DILLON CONSULTING

Long Term Maintenance and Monitoring 2014 Groundwater Monitoring Event

Open Hearth Park and Harbourside East
Final Report

March 2015 – 14-1360-1000

March 12, 2015

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ATTENTION: Mr. Frank Potter
Executive Director

Long Term Maintenance and Monitoring 2014 Groundwater Monitoring Event Open Hearth Park and Harbourside East (Final)

Dear Mr. Potter:

Dillon Consulting Limited is pleased to submit the above referenced report for your review. Should you have any questions or comments, please contact the undersigned at (902) 562-9880.

Yours sincerely,

DILLON CONSULTING LIMITED

N. J. Wambolt

Nadine J. Wambolt, B.Tech., CET
Project Manager

NJW:kmf
Enclosure

Our file: 14-1360-1000

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Executive Summary

Nova Scotia Lands Incorporated (NS Lands) is a Crown Corporation of the Province of Nova Scotia responsible for the Long Term Maintenance and Monitoring Program (LTMM) implemented at Open Hearth Park (OHP) and Harbourside East (HE). NS Lands retained Dillon Consulting Limited to conduct the LTMM program, which consists of an annual groundwater sampling program carried out in late fall to coincide with increased rainfall. The LTMM event completed in December 2014 included measurement of hydraulic head levels and sample collection from monitor wells around the shorelines of OHP (i.e., North and South Ponds) and HE (i.e., the former Coke Ovens Site).

Water level data obtained during the December 2014 event were used to generate equipotential groundwater contours to identify the groundwater flow direction within the unconsolidated till and/or fill unit, the upper fractured shallow bedrock and the intermediate/deep bedrock. Review of the available equipotential contour plots for the three media units (i.e., the fill/till, shallow bedrock and intermediate/deep bedrock) indicates that the groundwater flow direction in each of the units is generally consistent between the 2014 event and that observed during the EEM program associated with the Sydney Tar Ponds (STP) remediation project. The groundwater flows generally from HE towards the southwest into Sydney Harbour. Mounding of the groundwater elevation within the fill till unit appeared south of the South Cut-off Wall, on the southwestern portion of HE, in the vicinity of COSCW-002-MWB.

Analytical data were assessed in comparison to the July 2013 Nova Scotia Contaminated Sites Regulations (NSCSR) Tier I Environmental Quality Standards (EQS) for groundwater. Where Tier 1 EQS are not available (e.g., for polycyclic aromatic hydrocarbons (PAHs) and metals in groundwater at non-potable sites), the Ontario Ministry of the Environment (MOE) Groundwater Standards for use under Ontario's Environmental Protection Act were used.

Groundwater quality trend analysis was performed for select monitor wells within the OHP and HE areas via Mann-Kendall analysis, which included PAH indicator parameters (i.e., acenaphthylene, anthracene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and naphthalene) and additional general chemistry and metal parameters (i.e., selenium, sulfate, pH and TDS). Concentrations of indicator parameters in groundwater samples collected were compared to available post-remediation data. The purpose of the comparison of groundwater data collected during the LTMM monitoring event with post-remediation monitoring events is to identify changes (if any) in either the physical or chemical character of the groundwater over time. In most instances, the concentrations were comparable to the post-remediation data. Trend analysis on select parameters at select monitor well locations indicates that most concentration trends are stable, decreasing or fluctuating. Increasing concentration trends appear at two monitor well locations (i.e., MCES-006-MW, located on the southeast portion of OHP in the vicinity of the former cooling pond, for pH and CODT-201-MWC, located on the northwest portion of HE at the former Domtar site, for acenaphthylene).

For OHP, concentrations of analyzed parameters at the majority of the sampling wells were below the applicable standards. Three monitor wells (i.e., MSES-104-MWA/MWB and MSES-008-MW) located on the southeastern shoreline contained PAH concentrations above the MOE standards. The three wells are located in the vicinity of the former disposal area on the south shoreline of OHP, which could be a contributing source resulting in the elevated PAH concentrations. It is also noted that one monitor well (i.e., MCES-204-MW), located in an area in-filled with slag and coal north of OHP, contained elevated concentrations of PAHs, selenium and sodium above the MOE standards. Another monitor well located on the eastern shoreline (i.e., MCES-001-MWB) contained an elevated concentration of sodium above the MOE standards.

For HE, concentrations of analyzed parameters at the majority of the sampling wells were also below applicable standards. One monitor well (i.e., CODT-201-MWC), located in the former Domtar site, contained PAH concentration(s) above both the Tier 1 EQS and MOE standard(s). Two monitor wells (i.e., CODT-201-MWA and CODT-203-MW), located within the northwest portion of HE at the former Domtar site, contained PAH concentrations above their respective MOE standard concentrations.

This report was prepared by Dillon Consulting Limited for the sole benefit of our client, Nova Scotia Lands. The conclusions reflect Dillon's judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report or any reliance on or decisions made based on it are the responsibilities of such third parties. Dillon accepts no responsibilities for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

1.0 Introduction

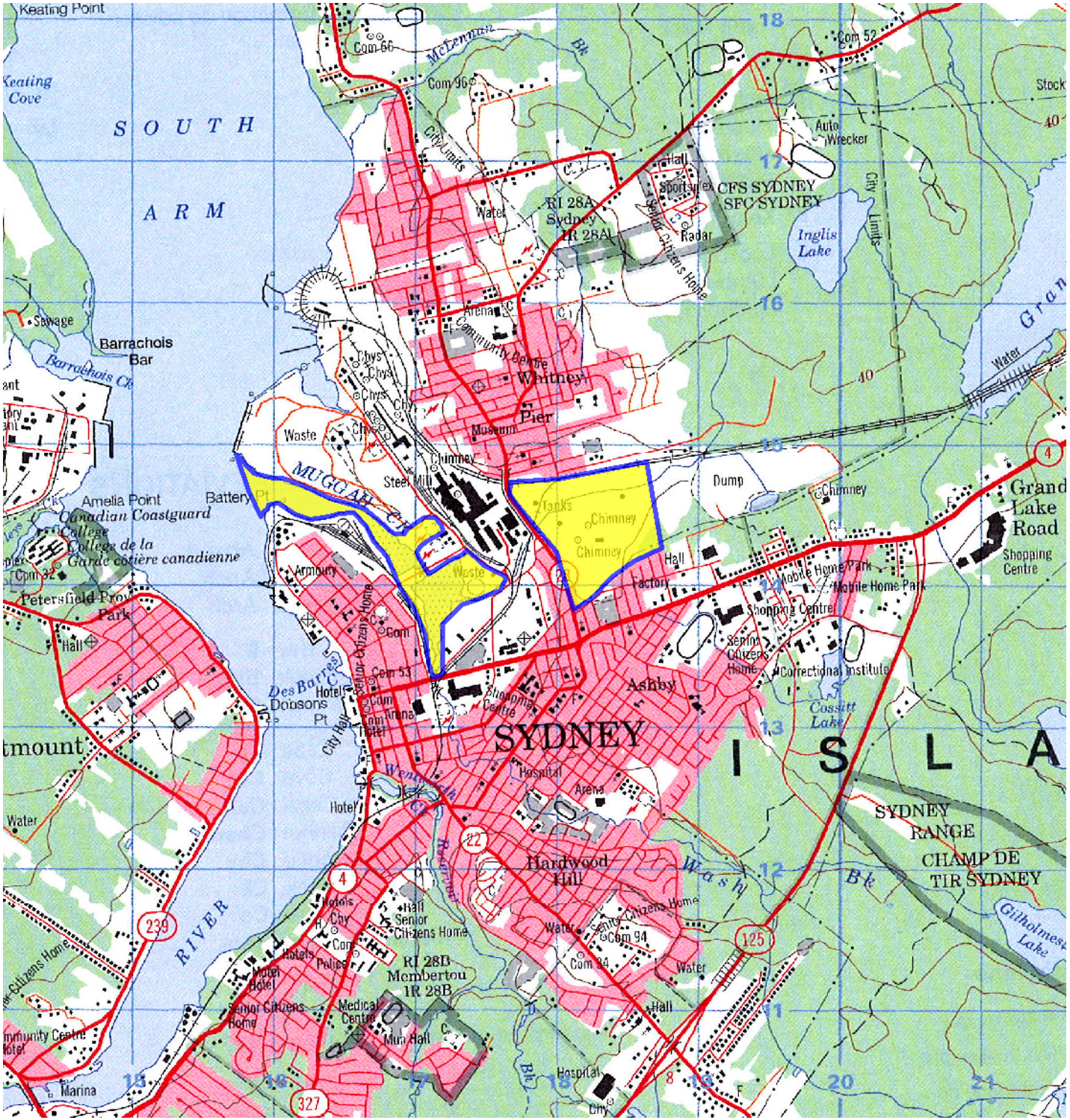
The footprint of the Sydney Tar Ponds and former Coke Ovens Site encompassed approximately 100 hectares of property within the Muggah Creek Watershed in the Cape Breton Regional Municipality (CBRM) of Nova Scotia. Extensive testing identified widespread contamination of soil, groundwater, surface water and sediments due to historical long term industrial use of the property. The remediation project, managed by the Sydney Tar Ponds Agency (STPA), was a complex undertaking, consisting of many design and construction elements completed over several years. An Environmental Effects Monitoring (EEM) and Surface Water Compliance Monitoring Program was established as part of the remediation program to assess performance of construction/remedial measures.

Long term maintenance and monitoring (LTMM) was one of the major components of the proposed remedial strategy designed to be carried out following the completion of the primary remediation project (2009-2014). Nova Scotia Lands Incorporated (NS Lands) is a Crown Corporation of the Province of Nova Scotia with the responsibility for former lands involved in the Tar Ponds and Coke Ovens cleanup, now known as Open Hearth Park (OHP) and Harbourside East (HE) (Figure 1.0-1 and Figure 1.1-1). As such, NS Lands is responsible for the LTMM which has been implemented at OHP and HE.

This document contains the details of the LTMM Groundwater Monitoring Event completed at OHP and HE in December 2014. Section 1.0 outlines the scope of work. Methodologies are detailed in Section 2.0. Findings are presented in Section 3.0 and summarized in Section 4.0. Recommendations are presented in Section 5.0. Data tables and supporting information are found in Appendices referenced throughout the document.

1.1 Scope of Work

The LTMM program consists of a yearly groundwater sampling program carried out in late fall to coincide with increased rainfall. The first LTMM event was completed in December 2014 and included measurement of hydraulic head levels and sample collection from specific monitor wells around the shorelines of OHP (i.e., North and South Ponds) and HE (i.e., the former Coke Ovens Site). In accordance with the request for proposal (RFP) NSLAND57 Groundwater Monitoring Services, the LTMM 2014 Groundwater Monitoring Event was scheduled to include 67 water level measurements and the collection of 44 groundwater samples for select analysis (i.e., petroleum hydrocarbons (PHCs); polycyclic aromatic hydrocarbons (PAHs); metals; and general inorganic chemistry parameters).



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OPEN HEARTH PARK AND HARBOURSIDE EAST

2014 GROUNDWATER MONITORING EVENT

SITE LOCATION

Figure 1.0-1

Site Location

SCALE 1:40,000

0 125 250 500 750 1,000 m

N
W E
S

MAP DRAWING INFORMATION:
Government of Canada, Natural Resources Canada,
Earth Science Sector, Center for Topographic Information.
Sydney 11 K/1
Information current as of 1994.
Province of Nova Scotia Mapping

MAP CREATED BY: MCL
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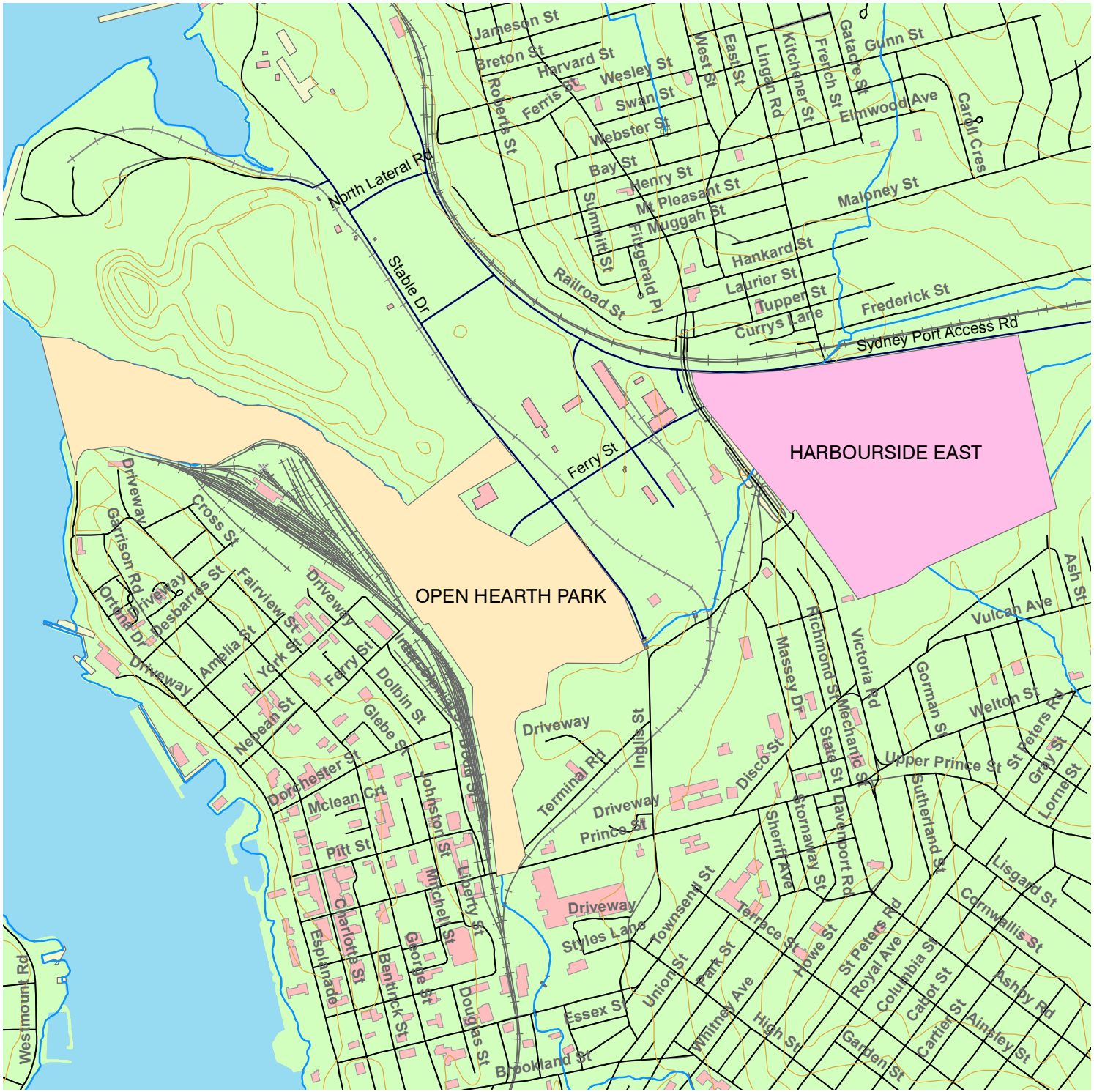

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OPEN HEARTH PARK AND HARBOURSIDE EAST

2014 GROUNDWATER MONITORING EVENT

STUDY AREAS

FIGURE 1.1-1

0 50 100 200 300 m

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2.0 Project Methodologies

Methodologies are provided in the following sub-sections:

Section 2.1 Health and Safety Processes

Section 2.2 Quality Control Processes

Section 2.3 Groundwater Sampling

Section 2.4 Data Compilation/Assessment

2.1 Health and Safety Processes

Dillon developed a site-specific health and safety plan (SSHSP) for the groundwater monitoring services, which was submitted to NS Lands for review prior to commencement of the field program. Site specific information, such as, local emergency contact information and hospital routes are included in the plan, as well as, but not limited to the following:

- Identification of site activities and potential hazards;
- Description of safe work practices and procedures;
- Description of PPE;
- Identification of safety training and first aid requirements; and,
- Identification of emergency response procedures.

The project manager reviewed the SSHSP with field personnel prior to mobilizing to the site. Field personnel are responsible for following the SSHSP, including conducting a job hazard analysis upon arrival to each site (i.e., OHP and HE). Dillon team members also abided by the procedures governing access to the NS Lands sites.

2.2 Quality Control Process

Data Quality Objectives (DQOs) and applicable Standard Operating Procedures (SOPs) were reviewed with the team prior to embarking on field work. Other QC measures included, but were not necessarily limited to the following:

- Assignment of a coordinator to oversee field activities;
- Use of dedicated materials and equipment to reduce/prevent the potential of sample contamination;
- For equipment requiring use at multiple stations, appropriate decontamination prior to and after each deployment;
- Use of laboratory supplied sample bottles/containers;
- Collection of an appropriate number of duplicates and blanks;
- Proper storage of samples on ice in coolers immediately after collection;
- Transport of samples to the laboratory (see below) on a daily basis; and,
- Daily documentation/review of notes.

Duplicate and Blank Collection

As summarized in Table B-1 (Appendix B), five field duplicates and six trip blanks were collected during the December 2014 monitoring event. Relative percent differences were calculated between sample and associated field duplicate results.

Laboratory QC

Analytical services were contracted by NS Lands to Maxxam Analytics Inc. (Maxxam) in Sydney and Bedford, Nova Scotia (NS). Maxxam is accredited to ISO 17025 by the Standards Council of Canada. Laboratory SOPs are based on accepted (i.e., USEPA, EPS, Atlantic PIRI, MSAMS, etc.) standard referenced industry protocols and were validated by Maxxam prior to use. Maxxam also applied internal laboratory QC measures including:

- Laboratory duplicates;
- Matrix Spikes (MS);
- Spike Blanks (Process Recovery %); and,
- Method blanks.

Laboratory DQOs including MS recoveries, process recoveries, relative percent differences, and holding times were reviewed to assess the quality of the data.

2.3 Groundwater Sampling

Groundwater characteristics within the boundaries of the Muggah Creek Watershed were previously assessed through the installation and testing of a significant number of monitor wells as part of the Phase II and III Environmental Site Assessments (ESAs) (JDAC, 2001 and 2002). The wells were terminated within fill (F), native till (T), and shallow, intermediate and deeper bedrock units (SRx, IRx and DRx respectively). Analytical data collected in conjunction with the ESAs, as well as in subsequent sampling events, confirmed widespread impacts, particularly petroleum hydrocarbons, PAHs, metals and inorganic parameters, resulting from long term industrial use of the land. The JDAC data also suggested that the more permeable fractured shallow bedrock (SRx) unit represented the primary pathway for contaminant migration. The sampling wells included in the LTMM plan are specifically located in different areas across the sites in an attempt to monitor and assess the performance of remediation.

The field component of the December 2014 groundwater monitoring event was consistent with pre-construction/baseline and quarterly construction monitoring events and involved the following activities:

- Measurement of Hydraulic Head Levels;
- Low Flow Purging Methods;
- Low Flow Groundwater Sample Collection; and,
- Data Compilation/Assessment and Reporting.

2.3.1 Measurement of Hydraulic Head Levels

The number of monitor wells measured for water levels was 64 (i.e., 44 sampling and 20 water level wells) during the December 2014 groundwater monitoring event.

Water levels could not be measured in SCU7-002-MWB (located in the vicinity of Coke Oven Brook, on the southeast portion of Harbourside Commercial Park (HCP)), SCU26-209-MW (located on OHP, east of the north shoreline) or SCU27-005-MWA/MWB (located on the north boundary of OHP) monitor wells as they were found to be destroyed or could not be located.

Also of note, CODT-201-MWB, located within the northwest portion of HE at the former Domtar site, was listed as a sampling well for the LTMM program. As this monitor well does not exist, monitor well CODT-201-MWC was instead included in the program after discussion with NS Lands.

Depth to water and the presence of light non-aqueous phase liquid (LNAPL) and/or dense non-aqueous phase liquid (DNAPL) in wells were manually measured using an interface probe. Measurements were taken from established reference points and water level information was recorded on field sampling sheets.

2.3.2 Well Purging

Using the proactive 12V Submersible Pumps installed as part of the EEM program for the Sydney Tar Ponds (STP) remediation project, monitor wells were purged so that samples representative of groundwater quality were collected. Specifically, water was removed from the well until select field parameters stabilized, including water level. The rate of flow (0.1 to 0.4 liters/minute) during purging of each well was controlled by an in-line valve. In instances where the dedicated submersible pumps were no longer working, a peristaltic pump was used. The water level was measured at 3-minute intervals with an effort made to maintain a constant head. The sample tube was connected to a flow-through cell containing a Horiba U-22 multi-parameter probe. The general stabilization of the following parameters was used as indication that water representative of the groundwater in the aquifer was being collected:

- pH (+/- 0.1 unit);
- Specific conductance (+ / - 3%);
- Temperature (+ / - 3%); and,
- Turbidity (+ / -10% for values greater than 1 NTU).

The time required for purging generally ranged from 15 to 30 minutes, and typically 6 to 12 liters (L) of water was removed during purging. Similar to the EEM program, stabilization of turbidity provided some challenges for a number of wells. In these cases, additional parameters including dissolved oxygen (DO) and oxidation reduction potential (ORP) were referenced to confirm stabilized conditions.

2.3.3 Sample Collection

Forty-three of a scheduled 44 monitor wells were sampled during the December 2014 event. Monitor well COTS-001-MWA, located on the northwestern portion of HE in the vicinity of Coke Oven Brook, could not be sampled due to insufficient groundwater.

2.3.4 Groundwater Analysis

Pursuant to RFP NSLAND57 Groundwater Monitoring Services, groundwater samples were analyzed for PHCs, PAHs, dissolved metals and general chemistry parameters, as listed in Table 2.3.4-1. PHC and PAH sample bottles were filled with no head space. Metal aliquots were field filtered and preserved with nitric acid in order to maintain constituents in solution. Samples were delivered to the Canadian Association for Laboratory Accreditation (CALA) certified laboratory Maxxam in Sydney, Nova Scotia for analysis.

TABLE 2.3.4- 1 WATER QUALITY ANALYTICAL SUITE OF PARAMETERS

PHC	PAHs	General Chemistry	Metals (dissolved)
Benzene	Acenaphthene	Anion/Cation sums	Aluminum
Toluene	Acenaphthylene	Ion Balance (% Difference)	Antimony
Ethyl benzene	Anthracene	Langelier Index @ 4 & 20 C	Arsenic
Total Xylenes	Benzo(a)anthracene	Saturation pH @4 & 20 C	Barium
C6-C10 (Less BTEX)	Benzo(a)pyrene	Alkalinity (total as $CaCo_3$)	Beryllium
>C10-C16 Hydrocarbons	Benzo(b)fluoranthene	Sodium	Bismuth
>C16-C21 Hydrocarbons	Benzo(j)fluoranthene	Potassium	Boron
>C21-<C32 Hydrocarbons	Benzo(k)fluoranthene	Calcium	Cadmium
Modified TPH (Tier I)	Benzo(g,h,i)perylene	Magnesium	Chromium
	Chrysene	Chloride	Cobalt
	Dibenz(a,h)anthracene	TDS	Copper
	Fluoranthene	Colour	Iron
	Fluorene	Nitrate	Lead
	Indeno(1,2,3-cd)pyrene	Nitrite	Manganese
	Naphthalene	Nitrate + Nitrite	Mercury (Total)
	Perylene	Nitrogen (as Ammonic N)	Molybdenum
	Phenanthrene	Total Organic Carbon (TOC)	Nickel
	Pyrene	Orthophosphate	Phosphorus
	1-methylnaphthalene	pH	Selenium
	2-methylnaphthalene	Silica	Silver
		Sulphate	Strontium
		Turbidity	Thallium
		Conductivity	Tin
			Titanium
			Uranium
			Vanadium
			Zinc

2.4 Data Compilation/Assessment

Maxxam provided analytical results in a database compatible format, alleviating potential errors associated with manual entry. Data tables generated as part of the December 2014 also include available post-remediation data. The following parameters with concentrations above applicable standards were selected as indicator parameters for OHP and HE:

- PAHs (i.e., acenaphthylene, anthracene, benzo(a)pyrene, Indeno(1,2,3-cd)pyrene and naphthalene);
- General Chemistry and Metals (i.e., selenium, sulfate, pH and TDS); and,
- Presence/extent of LNAPL or DNAPL.

