nestor Falls	484-2627

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Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				
Oct. 6, 2010				

Corporate PRESENTATION

focussed on *growth* in an emerging Canadian Gold District

Emo community meeting &
Rainy River Advanced Exploration Project
October 6, 2010

RainyRiver RESOURCES LTD.

RR : TSX-V

rainyriverresources.com

Forward looking information

This presentation contains “forward-looking information” as defined in applicable securities laws (referred to herein as “forward-looking statements”). Forward looking statements include, but are not limited to, statements with respect to the cost and timing of the development of the Rainy River project, including the exercise of the Mine Option; the success and continuation of exploration activities; estimates of mineral resources; acquisitions of additional mineral properties; the future price of gold; government regulations and permitting timelines; estimates of reclamation obligations that may be assumed in connection with the exercise of the Mine Option; requirements for additional capital; environmental risks; and general business and economic conditions. Often, but not always, forward-looking statements can be identified by the use of words such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “continues”, “forecasts”, “projects”, “predicts”, “intends”, “anticipates” or “believes”, or variations of, or the negatives of, such words and phrases, or statements that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved. Inherent in forward-looking statements are risks, uncertainties and other factors beyond the Company’s ability to predict or control. These risks, uncertainties and other factors include, but are not limited to, future gold prices, changes in equity markets, actual results of current exploration, changes in project parameters, exchange rate fluctuations and other risks involved in the gold exploration and development industry, as well as those risk factors discussed in the section entitled “ Description of Business-Risk Factors ”in Rainy River's 2009 annual information form. Forward-looking statements are based on a number of assumptions which may prove to be incorrect, including, but not limited to, the availability of financing for the Company’s exploration and development activities; the timelines for the Company’s exploration and development activities on the Rainy River Property; the availability of certain consumables and services; assumptions made in mineral resource estimates, including geological interpretation grade, recovery rates, and operational costs; and general business and economic conditions. Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the Company’s actual results, performance or achievements to be materially different from any of its future results, performance or achievements expressed or implied by forward-looking statements. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law.

This presentation uses the terms “measured resources”, “indicated resources” and “inferred resources”. The Company advises readers that although these terms are recognized and required by Canadian regulations (under National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI43-101”)), the United States Securities and Exchange Commission does not recognize them. Readers are cautioned not to assume that any part or all of the mineral deposits in these categories will ever be converted in to reserves. In addition, “inferred resources” have a great amount of uncertainty as to their existence, and economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource will ever be upgraded to a higher category. Under Canadian rules, estimates of inferred mineral resources may not form the basis of feasibility or pre-feasibility studies, or economic studies, except for a Preliminary Assessment as defined under NI43-101. Investors are cautioned not to assume that part or all of an inferred resource exists, or is economically or legally mineable.

Emo Community Meeting - AGENDA

- Corporate Information
- Management team - Introductions
- Project history and evolution
- Exploration upside – camp scale potential
- Rainy River Gold Project (RRGP) status, plans for 2011 and beyond
- Advanced Exploration program
    - RRR Environmental & Permitting Update – Kyle Stanfield

Corporate INFORMATION

Basic Shares Outstanding	**75.1 million**
FD ITM Shares Outstanding	**80.6 million**
Warrants	**5.6 million @ $7.10**
Management Ownership	**~ 8%**
Cash	**C$77 .0 million**
Debt	**$0**
Market Value Basic	**C$714 million**
Enterprise Value	**C$637 million**

Significant Institutional Shareholders

- Oppenheimer Funds
- Craton Capital
- Sprott Asset Management
- Black Rock Advisors
- RBC Global Precious Metals Fund
- BMO Asset Management
- JP Morgan Asset Management
- Van Eck Global

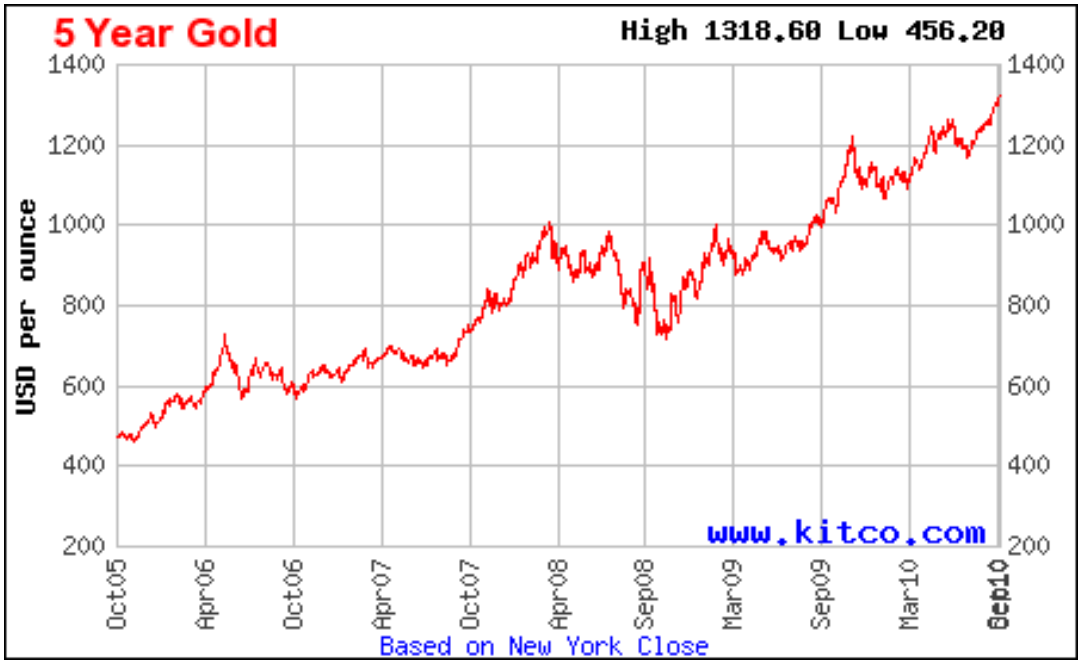


1. $8 Million Flow-Through Financing
2. Beaver Pond high-grade hole released 352.84 g/t Au over 6 metres
3. Updated 43-101 Resource Estimate Released – 5Moz Gold resource (combined Indicated & Inferred)
4. $55 Million Bought deal financing
5. Rainy signs MOU with Fort Frances Chiefs Secretariat
6. Northern Superior Resources Inc. Signs Option/Joint Venture Agreement with Rainy River Resources Ltd. With Respect to the TPK Gold Property
7. $20 Million Flow-Through Financing

Focus on GOLD

Factors influencing the price of gold

- Quantitative easing (printing money) for stimulus programs. Devaluing US Dollar
- Uncertainty about global economy
- ETFs requiring gold bullion inventory
- Central banks adding or keeping gold in stock – diversification from US Dollar
- Supply and Demand: World gold production dropping – Demand increasing





Management TEAM

Raymond Threlkeld, President & CEO

- *CEO Western Goldfields, VP Project Development Barrick Gold*

Nick Nikolakakis, VP and CFO

- *VP Corporate Finance Barrick Gold, CFO Placer Dome Canada*

Garett Macdonald, VP Operations

- *VP Operations Canadian Arrow Mines, Operations engineer, Placer Dome, Suncor Energy*

Stu Averill, VP Exploration

- *President ODM Drilling*

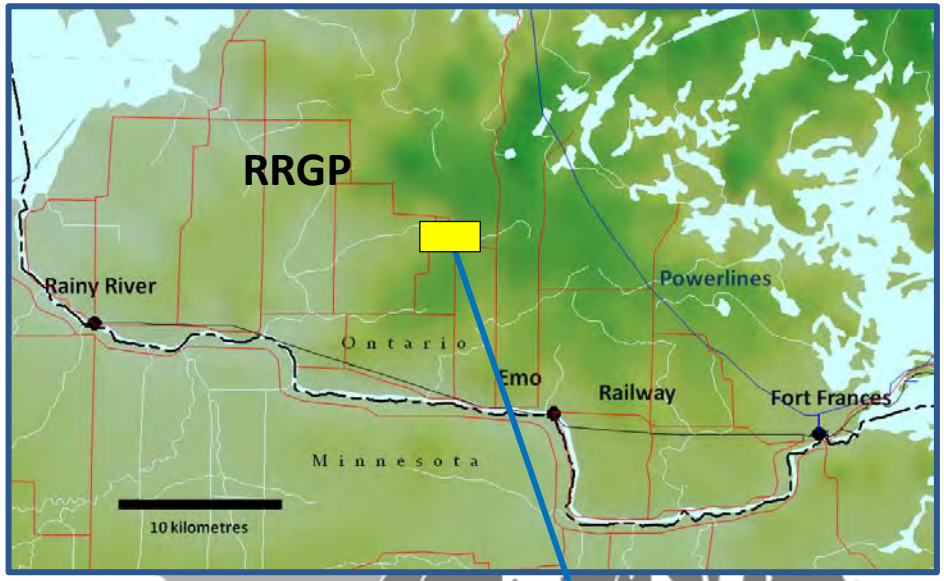
Kyle Stanfield, Director Environment & Sustainability

- *Environmental Director, DST Consulting. Environmental engineer with Rescan, Placer Dome*

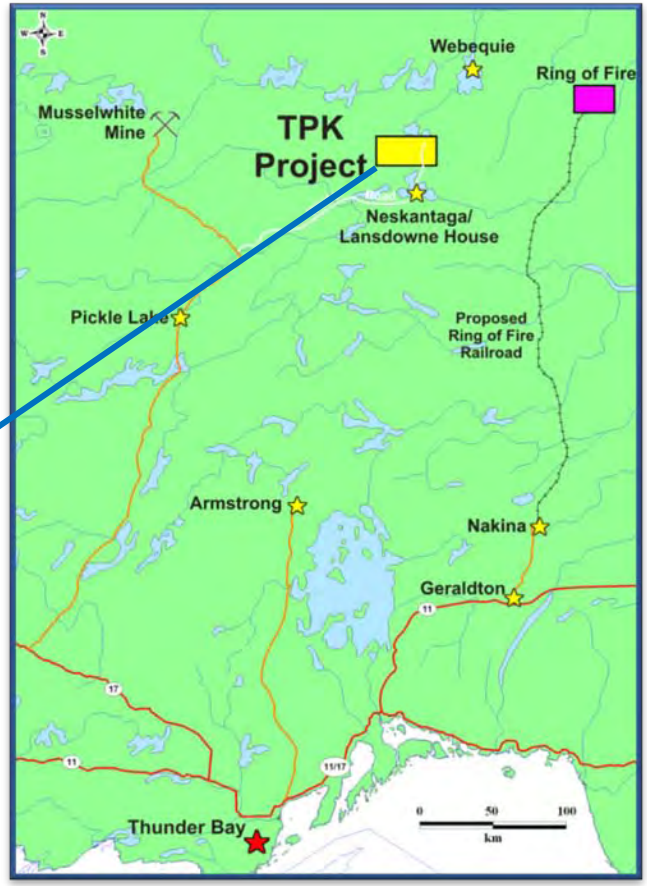
Peter Karelse, Project Manager

- *Exploration manger Carlisle Goldfields, Crowflight Minerals, TexasGulf, Falconbridge*

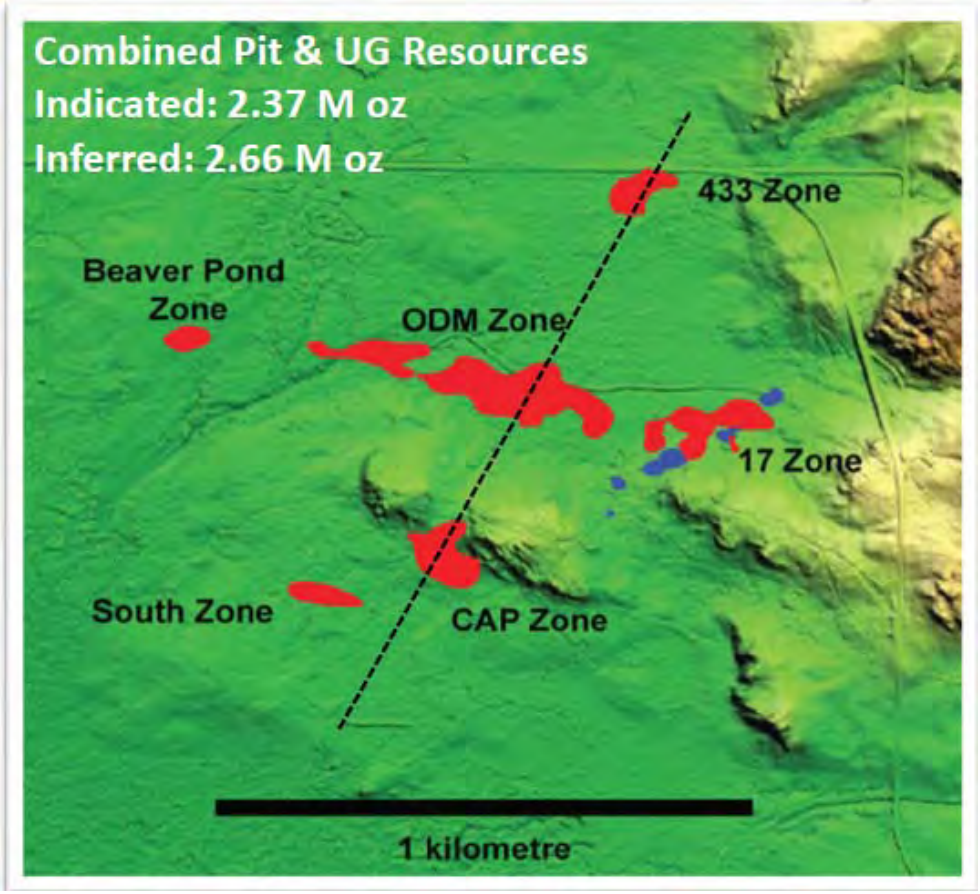
RR main projects – RR Gold Project and TPK Project