2.4.1 Regulatory Framework

The remedial criteria used for this assessment were the July 2013 Nova Scotia Contaminated Sites Regulations (NSCSR) Tier I Environmental Quality Standards (EQS) for groundwater. The subject property is classified as having commercial receptors, non-potable groundwater usage and coarse-grained soil. Where Tier 1 EQS were not available (e.g., for PAHs and metals in groundwater at non-potable sites), the Ontario Ministry of the Environment (MOE) Groundwater Standards for use under Ontario's Environmental Protection Act were used.

2.4.2 Groundwater Quality Trend Analysis – Mann Kendall and Linear Regression

Mann-Kendall analysis as a non-parametric statistic test routinely used to assess the stability of solute plume (i.e., stable, decreasing, or increasing). At least four independent sampling events are required to evaluate groundwater quality trends via Mann-Kendall analysis. The Mann-Kendall test procedure starts by comparing the most recent round of water quality data with the results of earlier rounds. Non-detect data values are typically assigned a value that is half the laboratory detection limit. The Mann-Kendall test is not designed to account for seasonal variation in data.

Based on a review of the analytical results from the December 2014 monitoring event and available post-remediation data, parameters with concentrations above applicable standards were selected for Mann-Kendall analysis. These include PAH indicator parameters acenaphthylene, anthracene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and naphthalene. Additional general chemistry and metal parameters (i.e., selenium, sulfate, pH and TDS) were also selected for Mann-Kendall analysis at three monitor wells, which are located in the vicinity of the solidification/stabilization (S/S) area in consideration of monitoring the solidification/stabilization (S/S) performance over the long term period.

Up to four rounds (if available) of post-remediation groundwater analytical data were applied for performing the trend analysis for the indicator parameters.

In certain situations, Mann-Kendall analysis results may be biased due to elevated laboratory detection limits. Non-detected data on the Mann-Kendall analysis of indicator parameters was identified and confirmed the influence of non-detected data is minimal.

3.0 Results

Results are presented in the following subsections:

Section 3.1 Weather Conditions and General Observations

Section 3.2 Groundwater Flow and Hydraulic Head Levels

Section 3.3 OHP Findings

Section 3.4 HE Findings

Section 3.5 QC Summary

3.1 Weather Conditions and General Observations

The current meteorological station (i.e., Sydney A, Climate ID: 8205700/8205701) is an official in-situ station established by Environment Canada since 1941. Historical precipitation recordings for the Sydney area can be traced back as far as 1870. Comparison of the historical recordings at the Sydney A station indicates that precipitation of 1584 mm was recorded for 2014, which is comparable to the normal value of yearly precipitation (1981-2010) of 1517 mm (http://climate.weather.gc.ca). The monthly precipitation recorded for December 2014 was 166 mm, which is similar to the monthly normal of 167 mm at the Sydney station (1981-2010).

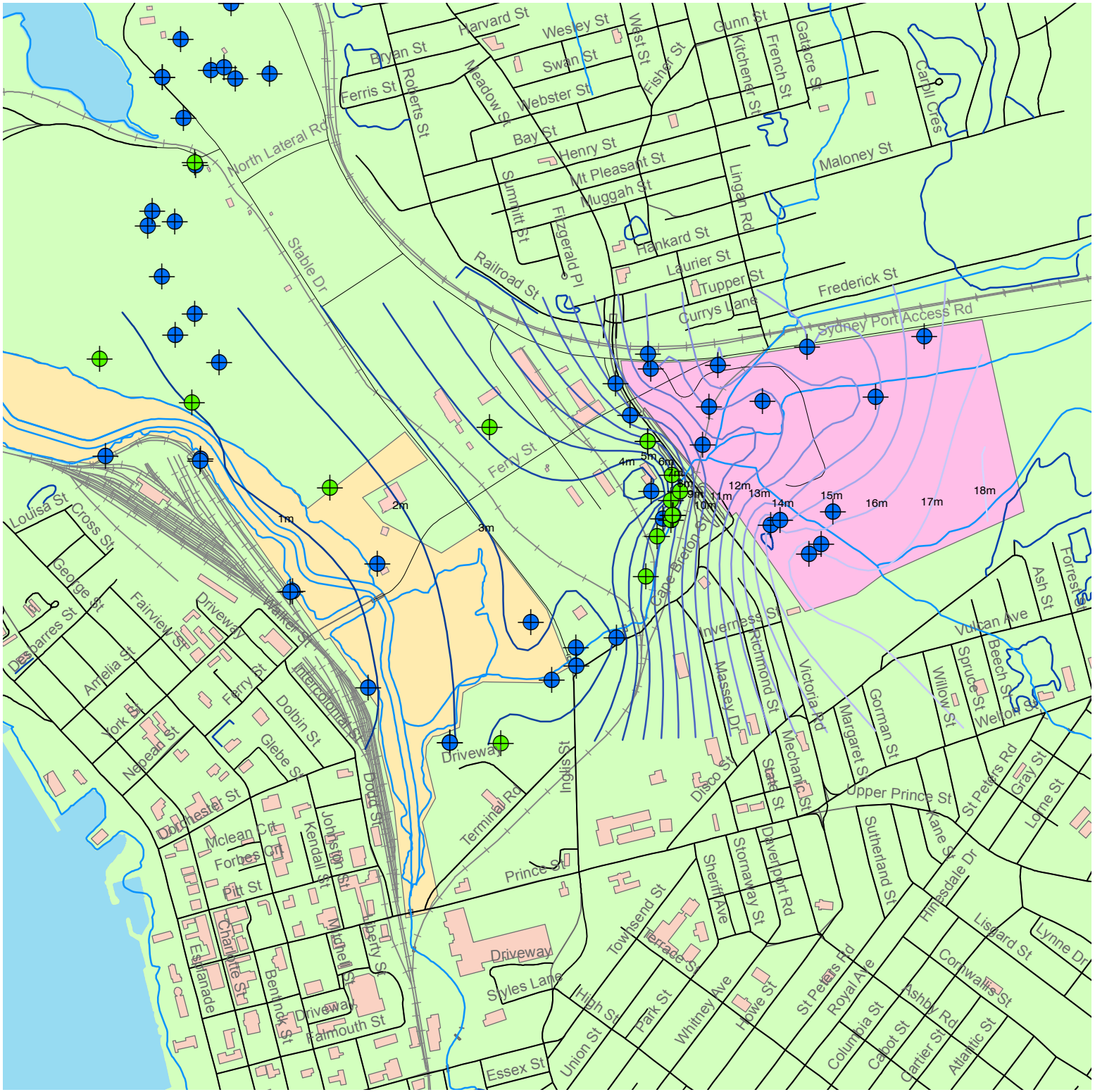
3.2 Groundwater Flow and Hydraulic Head Levels

A new survey of the EEM program monitor well elevations across the OHP and HE sites was conducted in December 2011 and May 2014. The hydraulic head for the monitor wells at the OHP and HE sites are provided based on the new survey.

The hydraulic head data obtained from the monitoring areas during the 2014 monitoring event were employed to plot the equipotential groundwater contours. The groundwater contours were identified for different media within the unconsolidated till and/or fill unit (Figure 3.2-1), the upper fractured shallow bedrock (Figure 3.2-2) and the intermediate/deep bedrock (Figure 3.2-3).

Review of the available equipotential contour plots for the three media units (i.e., the fill/till, shallow bedrock and intermediate/deep bedrock) indicates that the groundwater flow direction in each of the units is generally consistent between the 2014 event and that observed during the EEM program associated with the STP remediation project. The groundwater flows generally from HE towards the southwest into Sydney Harbour. Based on the December 2014 water level measurements, a higher groundwater elevation was observed in COSCW-002-MWB. The water level measurements indicate that groundwater elevations at the wells on the exterior (west) side of the cutoff wall are higher than that on the east side of the cutoff wall; groundwater elevations at the south portion of the cutoff wall are higher than that at the north portion.

No LNAPL was detected on the OHP or HE sites during the December 2014 monitoring event. Similar to previous monitoring events, DNAPL was detected in SCU10-002-MW, located west of the Victoria Road overpass, during the December 2014 monitoring event. It is noted that SCU10-002-MW is included in the OHP and HE monitoring programs, as well as the HCP groundwater monitoring program.



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2014 GROUNDWATER MONITORING EVENT

Equipotential Groundwater Contours Fill TIII
FIGURE 3.2-1

LEGEND

Equipotential Groundwater Contours
6m — Groundwater Elevations are measured in meters above sea level (mASL)

Open Hearth Park

Harbourside East

Active Water Level

Active Sample

0 50 100 200 300 m

N W E S

MAP DRAWING INFORMATION:
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MAP CHECKED BY: NJW
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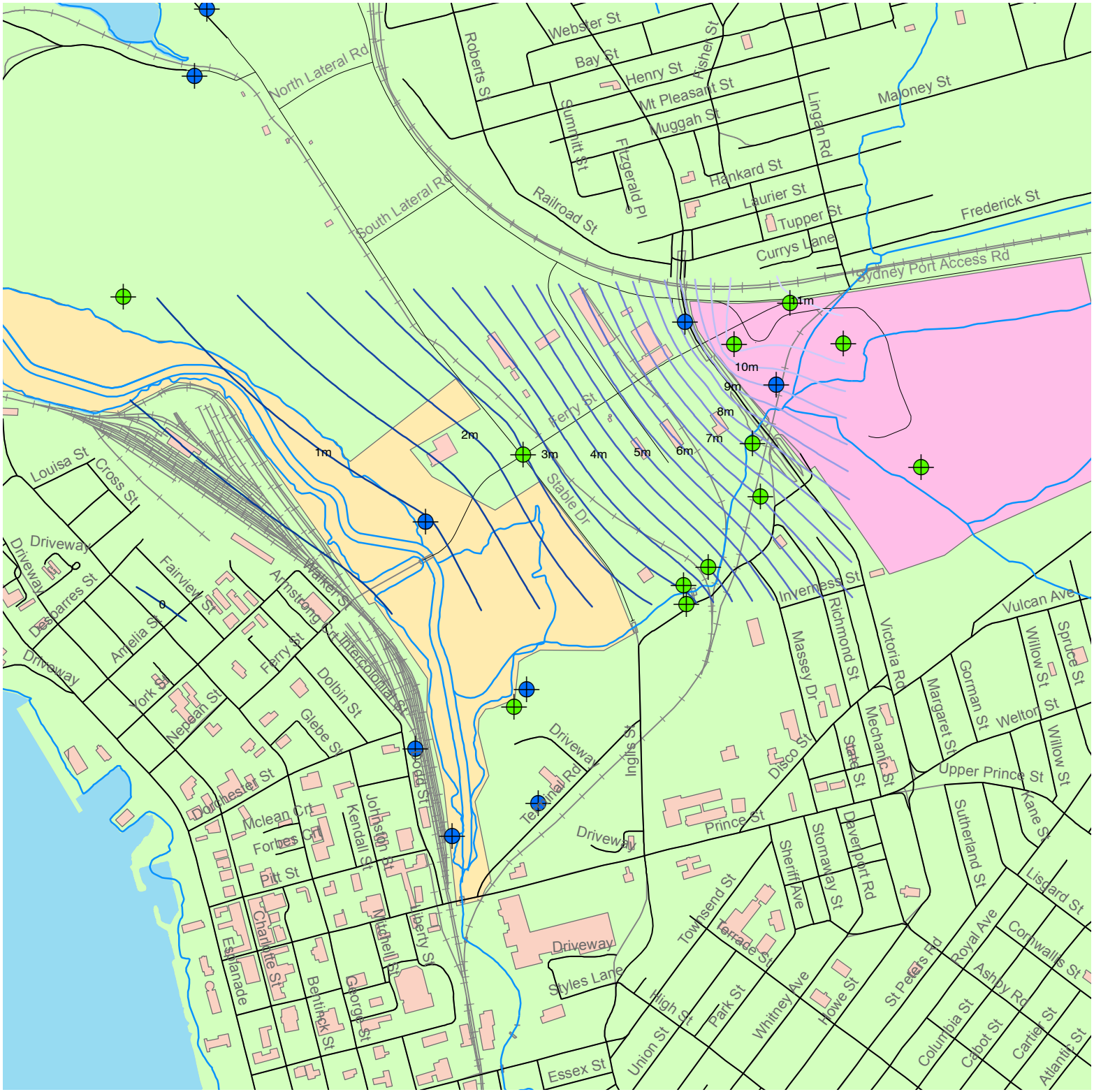

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OPEN HEARTH PARK AND HARBOURSIDE EAST
2014 GROUNDWATER MONITORING EVENT

Equipotential Groundwater Contours Bedrock Aquifer
FIGURE 3.2-2

LEGEND

Equipotential Groundwater Contours

6m — *Groundwater Elevations are measured in meters above sea level, (mASL)*

Harbourside East

Open Hearth Park

Active Water Level

Active Sample

0 50 100 200 300 m

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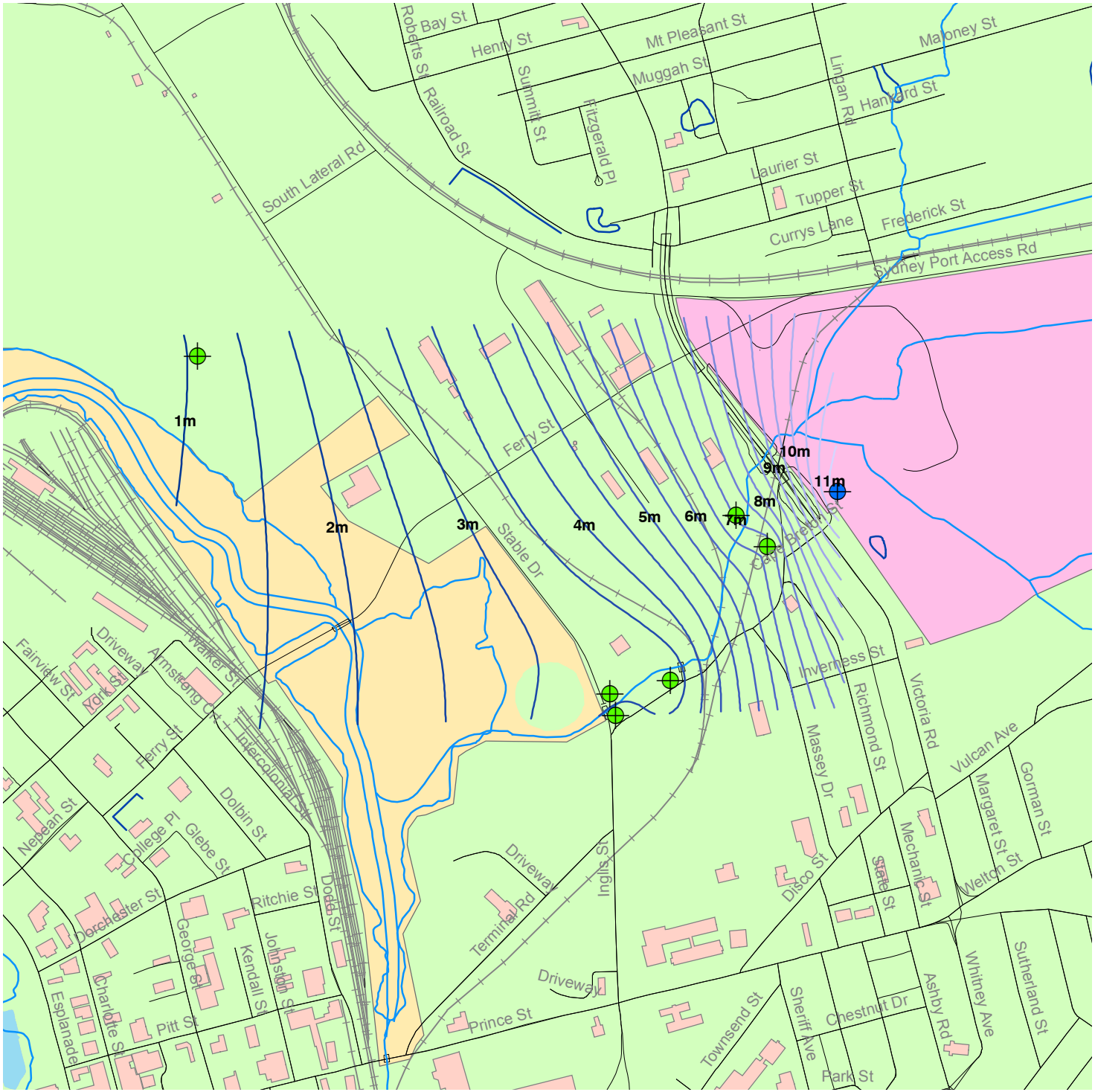

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OPEN HEARTH PARK AND HARBOURSIDE EAST
2014 GROUNDWATER MONITORING EVENT

Equipotential Groundwater Contours Deep Bedrock Aquifer
FIGURE 3.2-3

LEGEND

Equipotential Groundwater Contours

6m *Groundwater Elevations are measured in meters above sea level, (mASL)*

Open Hearth Park

Harbourside East

Active Water Level

Active Sample

0 50 100 200 300 m

MAP DRAWING INFORMATION:
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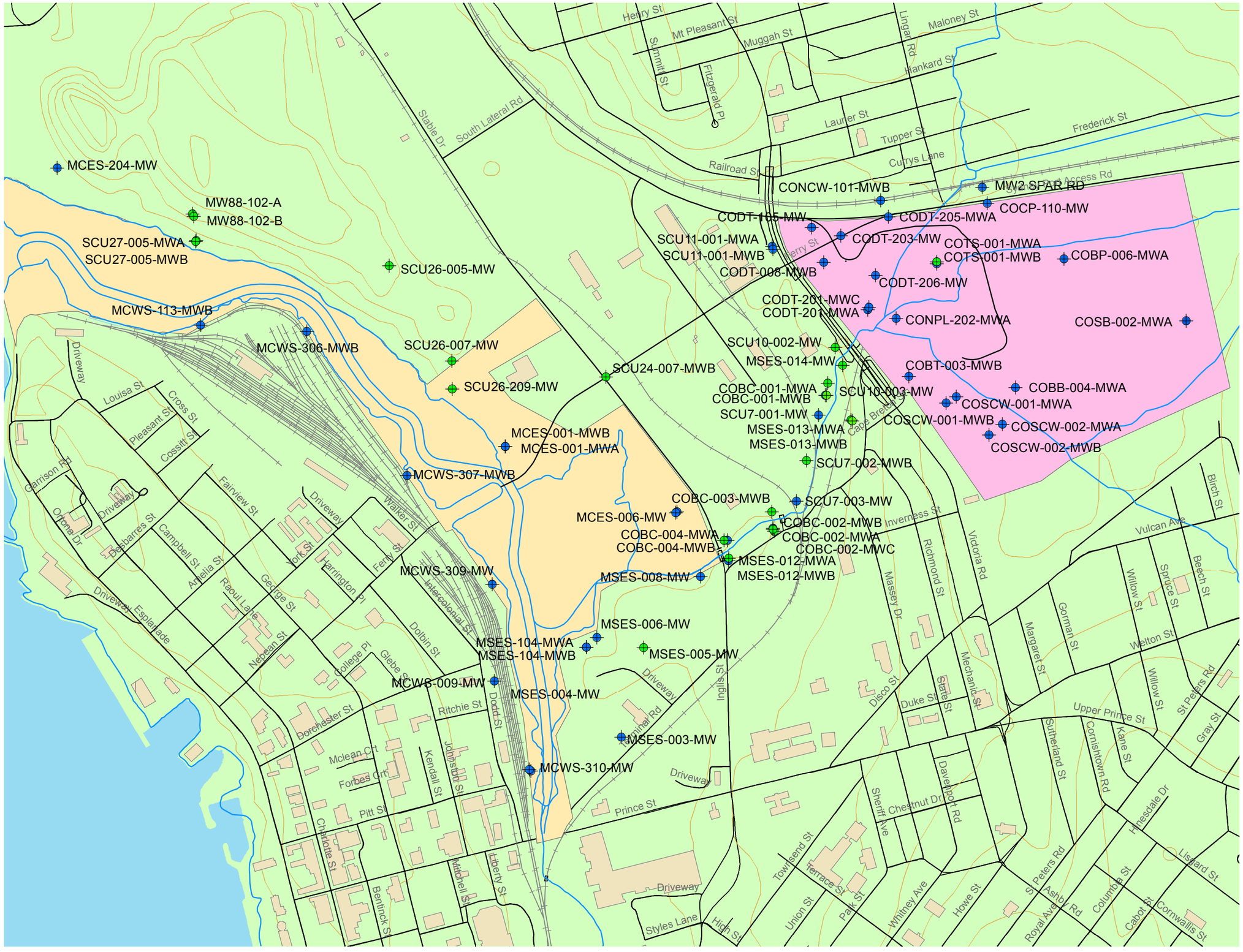
3.3 OHP Findings

The OHP area (i.e., formerly TP2/TP6/TP7 areas) includes the east, southeast and western shorelines of the former Tar Ponds as well as a portion of the former SYSCO property along Inglis Street (Figure 3.3-1). Results of the December 2014 monitoring event are presented and discussed in the following subsections.

In the OHP area, the "high dump" used for disposal of blast furnace slag from the former steel plant is located at the north end of the eastern shoreline, which is also part of the HCP site. Historical in-filling of the southeast shoreline used a variety of materials including slag, coal, brick and scrap wood, in addition to a former municipal disposal area on the south shoreline of OHP. The area also includes the footprint of a former open cooling pond used to contain steel plant effluents; a number of municipal outfalls; and a rail yard, bulk fuel terminal and a number of other former industrial sites on the west shoreline.

Results of the December 2014 monitoring event, which are presented and discussed in the following subsections, indicate elevated concentrations (i.e., above applicable criteria) of PAHs and metals in groundwater at specific locations (i.e., MCES-204-MW (located in an area in-filled with slag and coal, north of OHP), MSES-008-MW (located on the southeastern shoreline) and MSES-104-MWA/MWB (located on the southeastern shoreline)). Another monitor well located on the eastern shoreline (i.e., MCES-001-MWB) contained an elevated concentration of sodium above the MOE standards. Additionally, an elevated pH was observed in MCES-006-MW.