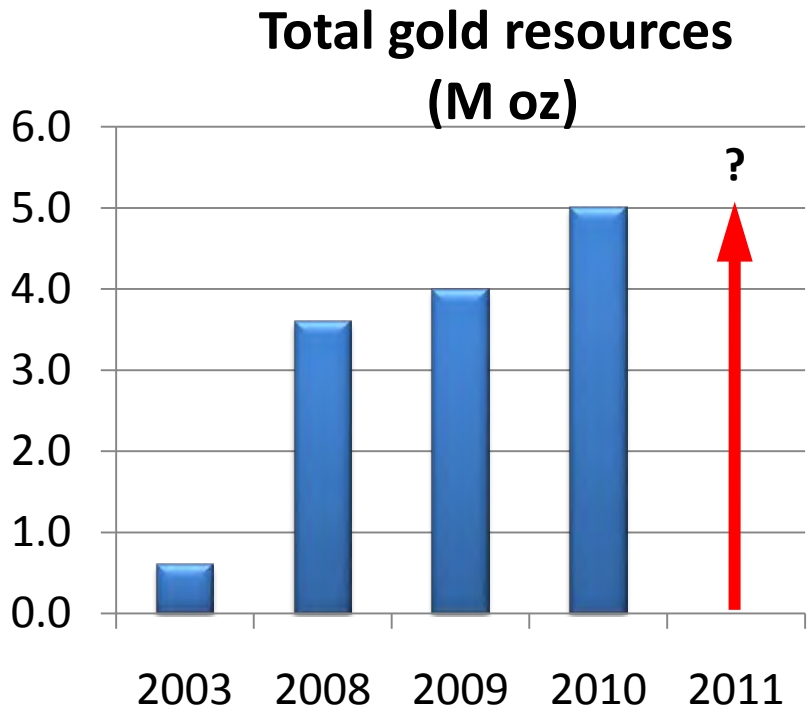


Rainy's projects are located in 'mining friendly' Ontario, Canada



Rainy River Gold Project – Evolution to a major deposit



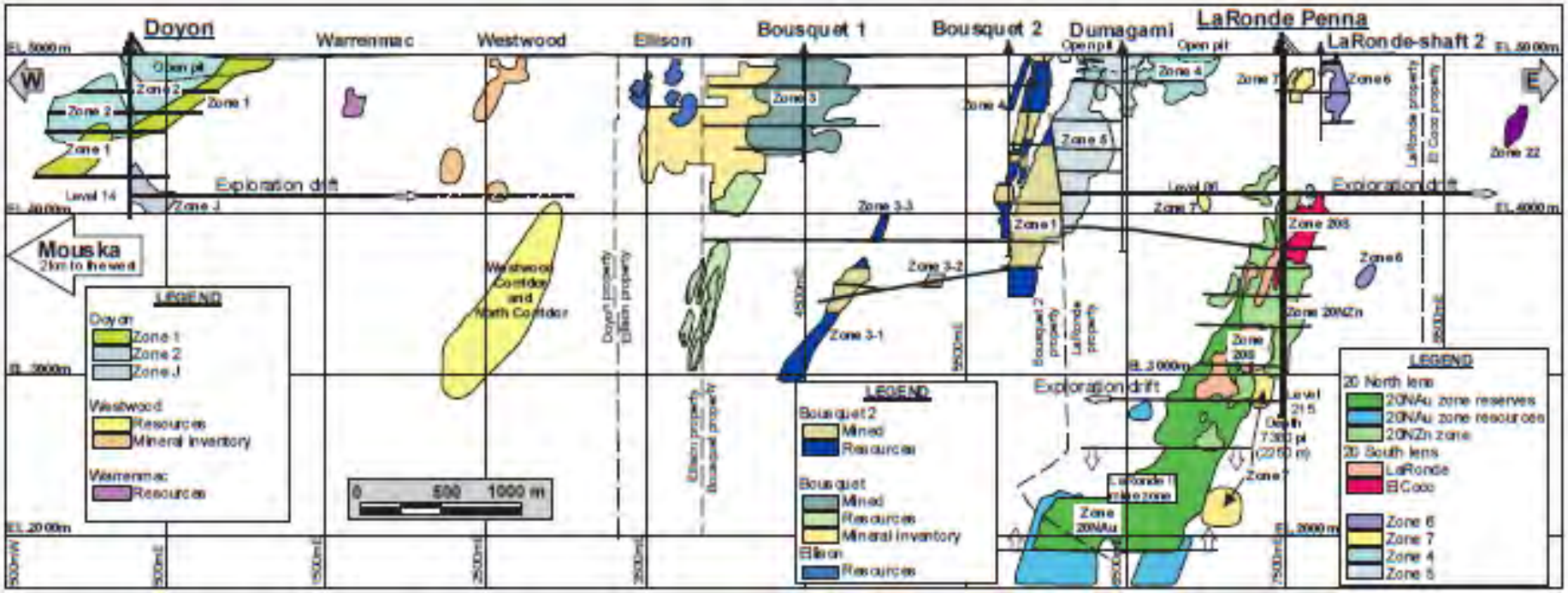


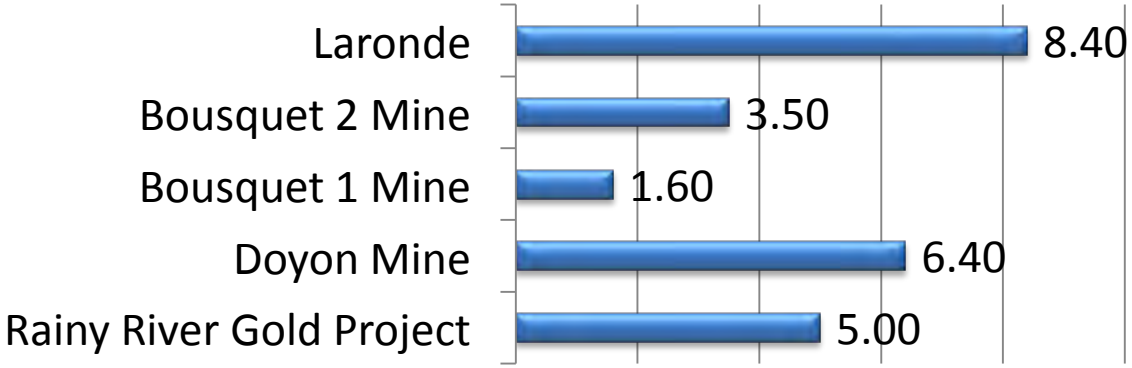
1994 ... OGS discovery
1995–2005...Nuinsco Resources
2005–Present...Rainy River Resources

800 holes drilled – 375,000 metres

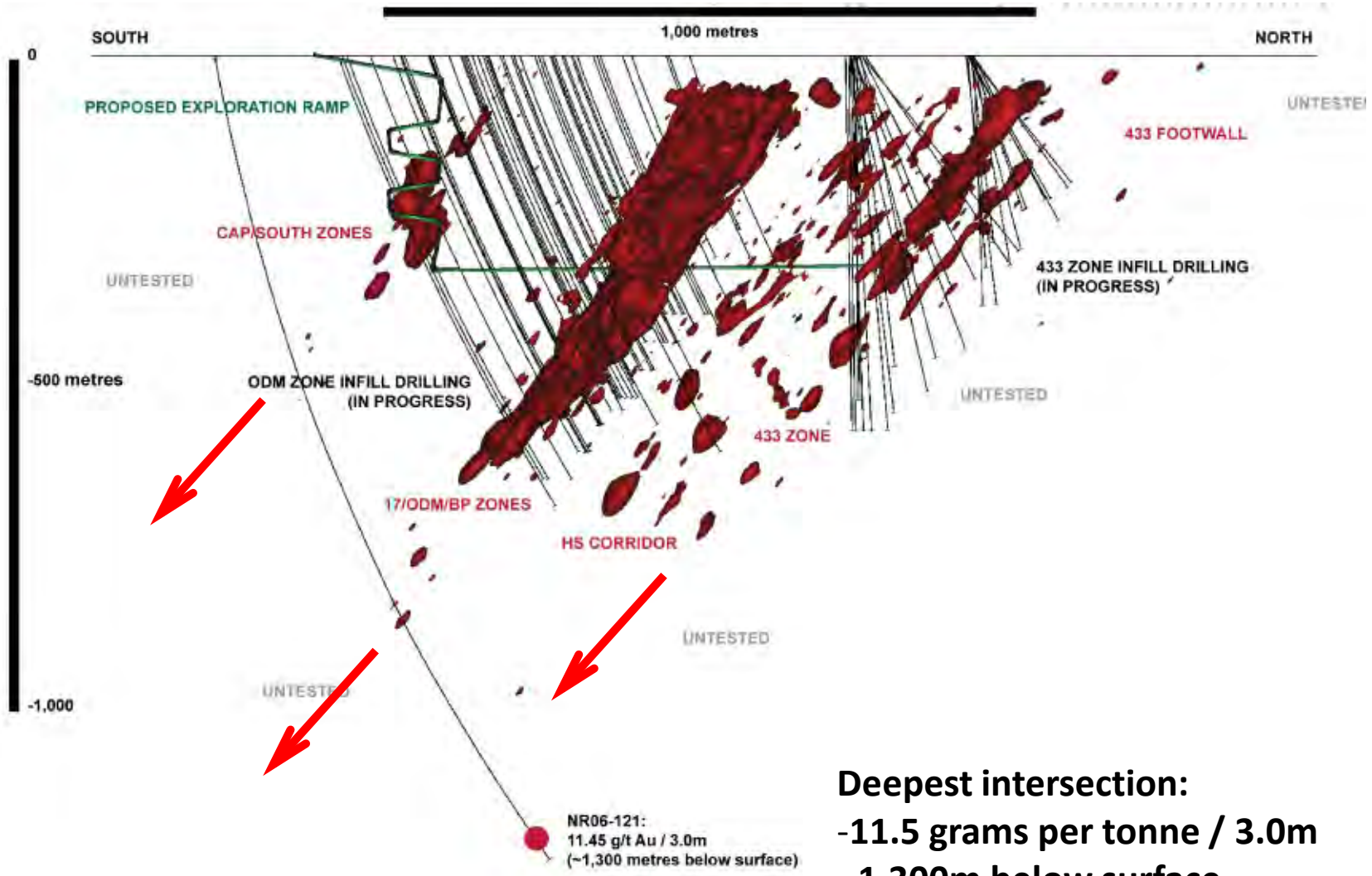
733% increase in Au resources

Bousquet Analogy – CAMP SCALE POTENTIAL





Exploration – OPEN IN ALL DIRECTIONS



Deepest intersection:
-11.5 grams per tonne / 3.0m
- 1,300m below surface

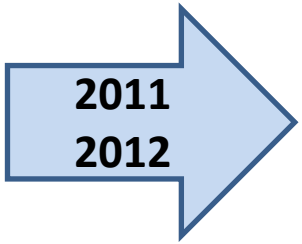
Rainy River Gold Project – STATUS UPDATE

Focus at RRGP is now on advancing the project on all fronts.

Advancing the project involves the following activities:

- Definition diamond drilling on known resources – increasing confidence
- Environmental baseline studies (air, water, fish, wildlife)
- Community, First Nations, Metis consultations
- Basic engineering (metallurgy, mining – Pit or UG, geotechnical, infrastructure, costing)

Next Steps:



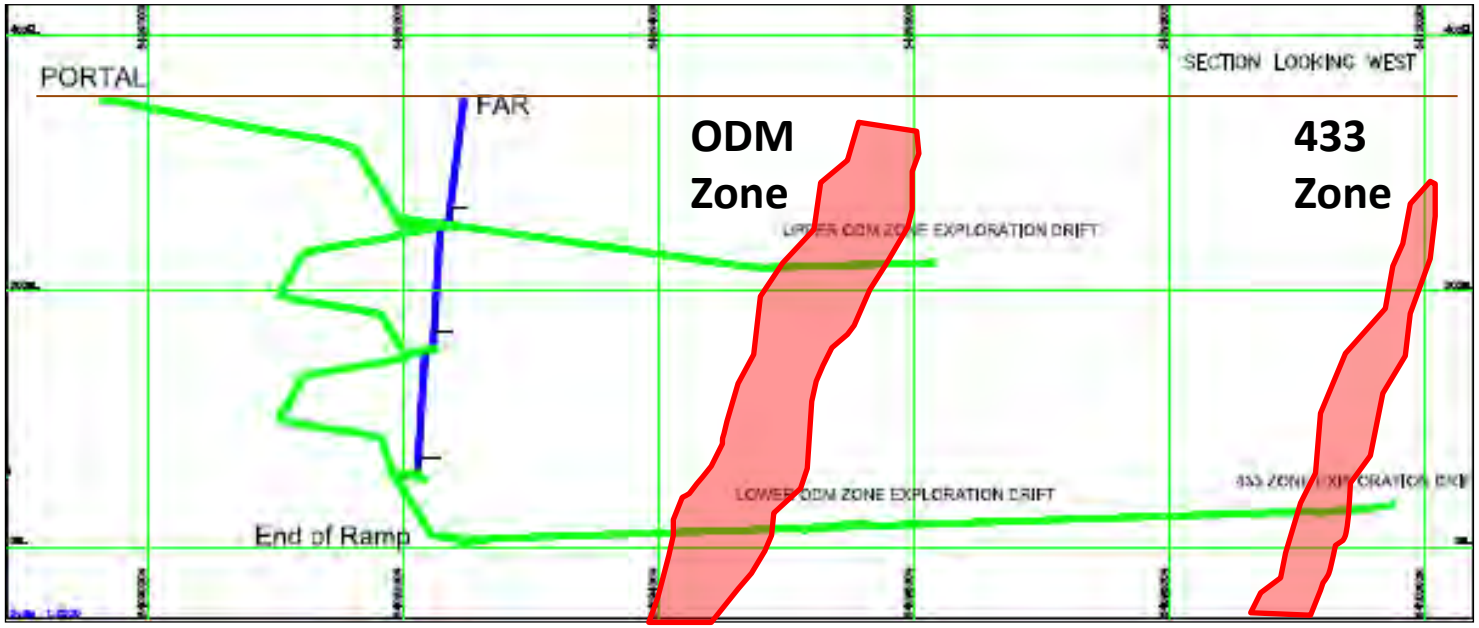
Advanced exploration
NI 43-101 resource update
Preliminary Economic Assessment
Feasibility study
Permitting