OPEN HEARTH PARK AND HARBOURSIDE EAST

2014 GROUNDWATER MONITORING EVENT

AREA FEATURES

Figure 3.3-1

LEGEND

- Open Hearth Park
- Harbourside East

Monitoring Wells

- Sample
- Water Level

0 75 150 300 450 m

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DATE: 03/12/15

3.3.1 OHP Groundwater Quality

Analytical data, including available historical post-remediation data for reference, are presented in Appendix A (Tables A-1 (TPH/BTEX), A-2 (PAHs) and A-3 (general chemistry and metals)). As stated previously, the LTMM December 2014 Groundwater Monitoring Program included the collection of 43 samples for analysis, 17 of which were collected from monitor wells located on the OHP site. Table 3.3.1-1 summarizes indicator parameter concentrations for the monitor wells exhibiting concentrations above applicable criteria or for select monitor wells located in the vicinity of S/S areas.

TABLE 3.3.1- 1 OHP – SUMMARY OF INDICATOR PARAMETER CONCENTRATIONS

Well ID		Organic Parameters			Inorganic Parameters			
	Date	Acenaphthylene (ug/L)	Anthracene (ug/L)	Indeno(1,2,3-cd) pyrene (ug/L)	Selenium (ug/L)	Sulphur (mg/L)	TDS (mg/L)	pH
NSE Tier 1 EQS[1]		750	-	-	-	-	-	-
MOE Table 3[2]		1.8	2.4	0.2	63	-	-	-
MCES-006-MW	Mar 2013	-	-	-	-	34	374	7.50
	Jul 2013	-	-	-	-	28	376	7.57
	Nov 2013	-	-	-	-	34	390	7.61
	Dec 2014	-	-	-	-	70	260	8.91
MCES-204-MW	Mar 2013	1.7	3.6	-	210	-	-	-
	Jul 2013	1.8	3.3	-	120	-	-	-
	Nov 2013	2.5	4.2	-	36	-	-	-
	Dec 2014	1.9	1.9	-	67	-	-	-
MSES-008-MW	Mar 2013	4.2	-	-	-	-	-	-
	Jul 2013	3.2	-	-	-	-	-	-
	Nov 2013	4.1	-	-	-	-	-	-
	Dec 2014	2.7	-	-	-	-	-	-
MSES-104-MWA	Mar 2013	6.9	2.8	1.3	-	1100	1700	7.60
	Dec 2014	5.6	0.38	0.034	-	1400	2100	7.61
MSES-104-MWB	Oct 2008	30	-	-	-	-	-	-
	Dec 2012	36	-	-	-	-	-	-
	Nov 2013	32	-	-	-	-	-	-
	Dec 2014	33	-	-	-			

NOTES:
- Not assessed as parameter is below applicable standards.
1 - Nova Scotia Tier I Environment Environmental Quality Standards for Groundwater (Coarse Grained Soil, Non-potable Groundwater Commercial/ Industrial Site) 2013
2 - Ontario Ministry of Environment, Table 3 Full Depth Generic Site Condition Standards in a Non-potable Groundwater (Coarse Grained Soil) 2011
Bold exceeds MOE Table 3 Standards
Underline Exceeds NSE EQS

During the December 2014 monitoring event, no groundwater samples from monitor wells on the OHP exhibited organic concentrations above the Tier I EQS standards. No Tier I EQS standards are available for inorganic parameters (i.e., on a non-potable site).

Four of the 17 monitor wells sampled on the OHP site had organic parameter concentrations above the MOE standards, as follows:

- MCES-204-MW: The concentration of 1.9 ug/L for acenaphthylene exceeded the MOE standard of 1.8 ug/L;
- MSES-008-MW: The concentration of for acenaphthylene 2.7 ug/L exceeded the MOE standard of 1.8 ug/L;
- MSES-104-MWA: The concentration of 5.6 ug/L for acenaphthylene exceeded the MOE standard of 1.8 ug/L; and,
- MSES-104-MWB: The concentration of 33 ug/L for acenaphthylene exceeded the MOE standard of 1.8 ug/L.

Two of the 17 monitor wells sampled on the OHP site had inorganic parameter concentrations above the MOE standard, as follows:

- MCES-204-MW: exceeded the MOE standard of 63 ug/L for selenium with a concentration of 67 ug/L and exceeded the MOE standard of 2,300,000 ug/L for sodium with a concentration of 4,300,000; and,
- MCES-001-MWB: exceeded the MOE standard of 2,300,000 ug/L for sodium with a concentration of 6,800,000 ug/L.

Concentrations of analyzed parameters at the majority of the sampling wells were below the applicable standards. Three monitor wells (i.e., MSES-104-MWA/MWB and MSES-008-MW) located on the southeastern shoreline contained PAH concentrations above the MOE standards. The three wells are located in the vicinity of the former disposal area on the south shoreline of OHP, which could be a contributing source resulting in the elevated PAH concentrations. It is also noted that one monitor well (i.e., MCES-204-MW), located in an area in-filled with slag and coal, contained elevated concentrations of PAHs, selenium and sodium above the MOE standards. Another monitor well located on the eastern shoreline (i.e., MCES-001-MWB) contained an elevated concentration of sodium above the MOE standards. The elevated sodium concentration (i.e., above applicable criteria) reported for MCES-001-MWB is likely related to potential increased tidal influence on groundwater since solidification/stabilization (S/S) is in place. Additionally, an elevated pH was observed in MCES-006-MW, which is likely related to the S/S processes (e.g., cement and slag).

3.3.2 Trend Analysis - OHP

Mann-Kendall analysis was conducted based on available post-remediation data. Statistical analysis of available indicator parameter data indicated that most select parameter concentration trends are stable. One monitor well (i.e., MCES-006-MW (pH)) contains a concentration of one indicator parameter with an increasing concentration trend above the respective MOE standard. Results of Mann-Kendall analysis for OHP are presented in Table 3.3.2-1.

TABLE 3.3.2- 1 OHP – TREND ANALYSIS SUMMARY

WELL ID	INDICATOR PARAMETER	TREND
MCES-006-MW	pH	Increasing
	TDS	Stable
	SO4	Stable
MCES-204-MW	Acenaphthylene	Stable
	Anthracene	Stable
	Selenium	Stable
MSES-008-MW	Acenaphthylene	Stable

In general, review of trend analysis indicates general plume stability relative to indicator concentrations with isolated parameters in select wells within the plume indicating increasing trends. The groundwater quality trend analysis for the December 2014 monitoring event was based on the available analytical results (i.e., four rounds of sampling events are required) for the parameters with concentrations above the applicable guidelines. Concentration trends of elevated PAH concentrations at additional wells (e.g., MSES-104-MWA/MWB) need to be further determined when sufficient post-remediation data is available.

3.4 HE Area Findings

The HE Area includes most of the former Coke Ovens Site; along Coke Ovens Brook from the southern area of the former Domtar site (near Victoria Road) and the mergence of Coke Ovens Brook into the South Pond to the downstream of the Municipal Ash Incinerator Disposal (MAID) area. In particular, the HE area contains part of CO1 (Coke Ovens Brook Connector), CO2 (Tar Cell), CO5 (Vertical Cut-Off Walls), CO6 (Surface Cap), CO7 (Groundwater Collection System) and CO8 (Water Treatment Plant) (Figure 3.3-1).

Historical investigations confirmed the presence of contaminated sediments in the Coke Oven Brook and the Domtar Interceptor trench, as well as the in-filling of coal tar, particularly at the former Domtar site. Elevated concentrations of organics (i.e., PHCs and PAHs) and inorganics, such as metals, were present in the groundwater. Results of the December 2014 monitoring event, which are presented and discussed in the following subsections, indicate elevated concentrations (i.e., above applicable criteria) of PAHs in groundwater (i.e., CODT-201-MWA, CODT-201-MWC and CODT-203-MW).

3.4.1 HE Groundwater Quality

Analytical data, including available post-remediation data for reference, are presented in Appendix A (Tables A-1 (TPH/BTEX), A-2 (PAHs) and A-3 (general chemistry and metals)). As stated previously, the LTMM December 2014 Groundwater Monitoring Program included the collection of 43 samples for analysis, 26 of which were collected from monitor wells located on the HE site. Table 3.4.1-1 summarizes indicator parameter concentrations for select monitor wells exhibiting concentrations above applicable criteria.

TABLE 3.4.1- 1 HE – SUMMARY OF INDICATOR PARAMETER CONCENTRATIONS

Well ID		Organic Parameters				
	Date	Acenaphthylene (ug/L)	Anthracene (ug/L)	B(a)P (ug/L)	Indeno(1,2,3-cd) pyrene (ug/L)	Napthalene (ug/L)
NSE Tier I EQS		750	-	-	-	7000
MOE		1.8	2.4	0.81	0.2	1400
CODT-008-MWB	Mar 2013	0.6	15	1.7	0.65	17
	Jul 2013	2.8	140	30	14	29
	Oct 2013	3.4	11	2.6	0.64	2.8
	Dec 2014	0.026	2.0	0.032	0.018	<0.2
CODT-201-MWA	Mar 2013	-	0.45	0.73	0.33	-
	Jul 2013	-	2.5	3.6	1.5	-
	Oct 2013	-	1.7	2.5	1.1	-
	Dec 2014	-	2.5	3.7	1.5	-
CODT-201-MWC	Mar 2013	10	3.3	-	-	6300
	Dec 2014	12	5.9	-	-	7200

Well ID	Date	Organic Parameters				
		Acenaphthylene (ug/L)	Anthracene (ug/L)	B(a)P (ug/L)	Indeno(1,2,3-cd) pyrene (ug/L)	Napthalene (ug/L)
NSE Tier I EQS		750	-	-	-	7000
MOE		1.8	2.4	0.81	0.2	1400
CODT-203-MW	Mar 2013	-	2.5	-	0.29	-
	Dec 2014	-	0.55	-	0.28	-

NOTES:
- Not assessed as parameter is below applicable standards.
1 - Nova Scotia Tier I Environment Environmental Quality Standards for Groundwater (Coarse Grained Soil, Non-potable Groundwater Commercial/ Industrial Site) 2013
2 - Ontario Ministry of Environment, Table 3 Full Depth Generic Site Condition Standards in a Non-potable Groundwater (Coarse Grained Soil) 2011
Bold exceeds MOE Table 3 Standards
Underline Exceeds NSE Tier I EQS

During the December 2014 monitoring event, three of the 26 monitor wells sampled on the HE site had organic indicator parameter concentrations above the Tier I EQS and/or MOE standards, as follows:

- CODT-201-MWA: Concentrations for anthracene (2.5 ug/L), benzo(a)pyrene (3.7 ug/L), benzo(b)fluoranthene (2.9 ug/L), benzo(g,h,i)perylene (1.6 ug/L), benzo(k)fluoranthene (1.9 ug/L), chrysene (4.5 ug/L), dibenzo(a,h)anthracene (0.57 ug/L) and indeno(1,2,3-cd)pyrene (1.5 ug/L) exceeded the MOE standards of 2.4 ug/L, 0.81 ug/L, 0.75 ug/L, 0.2 ug/L, 0.4 ug/L, 1 ug/L, 0.52 ug/L and 0.2 ug/L, respectively;
- CODT-201-MWC: The naphthalene concentration of 7,200 ug/L exceeds the Tier I EQS standard of 7,000 ug/L and the MOE standard of 1,400 ug/L for naphthalene. Concentrations for acenaphthylene (12 ug/L) and anthracene (5.9 ug/L) also exceed the MOE standards of 1.8 ug/L and 2.4 ug/L, respectively. This is the highest concentration of naphthalene observed in this well since September 2012; and,
- CODT-203-MW: Concentrations for benzo(g,h,i)perylene (0.29 ug/L) and indeno(1,2,3-cd)pyrene (0.28 ug/L) exceeded the MOE standards of 0.2 ug/L and 0.2 ug/L, respectively.

A notable decrease in PAH concentrations was observed in monitor well CODT-008-MWB, with no exceedances of MOE or Tier I EQS for the December 2014 monitoring event.

Concentrations of analyzed parameters at the majority of the sampling wells were below applicable standards. One monitor well (i.e., CODT-201-MWC), located in the former Domtar site, contained PAH concentration(s) above both the Tier 1 EQS and MOE standard(s). Two monitor wells (i.e., CODT-201-MWA and CODT-203-MW), located within HE at the former Domtar site, contained PAH concentrations above their respective MOE standard concentrations.

Elevated organic concentrations in the monitor wells at the former Domtar site might be associated with changes in groundwater conditions as a result of the completion of remedial activities in this area. In particular, the elevated naphthalene concentration and increasing trend for acenaphthylene at CODT-201-MWC (i.e., shallow bedrock well) could indicate that the impacted groundwater continued to migrate from fill/till into the underlying aquifers.

3.4.2 Trend Analysis - HE

Mann-Kendall analysis was conducted based on available post-remediation data. Statistical analysis of available indicator parameter concentration trends of the select indicator parameters indicates that concentration trend analyses are stable or fluctuating. One monitor well (i.e., CODT-201-MWC (acenaphthylene)) contained a concentration of one indicator parameter with an increasing concentration trend above the respective MOE standard. Results of Mann-Kendall trend analysis for HE are presented below in Table 3.4.2-1.

TABLE 3.4.2- 1 HE – TREND ANALYSIS SUMMARY

WELL ID	INDICATOR PARAMETER	TREND
CODT-008-MWB	Acenaphthylene	Stable
	Anthracene	Stable
	Benzo(a)pyrene	Fluctuating
	Indeno(1,2,3-cd)pyrene	Fluctuating
	Naphthalene	Fluctuating
CODT-201-MWA	Anthracene	Stable
	Benzo(a)pyrene	Stable
	Indeno(1,2,3-cd)pyrene	Stable
CODT-201-MWC	Acenaphthylene	Increasing
	Anthracene	Stable
	Naphthalene	Stable
CODT-203-MW	Anthracene	Stable
	Indeno(1,2,3-cd)pyrene	Stable

The groundwater quality trend analysis for the December 2014 monitoring event was based on the available post-remediation analytical results (i.e., four rounds of sampling events are required) for the select parameters with concentrations above the applicable guidelines. In general, review of trend analysis indicates general plume stability relative to indicator PAH concentrations with isolated parameters in select wells within the plume indicating increasing trends.

3.5 QC Summary

Supporting QC data are found in Appendix B. The results are discussed in the following five sub-sections:

Section 3.5.1Relative Percent Difference (RPD)

Section 3.5.2Laboratory Matrix Spikes, Spikes Blank and Method Blanks

Section 3.5.3Trip Blanks

Section 3.5.4 Equipment Blanks

Section 3.5.5Holding Times

Five field duplicates and six trip blanks were collected for the OHP and HE sites during the December 2014 monitoring event, as presented in Table B-1 (Appendix B).

3.5.1 Relative Percent Difference

Five field duplicates were analyzed and had results suitable for quantitative calculation of Relative Percent Difference (RPD). The RPD was not calculated for those parameters where one or both of the results associated with the original and/or field duplicate sample exhibited concentrations less than five times the RDL.

Comparison of the field duplicate data to the original samples indicated the calculated RPDs were within established limits (i.e., less than 40% RPD) with the exception of select parameters at FD-002 (field duplicate of MSES-003-MW for: nitrate+nitrite), FD-004 (field duplicate of MW2 SPAR RD for: 2-methylnaphthalene) and FD-006 (MCES-204-MW for: acenaphthene, fluoranthene, fluorine, 1-methylnaphthalene, 2-methylnaphthalene, pyrene turbidity and cadmium) whose original samples and field duplicates exhibited RPDs greater than the respective RPD Data Quality Objectives (DQOs), as presented in Tables B-2 to B-3 (Appendix B).

3.5.2 Laboratory Matrix Spikes, Spikes Blank and Method Blanks

The laboratory analytical certificates have been reviewed for quality assurance/quality control purposes. The laboratory completes quality control analysis including duplicates, blanks, spikes, surrogate recoveries and spiked blanks to assess accuracy and precision as well as the potential for bias, contamination and degradation or matrix effects. The Laboratory Quality Control reports have identified the following minor issues:

- Groundwater duplicate results are outside acceptable limit for analytes, 2-methylnaphthalene, dibenz(a,h)anthracene and phenanthrene, for monitor wells MCWS-113-MWB, MCWS-306-MWB, MCWS-307-MWB, MCWS-310-MW, MCWS-309-MW, MSES-003-MW, MSES-104-MWA, MSES-104-MWB, MSES-006-MW, MSES-004-MW, MSES-008-MW, MCES-001-MWA, MCES-006-MW, FD-001 and FD-002. Duplicate results were also outside acceptable limit for analyte indeno(1,2,3-cd)pyrene in monitor wells COSCW-001-MWA, MSES-012-MWA, CODT-105-MW, MW2 SPAR RD and FD-002;
- The pH value is beyond the linear range for monitor wells MCWS-113-MWB and MCWS-306-MWB;
- One analyte (i.e., silver) had a low recovery due to sample matrix resulting in multi-component analysis violation for monitor wells COSCW-002-MWA, COSCW-002-MWB, COSCW-001-MWB, COBT-003-MWB, SCU7-003-MW, COBC-002-MWA, COBC-004-MWA, COBC-001-MWA, SCU7-001-MW, CONCW-101-MWB and CODT-203-MW. A second analyte (i.e., iron) had multi-component analysis violation for monitor wells MSES-012-MWA, CODT-105-MW, COSCW-001-MWA, MW2 SPAR RD and FD-004; and,
- Poor RPD due to sample inhomogeneity was reported for cadmium for monitor wells COSCW-002-MWA, COSCW-002-MWB, COSCW-001-MWB, COBT-003-MWB, SCU7-003-MW, COBC-002-MWA, COBC-004-MWA, COBC-001-MWA, SCU7-001-MW, CONCW-101-MWB and CODT-203-MW.

Overall laboratory data quality is considered acceptable and the results representative with no identification of significant quality issues requiring further investigation or resampling. The QA report is presented with the certificates of analysis in Appendix D.

3.5.3 Trip Blanks

Volatile organic compounds were not detected in the six trip blanks.

3.5.4 Equipment Blanks

No equipment blanks were collected associated with OHP and HE. One equipment blank was collected associated with HCP, which field program was conducted at the same time as the OHP and HE field program. Results are as follows:

- Concentrations of BTEX/TPH were below laboratory detection limits;

- Detectable concentrations of aluminum (9.7 ug/L), calcium (280 ug/L), copper (83 ug/L), lead (1.7 ug/L), potassium (110 ug/L0, sodium (340 ug/L) and zinc (33 ug/L); and,
- Detectable concentrations of each PAH parameter (ranging from 0.025 ug/L to 1.1 mg/L).

The low detectable PAHs concentrations might be subject to interference from the ambient atmospheric particles. The detectable concentrations of some metals in the equipment blank are considered low and not likely to affect the interpretation of groundwater sample results.

3.5.5 Holding Times

There were no holding time exceedences.

4.0 Summary

The OHP and HE December 2014 monitoring event was conducted in accordance to RFP NSLAND57 Groundwater Monitoring Services. Findings were compared to July 2013 NSCSR Tier I EQS for groundwater. Where Tier 1 EQS are not available (i.e., for PAH and metals in groundwater at non-potable sites), applicable MOE standards were used as alternative guidelines.

The December 2014 and available historical post-remediation data indicate that monitor wells at specific locations (i.e., four wells at OHP and three wells at HE) contained PAH concentrations above the applicable criteria. Two wells at OHP also contained metals (i.e., selenium and/or sodium) concentrations above the MOE standards. Trend analysis on selected parameters at these monitor locations indicates that the most concentration trends are stable, decreasing and fluctuating. Increasing concentration trends appear at two monitor well locations (i.e., MCES-006-MW for pH and CODT-201-MWC for acenaphthylene).

Review of historical data suggests that elevated metal concentrations (e.g., arsenic, cobalt, iron, lithium, manganese and strontium) with increasing concentration trends were present at some sampling locations for both the OHP and HE sites. The sampling locations include COBC-004-MWA, MCES-001-MWB, MSES-006-MW and COBT-003-MWB. For instance, in December 2014, MSES-104-MWB had a manganese concentration of 88,000 ug/L and MCES-001-MWB had a strontium concentration of 52,000 ug/L. No Tier I EQS or MOE standards are available for manganese or strontium.

The groundwater elevation and flow direction for the monitored areas during the December 2014 monitoring event was generally comparable to historical monitoring events. The groundwater flows generally from HE towards the southwest to Sydney Harbour. Mounding of the groundwater elevation within the fill till unit has appeared south of the South Cut-off Wall in the vicinity of COSCW-002-MWB. The S/S area of OHP is down gradient for most of the groundwater program monitoring area and would not affect the groundwater flow and water quality as a whole.

The following observations are made based on the December 2014 water levels and chemistry data.

OHP

During the December 2014 monitoring event, no groundwater samples from monitor wells on the OHP exhibited organic concentrations above the Tier I EQS standards. The majority of samples contained indicator parameters at concentrations below the applicable MOE standards, and in most instances, concentrations were comparable to historical findings. Review of the statistical analysis suggests that most selected parameter concentration trends are stable with one increasing trend identified. Concentrations of parameters above their respective MOE standards were observed in the following five wells:

- MCES-204-MW: Concentrations of acenaphthylene, selenium and sodium exceeded MOE standards;
- MSES-008-MW: The concentration of acenaphthylene exceeded MOE standards;
- MSES-104-MWA: The concentration of acenaphthylene exceeded MOE standards;
- MSES-104-MWB: The concentration of acenaphthylene exceeded MOE standards; and,
- MCES-001-MWB: The concentration of sodium exceeded MOE standards.

As presented in Figure 4.0-1, trend analysis showed one location exhibiting one indicator parameter with an increasing concentration trend via Mann-Kendall analysis in the OHP area, as follows:

- MCES-006-MW: pH

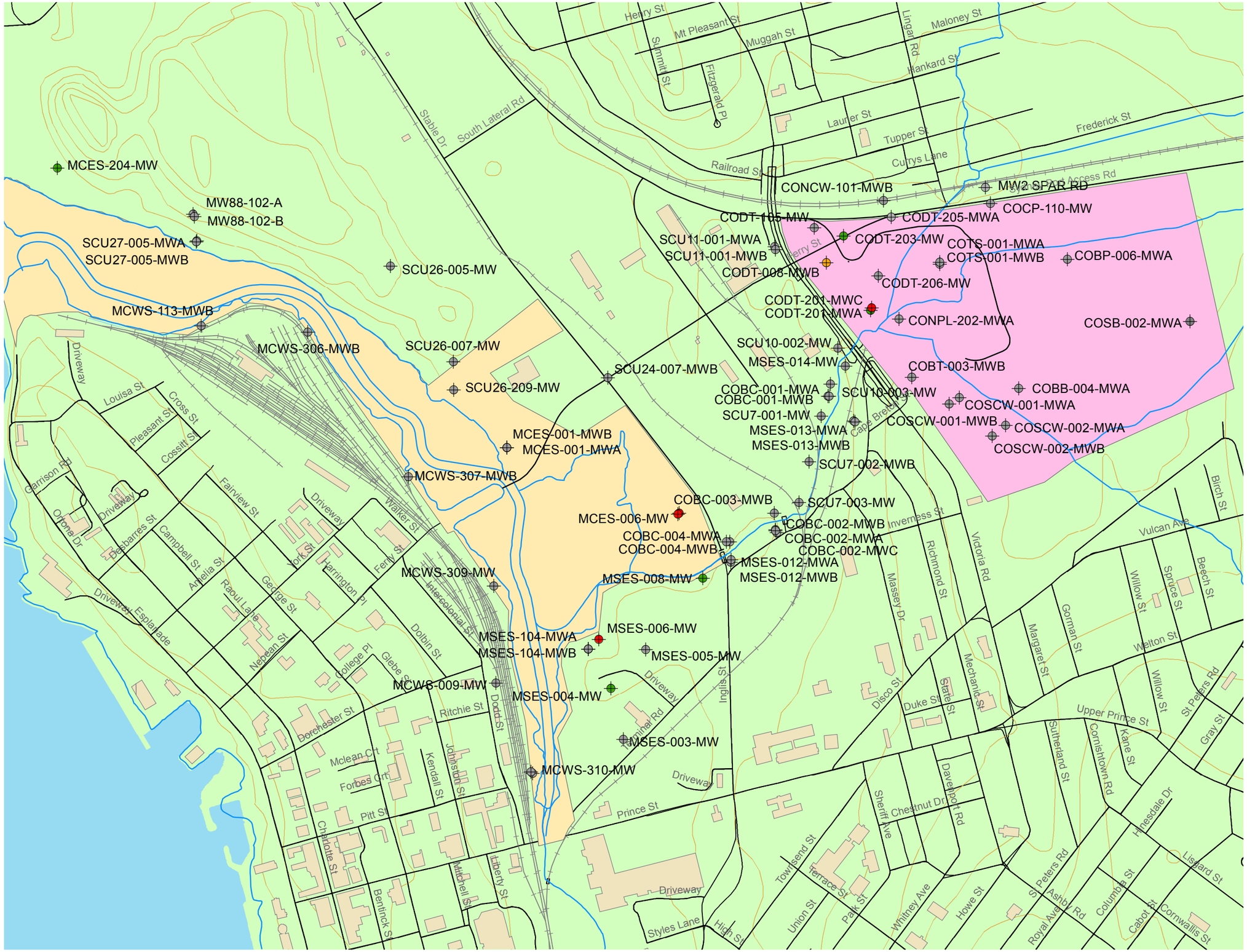
HE

The majority of samples contained indicator parameters at concentrations below the Tier I EQS and/or MOE standards and, in most instances, concentrations were comparable to historical findings. Review of the statistical analysis suggests that most selected parameter concentration trends are stable or fluctuating, with one increasing trend identified (i.e., CODT-201-MWC for acenaphthylene). No concentrations of inorganic indicator parameters above the Tier I EQS and/or MOE standards were observed. Concentrations of organic indicator parameters above their respective Tier I EQS and/or MOE standards were observed in the following three wells:

- CODT-201-MWA: Concentrations of anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)pyrene exceeded the MOE standards;
- CODT-201-MWC: The concentration of naphthalene exceeded the Tier I EQS and the MOE standard. This is the highest concentration of naphthalene observed in this well since September 2012. Concentrations for acenaphthylene and anthracene also exceeded the MOE standards.; and,
- CODT-203-MW: Concentrations of benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene exceed the MOE standards.

As presented in Figure 4.0-1, trend analysis showed one location in total exhibiting one indicator parameter with an increasing concentration trend via Mann-Kendall analysis in the HE area, as follows:

- CODT-201-MWC: acenaphthylene



NS Lands
nova scotia lands

OPEN HEARTH PARK AND HARBOURSIDE EAST

2014 GROUNDWATER MONITORING EVENT

INDICATOR PARAMETER CONCENTRATION TREND

Figure 4.0-1

LEGEND

Trend Analysis

- Increasing
- Fluctuating
- Stable
- Monitoring Well
- **Open Hearth Park**
- **Harbourside East**

NOTE:
CODT-201-MWC - Acenaphthalene increasing concentration trend.;
MCES-006-MW - pH increasing concentration trend.

0 75 150 300 450 m

MAP DRAWING INFORMATION:
Province of Nova Scotia Mapping

MAP CREATED BY: MCL
MAP CHECKED BY: NJW
MAP PROJECTION: NAD 1983 UTM Zone 20N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\SYDNEY\SYDNEYCAD\GIS\141360

DILLON CONSULTING

PROJECT: 14-1360
STATUS: FINAL
DATE: 03/12/15

5.0 Recommendations

Review of the 2014 groundwater sampling results, considered in context of historical data associated with OHP and HE sites, suggests that the Fall 2015 groundwater monitoring program could include the following:

- The collection of 63 water levels; reduced from 67 water level measurements, as specified in the RFP NSLAND57 Groundwater Monitoring Services, as four monitor wells (i.e., SCU7-002-MWB, SCU26-209-MW and SCU27-005-MWA/MWB) could not be located or have been previously identified as destroyed.
- No monitor wells on the HE site currently included in the LTMM program are installed in shallow or deep bedrock; therefore, no groundwater contours are available for bedrock in this area. Consideration could be given to include water level measurements at monitor wells COBP-001-MWC, COCB-001-MW, COBP-004-MWC, NOCO-014-MWB and/or COBT-001-MWB in future monitoring events to allow for inclusion of bedrock groundwater contours for this area.
- The sampling of 44 monitor wells; noting that CODT-201-MWC will be included in place of CODT-201-MWB, which does not exist. Consideration could be given to the exclusion of one monitor well, MW-2 (Spar Road), due to its location (i.e., up gradient) and consistent/stable concentrations over the last two years of monitoring from 2012 to 2014; thereby decreasing the sampling program to 43 monitor wells.
- Monitoring of changes in DNAPL measurements using point source double valve bottom loading bailers at select monitor wells (e.g., SCU10-002-MW) during Spring 2015 and again during Summer 2015 (i.e., once the Domtar collection trench is functional).
- Development and implementation of an outdoor soil vapour assessment program during Summer 2015 to address potential risk in the vicinity of monitor wells that continue to show the presence of DNAPLs.
- As the LTMM program is annual, consideration could be given to installing transducers in select monitor wells (e.g., MCES-001-MWA/MWB, MCES-006-MW, SCU27-005-MWA/MWB (if located) and MCWS-307-MWA/MWB (noting that MCWS-307-MWA is currently not included in the LTMM program)) to record groundwater changes over time so that higher water levels could be observed.

It is recommended that the groundwater monitoring program continue to include sampling for PAHs, metals and general inorganic chemistry parameters. As concentrations of PHC have remained below laboratory detection limits or at concentrations well below applicable criteria for the majority of the sampling wells, it is recommended that only CODT-201-MWC be sampled for PHCs during the Fall 2015 monitoring program.

6.0 Disclaimer

This report was prepared exclusively for the purposes, project and site location outlined in the report. The report is based on information provided to, or obtained by Dillon Consulting Limited ("Dillon") as indicated in the report, and applies solely to site conditions existing at the time of the site investigation. Although a reasonable investigation was conducted by Dillon, Dillon's investigation was by no means exhaustive and cannot be construed as a certification of the absence of any contaminants from the site. Rather, Dillon's report represents a reasonable review of available information within an agreed work scope, schedule and budget. It is therefore possible that currently unrecognized contamination or potentially hazardous materials may exist at the site, and that the levels of contamination or hazardous materials may vary across the site. Further review and updating of the report may be required as local and site conditions, and the regulatory and planning frameworks, change over time.

Appendix A

Analytical Tables

TABLE A-1
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - BTEX/TPH

Sample Location	Sample Date	BTEX Concentration (mg/L)				Petroleum Hydrocarbons (mg/L)					
		Benzene	Toluene	E. Benzene	Xylenes	C6 - C10	C10 - C21	C10 - C16	C16-C21	C21 - C32	Modified TPH
NSE Tier 1 EQS[1]		20	20	20	20	-	-	-	-	-	20
COBB-004-MWA	03/27/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/15/14	<0.0013	<0.0013	<0.0013	<0.0026	<0.013	-	<0.05	<0.05	<0.1	<0.1
COBC-001-MWA	03/15/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.13	-	-	<0.1	0.13
	12/12/14	0.0045	<0.001	<0.001	<0.002	<0.01	-	0.058	<0.05	<0.1	<0.1
COBC-002-MWA	03/15/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COBC-004-MWA	03/15/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COBP-006-MWA	03/27/13[D]	0.0043	<0.001	<0.001	<0.002	<0.01	0.34	-	-	0.1	0.43
	03/27/13	0.004	<0.001	<0.001	<0.002	<0.01	0.195	-	-	<0.1	0.19
	12/15/14	0.02	<0.001	0.0025	<0.002	<0.01	-	0.17	0.19	<0.1	0.35
COBT-003-MWB	03/19/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.07	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COCP-110-MW	04/04/12	<0.001	<0.001	<0.001	<0.002	<0.01	2.95	-	-	14	17
	09/13/12	<0.001	<0.001	<0.001	<0.002	<0.01	0.12	-	-	0.42	0.54
	12/11/12	<0.001	<0.001	<0.001	<0.002	<0.01	0.054	-	-	0.1	0.16
	03/27/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	0.11	0.11
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	0.072	0.29	0.36
CODT-008-MWB	03/29/13	<0.001	<0.001	0.0014	0.0053	0.018	1.36	-	-	0.25	1.6
	12/15/14	<0.001	0.0015	<0.001	0.0028	<0.01	-	<0.05	<0.05	<0.1	<0.1
CODT-105-MW	03/13/13[L]	0.0015	<0.001	<0.001	<0.002	<0.01	NM	-	-	NM	NM
	03/13/13	0.0015	<0.001	<0.001	<0.002	<0.01	-	-	-	<0.1	<0.1
	12/16/14	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	<0.05	<0.05	<0.1	<0.1
CODT-201-MWA	03/13/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/15/14	<0.001	<0.001	0.001	0.0045	<0.01	-	0.086	<0.05	<0.1	<0.1
CODT-201-MWC	03/13/13	0.1	0.22	0.15	0.59	0.9	13.35	-	-	<0.1	15
	12/15/14	0.1	0.2	0.15	0.61	1.0	-	15	0.49	0.22	17
CODT-203-MW	03/13/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
CODT-205-MWA	03/13/13[D]	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	03/13/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
CODT-206-MW	03/13/13	0.0035	0.0027	0.0036	0.012	0.016	0.53	-	-	<0.1	0.55
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	0.064	<0.05	<0.1	<0.1
CONCW-101-MWB	03/15/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.051	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
CONPL-202-MWA	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COSB-002-MWA	03/18/13[L]	<0.001	<0.001	<0.001	<0.002	<0.01	NM	-	-	NM	NM
	03/18/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1

TABLE A-1
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - BTEX/TPH

Sample Location	Sample Date	BTEX Concentration (mg/L)				Petroleum Hydrocarbons (mg/L)					
		Benzene	Toluene	E. Benzene	Xylenes	C6 - C10	C10 - C21	C10 - C16	C16-C21	C21 - C32	Modified TPH
NSE Tier 1 EQS[1]		20	20	20	20	-	-	-	-	-	20
COSCW-001-MWA	03/19/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.072	-	-	<0.1	<0.1
	12/16/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COSCW-001-MWB	03/19/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COSCW-002-MWA	03/26/13	<0.001	<0.001	<0.001	<0.002	<0.01	NM	-	-	NM	NM
	03/26/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COSCW-002-MWB	03/19/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
COTS-001-MWA	12/15/14	NM	NM	NM	NM	NM	-	NM	NM	NM	NM
MCES-001-MWA	03/28/13[D]	<0.001	<0.001	<0.001	<0.002	<0.01	0.129	-	-	0.1	0.23
	03/28/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.105	-	-	<0.1	0.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MCES-001-MWB	03/28/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	0.022	-	<0.05	<0.05	<0.1	<0.1
MCES-006-MW	03/28/13	0.04	0.012	0.042	0.062	0.11	1.49	-	-	0.14	1.7
	12/10/14	0.0050	0.0018	0.0041	0.0043	<0.01	-	0.27	<0.05	<0.1	0.26
MCES-204-MW	03/28/13	0.018	0.0078	<0.001	0.0082	0.028	0.53	-	-	0.16	0.72
	12/18/14[D]	0.017	0.0072	<0.001	0.0068	0.01	-	0.19	0.11	0.11	0.42
	12/18/14	0.017	0.0072	<0.001	0.0069	0.013	-	0.19	0.11	<0.1	0.31
MCWS-009-MW	12/9/14[D]	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
	12/09/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MCWS-113-MWB	03/27/13[L]	<0.001	<0.001	<0.001	<0.002	0.013	NM	-	-	NM	NM
	03/27/13	<0.001	<0.001	<0.001	<0.002	0.013	0.5	-	-	<0.1	0.52
	12/09/14	<0.001	<0.001	<0.001	<0.002	0.019	-	0.48	0.21	0.17	0.87
MCWS-306-MWB	03/27/13	<0.001	<0.001	<0.001	<0.002	0.31	<0.05	-	-	<0.1	0.31
	12/09/14	<0.001	<0.001	<0.001	<0.002	0.47	-	<0.05	<0.05	<0.1	0.47
MCWS-307-MWB	03/27/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/09/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MCWS-309-MW	12/09/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MCWS-310-MW	03/29/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/09/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MSES-003-MW	03/26/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/10/14[D]	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1

TABLE A-1
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - BTEX/TPH

Sample Location	Sample Date	BTEX Concentration (mg/L)				Petroleum Hydrocarbons (mg/L)					
		Benzene	Toluene	E. Benzene	Xylenes	C6 - C10	C10 - C21	C10 - C16	C16-C21	C21 - C32	Modified TPH
NSE Tier 1 EQS[1]		20	20	20	20	-	-	-	-	-	20
MSES-004-MW	03/26/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MSES-006-MW	03/26/13	0.0012	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/10/14	0.011	<0.001	0.0053	0.0028	<0.01	-	0.32	0.092	0.29	0.70
MSES-008-MW	03/26/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.052	-	-	<0.1	<0.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	0.07	<0.05	<0.1	<0.1
MSES-012-MWA	03/15/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/16/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
MSES-104-MWA	03/28/13	<0.001	<0.001	<0.001	<0.002	<0.01	0.56	-	-	0.51	1.1
	12/10/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	0.12	0.069	<0.1	0.18
MSES-104-MWB	03/26/13	0.012	0.0019	0.0081	0.0071	0.056	0.83	-	-	<0.1	0.89
	12/10/14	0.0078	0.0014	0.0045	0.0036	0.014	-	0.44	0.11	0.12	0.69
MW2 SPAR RD	3/19/13[L]	<0.001	<0.001	<0.001	<0.002	<0.01	NM	-	-	NM	NM
	03/19/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/16/14[D]	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
	12/16/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
SCU11-001-MWA	03/29/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	0.11	0.11
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
SCU11-001-MWB	03/29/13	0.0072	<0.001	0.0047	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/15/2014[D]	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
	12/15/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
SCU7-001-MW	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1
SCU7-003-MW	03/29/13	<0.001	<0.001	<0.001	<0.002	<0.01	<0.05	-	-	<0.1	<0.1
	12/12/14	<0.001	<0.001	<0.001	<0.002	<0.01	-	<0.05	<0.05	<0.1	<0.1

NOTES:
D - Field Duplicate
L - Lab Duplicate
NM - Not Measured or not analyzed; lab duplicates do not analyze for all parameters.
mg/L - milligrams per litre
- No applicable guideline criteria.
1 - Nova Scotia Environment Tier 1 Environmental Quality Standards for Groundwater (Coarse Grained Soil, Non-potable Groundwater Commercial/Industrial Site) 2013
Underline Exceeds NSE EQS
COTS-001-MWA could not be sampled during the December 2014 event due to insufficient water.
This summary is to used in conjunction with, not as a replacement of, the Laboratory Certificates of Analysis, which contain QA/QC information

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
COBB-004-MWA	03/27/13	0.022	0.029	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	0.14	<0.05	0.4	<0.01	0.011	<0.01
	07/26/13	0.025	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	0.017	<0.01	0.074	<0.05	0.45	<0.01	0.016	0.012
	11/06/13	0.013	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/15/14	0.023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
COBC-001-MWA	03/15/13	2.0	0.7	0.017	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.078	0.025	<0.01	0.061	<0.05	0.24	<0.01	<0.01	0.054
	07/26/13[D]	1.4	0.58	0.029	0.03	0.017	0.015	<0.01	0.011	<0.01	0.028	<0.01	0.11	0.048	<0.01	0.06	<0.05	0.3	<0.01	0.045	0.085
	07/26/13	1.9	0.82	0.025	0.019	0.012	0.012	<0.01	<0.01	<0.01	0.017	<0.01	0.091	0.05	<0.01	0.052	<0.05	0.22	<0.01	0.024	0.069
	11/07/13	0.74	0.37	0.022	0.019	0.012	0.012	<0.01	<0.01	<0.01	0.020	<0.01	0.11	0.032	<0.01	<0.05	<0.05	<0.2	<0.01	0.023	0.084
	12/12/14	4.2	1.5	0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.075	0.15	<0.01	<0.05	<0.05	<0.2	<0.01	0.011	0.047
COBC-002-MWA	03/15/13	0.043	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	0.1	0.053	0.72	<0.01	0.023	<0.01
	07/18/13	0.066	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.013	0.039	<0.01	0.15	0.1	2	<0.01	0.036	<0.01
	11/05/13	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.05	<0.05	<0.2	<0.01	0.011	<0.01
	12/12/14	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	0.011
COBC-004-MWA	03/15/13	0.32	0.016	0.05	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.01	0.16	<0.01	0.75	0.44	6.7	<0.01	0.3	<0.01
	07/18/13	0.074	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.045	<0.01	0.19	0.12	2.1	<0.01	0.029	<0.01
	11/05/13	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	<0.05	<0.05	<0.2	<0.01	0.013	<0.01
	12/12/14	0.015	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	0.01
COBP-006-MWA	03/27/13[D]	4.8	0.23	0.081	0.07	0.029	0.024	0.013	NM	0.034	0.075	<0.01	0.26	0.19	0.015	0.53	0.055	0.97	<0.01	0.23	0.21
	03/27/13	3.9	0.2	0.15	0.14	0.046	0.029	0.014	NM	0.054	0.13	<0.01	0.51	0.21	0.015	0.48	0.084	0.92	0.012	0.46	0.4
	07/26/13	1.4	0.091	0.019	0.024	0.014	0.012	<0.01	<0.01	<0.01	0.021	<0.01	0.045	0.044	<0.01	0.26	<0.05	0.67	<0.01	0.036	0.048
	11/06/13	0.84	0.041	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.028	<0.01	<0.05	<0.05	<0.20	<0.01	0.02	0.026
	12/15/14	13	0.44	0.034	0.050	0.044	0.033	0.021	0.020	0.020	0.043	<0.01	0.10	0.67	0.020	1.2	<0.05	0.95	0.012	0.067	0.10
COBT-003-MWB	03/19/13	0.024	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.017	<0.01	0.063	<0.05	0.38	<0.01	<0.01	<0.01
	07/18/13	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	0.066	<0.05	0.84	<0.01	0.018	<0.01
	11/07/13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/12/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
COCP-110-MW	03/27/13	0.22	0.021	0.051	0.019	<0.01	<0.01	<0.01	NM	<0.01	0.022	<0.01	0.11	0.081	<0.01	0.32	0.057	0.75	<0.01	0.45	0.14
	07/18/13	0.41	0.047	0.043	0.027	0.016	0.014	0.011	<0.01	<0.01	0.034	<0.01	0.14	0.16	<0.01	0.49	0.093	2.6	<0.01	0.7	0.19
	11/06/13	0.20	0.048	0.10	0.16	0.086	0.081	0.043	0.045	0.046	0.18	0.012	0.37	0.10	0.037	0.20	<0.05	0.23	0.017	0.40	0.50
	12/15/14	0.062	0.021	0.056	0.10	0.071	0.056	0.042	0.035	0.033	0.12	0.012	0.19	0.042	0.035	0.060	<0.05	<0.2	0.017	0.16	0.24

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
CODT-008-MWB	03/29/13	16	0.6	**15**	**5.3**	**1.7**	**1.3**	**0.54**	NM	**1.7**	**4.2**	0.15	27	18	**0.65**	10	0.62	17	0.44	40	18
	07/24/13	110	**2.8**	**140**	**57**	**30**	**33**	**12**	24	**22**	**57**	**5.3**	**310**	90	**14**	35	1.9	29	9.1	260	**210**
	10/23/13	64	**3.4**	**11**	**5.9**	**2.6**	**1.9**	**0.60**	NM	**1.3**	**4.6**	0.22	29	34	**0.64**	40	0.31	2.8	0.47	6.5	19
	12/15/14	0.12	0.026	2.0	0.029	0.032	0.022	0.020	0.016	0.016	0.058	<0.01	0.11	0.060	0.018	0.15	0.064	<0.2	0.010	0.052	0.11
CODT-105-MW	03/13/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	0.2	0.67	0.081	0.036	0.025	0.019	0.014	NM	0.025	0.034	<0.01	0.17	0.35	0.013	0.69	0.094	0.58	<0.01	0.34	0.12
	07/16/13	0.24	0.27	0.048	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.11	0.32	<0.01	0.61	0.19	13	<0.01	0.25	0.08
	10/23/13[L]	0.17	0.034	0.044	0.049	0.041	0.031	0.025	NM	0.018	0.05	<0.01	0.19	0.17	0.02	0.11	<0.05	<0.2	0.011	0.19	0.17
	10/23/13	0.11	0.029	0.013	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.065	0.10	<0.01	0.065	<0.05	<0.2	<0.01	0.023	0.063
	12/16/14	0.079	<0.01	<0.01	0.015	0.014	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	0.090	0.012	<0.01	<0.05	<0.05	<0.2	<0.01	0.042	0.072
CODT-201-MWA	03/13/13	0.3	0.012	0.45	1	0.73	0.5	**0.32**	NM	**0.66**	0.91	0.097	1.8	0.21	**0.33**	0.21	0.1	1.1	0.17	1.5	1.5
	07/16/13	0.98	0.083	**2.5**	**5**	**3.6**	**3.1**	**1.6**	1.8	**1.7**	**4.8**	0.49	11	0.98	**1.5**	0.15	0.15	0.22	0.75	8.6	8.7
	10/23/13	0.65	0.053	1.7	3.2	**2.5**	**1.9**	**1.1**	NM	**1.2**	**2.9**	0.34	6.9	0.67	**1.1**	0.087	0.094	<0.2	0.60	6.2	5.6
	12/15/14	1.6	0.16	**2.5**	4.5	**3.7**	**2.9**	**1.6**	1.9	**1.9**	**4.5**	**0.57**	10	1.3	**1.5**	3.3	2.1	46	0.83	8.1	8.1
CODT-201-MWC	10/23/13[D]	190	**10**	**2.5**	0.036	<0.01	<0.01	<0.01	NM	<0.01	0.029	<0.01	2.2	77	<0.01	450	320	**6000**	<0.01	57	1.1
	10/23/13	190	**10**	**3.3**	0.038	<0.01	<0.01	<0.01	NM	<0.01	0.032	<0.01	2.2	78	<0.01	470	330	**6300**	<0.01	56	1.1
	12/15/14	230	**12**	**5.9**	0.058	<0.01	<0.01	<0.01	<0.01	<0.01	0.048	<0.01	3.7	110	<0.01	670	450	**7200**	<0.01	76	1.8
CODT-203-MW	10/23/13[L]	10	0.19	**3.2**	1.8	**1.1**	**0.84**	**0.42**	0.59	**0.53**	**1.5**	0.15	6.6	4.8	**0.43**	2.0	0.31	1.6	0.25	9.8	4.6
	10/23/13	10	0.19	**2.5**	1.7	0.71	0.53	**0.27**	0.35	0.33	**1.2**	0.11	5.1	4.4	**0.29**	1.8	0.23	1.5	0.22	7.0	3.6
	12/12/14	0.23	<0.01	0.55	0.81	0.69	0.49	**0.29**	0.35	0.35	0.83	0.10	1.9	0.29	**0.28**	<0.05	<0.05	<0.2	0.14	1.7	1.4
CODT-205-MWA	03/13/13[D]	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.027	0.021	<0.01	<0.05	<0.05	<0.2	<0.01	0.061	0.028
	03/13/13	<0.01	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	NM	0.011	<0.01	<0.01	0.025	0.013	<0.01	<0.05	<0.05	<0.2	<0.01	0.055	0.024
	07/16/13	0.53	1.0	0.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.065	0.56	<0.01	0.54	<0.05	0.76	<0.01	0.29	0.041
	10/23/13	1.7	1.5	0.082	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	0.13	1.0	<0.01	4.9	2.7	53	<0.01	1.0	0.08
	12/15/14	0.37	0.35	0.030	0.018	0.012	0.012	<0.01	<0.01	<0.01	0.018	<0.01	0.15	0.31	<0.01	0.40	0.16	4.3	<0.01	0.15	0.088