Advanced Exploration Program – OBJECTIVES

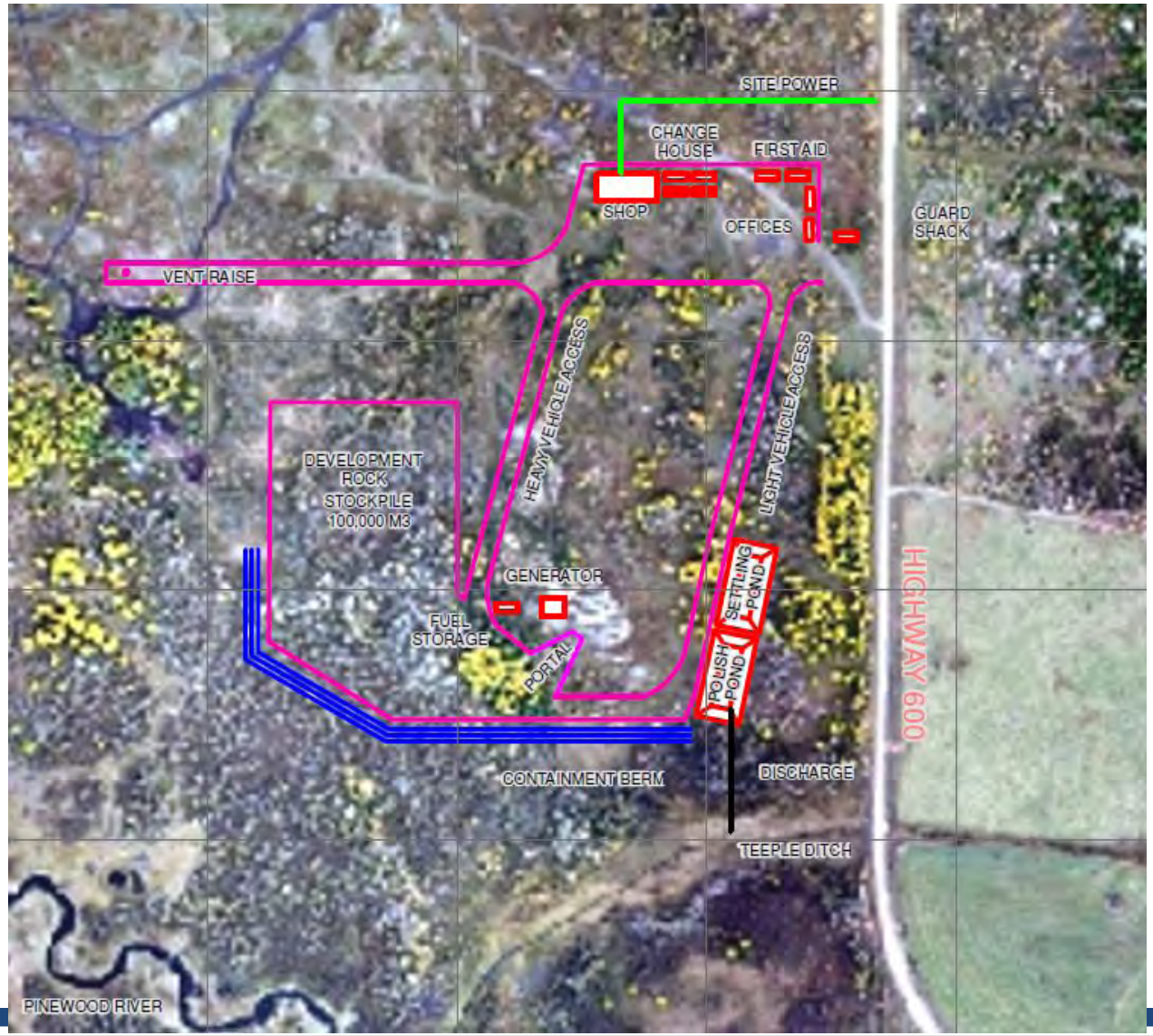
Advanced exploration involves developing underground workings into the deposit

- to gain increased knowledge of host geology, mineralization, structure
- to collect bulk samples of the deposit to optimize processing method
- to test ground conditions & develop safe mining methods
- to support deeper exploration, extend potential mine life

Section looking west



Advanced Exploration - PORTAL LOCATION



Advanced Exploration – PROJECT COMPONENTS

- The main surface facilities required for the Advanced Exploration Program include:
  - Site Offices
  - First Aid Station
  - Change House
  - Power Line for Site
  - Equipment Shop
  - Portal – Access point for vehicles going underground.
  - Generator for Underground Electrical Requirements
  - Fuel Storage
  - Underground Fresh Air Vent
  - Water Supply
  - Sewage Management
  - Site Settling Pond
  - Development Rock Storage
  - Ore Storage Pad
  - Explosives Storage Area

Advanced Exploration - PORTAL LOCATION

Portal site



UG scooptram



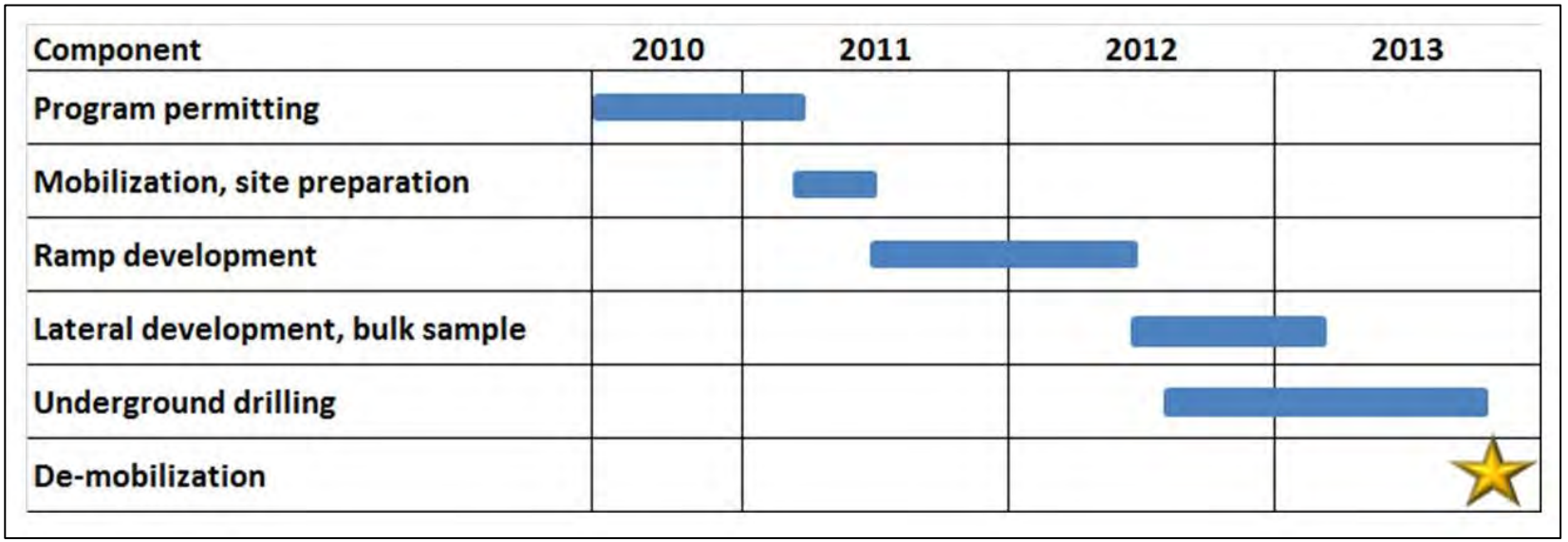
Jumbo drill



Advanced Exploration – OPERATIONS SCHEDULE

Component	Metres
Decline ramp	2,300
Lateral development	1,750
Ventilation raise	300

- Average daily advance ~ 6.0 metres
- 40 person workforce, 24 hour operation
- Remote power generation
- Settlement ponds to capture water sediments
- Financial bond for rehabilitation prior to construction



Rainy River Resources – Emerging Gold Producer

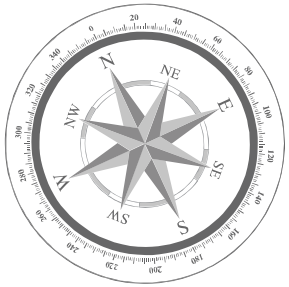
Company is well positioned to advance the RRGP

- The right location at the right time with a world class gold resource
- Well capitalized for next 3 years to continue exploration
- Focused on developing the RRGP – spending the necessary $$ to advance the project and assemble a world class development team
- Committed to maintaining positive relationship with First Nations, Metis and local communities. Committed to local hiring, training and businesses.
- Initiation of Advanced Exploration program shows serious commitment to project

Next: Kyle Stanfield – Director of Environment & Sustainability

105 W 90 W 75 W 60 W

Rainy River RESOURCES LTD.