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
CODT-206-MW	03/13/13	32	1.2	1.6	0.16	0.089	0.08	0.03	NM	0.076	0.13	0.01	3.1	18	0.03	16	3.2	72	0.019	12	1.7
	07/16/13	90	**4.4**	**4.1**	0.16	0.074	0.068	0.025	0.028	0.035	0.13	<0.01	7.2	56	0.018	43	1.5	140	0.012	54	3.8
	10/23/13	3.6	0.12	0.041	0.048	0.068	0.054	0.03	NM	0.023	0.057	<0.01	0.81	0.073	0.025	<0.05	<0.05	<0.2	0.013	0.095	0.3
	12/15/14	0.89	0.060	0.076	0.083	0.12	0.10	0.057	0.052	0.052	0.16	0.015	0.27	0.36	0.049	0.86	0.38	8.7	0.023	0.31	0.19
CONCW-101-MWB	03/15/13	0.19	0.03	0.024	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.028	0.095	<0.01	0.42	0.27	3.0	<0.01	0.14	0.021
	07/17/13	0.11	0.034	0.028	0.017	0.013	0.014	<0.01	<0.01	<0.01	0.018	<0.01	0.057	0.079	<0.01	0.21	0.14	2.2	<0.01	0.11	0.042
	10/24/13	0.071	0.026	0.02	0.013	0.013	<0.01	<0.01	NM	<0.01	0.015	<0.01	0.039	0.049	<0.01	0.058	<0.05	0.23	<0.01	0.087	0.034
	12/12/14	0.055	0.043	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.032	0.035	<0.01	0.060	<0.05	0.20	<0.01	0.066	0.024
CONPL-202-MWA	12/15/14	0.054	0.030	0.031	0.062	0.059	0.045	0.030	0.026	0.027	0.053	<0.01	0.12	0.028	0.027	<0.05	<0.05	<0.2	0.014	0.086	0.096
COSB-002-MWA	03/18/13[L]	0.026	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.01	0.014	<0.01	0.056	<0.05	0.42	<0.01	0.018	<0.01
	03/18/13	0.023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	<0.05	<0.05	0.34	<0.01	0.016	<0.01
	07/26/13	0.200	0.21	0.44	0.53	0.52	0.4	**0.31**	0.25	0.23	0.52	0.073	1.3	0.35	**0.26**	0.17	0.21	0.25	0.13	1.4	1.2
	11/06/13[D]	0.018	0.021	0.014	0.022	0.013	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	0.055	0.02	<0.01	<0.05	<0.05	<0.2	<0.01	0.033	0.055
	11/06/13	0.022	0.023	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.027	0.019	<0.01	<0.05	<0.05	<0.2	<0.01	0.021	0.039
	12/15/14	0.013	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	<0.01	<0.05	<0.05	<0.2	<0.01	0.014	0.012
COSCW-001-MWA	03/19/13	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	0.3	0.2	2.3	<0.01	0.034	<0.01
	07/17/13[L]	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	0.046	0.017	<0.01	<0.05	<0.05	<0.2	<0.01	0.07	0.022
	07/17/13	<0.01	<0.01	0.01	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	0.049	0.015	<0.01	<0.05	<0.05	<0.2	<0.01	0.068	0.027
	10/24/13	0.043	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.05	<0.05	<0.2	<0.01	0.016	<0.01
	12/12/14	0.045	<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	0.12	0.050	1.0	<0.01	0.022	<0.01
COSCW-001-MWB	03/19/13	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	07/17/13	0.091	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.052	<0.01	0.24	0.16	3.2	<0.01	0.032	<0.01
	10/24/13	0.22	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.075	<0.01	0.85	0.57	12	<0.01	0.056	<0.01
	12/12/14	0.017	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.010	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
COSCW-002-MWA	03/26/13[L]	0.074	0.13	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.012	0.071	<0.01	0.25	<0.05	0.49	<0.01	0.053	<0.01
	03/26/13	0.055	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.052	<0.01	0.19	<0.05	0.39	<0.01	0.034	<0.01
	07/17/13	0.036	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	0.022	<0.01	0.083	0.055	1.0	<0.01	0.025	<0.01
	10/24/13	0.46	0.034	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.15	<0.01	1.9	1.2	29	<0.01	0.11	<0.01
	12/12/14	0.039	0.020	<0.01	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	<0.01	0.031	0.028	<0.01	0.057	<0.05	0.22	<0.01	0.042	0.023

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
COTS-001-MWA	11/15/13	0.052	0.18	0.16	0.28	0.33	0.27	0.17	0.14	0.14	0.25	0.046	0.48	0.12	0.13	0.1	<0.05	0.22	0.062	0.29	0.37
	12/15/14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MCES-001-MWA	03/28/13[D]	0.21	0.45	0.078	0.071	0.012	0.01	<0.01	NM	0.02	0.06	<0.01	0.38	0.36	<0.01	0.68	0.39	0.82	<0.01	0.39	0.75
	03/28/13	0.22	0.46	0.083	0.08	0.017	0.016	<0.01	NM	0.03	0.07	<0.01	0.41	0.35	<0.01	0.69	0.39	0.79	<0.01	0.41	0.81
	07/24/13	0.23	0.43	0.1	0.15	0.047	0.057	0.03	0.037	0.04	0.14	0.01	0.46	0.39	0.028	0.67	0.39	1.0	0.018	0.46	0.98
	12/10/14	0.069	0.098	0.023	0.039	0.021	0.022	0.014	0.014	0.014	0.044	<0.01	0.19	0.099	0.015	0.18	<0.05	<0.2	<0.01	0.068	0.25
MCES-001-MWB	03/28/13	0.022	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.031	0.015	<0.01	0.064	<0.05	0.5	<0.01	0.019	0.05
	07/25/13	0.021	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	0.018	<0.01	0.064	<0.05	0.44	<0.01	0.023	0.031
	11/14/13	0.012	<0.01	<0.01	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.026	0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.013	0.037
	12/10/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.015	<0.01
MCES-006-MW	03/28/13	52	0.79	1.1	0.16	0.019	0.021	<0.01	NM	0.02	0.14	<0.01	1.7	12	<0.01	34	7.0	34	<0.01	3.1	1.3
	07/26/13	62	1.1	0.84	0.3	0.11	0.11	0.02	0.051	0.06	0.29	<0.01	2.4	11	0.021	46	4.7	15	0.018	3.2	1.8
	11/05/13	60	1.4	0.69	0.15	0.035	0.037	<0.01	0.012	0.02	0.17	<0.01	2.1	13	<0.01	55	10	83	<0.01	2.9	1.7
	12/10/14	11	0.26	0.15	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.01	0.25	3.3	<0.01	8.7	2.5	63	<0.01	1.1	0.22
MCES-204-MW	03/28/13	2.5	1.7	**3.6**	1.2	0.64	0.46	**0.27**	NM	**0.57**	1.00	0.052	5.6	5.9	**0.28**	5.9	8.9	68	0.16	14	3.7
	07/24/13	2.9	1.8	**3.3**	0.39	0.22	0.17	0.11	0.1	0.10	0.34	0.028	3.7	6.5	0.095	7.1	12	65	0.049	15	2.5
	11/07/13	3.2	**2.5**	**4.2**	0.79	0.39	0.36	0.20	0.18	0.25	0.70	0.049	6.1	7.1	0.18	8.2	12	90	0.094	16	4.0
	12/18/14[D]	0.41	<0.04	<0.05	0.033	<0.01	<0.01	<0.01	<0.01	<0.01	0.043	<0.01	0.65	0.13	<0.01	0.087	0.08	0.35	<0.01	<0.04	0.45
	12/18/14	1.6	**1.9**	1.9	0.13	0.035	0.031	0.015	0.021	0.020	0.14	<0.01	2.6	4.7	0.013	4.6	7.1	34	<0.01	9.2	1.5
MCWS-009-MW	12/9/14[D]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.014	<0.01
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.011	<0.01
MCWS-113-MWB	03/27/13	0.86	0.035	0.082	0.034	0.016	0.011	<0.01	NM	0.02	0.03	<0.01	0.18	0.54	<0.01	9.2	0.14	2.4	<0.01	0.19	0.12
	07/24/13	1.0	0.043	0.11	0.12	0.11	0.087	0.06	0.05	0.05	0.11	0.02	0.27	0.65	0.058	16	0.55	8.2	0.028	0.49	0.21
	11/15/13	1.2	0.06	0.23	0.18	0.16	0.12	0.10	0.075	0.07	0.17	0.023	0.44	0.89	0.072	19	0.59	11	0.036	0.64	0.31
	12/9/14	0.74	0.042	0.097	0.042	0.032	0.022	0.019	0.013	0.015	0.044	<0.01	0.15	0.44	0.018	8.7	0.72	0.39	<0.01	0.26	0.12

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
MCWS-306-MWB	03/27/13	0.028	<0.01	0.02	0.028	0.013	0.011	<0.01	NM	0.02	0.03	<0.01	0.087	0.018	<0.01	0.072	<0.05	0.6	<0.01	0.068	0.07
	07/24/13	0.011	<0.01	0.016	0.027	0.022	0.023	0.02	0.013	0.01	0.03	<0.01	0.052	0.016	0.016	<0.05	<0.05	0.22	<0.01	0.06	0.043
	11/15/13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.022	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.015	0.017
	12/9/14	<0.01	<0.01	0.011	0.018	0.019	0.016	0.011	<0.01	<0.01	0.018	<0.01	0.037	<0.01	0.01	<0.05	<0.05	<0.2	<0.01	0.033	0.034
MCWS-307-MWB	03/27/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13	0.017	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.012	<0.01	0.055	<0.05	0.25	<0.01	0.011	<0.01
	07/24/13	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.078	<0.05	0.42	<0.01	<0.01	<0.01
	11/14/13	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.017	0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.030	0.013
MCWS-309-MW	07/26/13	0.041	0.067	0.074	0.16	0.17	0.13	0.11	0.078	0.08	0.16	0.025	0.35	0.056	0.089	<0.05	<0.05	<0.2	0.05	0.25	0.29
	11/14/13	0.09	0.049	0.033	0.029	0.027	0.024	0.02	0.013	0.01	0.03	<0.01	0.14	0.075	<0.01	0.13	0.06	1.3	<0.01	0.077	0.11
	12/9/14	0.028	0.13	0.22	0.51	0.50	0.37	0.28	0.24	0.24	0.48	0.084	1.0	0.13	0.28	<0.05	0.062	<0.2	0.13	0.60	0.79
MCWS-310-MW	03/29/13	0.014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	0.32	<0.01	<0.01	<0.01
	07/26/13[L]	0.029	0.011	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	0.076	<0.05	0.59	<0.01	<0.01	<0.01
	07/26/13	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	<0.01	0.056	<0.05	0.38	<0.01	<0.01	<0.01
	11/14/13[L]	0.11	0.047	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.011	0.051	<0.01	0.43	0.22	4.5	<0.01	0.061	<0.01
	11/14/13	0.069	0.028	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.038	<0.01	0.26	0.13	2.3	<0.01	0.041	<0.01
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.016	<0.01
MSES-003-MW	03/26/13	0.018	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	0.056	<0.05	0.44	<0.01	<0.01	<0.01
	07/24/13[D]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	07/24/13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	11/05/13	0.012	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/10/14[D]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/10/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
MSES-004-MW	03/26/13	0.033	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.015	0.019	<0.01	0.087	0.053	0.63	<0.01	0.018	0.012
	07/26/13	0.039	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.019	<0.01	0.08	<0.05	0.57	<0.01	0.011	<0.01
	11/15/13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	0.011
	12/10/14	0.038	0.069	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	0.023	<0.01	0.11	<0.05	<0.2	<0.01	0.017	0.011

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
MSES-006-MW	03/26/13	0.73	1.1	0.013	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.1	0.36	<0.01	0.46	<0.05	0.74	<0.01	0.048	0.062
	07/24/13	0.46	0.79	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.22	<0.01	0.37	<0.05	0.67	<0.01	0.033	0.041
	11/05/13[L]	0.43	0.88	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.064	0.16	<0.01	0.22	<0.05	0.57	<0.01	0.02	0.042
	11/05/13	0.2	0.36	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.044	0.077	<0.01	0.073	<0.05	0.24	<0.01	0.017	0.03
	12/10/14	0.75	1.4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.015	0.23	<0.01	0.52	<0.05	1.5	<0.01	0.015	<0.01
MSES-008-MW	03/26/13	2.3	**4.2**	0.37	0.096	0.011	<0.01	<0.01	NM	0.02	0.06	<0.01	1.7	5.2	<0.01	1.8	<0.05	0.88	<0.01	4.2	1.2
	07/26/13	2.5	**3.2**	0.29	0.078	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	1.4	4.7	<0.01	1.4	<0.05	0.36	<0.01	2.9	1.0
	11/15/13	3.1	**4.1**	0.53	0.10	0.011	0.012	<0.01	<0.01	<0.01	0.08	<0.01	1.9	5.7	<0.01	2.0	<0.05	0.23	<0.01	3.8	1.3
	12/10/14	1.9	**2.7**	0.21	0.070	<0.01	<0.01	<0.01	<0.01	<0.01	0.049	<0.01	1.2	3.6	<0.01	0.94	<0.05	<0.2	<0.01	1.9	0.94
MSES-012-MWA	03/15/13	0.19	0.021	0.071	0.024	0.022	0.011	<0.01	NM	0.03	0.05	<0.01	0.14	0.3	0.01	0.37	0.19	2.6	<0.01	0.19	0.099
	07/25/13[D]	0.026	0.015	0.023	0.029	0.02	0.013	<0.01	<0.01	0.01	0.03	<0.01	0.084	0.061	<0.01	<0.05	<0.05	0.26	<0.01	0.066	0.063
	07/25/13	0.038	0.034	0.1	0.16	0.11	0.075	0.04	0.052	0.04	0.13	0.017	0.31	0.11	0.044	0.053	<0.05	0.32	0.027	0.27	0.23
	11/05/13	0.12	0.029	0.085	0.051	0.032	0.023	0.01	0.016	0.01	0.05	<0.01	0.23	0.19	0.013	0.19	0.094	2.5	<0.01	0.14	0.16
	12/16/14	0.15	0.033	0.17	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.059	0.12	<0.01	0.43	0.19	4.0	<0.01	0.036	0.039
MSES-104-MWA	03/28/13	9.5	**6.9**	**2.8**	**5.8**	**2.7**	**2.0**	**1.10**	NM	**2.40**	**4.80**	0.28	29	2.2	**1.3**	0.69	0.52	2.4	0.6	3.1	18
	12/10/14	5.4	**5.6**	0.38	0.20	0.079	0.060	0.031	0.040	0.036	0.16	0.011	2.3	1.1	0.034	0.51	0.21	3.7	0.015	0.29	1.4
MSES-104-MWB	03/26/13	17	**30**	1.7	0.11	0.014	0.012	<0.01	NM	0.02	0.08	<0.01	1.4	13	<0.01	53	0.17	47	<0.01	11	0.86
	07/24/13	21	**36**	2.0	0.16	0.044	0.039	0.01	0.032	0.03	0.11	<0.01	1.4	16	0.013	58	0.12	37	0.015	12	0.96
	11/05/13[D]	19	**30**	1.6	0.081	<0.01	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	1.2	15	<0.01	55	0.19	26	<0.01	10	0.79
	11/05/13	20	**32**	1.7	0.11	0.018	0.012	<0.01	0.012	0.01	0.080	<0.01	1.3	15	<0.01	63	0.20	28	<0.01	11	0.84
	12/10/14	18	**33**	1.4	0.10	0.018	0.012	<0.01	0.013	0.011	0.074	<0.01	1.1	14	<0.01	45	0.12	17	<0.01	9.7	0.72
MW2 SPAR RD	03/19/13[D]	0.037	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.018	<0.01	0.092	0.057	0.69	<0.01	0.013	<0.01
	03/19/13	0.039	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.099	0.063	0.74	<0.01	0.016	<0.01
	07/24/13	0.015	<0.01	0.013	0.041	0.03	0.028	0.021	NM	0.016	0.041	<0.01	0.065	0.013	0.019	<0.05	<0.05	0.36	<0.01	0.06	0.06
	11/06/13	0.026	0.028	0.012	0.017	0.014	0.015	0.012	NM	<0.01	0.021	<0.01	0.043	0.023	<0.01	<0.05	<0.05	<0.20	<0.01	0.038	0.03
	12/16/14[D]	0.077	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	0.034	<0.01	0.25	0.12	1.7	<0.01	0.031	0.014
	12/16/14	0.055	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.024	<0.01	0.15	0.081	1.1	<0.01	0.016	<0.01

TABLE A-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
GROUNDWATER ANALYTICAL RESULTS - PAH/PCB

Sample Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	ug/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	750	-	-	-	-	-	-	-	-	-	-	-	-	38000	38000	7000	-	-	-
MOE Table 3[2]		600	1.8	2.4	4.7	0.81	0.75	0.2	-	0.4	1	0.52	130	400	0.2	1800	1800	1400	-	580	68
SCU11-001-MWA	03/29/13	0.097	<0.01	0.18	0.041	0.012	<0.01	<0.01	NM	0.013	0.04	<0.01	0.21	0.21	<0.01	<0.05	<0.05	<0.2	<0.01	0.49	0.17
	07/17/13	0.076	0.013	0.23	0.14	0.081	0.072	0.039	0.048	0.043	0.13	0.011	0.43	0.13	0.035	<0.05	<0.05	<0.2	0.016	0.47	0.36
	10/24/13	0.074	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	0.018	<0.01	<0.01	0.012	0.025	<0.01	0.18	<0.05	0.58	0.087	0.059	0.011
	12/15/14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.015	<0.01
SCU11-001-MWB	03/29/13	0.79	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	0.071	<0.01	1.8	<0.05	3.2	<0.01	0.033	<0.01
	07/17/13	0.55	0.017	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	0.06	<0.01	0.7	<0.05	1.1	<0.01	0.024	0.015
	10/24/13	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	12/15/14[D]	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	0.014	<0.01	<0.05	<0.05	<0.2	<0.01	0.021	0.012
	12/15/14	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.013	<0.01	<0.05	<0.05	<0.2	<0.01	0.019	0.012
SCU7-001-MW	12/12/14	0.029	0.045	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.010	<0.01	0.030	0.024	<0.01	<0.05	<0.05	<0.2	<0.01	0.026	0.019
SCU7-003-MW	03/29/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	0.016	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NM	<0.01	<0.01	<0.01	0.014	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.011	0.013
	07/17/13	0.097	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.031	0.059	<0.01	0.18	0.11	2.5	<0.01	0.13	0.026
	11/07/13	0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	0.012
	12/12/14	0.060	0.011	0.026	0.044	0.025	0.022	0.012	0.013	0.013	0.047	<0.01	0.19	0.047	<0.01	<0.05	<0.05	<0.2	<0.01	0.10	0.11

NOTES:

D - Field Duplicate

L - Lab Duplicate

NM - Not Measured or not analyzed; lab duplicates do not analyze for all parameters.

µg/L - micrograms per litre

- No applicable guideline criteria.

1 - Nova Scotia Environment Environmental Quality Standards for Groundwater (Coarse Grained Soil, Non-potable Groundwater Commercial/Industrial Site) 2013

2 - Ontario Ministry of Environment, Table 3 Full Depth Generic Site Condition Standards in a Non-potable Groundwater (Coarse Grained Soil) 2011

Bold exceeds MOE Table 3 Standards

Underline Exceeds NSE EQS

Benzo(j)fluoranthene was historically not included in PAH analysis.

COTS-001-MWA could not be sampled during the December 2014 event due to insufficient water.

This summary is to used in conjunction with, not as a replacement of, the Laboratory Certificates of Analysis, which contain QA/QC information

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBB-004-MWA	03/27/13	7800	<3000	100000	4300	90	200	18	19	0.014	<500	0.19	<0.01	0.19	<0.05	<5	2.3	0.5	600	7.8	270	89	<1	402	6.38	4.76	0.314	0.065	7.49	7.74
	07/26/13	8990	3460	119000	5010	120	190	19	27	0.021	<100	<0.05	<0.01	<0.05	<0.05	<5	4.1	1.7	670	7.8	320	120	<1	444	6.84	0.07	0.489	0.241	7.31	7.56
	11/06/13	6800	3100	76000	2500	62	130	14	27	0.029	<100	<0.05	<0.01	<0.05	<0.05	15	6.7	1	430	7.65	200	62	<1	300	4.36	0	-0.096	-0.345	7.75	8
	12/15/14	8000	3500	130000	4800	100	210	16	27	0.022	<100	0.16	<0.01	0.16	<50	10	7.4	1.8	680	7.56	340	100	<1	460	6.9	3.02	0.212	-0.036	7.35	7.59
COBC-001-MWA	03/15/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	770	7.4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/15/13	29000	2000	110000	5700	170	140	64	8.5	<0.01	<100	<0.05	<0.01	<0.05	0.47	65	3	32	770	7.4	300	170	<1	470	8.17	4.08	0.22	-0.028	7.18	7.43
	07/26/13[LD]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	720	7.26	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/26/13[D]	34400	2300	98800	5930	150	120	73	11	0.013	212	<0.05	<0.01	<0.05	0.9	<5	4	96	720	7.27	270	150	<1	446	7.46	0	-0.024	-0.272	7.29	7.54
	07/26/13	34000	2260	107000	6110	120	120	73	11	<0.01	193	<0.05	<0.01	<0.05	0.9	<5	3.4	110	740	7.33	290	150	<1	454	7.56	1.69	0.086	-0.162	7.24	7.49
	11/07/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1200	7.25	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/07/13	41000	2300	190000	12000	150	350	67	8.6	<0.01	140	<0.05	<0.01	<0.05	0.4	5.2	2.5	40	1200	7.24	520	150	<1	770	12.2	0.85	0.183	-0.063	7.06	7.3
	12/12/14	39000	2400	130000	7200	160	170	78	11	<10	<100	0.1	0.017	0.12	0.69	6.5	3.8	49	860	7.1	350	160	<1	550	9.12	1.22	-0.06	-0.308	7.16	7.41
COBC-002-MWA	03/15/13	160000	2500	170000	15000	48	270	320	3.3	<0.01	<100	0.23	<0.01	0.23	<0.05	<5	1.2	2.2	1600	6.3	500	48	<1	971	15.6	3.68	-1.33	-1.57	7.63	7.87
	07/18/13	115000	2440	129000	13900	51	170	230	4.6	<0.01	<100	0.35	<0.01	0.35	<0.05	<5	1.5	1.3	1400	6.19	380	51	<1	696	11	6.96	-1.5	-1.75	7.69	7.94
	11/05/13	150000	2800	150000	16000	50	250	310	4.9	<0.01	<100	0.25	<0.01	0.25	<0.05	<5	1.4	4.1	1600	5.98	450	50	<1	920	14.9	2.43	-1.68	-1.92	7.66	7.90
	12/12/14	110000	2200	130000	13000	61	300	190	4.4	<10	<100	0.15	<0.01	0.15	0.057	<5	1.5	1.4	1300	5.99	380	61	<1	790	12.8	1.38	-1.64	-1.88	7.62	7.87
COBC-004-MWA	03/15/13	100000	5000	320000	28000	220	710	170	17	0.07	<100	<0.05	0.013	<0.05	<0.05	<5	1.2	<0.1	1900	7.6	920	210	<1.0	1480	23.9	2.09	0.837	0.593	6.76	7.01
	07/18/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1600	7.82	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/18/13	86300	5180	221000	35800	190	360	160	18	0.066	117	0.21	<0.01	0.21	0.18	<5	1.5	0.24	1700	7.8	700	190	1.1	999	15.7	6.45	0.88	0.634	6.92	7.17
	11/05/13	43000	4100	83000	14000	120	110	52	22	0.092	200	0.44	<0.01	0.44	<0.05	5.3	0.87	4.3	610	7.89	270	120	<1.0	410	6.26	7.74	0.449	0.201	7.44	7.69
	12/12/14	29000	2200	34000	5100	99	20	41	13	0.086	140	0.18	<0.01	0.18	<50	<5	0.53	3	350	7.83	110	98	<1	210	3.59	1.84	-0.035	-0.285	7.86	8.11
COBP-006-MWA	03/27/13[DL]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	6	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13[D]	14000	3900	150000	17000	220	300	25	14	<0.01	<500	<0.05	<0.01	<0.05	1.00	370	6.4	250	940	6.9	440	220	<1	683	11.2	3.41	-0.094	-0.341	6.99	7.24
	03/27/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.00	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13	14000	3900	150000	18000	220	300	25	14	<0.01	<500	<0.05	<0.01	<0.05	0.99	310	7.4	270	940	6.9	460	220	<1	690	11.2	1.81	-0.077	-0.324	6.98	7.22
	07/26/13	15300	4090	169000	21000	210	320	25	15	<0.01	<100	<0.05	<0.01	<0.05	0.89	37	6.7	190	1000	7.16	510	210	<1	723	11.5	1.25	0.192	-0.054	6.97	7.21
	11/06/13	14000	4300	170000	21000	200	330	24	14	<0.01	110	<0.05	<0.01	<0.05	0.92	48	5.1	170	1000	7.01	520	200	<1	740	11.6	0.94	0.046	-0.200	6.96	7.21
	12/15/14	21000	4000	130000	17000	250	150	34	16	<10	130	<0.05	<0.01	<0.05	1.2	17	7.8	170	820	6.95	400	250	<1	550	8.98	4.42	-0.007	-0.254	6.96	7.2

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
COBB-004-MWA	03/27/13	<25	<5	<3	44	<2.5	<10	<500	0.12	<5	<5	<10	<500	<5	<20	0.013	<20	<15	<5	<0.5	430	<4	<100	<15	1.8	<10	26
	07/26/13	12.9	<1	3.3	56.1	<1	<2	75	0.096	<1	<0.4	<2	77	<0.5	972	NM	19	2.2	<1	<0.1	481	<0.1	<2	<2	2.03	<2	16
	11/06/13	10	<1	3.3	37	<1	<2	59	0.1	<1	<0.4	4.4	<50	<0.5	390	NM	7.8	2.5	<1	<0.1	360	<0.1	<2	<2	0.6	<2	12
	12/15/14	27	<1	2.2	57	<1	<2	55	0.46	<1	<0.4	5.7	<50	<0.5	41	<0.013	3.2	<2	1.5	<0.1	600	<0.1	<2	<2	1.6	<2	20
COBC-001-MWA	03/15/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<0.013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/15/13	16	<1	1.6	33	<0.5	<2.0	<100	0.056	<1.0	<1.0	<2.0	2600	<1.0	950	<0.013	<4	<3	<1.0	<0.1	3500	<0.8	<20	<3	<0.15	<2.0	37
	07/26/13[LD]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/26/13[D]	293	<1.0	3.9	43.9	<1.0	<2.0	<50	0.028	<1.0	0.53	<2.0	11900	<0.5	1060	NM	<2.0	<2.0	<1.0	<0.1	2380	<0.1	<2.0	<2.0	0.15	2.1	35.5
	07/26/13	23.3	<1.0	3.8	42.2	<1.0	<2.0	<50	<0.017	<1.0	0.48	<2.0	11100	<0.5	1080	NM	<2.0	<2.0	<1.0	<0.1	2550	<0.1	<2.0	<2.0	<0.1	<2.0	19.2
	11/07/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/07/13	21	<1.0	2.7	34	<1.0	<2.0	<50	<0.01	<1.0	0.61	<2.0	4400	<0.5	1600	NM	<2.0	<2.0	<1.0	<0.1	7300	<0.1	<2.0	<2.0	0.17	<2.0	36
	12/12/14	10	<1	2	50	<1	<2	<50	0.058	<1	0.44	<2	3900	<0.5	1200	<0.013	<2	<2	<1	<0.1	3600	<0.1	<2	<2	<0.1	<2	20
COBC-002-MWA	03/15/13	47	<1	<0.6	15	<0.5	<2	<100	0.6	<1	<1	30	<100	<1	67	<0.013	<4	6.2	10	<0.1	730	<0.8	<20	<3	<0.15	<2	370
	07/18/13	40.2	<1	<1	12.7	<1	<2	82	0.203	<1	0.46	40.4	84	0.93	56.1	NM	<2	2.2	8.4	<0.1	547	<0.1	<2	<2	<0.1	<2	189
	11/05/13	95	<1	<1	14	<1	<2	87	0.26	<1	0.85	46	<50	0.92	80	NM	<2	5.3	7.6	<0.1	610	<0.1	<2	<2	<0.1	<2	240
	12/12/14	60	<1	<1	11	<1	<2	79	0.47	<1	0.41	7.2	<50	0.57	51	<0.013	<2	<2	8.3	<0.1	500	<0.1	<2	<2	<0.1	<2	110
COBC-004-MWA	03/15/13	6.4	1.9	4.1	20	<0.5	<2.0	<100	0.064	<1.0	<1.0	<2.0	<100	<1.0	270	<0.013	4.1	4.3	1.2	<0.10	710	<0.80	<20	<3.0	1	13	23
	07/18/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/18/13	8.4	1.5	3.6	15.3	<1.0	<2.0	93	0.054	<1.0	<0.4	4.2	72	<0.5	908	NM	7.5	<2.0	1.2	<0.10	682	<0.10	<2.0	<2.0	0.6	10.6	24.7
	11/05/13	16	5.0	5.4	8.5	<1.0	<2.0	67	0.043	<1.0	<0.4	<2.0	370	<0.5	310	NM	4.2	2.4	1.7	<0.10	200	<0.10	<2.0	<2.0	0.21	9.2	41
	12/12/14	11	1.5	4.6	3.9	<1	<2	<50	0.12	<1	<0.4	2.9	<50	<0.5	7.6	<0.013	<2	<2	<1	<0.1	210	<0.1	<2	<2	0.14	8.6	18
COBP-006-MWA	03/27/13[DL]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13[D]	31	<5	3.1	30	<2.5	<10	<500	<0.085	<5	<5	<10	23000	<5	8400	0.022	<20	<15	<5	1	500	<4	<100	<15	<0.75	<10	34
	03/27/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13	<25	<5	<3	31	<2.5	<10	<500	<0.085	<5	<5	<10	23000	<5	8400	<0.013	<20	<15	<5	<0.5	510	<4	<100	<15	<0.75	<10	32
	07/26/13	33.9	<1	2.7	32.8	<1	<2	71	0.06	<1	1.53	<2	20700	0.74	10500	NM	<2	<2	<1	<0.1	501	<0.1	<2	<2	0.26	<2	35
	11/06/13	15	<1.0	3.4	30.0	<1.0	<2.0	64	<0.01	<1	0.93	<2	20000	<0.50	10000	NM	<2	<2	<1	<0.1	550	<0.1	<2	<2	0.18	<2	35
	12/15/14	26	<1	1.4	37	<1	<2	61	0.18	<1	<0.4	<2	19000	<0.5	6200	<0.013	<2	<2	<1	<0.1	480	<0.1	<2	<2	<0.1	<2	29

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COBT-003-MWB	03/13/12[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.98	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/12[D]	99000	2700	100000	11000	210	81	180	13	<0.01	<100	<0.05	<0.01	<0.05	<0.05	7.9	0.94	1	1100	7.7	300	210	1	621	11.1	3.73	0.535	0.288	7.17	7.41
	03/13/12	100000	2700	100000	12000	210	81	180	13	0.014	<100	<0.05	<0.01	<0.05	<0.05	9	<0.5	1.4	1100	7.7	300	210	1	620	11	2.89	0.535	0.288	7.17	7.41
	06/07/12	120000	3400	99000	12000	210	89	210	13	<0.01	<100	<0.05	<0.01	<0.05	0.064	<5	<0.5	0.96	1100	7.6	300	210	<1	677	11.9	2.36	0.408	0.161	7.19	7.44
	09/12/12[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	09/12/12	130000	3300	100000	12000	210	87	230	12	<0.01	<100	<0.05	<0.01	<0.05	0.061	<5	0.55	1.3	1200	7.6	300	210	<1	695	12.4	3.3	0.409	0.162	7.19	7.44
	12/12/12[L]	NM	2900	110000	NM	NM	NM	NM	13	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	12/12/12	110000	3000	100000	12000	210	85	220	13	<0.01	<100	<0.05	<0.01	<0.05	<0.05	12	<0.5	0.37	1200	7.7	310	210	1	674	12.1	4.79	0.538	0.291	7.16	7.41
	03/19/13	130000	3200	120000	12000	210	89	220	12	<0.01	<100	<0.05	<0.01	<0.05	0.06	<5	<0.5	0.8	1200	7.7	340	210	1	717	12.4	1.12	0.578	0.331	7.12	7.37
	07/18/13	111000	2910	104000	11900	210	80	180	13	<0.01	<100	0.052	<0.01	0.052	0.058	<5	0.54	0.43	1200	7.41	310	210	<1	638	11.2	0.41	0.26	0.013	7.15	7.4
	11/07/13	110000	3100	110000	13000	210	80	200	13	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	<0.5	0.86	1200	7.31	330	210	<1	670	11.7	0.56	0.177	-0.07	7.13	7.38
	12/12/14	120000	3100	110000	13000	220	78	220	13	<10	<100	0.14	<0.01	0.14	0.074	<5	<0.5	1.3	1200	7.32	340	220	<1	700	12.2	0.62	0.222	-0.025	7.1	7.35
COCP-110-MW	03/27/13[L]	NM	NM	NM	NM	NM	NM	NM	25	NM	<500	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/27/13	14000	6900	110000	7600	140	130	59	25	<0.01	<500	0.11	<0.01	0.11	1.3	5.8	1.8	56	680	7.5	320	140	<1	449	7.18	1.37	0.235	-0.013	7.27	7.51
	07/18/13	17900	8680	139000	7800	170	130	62	37	<0.01	159	0.055	<0.01	0.055	2.3	7.9	3	79	860	7.44	380	170	<1	513	7.91	5.72	0.352	0.105	7.09	7.34
	11/06/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	85	1000	7.4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/06/13	15000	9600	160000	10000	210	260	58	40	<0.01	240	0.076	0.012	0.088	2.5	17	5.5	85	1000	7.35	450	210	<1	690	11.3	4.87	0.392	0.145	6.96	7.21
	12/15/14	20000	10000	150000	11000	210	190	35	35	<10	170	0.15	0.012	0.16	1.2	9.2	5	73	880	7.48	430	210	<1	590	9.15	4.34	0.501	0.254	6.98	7.23
CODT-008-MWB	03/29/13	27000	5500	56000	1700	95	31	75	20	0.042	<100	0.56	0.087	0.65	0.1	23	4.9	36	420	9.1	150	84	10	275	4.71	5.49	1.36	1.11	7.74	7.99
	07/16/13	30400	10200	76500	1390	120	85	61	18	0.074	141	<0.05	0.015	0.056	0.79	52	12	120	570	8.53	200	110	3.6	354	5.82	2.11	1.03	0.781	7.5	7.75
	10/23/13	8700	5200	79000	1600	87	130	6.8	26	<0.01	<100	0.53	0.11	0.63	0.12	33	12	>1000	450	7.56	200	86	<1.0	310	4.63	0.43	-0.029	-0.278	7.59	7.84
	12/15/14	18000	7800	69000	330	80	58	31	23	<10	<100	0.23	0.15	0.39	0.31	20	3.6	1.8	460	10.9	170	38	5.5	260	3.73	8.91	2.04	1.79	8.83	9.08
CODT-105-MW	01/15/13	26000	13000	96000	13000	150	140	39	12	<0.01	<100	0.58	0.093	0.67	0.066	<5	2.3	1.5	640	8	290	150	1.4	433	7.12	1.73	0.714	0.466	7.29	7.53
	03/13/13	250000	17000	99000	400	78	110	460	11	<0.01	<100	0.094	0.46	0.55	0.27	8	2.3	8.2	1900	10.7	250	43	9.2	995	16.8	1.69	2.11	1.86	8.59	8.84
	07/16/13	56000	11500	74200	4980	42	140	91	10	<0.01	<100	0.22	0.065	0.29	0.39	9	3.1	1.6	660	8.89	210	39	2.8	413	6.3	4.33	0.902	0.654	7.99	8.24
	10/23/13	41000	14000	77000	4700	81	140	62	10	0.017	<100	0.5	0.31	0.8	0.32	11	3.5	1.8	640	9.10	210	72	8.5	410	6.42	0.39	1.40	1.15	7.70	7.95
	12/16/14	14000	7200	130000	18000	180	110	230	17	0.018	<100	0.53	0.037	1.1	<50	11	3.3	0.56	780	7.79	390	300	1.7	500	8.84	1.14	0.902	0.654	6.89	7.13
CODT-201-MWA	03/13/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.9	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	16000	2300	87000	8200	200	53	22	13	<0.01	<100	1.1	<0.01	1.1	<0.05	5.8	1.8	15	530	7.5	250	200	<1	327	5.83	0.43	0.316	0.067	7.18	7.43
	07/16/13	15700	2690	89300	9070	220	51	20	14	0.015	<100	1	<0.01	1	<0.05	<5	<5	140	560	7.44	260	220	<1	339	6.11	1.33	0.302	0.053	7.14	7.39
	10/23/13	14000	2100	75000	7300	190	42	9	11	0.012	<100	3.3	<0.01	3.3	<0.05	13	5.9	110	460	7.71	220	180	<1	290	5.08	0.990	0.434	0.185	7.28	7.53
	12/15/14	9900	2800	100000	11000	220	67	12	14	0.019	<100	3.2	<0.01	3.2	<50	6.5	3.8	240	570	7.57	290	220	<1	360	6.3	0.47	0.472	0.223	7.1	7.35
CODT-201-MWC	03/13/13	59000	2400	43000	4700	210	4.7	42	11	<0.01	<100	<0.05	<0.01	<0.05	0.64	7.3	6.3	14	500	8	130	200	1.9	292	5.4	1.69	0.527	0.278	7.47	7.72
	07/16/13	64900	2360	40800	4730	210	6	40	11	0.15	<100	<0.05	<0.01	<0.05	0.58	<5	<5	25	500	7.91	120	210	1.6	298	5.48	1.2	0.422	0.173	7.49	7.74
	10/23/13[D]	67000	2300	41000	4500	200	13	44	11	<0.01	<100	<0.05	<0.01	<0.05	0.43	6	4.3	2.3	510	7.97	120	200	1.7	300	5.5	1.1	0.456	0.207	7.51	7.76
	12/15/14	66000	2300	38000	4300	200	5.3	43	11	0.01	<100	<0.05	<0.01	<0.05	0.52	5.5	5.2	9.3	500	7.87	110	200	1.4	290	5.32	1.04	0.327	0.077	7.54	7.79

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
COBT-003-MWB	03/13/12[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/12[D]	<5	0.51	3.4	42	<0.5	<2	<100	<0.017	<1	<1	<2	210	<1	2600	<0.013	<4	<3	<1	<0.1	1300	<0.8	<20	<3	0.45	<2	6.7
	03/13/12	23	<0.4	3.5	43	<0.5	<2	<100	<0.017	<1	<1	<2	220	<1	2700	<0.013	<4	<3	<1	<0.1	1300	<0.8	<20	<3	0.45	<2	7.3
	06/07/12	<5	<1	4.2	70	<0.5	<2	<100	<0.017	<1	<1	<2	170	<1	2000	<0.013	<4	<3	1.2	<0.1	1500	<0.8	<20	<3	0.22	<2	29
	09/12/12[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	09/12/12	<5	<1	3.7	67	<0.5	<2	<100	0.055	<1	<1	<2	170	<1	2000	<0.013	<4	<3	<1	<0.1	1500	<0.8	<20	<3	0.24	<2	16
	12/12/12[L]	13	<1	3.5	42	<0.5	<2	<100	0.034	<1	<1	<2	110	<1	2300	NM	<4	<3	<1	<0.1	1400	<0.8	<20	<3	0.28	<2	7.9
	12/12/12	14	<1	3.5	42	<0.5	<2	<100	0.034	<1	<1	<2	110	<1	2300	<0.013	<4	<3	<1	<0.1	1500	<0.8	<20	<3	0.29	<2	8.1
	03/19/13	<5	<1	3	57	<0.5	<2	<100	0.02	<1	<1	<2	140	<1	2100	<0.013	<4	<3	<1	<0.1	1700	<0.8	<20	<3	0.3	<2	20
	07/18/13	5.4	<1	3.7	42.4	<1	<2	62	0.018	<1	0.44	<2	159	<0.5	2170	NM	<2	<2	<1	<0.1	1500	<0.1	<2	<2	0.22	<2	21.4
	11/07/13	20	<1	3.8	43	<1	<2	61	0.02	<1	0.53	<2	190	<0.5	2200	NM	<2	<2	<1	<0.1	1400	<0.1	<2	<2	0.27	<2	22
	12/12/14	20	<1	3.4	56	<1	<2	64	1.7	<1	0.42	<2	240	<0.5	2300	<0.013	<2	<2	<1	<0.1	1500	<0.1	<2	<2	0.26	<2	20
COCP-110-MW	03/27/13[L]	<25	<5	14	60	<2.5	<10	<500	0.1	<5	<5	<10	4200	<5	320	NM	<20	<15	<5	<0.5	410	<4	<100	<15	0.92	<10	28
	03/27/13	<25	<5	14	61	<2.5	<10	<500	0.11	<5	<5	<10	4300	<5	330	<0.013	<20	<15	<5	<0.5	420	<4	<100	<15	0.92	<10	29
	07/18/13	7.8	<1	18.5	60.3	<1	<2	64	<0.017	<1	<0.4	<2	3880	<0.5	493	NM	4.1	<2	<1	<0.1	464	<0.1	<2	<2	0.54	<2	7.4
	11/06/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/06/13	14	1.8	19	81	<1	<2	82	0.011	<1	<0.4	<2	3300	<0.5	380	NM	5.7	<2	1.9	<0.1	660	<0.1	<2	<2	2.6	4.9	12
	12/15/14	13	2.5	13	77	<1	<2	76	0.18	<1	<0.4	<2	4400	<0.5	390	0.017	6.6	<2	1.3	<0.1	610	<0.1	<2	<2	3	5.1	9.8
CODT-008-MWB	03/29/13	34	<1	9.7	27	<0.5	<2	<100	<0.017	<1	<1	4.7	<100	<1	6.9	0.12	<4	<3	2.8	<0.1	250	<0.8	<20	<3	1.2	9.7	<5
	07/16/13	41.3	<1	41.7	52.7	<1	<2	<50	0.028	2.2	<0.4	<2	134	<0.5	143	NM	5.9	<2	1.3	<0.1	509	<0.1	<2	<2	1.45	2.9	8
	10/23/13	45	<1	11	58	<1	<2	<50	<0.01	<1	<0.40	3.2	110	<0.50	220	NM	3.8	<2	1.6	<0.1	480	<0.1	<2	4.3	1.9	4.9	9.9
	12/15/14	510	<1	7.2	25	<1	<2	<50	0.085	1.3	<0.4	5.6	<50	<0.5	<2	<0.013	5.1	<2	1.8	<0.1	840	<0.1	<2	<2	0.19	11	<5
CODT-105-MW	01/15/13	18	2.3	1.7	22	<0.5	<2	<100	0.058	<1	<1	8.5	<100	<1	17	<0.013	9.5	<3	26	<0.1	480	<0.8	<20	<3	2.1	4.9	46
	03/13/13	1100	1.8	17	5.7	<0.5	<2	<100	<0.017	<1	<1	11	<100	<1	<4	0.013	14	<3	37	<0.1	1700	<0.8	<20	<3	<0.15	30	<5
	07/16/13	798	1.5	3.3	8.6	<1	<2	<50	0.027	1.1	<0.4	8.7	<50	<0.5	10.6	NM	14.9	3.1	19.1	<0.1	729	<0.1	<2	<2	0.74	7.4	12.3
	10/23/13	670	1.6	6.2	13	<1	<2	<50	0.053	1.8	<0.4	9.5	<50	<0.5	8.0	NM	9.9	<2.0	29	<0.1	1000	<0.1	<2.0	<2.0	0.97	9.7	<5.0
	12/16/14	20	2.2	2.1	25	<1	<2	62	0.13	<1	<0.4	4.3	<50	<0.5	2.9	<0.013	5.4	<2	15	<0.1	380	<0.1	<2	<2	2.3	2.5	18
CODT-201-MWA	03/13/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	11	<1	0.73	17	<0.5	<2	<100	0.078	<1	<1	8	<100	<1	14	0.017	<4	<3	1.5	<0.1	310	<0.8	<20	<3	0.43	<2	48
	07/16/13	268	<1	<1	23.5	<1	<2	52	0.052	<1	<0.4	13	<50	<0.5	11.5	NM	<2	<2	2	<0.1	276	<0.1	<2	<2	0.67	<2	55.8
	10/23/13	20	<1	<1	25	<1	<2	<50	0.083	<1	<0.4	20	<50	<0.5	4.0	NM	<2	<2	2.3	<0.1	210	<0.1	<2	<2	0.49	<2	58
	12/15/14	17	<1	<1	27	<1	<2	<50	0.27	<1	<0.4	2.6	<50	<0.5	2.6	0.032	2.2	<2	4.3	<0.1	260	<0.1	<2	<2	0.71	<2	11
CODT-201-MWC	03/13/13	20	<1	4.1	340	<0.5	<2	<100	0.2	<1	<1	<2	<100	<1	780	<0.013	<4	<3	<1	<0.1	530	<0.8	<20	<3	<0.15	<2	7.5
	07/16/13	16.9	<1	4	331	<1	<2	73	<0.017	2.5	<0.4	<2	<50	<0.5	766	NM	<2	<2	<1	<0.1	504	<0.1	<2	<2	<0.1	<2	8.8
	10/23/13[D]	9.7	<1	3.7	340	<1	<2	77	<0.01	<1	<0.4	<2	<50	<0.5	760	NM	<2	<2	1.6	<0.1	500	<0.1	<2	<2	<0.1	<2	<5
	12/15/14	13	<1	4.1	340	<1	<2	77	0.28	<1	<0.4	<2	<50	<0.5	690	<0.013	<2	<2	3.2	<0.1	520	<0.1	<2	<2	<0.1	<2	6