An Emerging Canadian Gold District

RR:TSX-V

rainyriverresources.com

Rainy River Advanced Exploration Project
Environmental and Community Programs
Public Information Session
Emo, Ontario

October 6, 2010

Kyle Stanfield
Director of Environment & Sustainability

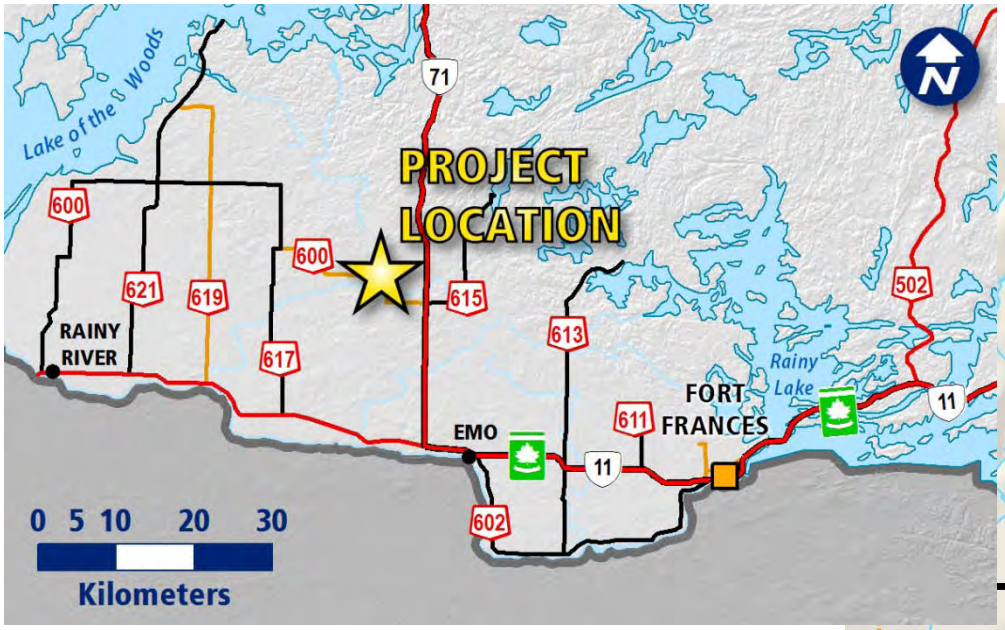
Outline

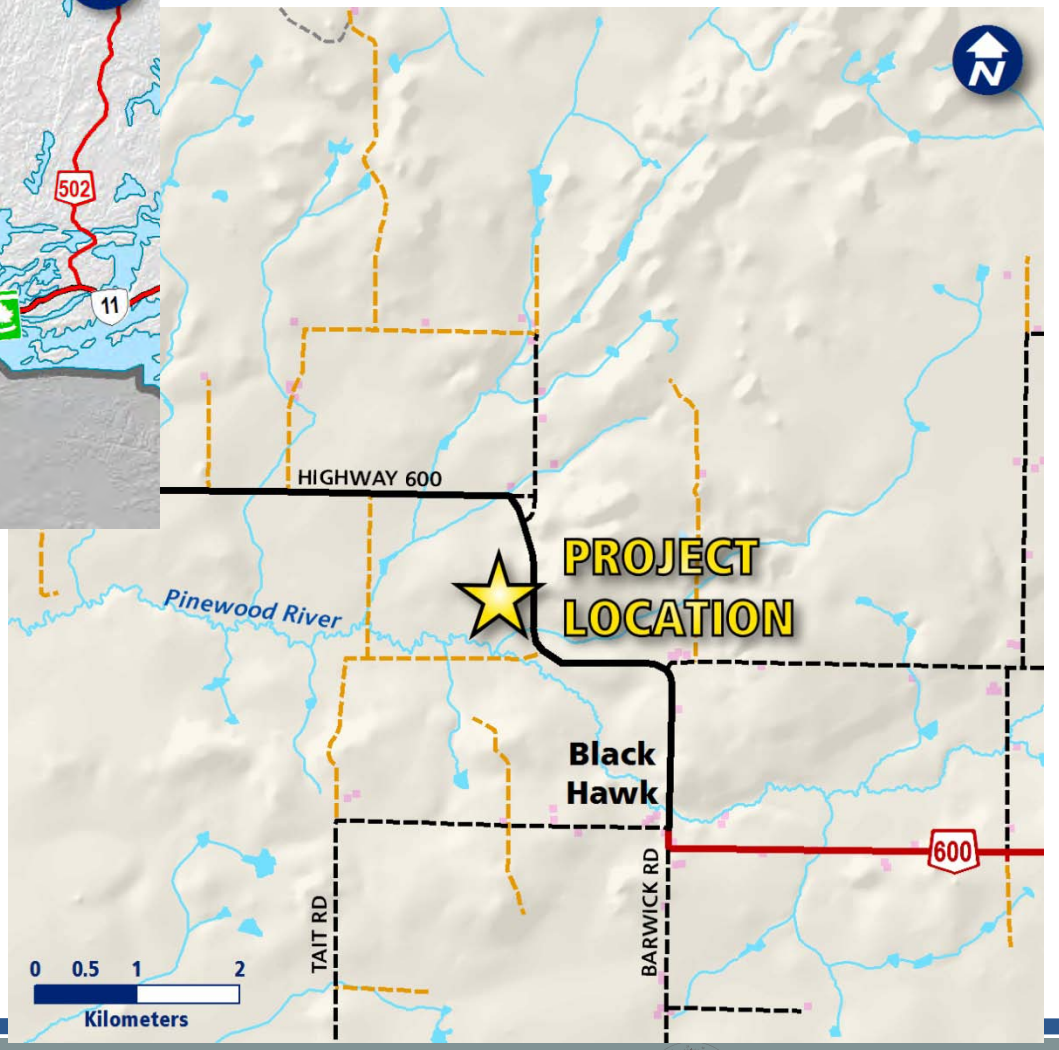
1. Environmental Baseline Studies
2. Agency Discussions
3. Community Relations





Project Location







An Emerging Canadian Gold District
RR:TSX-V
rainyriverresources.com

Environmental Baseline Studies

- Detailed field studies of the local and regional environment are typically initiated when a mineral exploration program begins to indicate the potential for mine development.
- In the case of the Rainy River Gold Project, environmental studies were initiated in 2008 with literature and desktop assessments turning to intensive field investigations both in 2009 and again in 2010.







Environmental Baseline Studies

- Studies currently underway:
  - Climate
  - Aquatic Ecosystems
  - Terrestrial Environment
  - Wetlands
  - Soils and Rock Geochemistry





- Stream Hydrology
- Surface Water Quality
- Groundwater Quality
- Hydrogeology
- Air Quality & Sound
- Socio-economics
- Traditional and Cultural Use
- Archaeological Assessment

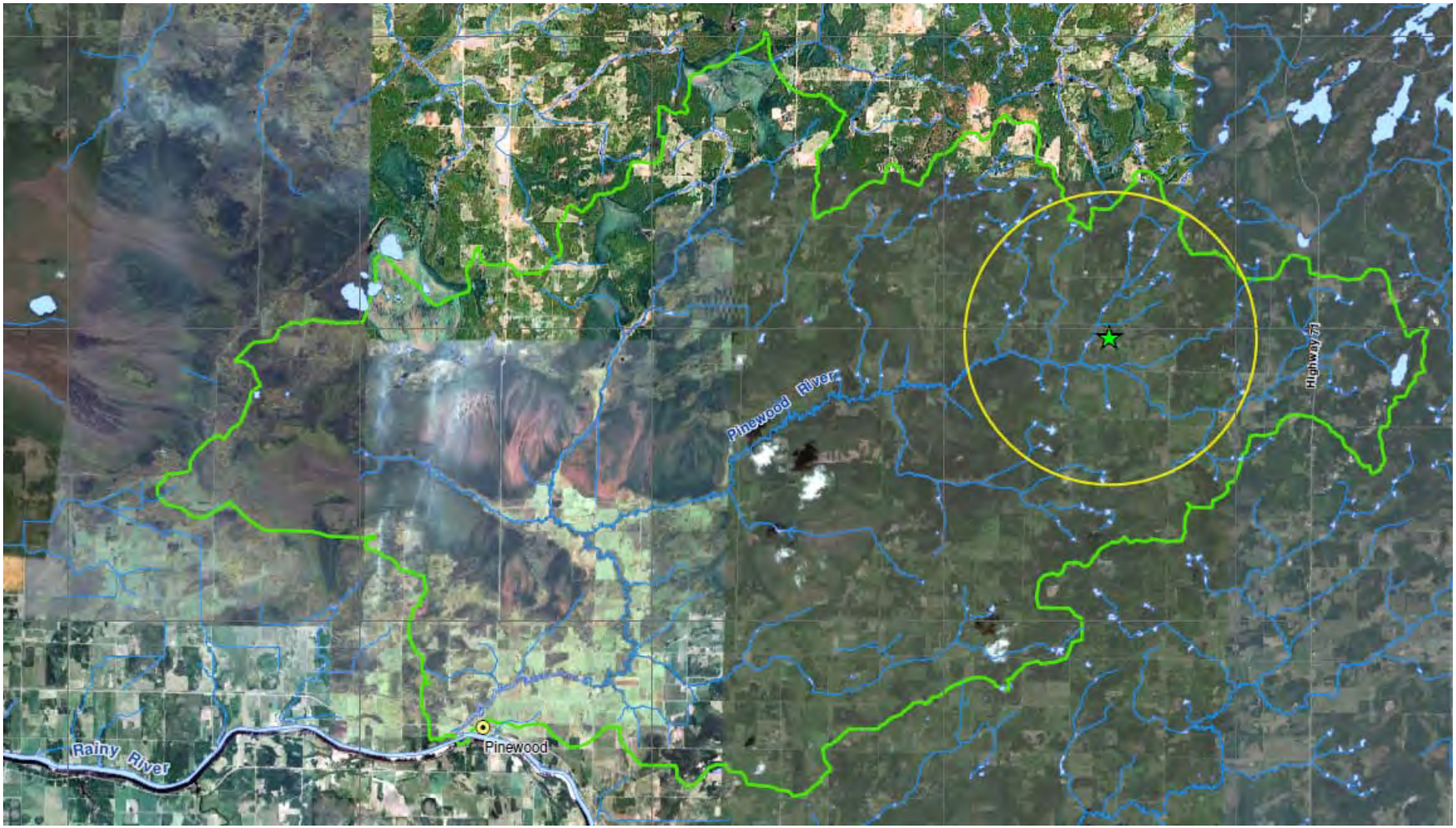
Environmental Baseline Studies

- Once baseline environmental studies have been completed over a period of one or two years, on-going environmental monitoring of key environmental components continues.
- One of the most important aspects of environmental monitoring, is water quality.