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CODT-203-MW	03/13/13	NM	NM	NM	NM	NM	200	210	NM	<0.01	NM	NM	<0.01	<0.05	NM	21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	120000	6800	130000	13000	180	200	220	14	<0.01	<100	<0.05	<0.01	<0.05	0.66	14	2.3	56	1300	7.2	390	180	<1	824	13.9	2.51	0.065	-0.182	7.14	7.38
	07/16/13[D]	130000	6430	143000	13000	220	180	220	15	<0.01	<100	<0.05	<0.01	<0.05	0.69	19	2.7	62	1500	7.33	410	220	<1	848	14.2	0.11	0.294	0.048	7.04	7.28
	07/16/13	132000	6560	143000	13000	220	170	210	15	<0.01	<100	<0.05	<0.01	<0.05	0.68	15	2.6	70	1500	7.35	410	220	<1	832	13.8	2.14	0.318	0.071	7.03	7.28
	10/23/13	47000	5100	140000	15000	220	240	58	19	<0.01	<100	<0.05	<0.01	<0.05	0.47	21	4.1	98	980	7.22	420	220	<1	670	10.9	0.87	0.217	-0.0300	7.00	7.25
	12/12/14	24000	2500	110000	6000	120	190	27	23	<10	<100	0.42	<0.01	0.42	0.1	6.5	4.4	14	660	7.19	290	120	<1	450	7.05	0.57	-0.166	-0.414	7.35	7.6
CODT-205-MWA	03/13/13[D]	41000	5800	82000	11000	280	13	23	15	<0.01	<100	<0.05	<0.01	<0.05	0.26	9.1	7.2	130	600	7.6	250	280	1.1	363	6.59	2.66	0.527	0.278	7.07	7.32
	03/13/13	42000	5800	83000	11000	290	13	23	16	<0.01	<100	<0.05	<0.01	<0.05	0.25	9.7	6.7	130	610	7.5	250	290	<1	367	6.69	2.26	0.438	0.189	7.06	7.31
	07/16/13[L]	NM	NM	NM	NM	300	10	23	16	<0.01	NM	NM	<0.01	<0.05	0.16	6.8	5.2	33	610	7.64	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/16/13	40800	5720	72400	10700	300	11	22	16	<0.01	<100	<0.05	<0.01	<0.05	0.16	8.3	5.6	33	610	7.64	220	300	1.2	366	6.94	3.04	0.543	0.294	7.1	7.35
	10/23/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	600	7.64	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/23/13	38000	5900	80000	11000	310	9.6	22	18	<0.01	<100	<0.05	<0.01	<0.05	0.17	12	5.5	31	610	7.64	250	310	1.3	370	6.98	1.01	0.592	0.343	7.05	7.30
	12/15/14	35000	5400	84000	12000	310	24	18	17	<10	<100	<0.05	<0.01	<0.05	0.24	7.7	7	66	620	7.52	260	300	<1	380	7.12	1.5	0.482	0.234	7.03	7.28
CODT-206-MW	03/13/13[L]	NM	NM	NM	NM	NM	NM	NM	23	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	5800	2700	82000	5300	140	57	19	23	<0.01	<100	0.19	<0.01	0.19	0.24	19	6.1	7.8	440	7.5	230	140	<1	285	4.52	4.54	0.14	-0.11	7.36	7.61
	07/16/13	7200	4090	97300	8620	200	83	19	14	0.035	<100	<0.05	<0.01	<0.05	1.2	74	11	24	590	7.1	280	200	<1	371	6.34	0.56	-0.042	-0.29	7.14	7.39
	10/23/13	6800	2800	56000	3900	130	36	4.6	17	0.014	<100	0.47	<0.01	0.47	0.16	72	14	9.1	320	7.25	160	130	<1	210	3.46	0.86	-0.285	-0.535	7.54	7.79
	12/15/14	4400	2300	47000	1800	96	27	5.7	37	0.035	<100	0.37	<0.01	0.37	<50	18	5.3	32	260	7.83	130	96	<1	190	2.68	1.47	0.106	-0.144	7.72	7.97
CONCW-101-MWB	03/15/13	86000	5700	90000	2000	24	130	150	14	<0.01	<100	0.25	0.024	0.27	0.24	5.9	2.1	0.38	770	9.1	230	21	2.5	489	7.31	7.93	0.918	0.67	8.18	8.43
	07/17/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.25	NM	NM	0.36	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	66100	5650	50700	4220	42	120	110	18	0.013	<100	0.24	0.078	0.32	0.26	8.6	2.4	0.36	670	9.18	140	36	5.1	398	6.37	3.66	0.993	0.745	8.19	8.44
	10/24/13	63000	6300	70000	2200	52	170	80	20	0.012	<100	0.095	0.035	0.13	0.43	9.1	3.1	1.4	700	9.65	180	35	15	440	6.78	1.42	1.59	1.34	8.06	8.31
	12/12/14	59000	5500	85000	1800	28	120	85	21	<10	<100	0.31	0.026	0.33	0.35	5.2	2.7	1.8	580	9.55	220	20	6.6	400	5.52	12.9	1.33	1.08	8.22	8.47
CONPL-202-MWA	12/15/14	22000	1900	170000	28000	410	170	22	12	<10	<100	<0.05	<0.01	<0.05	0.081	<5	1.7	14	1000	7.34	550	410	<1	680	12.4	1.27	0.693	0.446	6.65	6.9
COSB-002-MWA	03/18/13	17000	3300	140000	16000	210	200	32	21	<0.01	<100	0.25	<0.01	0.25	<0.05	<5	1.9	160	800	7.1	400	210	<1	550	9.23	1.88	0.075	-0.173	7.03	7.27
	07/26/13	19500	4200	178000	29200	170	410	39	26	<0.01	<100	<0.05	<0.01	<0.05	0.15	16	11	830	1100	6.97	560	170	<1	822	13.1	2.9	-0.075	-0.321	7.05	7.29
	11/6/13[DL]	20000	5600	230000	36000	NM	NM	NM	NM	NM	<100	NM	NM	NM	NM	NM	2.1	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/6/13[D]	20000	5700	230000	36000	130	620	49	30	<0.01	<100	<0.05	0.021	<0.05	0.32	130	2.2	160	1400	6.61	720	130	<1	1100	17	2.69	-0.473	-0.718	7.08	7.33
	11/06/13	20000	5500	230000	36000	130	610	49	29	<0.01	<100	<0.05	0.017	<0.05	0.33	120	1.9	77	1400	6.64	730	130	<1	1100	16.6	1.07	-0.451	-0.696	7.09	7.34
	12/15/14	14000	3200	150000	17000	200	210	26	20	<10	<100	1.6	<0.01	1.6	0.098	<5	1.9	17	860	6.72	450	200	<1	580	9.29	2.57	-0.276	-0.524	7	7.25
COSCW-001-MWA	03/19/13	11000	1400	64000	6900	160	49	14	8.6	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	<0.5	23	430	7.9	190	160	1.2	253	4.66	4.25	0.506	0.257	7.39	7.64
	07/17/13	12500	1660	66100	8100	170	50	13	11	0.013	<100	0.057	<0.01	0.057	<0.05	<5	1.1	24	440	7.71	200	170	<1	267	4.82	2.88	0.348	0.099	7.36	7.61
	10/24/13	14000	1800	72000	8700	170	52	14	12	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	0.62	43	460	7.57	220	170	<1	280	4.93	0.100	0.251	0.002	7.32	7.57
	12/16/14	13,000	1900	74,000	8,800	180	49	14	12	<10	<100	0.052	<0.01	0.052	0.093	<5	0.93	46	480	7.61	220	180	<1	290	5.11	0.29	0.334	0.085	7.28	7.53
COSCW-001-MWB	03/19/13	18000	3200	56000	9600	190	29	14	8.6	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	0.55	1	440	8	180	190	1.8	254	4.8	3.56	0.616	0.367	7.38	7.63
	07/17/13[L]	NM	NM	NM	NM	200	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	18200	3620	55800	10100	200	22	14	11	<0.01	<100	<0.05	<0.01	<0.05	0.057	<5	1.1	0.48	430	7.85	180	200	1.3	253	4.79	3.12	0.484	0.234	7.37	7.62
	10/24/13[L]	NM	NM	NM	NM	NM	23	14	12	<0.01	NM	NM	0.011	0.25	0.063	<5	1.5	2.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/24/13	20000	4000	61000	11000	200	22	14	12	<0.01	<100	0.25	<0.01	0.25	0.065	<5	1.4	2.4	450	7.91	200	200	1.5	260	4.83	1.02	0.581	0.332	7.33	7.58
	12/12/14	19000	3700	65000	11000	210	38	13	11	<10	<100	0.091	<0.01	0.091	0.11	<5	1.2	0.32	460	7.88	210	200	1.5	290	5.28	1.64	0.587	0.338	7.29	7.54

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
CODT-203-MW	03/13/13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/13/13	13	<1	20	250	<0.5	<2	<100	0.028	<1	1.7	<2	5200	<1	7000	<0.013	<4	<3	<1	<0.1	850	<0.8	<20	<3	0.3	<2	41
	07/16/13[D]	12.4	<1	16.9	230	<1	<2	<50	<0.017	<1	1.44	2.3	5000	<0.5	7650	NM	3.2	2.3	<1	<0.1	811	<0.1	<2	<2	0.91	<2	**5360**
	07/16/13	31.6	<1	17	229	<1	<2	<50	0.026	<1	1.54	2.3	5010	<0.5	7700	NM	3.5	<2	<1	<0.1	809	<0.1	<2	<2	0.93	<2	**5210**
	10/23/13	8.6	<1	30	150	<1	<2	52	0.013	<1	1.4	<2	10000	<0.50	5700	NM	3.2	<2	<1	<0.1	580	<0.1	<2	<2	0.76	<2	75
	12/12/14	15	<1	<1	58	<1	<2	57	0.34	<1	<0.4	3.3	90	<0.5	130	<0.013	<2	<2	1	<0.1	260	0.19	<2	<2	0.72	<2	25
CODT-205-MWA	03/13/13[D]	5.6	<1	1.3	92	<0.5	<2	<100	0.044	<1	<1	<2	490	<1	1100	<0.013	5.4	<3	<1	<0.1	3700	<0.8	<20	<3	1.1	<2	31
	03/13/13	5.9	<1	1.3	93	<0.5	<2	<100	0.062	<1	<1	<2	460	<1	1200	<0.013	5.3	<3	<1	<0.1	3700	<0.8	<20	<3	1.1	<2	32
	07/16/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/16/13	10.6	<1	5	85.8	<1	<2	<50	0.025	<1	<0.4	5.3	2820	<0.5	1120	NM	2.2	<2	<1	<0.1	3380	<0.1	<2	<2	0.95	<2	24.5
	10/23/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/23/13	13	<1	6.8	120	<1	<2	58	0.012	<1	<0.40	<2	3200	<0.50	1200	NM	3.3	<2	<1	<0.1	3600	<0.1	<2	<2	1.10	<2	23
	12/15/14	29	<1	4.1	140	<1	<2	55	0.25	<1	<0.4	<2	2100	<0.5	1300	<0.013	5.7	<2	<1	<0.1	3900	<0.1	<2	<2	1.2	<2	16
CODT-206-MW	03/13/13[L]	17	<1	2.4	41	<0.5	<2	<100	0.041	<1	<1	2.2	1600	<1	2900	NM	<4	<3	1.1	<0.1	250	<0.8	<20	<3	1.4	<2	36
	03/13/13	17	<1	2.4	42	<0.5	<2	<100	0.041	<1	<1	2.3	1600	<1	3000	0.015	<4	<3	1.4	<0.1	260	<0.8	<20	<3	1.4	<2	36
	07/16/13	29.8	<1	7.3	56.4	<1	<2	58	0.017	<1	0.61	8.5	5670	0.7	7880	NM	<2	2.1	<1	<0.1	250	<0.1	<2	<2	0.3	<2	137
	10/23/13	71	<1.0	2.1	36	<1.0	<2.0	<50	0.17	<1.0	<0.4	19	580	0.61	860	NM	<2	<2	<1	<0.1	150	<0.1	<2	2.6	1.4	2.1	71
	12/15/14	38	<1	4	33	<1	<2	<50	1.3	<1	<0.4	5.9	<50	<0.5	5.0	<0.013	<2	<2	1.4	<0.1	180	<0.1	<2	<2	2.2	4.9	14
CONCW-101-MWB	03/15/13	43	<1	5.1	56	<0.5	<2	<100	0.041	1.1	<1	<2	<100	<1	19	<0.013	6.4	<3	2.3	<0.1	700	<0.8	<20	<3	0.79	3.1	6.6
	07/17/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	23.6	<1	8	38.4	<1	<2	<50	<0.017	<1	<0.4	3.2	<50	<0.5	9.8	NM	9.3	<2	<1	<0.1	438	<0.1	<2	<2	0.91	4.2	7.1
	10/24/13	38	<1.0	7.8	45	<1.0	<2.0	<50	<0.01	<1.0	<0.4	<2.0	<50	<0.5	6.6	NM	9.5	<2	1.1	<0.1	520	<0.1	<2.0	<2.0	0.40	4.2	<5.0
	12/12/14	82	<1	8.2	46	<1	<2	<50	0.27	<1	<0.4	<2	<50	<0.5	7.7	<0.013	7.2	<2	3.1	<0.1	540	<0.1	<2	<2	0.68	2.7	<5
CONPL-202-MWA	12/15/14	17	<1	2.2	43	<1	<2	<50	0.27	<1	0.84	<2	280	<0.5	1100	<0.013	<2	<2	<1	<0.1	720	<0.1	<2	<2	2.7	<2	14
COSB-002-MWA	03/18/13	10	2.3	<0.6	20	<0.5	<2	<100	0.098	<1	<1	3.3	220	<1	42	<0.013	<4	3.6	<1	<0.1	370	<0.8	<20	<3	0.54	<2	110
	07/26/13	59	<1	<1	40	<1	<2	55	0.273	<1	3.51	<2	3660	<0.5	5980	NM	<2	30.7	<1	<0.1	533	<0.1	<2	<2	0.69	<2	466
	11/6/13[DL]	1000	<1	2.2	67	<1	<2	63	0.8	<1	9.2	3.1	17000	<0.5	14000	NM	<2	91	<1	<0.1	690	<0.1	<2	<2	0.4	<2	**1200**
	11/6/13[D]	1000	<1	2.3	68	<1	<2	63	0.81	<1	9.6	3.3	18000	<0.5	14000	NM	<2	92	<1	<0.1	690	<0.1	<2	<2	0.42	<2	**1300**
	11/06/13	1100	<1	2.3	68	<1	<2	61	0.80	<1	9.2	4.0	18000	<0.5	14000	NM	<2	91	<1	<0.1	700	<0.1	<2	<2	0.40	<2	**1300**
	12/15/14	73	<1	<1	19	<1	<2	<50	0.66	<1	0.43	5.1	1700	0.52	480	<0.013	<2	7.3	<1	<0.1	390	<0.1	<2	<2	0.22	<2	92
COSCW-001-MWA	03/19/13	7.3	<1	<0.6	41	<0.5	<2	<100	<0.017	<1	<1	5.3	280	<1	16	<0.013	<4	<3	<1	<0.1	560	<0.8	<20	<3	0.55	<2	38
	07/17/13	7.8	<1	<1	47.1	<1	<2	<50	0.104	<1	<0.4	11.2	<50	<0.5	1470	NM	<2	<2	<1	<0.1	672	<0.1	<2	<2	0.55	<2	52.5
	10/24/13	16	<1	<1	53	<1	<2	<50	0.032	<1	<0.4	2.2	<50	<0.5	620	NM	<2	<2	<1	<0.1	680	<0.1	<2	<2	0.59	<2	21
	12/16/14	13	<1	<1	48	<1	<2	<50	0.13	<1	<0.4	7.5	<50	<0.5	10	<0.013	<2	<2	<1	<0.1	650	<0.1	<2	<2	0.82	<2	45
COSCW-001-MWB	03/19/13	6.7	<1	1.8	120	<0.5	<2	<100	0.19	<1	<1	<2	640	<1	1000	<0.013	4.7	<3	<1	<0.1	1300	<0.8	<20	<3	0.87	<2	12
	07/17/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	16.2	<1	2.6	107	<1	<2	52	<0.017	<1	<0.4	4.9	181	<0.5	348	NM	2.2	<2	<1	<0.1	1260	<0.1	<2	<2	0.68	<2	19.1
	10/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/24/13	18	<1	1.1	120	<1	<2	62	<0.01	<1	<0.4	<2	200	<0.5	350	NM	2.7	<2	<1	<0.1	1300	<0.1	<2	<2	0.76	<2	14
	12/12/14	22	<1	<1	130	<1	<2	62	0.22	<1	<0.4	<2	57	1.1	66	<0.013	5.7	<2	<1	<0.1	1400	<0.1	<2	<2	1.2	<2	20

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
COSCW-002-MWA	03/26/13	7400	1400	160000	17000	320	150	7.9	12	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	<0.5	5.5	820	7.5	470	320	<1	545	9.63	0.93	0.73	0.482	6.77	7.02
	07/17/13	7810	1650	154000	16700	340	150	8	13	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	1.1	20	830	7.48	450	330	<1	548	9.96	2.57	0.715	0.468	6.77	7.01
	10/24/13	8200	1800	160000	18000	300	160	8.2	13	<0.01	<100	0.073	<0.01	0.073	<0.05	<5	0.87	25	840	7.45	470	300	<1	540	9.49	1.15	0.641	0.393	6.81	7.06
	12/12/14	7400	1600	160000	17000	340	160	8.2	12	<10	<100	0.1	<0.01	0.1	0.066	<5	<0.5	8.1	840	7.49	480	330	<1	570	10.2	1.64	0.744	0.205	6.75	7
COSCW-002-MWB	03/19/13[L]	22000	1900	91000	9600	NM	NM	NM	7	NM	<100	NM	NM	NM	<0.05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/19/13	22000	1900	89000	9700	150	180	8.6	7	<0.01	<100	0.081	<0.01	0.081	<0.05	<5	<0.5	10	610	7.9	260	150	1.1	411	7.06	6.25	0.583	0.335	7.32	7.57
	07/17/13	24400	2380	92700	10900	170	150	8.2	9.5	<0.01	<100	0.056	<0.01	0.056	0.12	<5	0.52	1.6	620	7.74	280	170	<1	399	6.73	0.52	0.495	0.246	7.25	7.49
	10/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	640	7.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/24/13	26000	2700	98000	11000	180	150	7.9	10	<0.01	<100	0.16	<0.01	0.16	<0.05	<5	0.89	34	640	7.75	290	180	<1	420	6.98	0.36	0.543	0.295	7.21	7.46
	12/12/14	25,000	2100	100,000	11,000	180	160	9	9.1	<10	<100	0.11	<0.01	0.11	0.11	<5	0.5	3.9	640	7.64	300	180	<1	430	7.21	0.84	0.453	0.497	7.19	7.43
COTS-001-MWA	11/15/13[L]	8000	3100	96000	7400	NM	NM	NM	NM	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/15/13	8000	3100	96000	7400	33	74	11	17	<0.01	<100	50	0.05	50	5.3	23	6.2	73	710	6.04	270	33	<1	470	6.08	0.98	-1.92	-2.17	7.96	8.21
	12/15/14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MCES-001-MWA	03/28/13[D]	31000	17000	220000	<60	430	83	38	2.8	<0.01	<100	<0.05	0.39	0.28	1	<5	2.2	21	2100	12	550	<1	<1	656	11.5	5.81	NC	NC	NC	NC
	03/28/13	30000	17000	200000	<60	430	85	36	3	<0.01	<100	<0.05	0.41	0.27	1	<5	2	18	2100	11.8	500	1.8	110	631	11.3	2.5	2.87	2.63	8.93	9.17
	07/24/13	36400	17800	230000	<100	87	160	43	2.9	<0.01	<100	<0.05	0.17	0.13	1.3	6.2	2.2	15	2300	11.8	570	<1	<1	542	6.24	37.2	NC	NC	NC	NC
	12/10/14	34000	18,000	240000	<100	420	120	50	3.5	<10	<100	0.096	0.28	0.38	1.5	<5	3.4	37	1900	11.9	610	<1	17	730	12.4	6.93	2.12	1.88	9.78	10
MCES-001-MWB	03/28/13	**7200000**	160000	630000	910000	1400	29	15000	19	<0.01	<1000	<0.05	<0.01	<0.05	26	19	7.4	230	35000	7.1	5300	1400	1.7	24700	447	2.38	1.19	0.948	5.91	6.15
	07/25/13	**6500000**	148000	449000	868000	1400	25	12000	23	<0.01	<1000	<0.05	<0.01	<0.05	31	42	12	160	36000	7.42	4700	1400	3.4	21000	370	1.71	1.32	1.09	6.1	6.34
	11/14/13	**6500000**	160000	410000	830000	1300	10	13000	23	0.013	<1000	0.09	0.019	0.11	35	43	17	150	35000	7.32	4500	1300	2.5	22000	392	1.8	1.16	0.926	6.16	6.39
	12/10/14	**6800000**	160000	500000	900000	1500	6.7	11000	25	0.013	<1000	<0.05	<0.01	<0.05	33	39	17	130	34000	7.4	5000	1400	3.5	21,000	346	7.51	1.38	1.14	6.03	6.27
MCES-006-MW	03/28/13	14000	1300	100000	12000	280	34	17	13	0.062	<100	<0.05	<0.01	<0.05	0.17	14	11	310	610	7.5	310	280	<1.0	374	6.87	0.79	0.533	0.285	6.97	7.22
	07/26/13	13300	1030	103000	12100	300	28	20	13	<0.01	<100	<0.05	<0.01	<0.05	0.18	12	10	250	630	7.57	310	300	1	376	7.1	1.87	0.617	0.368	6.95	7.2
	11/05/13[L]	13000	1200	110000	12000	NM	NM	NM	NM	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/05/13	13000	1200	110000	12000	290	34	22	13	<0.01	<100	0.15	<0.01	0.15	0.29	17	10	100	640	7.61	320	290	1.1	390	7.21	1.34	0.664	0.415	6.95	7.2
	12/10/14	9600	5800	77000	3200	77	70	23	14	0.014	<100	1.4	0.11	1.5	0.18	10	3.6	10	360	8.91	200	71	5.4	260	3.77	10.7	1.24	0.99	7.67	7.92
MCES-204-MW	03/28/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2.4	NM	NM	NM	24000	9.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/28/13	**4700000**	200000	630000	260000	53	1100	8600	<1.0	<0.01	<1000	<0.05	<0.01	<0.05	2.4	<5.0	<5.0	4.4	24000	9.1	2600	47	5.5	15600	267	0.91	1.67	1.43	7.43	7.67
	07/24/13	**4290000**	184000	618000	234000	25	1200	8100	<0.5	<0.01	<1000	<0.05	<0.01	<0.05	2.4	<5.0	0.75	3.6	24000	8.82	2500	23	1.4	14700	256	2.86	1.08	0.838	7.75	7.98
	11/07/13[L]	NM	NM	NM	NM	NM	1100	8100	0.83	<0.01	NM	NM	<0.01	<0.05	NM	7.2	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/07/13	**4500000**	190000	660000	230000	28	1100	8200	0.81	<0.01	<1000	<0.05	<0.01	<0.05	4.7	7.2	2.8	22	24000	8.93	2600	25	2.0	15000	256	0.29	1.26	1.02	7.67	7.91
	12/18/14[D]	**4400000**	190000	610,000	260000	21	740	7500	<5	<10	<1000	<0.05	<0.01	<0.05	2.5	<5	<5	<0.1	22000	7.28	2600	21	<1	14000	228	3.91	-0.505	-0.742	7.78	8.02
	12/18/14	**4300000**	190000	610000	260000	22	730	7400	<5	<10	<100	<0.05	<0.01	<0.05	2.3	<5	<5	<0.1	23000	8	2600	22	<1	14000	224	4.44	0.228	-0.01	7.77	8.01