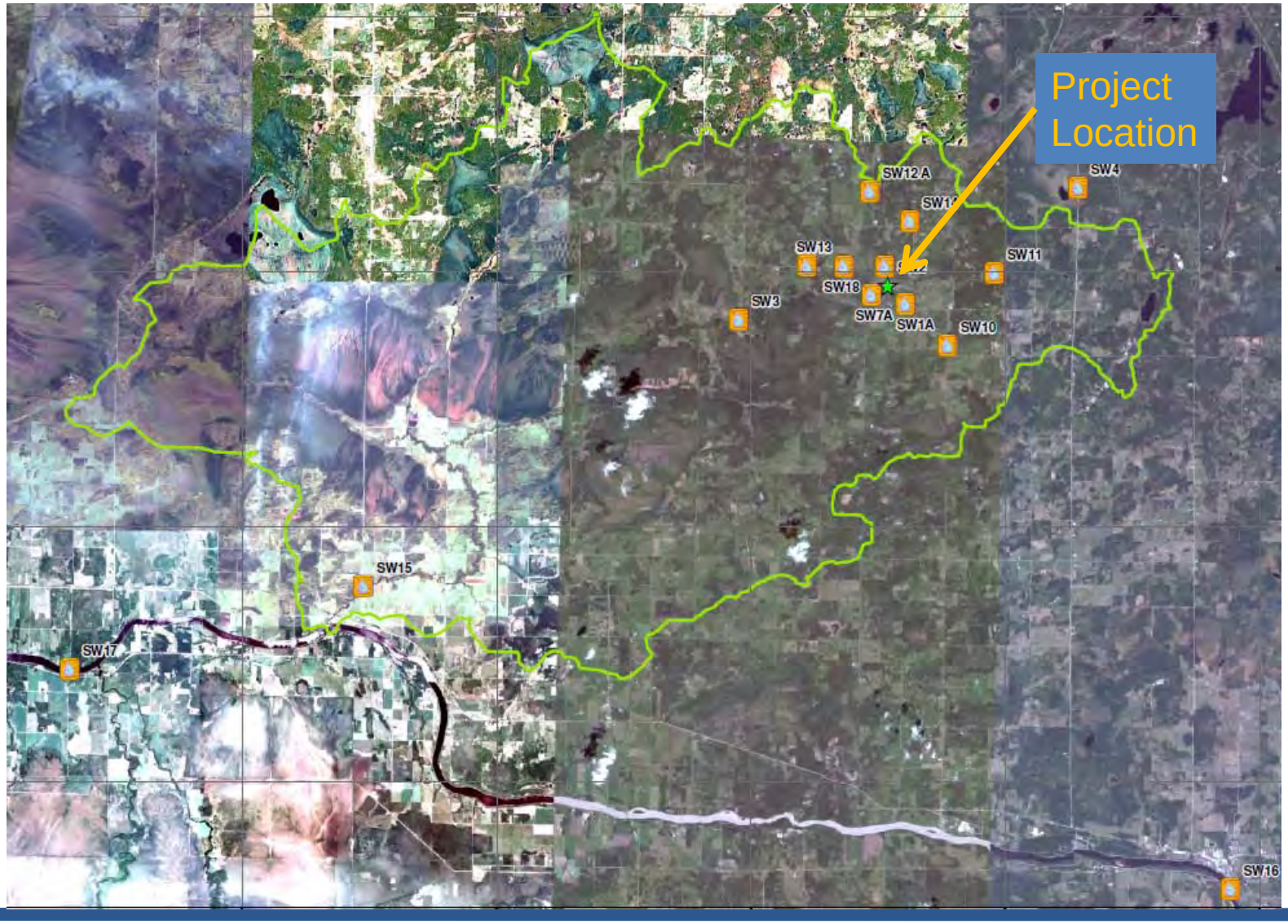




Regional Study Area - Pinewood River Watershed



Regional Water Quality Monitoring Locations



An Emerging Canadian Gold District
RR:TSX-V
rainyriverresources.com

Local Water Quality Monitoring Locations



An Emerging Canadian Gold District
RR:TSX-V
rainyriverresources.com

Advanced Exploration Environmental Management

- As construction of the advanced exploration site begins in 2011, environmental management and monitoring will ramp-up also.
- Provincial permits from agencies such as the Ministry of Northern Development, Mines and Forestry and the Ministry of Environment will be cornerstone to measuring our environmental performance during both construction as well as when we begin to develop the underground.







Ontario Agency Discussions

- Close Provincial agency consultations underway since the spring of 2010.
- Project Permitting Planning meeting and site tour with the key agencies held in Fort Francis on July 13, 2010.
- Have been working closely with the Ontario Ministry of Natural Resources to avoid sensitive habitat areas.







Community Relations

- Rainy River staff have attended various Municipal Meetings.
- Communicating closely with local land and business owners.
- Community office and quarterly newsletter.
- Advanced discussions with area First Nations.
- Discussions with the Métis Nation of Ontario are underway.


Rainy River Resources Ltd.

Fall 2010
Volume 1, Issue 1

In this issue:
- The Rainy River Gold Project
- Advanced Exploration

Who we are

Rainy River Resources Ltd. is a Canadian mineral exploration company based in Toronto, Ontario.

The Company's principal focus is its Rainy River Gold Project, located 65 kilometres northwest of Fort Frances in Richardson Township. The company also has another high potential gold project, "TPK" located in Northern Ontario's Ring of Fire region.

Rainy River Resources has an experienced management team led by Raymond Threlkeld, President and CEO.

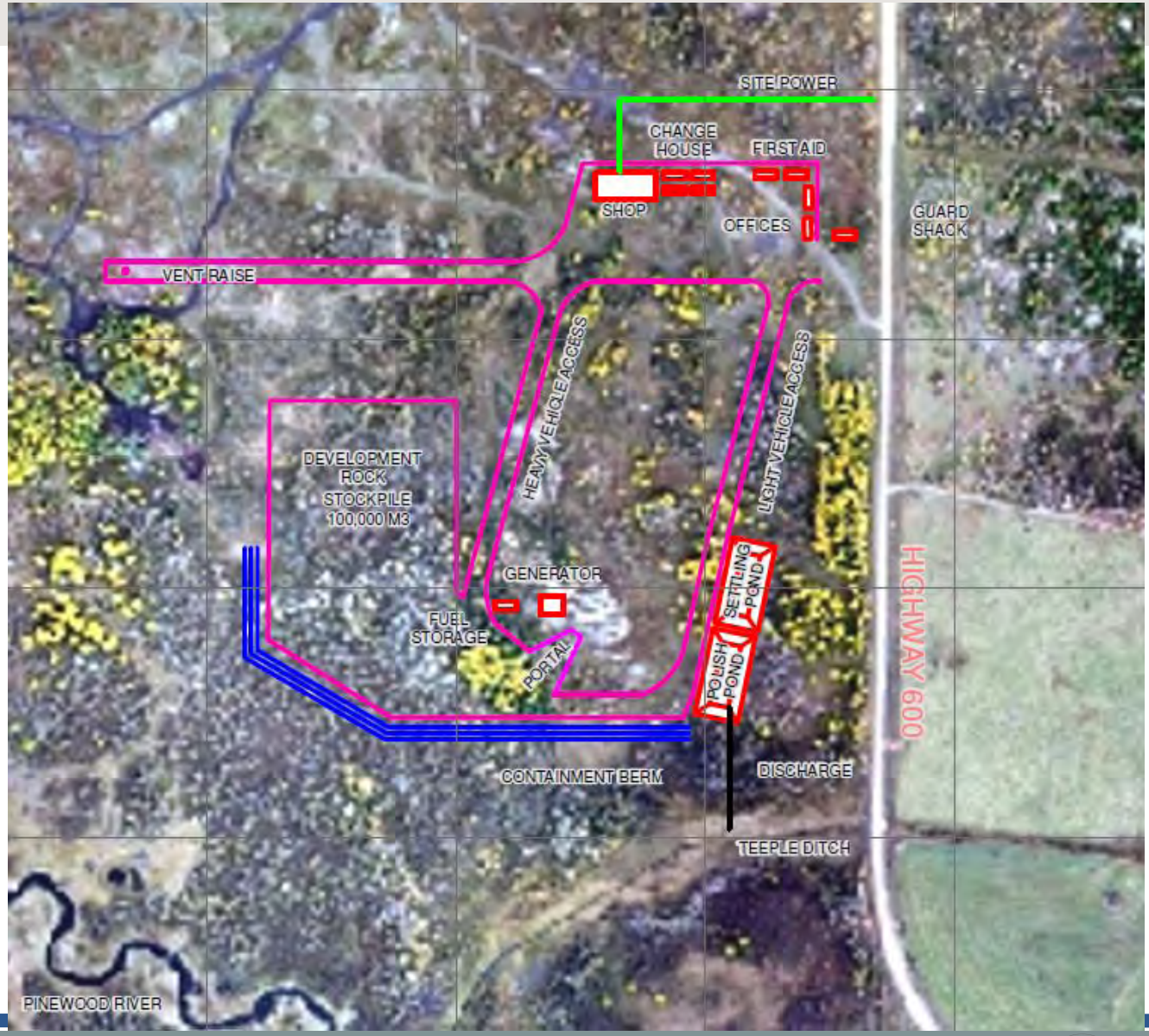
The company's shares trade on the TSX Venture Exchange ("TSX-V") under the symbol "RR".







Selected Location: Site C



the Legacy Continues... Canada's Next Gold Camp.

Rainy River Resources Ltd.
Listed: RR. TSX-V
303 - 1620 West 8th Avenue
Vancouver BC V6J 1V4

Tel: 604.639.4490
Fax: 604.639.4498

Toronto Office:

701 – 1 Richmond Street West
Toronto, ON M5H 3W4
Tel: 647.476.5405

Mr. Kenneth Burns
Mr. Brian Burns
Mr. Stephen Burns
Mr. Robert Burns
c/o
Box 273
Ramore, ON P0K 1R0

September 27, 2010

Dear Mr. Burns;

RE: Invitation to Public Information Session - Rainy River Gold Project

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Jack for

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

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Toronto, ON M5H 3W4
Tel: 647.476.5405

Mr. Paul Wepruk
Site 101-13, RR#1
Fort Frances, ON P9A 3M2

September 27, 2010

Dear Mr. Wepruk;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Daniel & Julia Teeple
RR#1
Stratton, ON P0W 1E0

September 27, 2010

Dear Mr. & Mrs. Teeple;

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Douglas & Vesta Teeple
RR#1
Stratton, ON P0W 1E0

September 27, 2010

Dear Mr. & Mrs. Teeple;

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Ms. Florence Shwedack
283 Hodder Avenue
Thunder Bay, ON P7A 1T1

September 27, 2010

Dear Ms. Shwedack;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Mr. Howard Roen
RR#1
Stratton, ON P0W 1No

September 27, 2010

Dear Mr. Roen;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Henry & Elizabeth Petkau
P.O. Box 660
Emo, ON P0W 1E0

September 27, 2010

Dear Mr. & Mrs. Petkau;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Toronto, ON M5H 3W4
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Colin & Dorothy Neilson
RR#1
Stratton, ON P0W 1N0

September 27, 2010

Dear Mr. & Mrs. Neilson;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Alvin & Carol McLean
RR#2
Stratton, ON P0W 1N0

September 27, 2010

Dear Mr. & Mrs. McLean;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Mr. Donald J. MacEachern
208 Second Street East
Fort Frances, ON P9A 1A1

September 27, 2010

Dear Mr. MacEachern;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Robert & Loretta LeBlanc
RR#1
Stratton, ON P0W 1N0

September 27, 2010

Dear Mr. & Mrs. LeBlanc;

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Mr. Floyd Georgeson
RR#1
Stratton, ON P0W 1N0

September 27, 2010

Dear Mr. Georgeson;

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Director of Environment and Sustainability
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Donald Huitikka
RR#2
Emo, ON P0W 1E0

September 27, 2010

Dear Mr. Huitikka;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Brian Gerula
RR#1
Stratton, ON P0W 1No

September 27, 2010

Dear Mr. Gerula;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Murray and Nadine Gerula
RR#1
Stratton, ON P0W 1No

September 27, 2010

Dear Mr. & Mrs. Gerula;

RE: Invitation to Public Information Session - Rainy River Gold Project

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JSD Logging
P.O. Box 40
Pinewood, ON POW 1N0

September 27, 2010

Dear JSD Logging;

RE: Invitation to Public Information Session - Rainy River Gold Project

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Jack for

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Brian C. Tucker
Manager, Lands, Resources and Consultation
Sunset Country Metis Association
426 Victoria Avenue
Fort Frances, ON P9A 3M7

September 9, 2010

Dear Mr. Tucker;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

In support of local community engagement we have recently opened a regional company office in Emo. Rainy River Resources is pleased to invite you to our grand opening and public open house to be held at our Emo office on October 6, 2010 between the hours of 12pm and 4pm. We would be pleased to have you and your representatives attend the event during which time we will have a ribbon cutting ceremony.

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Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief Chuck McPherson & Council
Couchiching First Nation
RMB 2027, RR#2
Fort Frances, ON P9A 3M3

September 9, 2010

Dear Chief McPherson & Council;

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Director of Environment and Sustainability
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Chief Leon Jourdain & Council
Lac La Croix First Nation
P.O. Box 640
Fort Frances, ON P9A 3M9

September 9, 2010

Dear Chief Jourdain & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

In support of local community engagement we have recently opened a regional company office in Emo. Rainy River Resources is pleased to invite you to our grand opening and public open house to be held at our Emo office on October 6, 2010 between the hours of 12pm and 4pm. We would be pleased to have you and your representatives attend the event during which time we will have a ribbon cutting ceremony.

Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief Wayne Smith & Council
Naicatchewenin First Nation
RR#1
Devlin, ON P0W 1C0

September 9, 2010

Dear Chief Smith & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief Will Windigo & Council
Nigigoonsiminikaaning First Nation
P.O. Box 68
Fort Frances, ON P9A 3M5

September 9, 2010

Dear Chief Windigo & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief James Leonard II & Council
Rainy River First Nations
P.O. Box 450
Emo, ON P0W 1E0

September 9, 2010

Dear Chief Leonard II & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief Earl Klyne & Council
Seine River First Nation
Box 124
Mine Centre, ON P0W 1H0

September 9, 2010

Dear Chief Klyne & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Chief Janice Henderson & Council
Mitaanjigamiing First Nation
P.O. Box 609
Fort Frances, ON P9A 3M9

September 9, 2010

Dear Chief Henderson & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Richard Bruyere & Staff
Pwi-Di-Goo-Zing Ne-Yaa-Zhing Advisory Services
P.O. Box 522
Fort Frances, ON P9A 3M8

September 9, 2010

Dear Richard & Staff;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Tammy Ryll & Staff
Fort Frances Chiefs Secretariat
Site 206-39 RR#2
Fort Frances, ON P9A 3M3

September 9, 2010

Dear Tammy & Staff;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Mayor Ed Carlson & Council
Township of Emo
P.O. Box 520
Emo, ON P0W 1E0

September 9, 2010

Dear Mayor Carlson & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Director of Environment and Sustainability
+1-807-621-6152

John Rafferty, MP
140 4th Street West
Fort Frances, ON P9A 3M8

September 9, 2010

Dear Mr. Rafferty;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Howard Hampton, MPP
140 4th Street West
Fort Frances, ON P9A 3M8

September 9, 2010

Dear Mr. Hampton;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Reeve Michael Hammond & Council
Township of Alberton
RR#1 - Box 2
Fort Frances, ON P9A 3M2

September 9, 2010

Dear Reeve Hammond & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Reeve Peter Van Heyst & Council
Township of Chapple
P.O. Box 4
Barwick, ON P0W 1A0

September 9, 2010

Dear Reeve Van Heyst & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Reeve John Amundsen & Council
Township of Dawson
P.O. Box 427
Rainy River, ON P0W 1C0

September 9, 2010

Dear Reeve Amundsen & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Mayor Roy Avis & Council
Townof Fort Frances
320 Portage Avenue
Fort Frances, ON P9A 3P9

September 9, 2010

Dear Mayor Avis & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Reeve Emily Watson & Council
Township of LaVallee
P.O Box 99
Devlin, ON P0W 1C0

September 9, 2010

Dear Reeve Watson & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Reeve Gary Gamsby & Council
Township of Morley
P.O. Box 40
Stratton, ON P0W 1N0

September 9, 2010

Dear Reeve Gamsby & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Mayor Debbie Ewald & Council
Town of Rainy River
P.O. Box 488
Rainy River, ON P0W 1L0

September 9, 2010

Dear Mayor Ewald & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Geoff Gillon & Staff
Rainy River Future Development Corporation
608 Scott Street
Fort Frances, ON P9A 1H6

September 9, 2010

Dear Geoff & Staff;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

Mayor Bill Thompson & Council
Township of Sioux Narrows-Nestor Falls
P.O. Box 417
Sioux Narrows, ON P0X 1N0

September 9, 2010

Dear Mayor Thompson & Council;

RE: Invitation to Grand Opening of Rainy River Gold Project New Emo Office

Rainy River Resources Ltd. is pleased to announce the expansion of our exploration program at our flagship gold project located northwest of Emo, Ontario. Over the coming two years, we will significantly expand upon our investment in the Northwestern Ontario economy through the initiation of an Advanced Exploration program representing an estimated $20M investment thereby adding approximately 50 new direct and contract jobs to the region.

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Please do not hesitate to contact me if you require any further information.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment and Sustainability
+1-807-621-6152

APPENDIX IX - 1

Rainy River First Nations Consultation Material Summary

RainyRiverResources.com
RR. TSX-V

Toronto Office
1 Richmond Street West, Suite 701
Toronto, ON, M5H 3W4

Tel: 647.476.5405
Fax: 416.642.9312

Vancouver Office
Suite 303 - 1620 West 8th Ave
Vancouver, BC, V6J 1V4

Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief Chuck McPherson & Council
Couchiching First Nation
RMB 2027, RR#2
Fort Frances, ON P9A 3M3

RE: Rainy River Advanced Exploration Project

Dear Chief McPherson & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. Stacey Jack, our First Nations Engagement Specialist, provided you with a copy of the Notice of Project Status and related Project Description in October.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

We are extremely pleased with our relationship with each First Nation community associated with the Fort Frances Chiefs Secretariat and we look forward to building a project that assists with local and regional economic sustainability. Should you have any further questions pertaining to this submission please do not hesitate to contact Stacey Jack or myself at any time.

Yours truly,



Kyle L. Stanfield, P.Eng.
Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

RainyRiverResources.com
RR. TSX-V

Toronto Office
1 Richmond Street West, Suite 701
Toronto, ON, M5H 3W4

Tel: 647.476.5405
Fax: 416.642.9312

Vancouver Office
Suite 303 - 1620 West 8th Ave
Vancouver, BC, V6J 1V4

Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief Leon Jourdain & Council
Lac La Croix First Nation
P.O. Box 640
Fort Frances, ON P9A 3M9

RE: Rainy River Advanced Exploration Project

Dear Chief Jourdain & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

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Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

RainyRiverResources.com
RR. TSX-V

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Suite 303 - 1620 West 8th Ave
Vancouver, BC, V6J 1V4

Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief Janice Henderson & Council
Mitaanjigamiing First Nation
P.O. Box 609
Fort Frances, ON P9A 3M9

RE: Rainy River Advanced Exploration Project

Dear Chief Henderson& Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

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Yours truly,

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Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

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RR. TSX-V

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Vancouver Office
Suite 303 - 1620 West 8th Ave
Vancouver, BC, V6J 1V4

Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief Wayne Smith & Council
Naicatchewenin First Nation
RR#1
Devlin, ON P0W 1C0

RE: Rainy River Advanced Exploration Project

Dear Chief Smith & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. Stacey Jack, our First Nations Engagement Specialist, provided you with a copy of the Notice of Project Status and related Project Description in October.

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Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

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Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief Will Windigo & Council
Nigigoonsiminikaaning First Nation
P.O. Box 68
Fort Frances, ON P9A 3M5

RE: Rainy River Advanced Exploration Project

Dear Chief Windigo & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. Stacey Jack, our First Nations Engagement Specialist, provided you with a copy of the Notice of Project Status and related Project Description in October.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

We are extremely pleased with our relationship with each First Nation community associated with the Fort Frances Chiefs Secretariat and we look forward to building a project that assists with local and regional economic sustainability. Should you have any further questions pertaining to this submission please do not hesitate to contact Stacey Jack or myself at any time.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

RainyRiverResources.com
RR. TSX-V

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Toronto, ON, M5H 3W4

Tel: 647.476.5405
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Suite 303 - 1620 West 8th Ave
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Tel: 604.639.4490
Fax: 604.639.4498

November 17, 2010

Chief James Leonard II & Council
Rainy River First Nations
P.O. Box 450
Emo, ON P0W 1E0

RE: Rainy River Advanced Exploration Project

Dear Chief Leonard & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. Stacey Jack, our First Nations Engagement Specialist, provided you with a copy of the Notice of Project Status and related Project Description in October.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

We are extremely pleased with our relationship with each First Nation community associated with the Fort Frances Chiefs Secretariat and we look forward to building a project that assists with local and regional economic sustainability. Should you have any further questions pertaining to this submission please do not hesitate to contact Stacey Jack or myself at any time.

Yours truly,

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Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

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November 17, 2010

Chief Earl Klyne & Council
Seine River First Nation
Box 124
Mine Centre, ON P0W 1H0

RE: Rainy River Advanced Exploration Project

Dear Chief Klyne & Council:

As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. Stacey Jack, our First Nations Engagement Specialist, provided you with a copy of the Notice of Project Status and related Project Description in October.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

We are extremely pleased with our relationship with each First Nation community associated with the Fort Frances Chiefs Secretariat and we look forward to building a project that assists with local and regional economic sustainability. Should you have any further questions pertaining to this submission please do not hesitate to contact Stacey Jack or myself at any time.

Yours truly,

Kyle L. Stanfield, P.Eng.
Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152

cc. Tammy Ryll, Fort Frances Chiefs Secretariat

Confederation COLLEGE



Diamond Driller's Helper

Training Program



In partnership with

Rainy River Resources Ltd.

BRETT Resources Inc. TSX.V: BBR

Program Overview

The Diamond Driller's Helper is a comprehensive program that prepares individuals for the safety and operational demands of work in the field of diamond drilling. This program will prepare you for employment in the industry as an entry level Diamond Driller's Helper. Training delivered will be consistent with the requirements of the common core training guidelines for drillers.

The program is offered in partnership with Rainy River Resources, Brett Resources and the First Nations Communities signatory to the agreements in the existing Impact Benefit Agreement and Memorandum of Understanding.

Student's Corner

"Diamond Driller's Helper is a NEW program at Confederation College. Demand for workers in the mining industry is on the rise and long term forecasts show the demand will last.."

For more information, contact:

John Hatton: (807) 475-6626 or
Anne Renaud (807) 274-5395

Career Opportunities

The skills learned in this program will assist graduates to attain employment in a wide range of industrial settings i.e. mining, oil and other resources.

Employment for this occupation is expected to grow with many new positions being created and additional job openings stemming from the increased activity in mining exploration at a national and international level and also due to replacement needs as experienced Diamond Drillers retire.

Surface Diamond Driller Assistants are employed in a variety of industries where they operate and maintain drill rigs, dismantle machinery, and install new equipment at remote sites.

The career has many benefits including good pay with the opportunity for bonuses. Applicants must be willing to work in outdoor, challenging conditions and be prepared to live out of town for extended periods of time.

Topics include:

Module 1: Safety Protect Self & Others
Module 2: Safe Surface Diamond Drilling Environment
Module 3: Hand and Power Tools
Module 4: Operate Chainsaw
Module 5: Lifting Devices
Module 6: Portable Pumps
Module 7: Core Recovery & Core Barrel Handling
Module 8: Operate Skidder and First Aid/CPR, WHMIS, Propane Certification, Fall Arrest, TDG & Wilderness Training

Personal Protective Equipment

All participants are supplied with the following PPE.

- Safety Glasses
- Hard hat with ear protection
- Coveralls
- Workgloves
- CSA approved work boots must be purchases by the participant

Entrance Requirements

Must be physically fit and able to lift 75 lbs to 100 lbs. The job involves the ability to work in the outdoors and live in camp settings.
You must be mechanically inclined and like to work with various pieces of equipment. (i.e. pumps, generators, motors, heaters, etc.).

Accreditation:

Basic Surface Diamond Driller Assistant Common Core

Application Procedures

Only complete applications with all the following documents will be considered:

- Confederation College application form
- Photocopy of valid Driver's License and Status/ Métis cards.
- Resume with references
- Scheduled Interview

Selection Process & Restrictions

Applicants will be short-listed for interviews based on work history and reference checks. Short-listed applicants may be interviewed for final selections.

Submit applications to:

John Hatton
Confederation College
Box 398, 1450 Nakina Drive
Thunder Bay, ON P7C 4W1
hatton@confederatonc.on.ca

Anne Renaud
Director, Rainy River District Campus
Fort Frances.
arenaud@confederatonc.on.ca



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November 17, 2010

Sunset Country Métis
Atten: Brian Tucker
426 Victoria Ave.
Fort Frances, ON
P9A 1H6

RE: Rainy River Advanced Exploration Project

Dear Brian:

Thank you for attending our project information meeting held in Fort Frances on October 5, 2010. It was a pleasure meeting yourself and the Métis Nation of Ontario Consultation Committee for the region. As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a Project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

Should you have any further questions pertaining to this submission please do not hesitate to contact me at any time.

Yours truly,



Kyle L. Stanfield, P.Eng.
Director of Environment & Sustainability
kstanfield@rainyriverresources.com
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November 17, 2010

Chief Wesley Big George
Anishinaabeg of Naongashiing
General Delivery
Morson, ON P0W 1J0

RE: Rainy River Advanced Exploration Project

Dear Chief Wesley Big George & Council:

It was a pleasure to meet with your council at the Anishinaabeg of Naongashiing band offices on October 18, 2010. As discussed, Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of approximately two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. A copy of the Notice of Project Status and related Project Description is attached for your reference.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

Should you have any further questions pertaining to this submission please do not hesitate to contact me at any time.

Yours truly,



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November 17, 2010

Chief Carol Copenace
Big Grassy First Nation
P.O. Box 414
Morson, ON P0W 1J0

RE: Rainy River Advanced Exploration Project

Dear Chief Copenace:

Rainy River Resources Ltd. (Rainy River) is proposing to conduct an advanced exploration program at our Rainy River gold project involving the development of approximately 3.9 kilometres of underground workings at the site over a period of approximately two years. The underground workings will be used to access deeper areas of the gold deposit in order to perform exploratory underground diamond drilling and to collect bulk samples of the gold mineralization for further study.

In support of permitting the advanced exploration program, Rainy River recently submitted a Notice of Project Status and related Project Description to the Ministry of Northern Development, Mines and Forestry. A copy of the Notice of Project Status and related Project Description is attached for your reference.

The proposed underground diamond drilling program and associated bulk samples will assist with the completion of a project feasibility study for the ore deposit. The project Closure Plan and associated permit applications will be submitted to the Ministry of Northern Development, Mines and Forestry during the final quarter of 2010 with project construction proposed to commence in the first and second quarter of 2011.

I have contacted your office several times over the past 4 weeks in order to arrange a time to discuss our exploration project in person but have been unable to reach you by telephone. Hopefully we can find a time to meet together in the near future. Should you have any questions pertaining to this submission please do not hesitate to contact me at any time.

Yours truly,



Kyle L. Stanfield, P.Eng.
Director of Environment & Sustainability
kstanfield@rainyriverresources.com
807-621-6152