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
COSCW-002-MWA	03/26/13	9.5	<1	<0.6	21	<0.5	<2	<100	0.066	<1	<1	5	<100	<1	<4	<0.013	<4	<3	<1	<0.1	240	<0.8	<20	<3	3.9	<2	37
	07/17/13	7.1	<1	<1	21.7	<1	<2	<50	0.298	<1	<0.4	48.1	<50	0.68	<2	NM	<2	3.2	<1	<0.1	255	<0.1	<2	<2	3.87	<2	216
	10/24/13	16	<1	<1	24	<1	<2	51	0.36	<1	<0.4	37	<50	0.55	5.5	NM	<2	2.8	<1	<0.1	240	<0.1	<2	<2	4.6	<2	260
	12/12/14	17	<1	<1	22	<1	<2	<50	0.26	<1	<0.4	12	<50	<0.5	5.2	<0.013	<2	<2	<1	<0.1	250	<0.1	<2	<2	4.9	<2	59
COSCW-002-MWB	03/19/13[L]	6.1	<1	<0.6	26	<0.5	<2	<100	0.045	<1	<1	<2	<100	<1	130	NM	<4	<3	<1	<0.1	170	<0.8	<20	<3	2.7	<2	33
	03/19/13	6.3	<1	<0.6	26	<0.5	<2	<100	0.043	<1	<1	<2	<100	<1	130	<0.013	<4	<3	<1	<0.1	170	<0.8	<20	<3	2.6	<2	33
	07/17/13	10.2	<1	2.7	24.1	<1	<2	<50	<0.017	<1	0.44	<2	273	<0.5	470	NM	4.2	<2	<1	<0.1	173	<0.1	<2	<2	2.4	<2	13.9
	10/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10/24/13	26	<1	2.3	30	<1	<2	<50	0.15	<1	<0.4	<2	320	<0.5	460	NM	5.4	<2	<1	<0.1	180	<0.1	<2	<2	2.3	<2	20
	12/12/14	11	<1	<1	34	<1	<2	<50	0.63	<1	<0.4	4.5	80	<0.5	130	<0.013	7.2	<2	<1	<0.1	190	<0.1	<2	<2	3.2	<2	47
COTS-001-MWA	11/15/13[L]	230	<1	<1	64	<1	<2	<50	0.59	<1	2.4	47	59	2.8	3200	NM	<2	7.2	<1	<0.1	300	<0.1	<2	<2	0.24	<2	160
	11/15/13	230	<1	<1	63	<1	<2	<50	0.57	<1	2.5	47	60	2.8	3100	NM	<2	7.2	<1	<0.1	300	<0.1	<2	<2	0.24	<2	160
	12/15/14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MCES-001-MWA	03/28/13[D]	18	<1	0.9	150	<0.5	<2	<100	<0.017	<1	<1	4.7	100	3.9	<4	0.015	8.1	<3	4	<0.1	1100	<0.8	<20	<3	<0.15	26	12
	03/28/13	20	<1	<0.6	150	<0.5	<2	<100	<0.017	<1	<1	4.8	110	3.9	<4	0.015	8.3	<3	1.8	<0.1	1100	<0.8	<20	<3	<0.15	21	14
	07/24/13	30.8	<1	<1	159	<1	<2	<50	<0.017	<1	<0.4	13.3	<50	1.87	3.2	NM	9.4	<2	1.6	<0.1	1180	<0.1	<2	<2	<0.1	23.3	8.7
	12/10/14	310	<1	<1	160	<1	<2	<50	0.085	2.6	<0.4	10	<50	0.83	2.9	<0.013	9.5	<2	1.8	<0.1	1200	<0.1	<2	<2	<0.1	16	7.7
MCES-001-MWB	03/28/13	<50	<10	<6	3500	<5	<20	2200	0.19	<10	<10	<20	18000	<10	2200	<0.013	<40	<30	32	<1	68000	<8	<200	<30	6.6	49	110
	07/25/13	<50	<10	<10	5210	<10	<20	3260	<0.17	11	<4	<20	14700	<5	1220	NM	<20	<20	<10	<1	51000	<1	<20	<20	5	<20	<50
	11/14/13	110	<10	<10	7000	<10	<20	3600	<0.1	<10	<4	<20	15000	<5	1000	NM	<20	<20	<10	<1	41000	<1	<20	<20	3.7	<20	120
	12/10/14	86	<1	8.7	7200	<1	<2	3600	0.16	1.5	0.88	<2	14000	<0.5	1400	0.017	<2	<2	<1	<0.1	52000	<0.1	<2	3.3	2.5	2.3	10
MCES-006-MW	03/28/13	7.7	<1.0	13	490	<0.5	<2.0	<100	<0.017	<1.0	<1.0	<2.0	2000	<1.0	4500	<0.013	<4	<3.0	6.3	<0.1	860	<0.8	<20	<3.0	0.84	18	<5
	07/26/13	16.6	<1.0	12.1	588	<1.0	<2.0	<50	<0.017	<1.0	<0.4	<2.0	2200	<0.5	4520	NM	<2.0	<2.0	<1.0	<0.1	883	<0.1	<2.0	<2.0	0.89	7.6	<5
	11/05/13[L]	25	<1.0	12	520	<1.0	<2.0	<50	0.037	<1.0	<0.4	<2.0	2500	<0.5	4800	NM	<2.0	<2.0	<1.0	<0.1	830	<0.1	<2.0	<2.0	0.79	9.0	15
	11/05/13	27	<1.0	12	520	<1.0	<2.0	<50	0.038	<1.0	<0.4	<2.0	2500	<0.5	4800	NM	<2.0	<2.0	<1.0	<0.1	840	<0.1	<2.0	<2.0	0.79	9.1	16
	12/10/14	210	1.5	10	130	<1	<2	<50	0.041	<1	<0.4	9.3	110	<0.5	550	<0.013	4.5	<2	2.9	<0.1	730	<0.1	<2	<2	0.21	120	<5
MCES-204-MW	03/28/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/28/13	62	<10	<6	75	<5.0	<20	1300	<0.17	<10	<10	<20	1600	<10	<40	0.028	<40	<30	**210**	<1.0	5400	<8	<200	<30	<1.5	52	<50
	07/24/13	<50	<10	<10	70	<10	<20	1240	<0.17	<10	<4.0	<20	<500	<5.0	31	NM	<20	<20	**120**	<1.0	4880	<1.0	<20	<20	<1.0	<20	<50
	11/07/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/07/13	59	<10	<10	71	<10	<20	1200	<0.10	<10	<4.0	<20	<500	<5.0	<20	NM	<20	<20	36	<1.0	5100	<1.0	<20	<20	<1.0	<20	<50
	12/18/14[D]	27	<1	1.5	74	<1	<2	1100	0.43	<1	<0.4	<2	97	<0.5	18	<0.013	<2	<2	39	<0.1	5000	<0.1	<2	<2	<0.1	<2	<5
	12/18/14	20	<1	1.9	74	<1	<2	1100	0.21	<1	<0.4	<2	65	<0.5	19	<0.013	<2	<2	**67**	<0.1	5000	<0.1	<2	<2	<0.1	<2	<5

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MCWS-009-MW	12/9/14[D]	55000	1800	110000	9100	300	36	77	12	<10	<100	0.071	<0.01	0.071	<50	<5	1	0.8	810	7.29	320	300	<1	490	8.93	0.39	0.36	0.112	6.93	7.18
	12/9/14	55000	1700	110000	8900	300	37	76	12	<10	<100	0.079	<0.01	0.079	0.069	<5	1.1	1.1	810	7.3	320	300	<1	480	8.93	1.02	0.361	0.113	6.94	7.19
MCWS-113-MWB	03/27/13	91000	7200	83000	13000	300	<2	98	7.1	<0.01	<500	<0.05	<0.01	<0.05	1.6	9.8	4.6	13	820	7.4	260	300	<1	486	8.68	4.72	0.324	0.076	7.08	7.32
	07/24/13	72600	6710	73300	10800	310	<2	92	9.4	<0.01	315	<0.05	<0.01	<0.05	1.8	7.7	4.6	8.8	820	7.48	230	310	<1	458	8.72	3.69	0.371	0.123	7.11	7.36
	11/15/13	78000	7300	74000	11000	310	<2	93	10	<0.01	310	<0.05	<0.01	<0.05	1.8	8.1	<5	13	850	7.52	230	310	<1	470	8.87	2.78	0.42	0.172	7.1	7.35
	12/9/14	74000	6800	72000	12000	310	<2	100	10	<10	290	<0.05	<0.01	<0.05	1.9	11	<5	15	790	7.47	230	300	<1	470	9.03	5.18	0.354	0.106	7.12	7.37
MCWS-306-MWB	03/27/13	43000	5400	110000	34000	210	280	51	11	0.011	<100	0.052	<0.01	0.052	<0.05	<5	1.2	94	990	7.6	420	210	<1	664	11.4	4.72	0.463	0.216	7.14	7.38
	07/24/13	31700	3990	109000	27700	230	230	21	11	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	1	46	870	7.61	390	230	<1	573	9.92	3.66	0.529	0.281	7.08	7.33
	11/15/13	23000	3900	110000	26000	250	170	14	12	0.012	<100	0.057	<0.01	0.057	<0.05	<5	2.7	>1000	810	7.71	370	250	1.2	510	8.95	2.29	0.672	0.424	7.04	7.29
	12/9/14	16000	2900	110000	20000	250	130	17	12	0.015	<100	<0.05	<0.01	<0.05	0.065	<5	1.2	83	700	7.46	350	250	<1	460	8.2	2.5	0.432	0.184	7.03	7.28
MCWS-307-MWB	03/27/13	180000	2200	70000	10000	330	110	160	11	<0.01	<100	0.064	<0.01	0.064	<0.05	<5	0.88	1.2	1200	7.8	220	330	2	738	13.4	5.02	0.65	0.404	7.15	7.4
	07/24/13	193000	2130	64300	10000	340	100	160	10	<0.01	<100	<0.05	<0.01	<0.05	0.063	<5	0.92	1.6	1300	7.77	200	340	1.9	744	13.4	3.52	0.592	0.346	7.18	7.42
	11/14/13	190000	2100	65000	9800	340	97	150	10	<0.01	<100	<0.05	<0.01	<0.05	0.11	<5	1.4	5.0	1300	7.72	200	340	1.7	730	13.1	3.14	0.556	0.309	7.16	7.41
	12/9/14	190000	2200	70000	11000	330	96	170	10	0.012	<100	0.088	0.011	0.099	0.12	<5	1	50	1200	7.73	220	330	1.7	750	13.3	2.46	0.432	0.336	7.15	7.39
MCWS-309-MW	03/29/13	170000	7300	5400	2900	280	84	37	14	0.093	180	<0.05	<0.01	<0.05	0.14	33	18	>1000	700	7.7	25	280	1.3	490	8.46	2.61	-0.583	-0.831	8.28	8.53
	07/26/13	177000	7870	4010	2230	250	84	39	8.1	0.11	179	<0.05	<0.01	<0.05	<0.05	19	12	170	760	7.68	19	250	1.1	475	7.92	2.22	-0.778	-1.03	8.46	8.71
	11/14/13	170000	8000	4000	2000	260	89	39	8.3	0.10	250	<0.05	<0.01	<0.05	<0.05	18	13	110	800	7.52	18	260	<1.0	480	8.26	2.93	-0.92	-1.17	8.44	8.69
	12/9/14	88000	4700	3900	1100	110	35	18	4.7	0.091	180	0.15	<0.01	0.15	0.13	21	<5	510	340	7.31	14	110	<1	220	3.4	11.5	0.432	-1.72	8.78	9.02
MCWS-310-MW	03/29/13[L]	49000	3400	75000	10000	NM	NM	NM	9.5	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	51000	3600	79000	11000	240	49	51	9.5	<0.01	<100	2.7	<0.01	2.7	<0.05	<5	<0.5	0.24	650	7.6	240	240	<1	410	7.46	2.26	0.431	0.183	7.17	7.42
	07/26/13	76100	3430	97100	14200	210	120	120	10	<0.01	<100	1.7	0.016	1.7	<0.05	<5	0.77	0.4	980	7.68	300	210	<1	574	10.2	4.03	0.506	0.258	7.17	7.42
	11/14/13	43000	3700	75000	9600	220	46	46	9.5	<0.01	<100	2.3	0.023	2.4	<0.05	<5	1.3	0.37	640	7.89	230	210	1.6	370	6.72	1.9	0.653	0.405	7.24	7.49
	12/9/14	17000	1500	21000	2400	130	29	30	6.6	<10	<100	0.81	<0.01	0.81	0.097	11	1.3	31	400	7.42	61	130	<1	190	4.02	33.3	0.432	-0.796	7.97	8.22
MSES-003-MW	03/26/13	89000	<6000	250000	27000	170	630	120	18	<0.01	<1000	<0.05	<0.01	<0.05	0.11	49	6.7	160	1600	7.3	730	170	<1	1260	19.9	2.57	0.355	0.11	6.95	7.19
	07/24/13[D]	88300	1660	232000	27500	170	600	110	14	<0.01	<100	<0.05	<0.01	<0.05	0.13	130	5.8	130	1600	7.15	690	170	<1	1200	19	2.13	0.178	-0.067	6.97	7.22
	07/24/13[L]	89300	1690	234000	27600	NM	NM	NM	NM	NM	<100	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/24/13	88600	1650	237000	27600	170	600	110	14	<0.01	<100	<0.05	<0.01	<0.05	0.14	110	5.7	140	1600	7.14	710	170	<1	1200	19	1.36	0.181	-0.064	6.96	7.2
	11/05/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1700	6.88	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/05/13	92000	1700	240000	30000	160	630	110	14	<0.01	<100	0.057	<0.01	0.057	0.17	62	8.1	200	1700	6.9	730	160	<1	1300	19.6	0.750	-0.089	-0.334	6.99	7.23
	12/10/14[D]	82000	1700	240000	27000	180	550	93	14	<10	<100	0.21	<0.01	0.21	0.19	96	6.3	130	1500	7.05	710	180	<1	1100	17.7	1.69	0.111	-0.135	6.94	7.18
	12/10/14	84000	1700	240000	28000	180	550	94	14	<10	<100	0.063	<0.01	0.063	0.19	91	6	110	1500	7.02	710	180	<1	1100	17.7	2.19	0.432	-0.157	6.93	7.18
MSES-004-MW	03/26/13	12000	2300	320000	58000	61	1100	24	9.1	<0.01	<1000	<0.05	<0.01	<0.05	0.19	76	1.1	4.9	1800	6.3	1000	61	<1	1560	24.5	6.54	-1.02	-1.26	7.32	7.56
	07/26/13	14100	2400	345000	61400	70	1000	25	6.9	<0.01	<100	<0.05	<0.01	<0.05	0.18	68	1.3	2	1800	6.25	1100	70	<1	1550	23.8	1.64	-0.978	-1.22	7.23	7.47
	11/15/13	13000	2600	360000	60000	67	980	25	6.7	0.031	<100	<0.05	<0.01	<0.05	0.18	72	2.1	48	1900	6.15	1200	67	<1	1500	22.5	2.68	-1.07	-1.31	7.22	7.46
	12/10/14	11000	2100	300000	49000	92	690	21	5.4	<10	<100	<0.05	0.011	<0.05	0.19	30	1.5	12	1500	6.37	940	92	<1	1100	16.7	7.67	0.432	-1.01	7.13	7.38

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
MCWS-009-MW	12/9/14[D]	8.3	<1	<1	74	<1	<2	<50	0.042	<1	<0.4	<2	<50	<0.5	130	<0.013	<2	<2	<1	<0.1	320	<0.1	<2	<2	0.69	<2	<5
	12/9/14	7.8	<1	<1	73	<1	<2	<50	0.033	<1	<0.4	<2	<50	<0.5	130	<0.013	<2	<2	<1	<0.1	310	<0.1	<2	<2	0.7	<2	<5
MCWS-113-MWB	03/27/13	<25	<5	<3	210	<2.5	<10	<500	<0.085	<5	<5	<10	2300	<5	4900	0.014	<20	<15	<5	<0.5	340	<4	<100	<15	<0.75	<10	32
	07/24/13	13.2	<1	<1	218	<1	<2	253	<0.017	<1	<0.4	<2	2570	<0.5	4580	NM	<2	<2	<1	<0.1	357	<0.1	<2	<2	<0.1	<2	21.3
	11/15/13	16	<1	<1	210	<1	<2	330	0.041	<1	<0.4	<2	2200	<0.5	4600	NM	<2	<2	<1	<0.1	370	<0.1	<2	<2	<0.1	<2	41
	12/9/14	13	<1	<1	190	<1	<2	320	1.0	<1	<0.4	4.1	1800	<0.5	4300	<0.013	<2	<2	<1	<0.1	340	<0.1	<2	<2	<0.1	<2	45
MCWS-306-MWB	03/27/13	12	<1	<0.6	17	<0.5	<2	110	0.38	<1	<1	<2	<100	<1	2600	0.018	5.7	<3	<1	<0.1	290	<0.8	<20	<3	1.7	<2	48
	07/24/13	8.1	<1	<1	20.2	<1	<2	97	0.108	<1	0.72	<2	<50	<0.5	2870	NM	3.5	2.2	<1	<0.1	250	<0.1	<2	<2	1.33	<2	33.9
	11/15/13	24	<1	<1	21	<1	<2	96	0.22	<1	0.95	<2	<50	<0.5	2800	NM	2.3	<2	<1	<0.1	250	<0.1	<2	<2	1.2	<2	5.3
	12/9/14	9.4	<1	<1	31	<1	<2	78	0.28	<1	0.85	<2	<50	<0.5	2200	<0.013	<2	<2	<1	<0.1	260	<0.1	<2	<2	0.89	<2	5.6
MCWS-307-MWB	03/27/13	7.7	<1.0	3.7	25	<0.5	<2.0	120	0.051	<1.0	<1.0	2.9	<100	<1.0	110	<0.013	<4.0	<3.0	<1.0	<0.1	290	<0.8	<20	<3.0	1.3	<2.0	31
	07/24/13	9.5	<1.0	4.2	24.9	<1.0	<2.0	116	<0.017	<1.0	<0.4	2.2	<50	<0.5	162	NM	<2.0	<2.0	<1.0	<0.1	281	<0.1	<2.0	<2.0	1.25	<2.0	11.3
	11/14/13	21	<1.0	5.7	24	<1.0	<2.0	120	<0.01	<1.0	<0.4	<2.0	100	<0.5	140	NM	<2.0	<2.0	<1.0	<0.1	280	<0.1	<2.0	<2.0	1.2	<2.0	53
	12/9/14	20	<1	1.8	37	<1	<2	130	<0.01	<1	<0.4	<2	83	<0.5	120	<0.013	<2	<2	<1	<0.1	290	<0.1	<2	<2	1.3	<2	5.2
MCWS-309-MW	03/29/13	1800	<1.0	5.1	21	<0.5	<2.0	640	0.17	2.2	<1.0	11	2500	3	99	NM	5.4	<3.0	<1.0	<0.1	45	<0.8	<20	58	0.33	3.5	11
	07/26/13	145	<1.0	4.8	10.1	<1.0	<2.0	386	<0.017	<1.0	0.49	<2.0	352	<0.5	1030	NM	2.4	<2.0	<1.0	<0.1	20.9	<0.1	<2.0	<2.0	0.17	<2.0	5.7
	11/14/13	380	<1.0	4.7	13	<1.0	<2.0	390	0.013	<1.0	0.43	<2.0	690	0.61	880	NM	<2.0	<2.0	<1.0	<0.1	22	<0.1	<2.0	7.8	0.12	<2.0	14
	12/9/14	160	<1	2.7	6.3	<1	<2	210	0.023	<1	<0.4	<2	770	0.75	520	0.013	<2	<2	<1	<0.1	14	<0.1	<2	3.3	0.13	<2	10
MCWS-310-MW	03/29/13[L]	<5	<1.0	<0.6	60	<0.5	<2.0	100	<0.017	<1.0	<1.0	3.3	<100	<1.0	<4.0	NM	<4.0	<3.0	1.2	<0.1	2300	<0.8	<20	<3.0	0.89	<2.0	22
	03/29/13	<5	<1.0	<0.6	63	<0.5	<2.0	110	<0.017	<1.0	<1.0	3.6	<100	<1.0	<4.0	<0.013	<4.0	<3.0	<1.0	<0.1	2400	<0.8	<20	<3.0	0.93	<2.0	24
	07/26/13	12	<1.0	<1.0	76	<1.0	<2.0	122	0.035	<1.0	<0.4	2.8	<50	<0.5	90.1	NM	<2.0	<2.0	<1.0	<0.1	3210	<0.1	<2.0	<2.0	0.85	<2.0	13.7
	11/14/13	8.1	<1.0	<1.0	63	<1.0	<2.0	100	0.061	<1.0	<0.4	14	<50	<0.5	7.2	NM	<2.0	<2.0	<1.0	<0.1	2100	<0.1	<2.0	<2.0	0.9	<2.0	60
	12/9/14	84	<1	<1	23	<1	<2	<50	0.038	<1	<0.4	3.0	50	<0.5	4.1	<0.013	<2	<2	<1	<0.1	360	<0.1	<2	2.5	0.37	<2	410
MSES-003-MW	03/26/13	<50	<10	49	14	<5	<20	<1000	0.65	14	<10	<20	12000	<10	7900	0.015	<40	<30	<10	<1.0	1300	<8	<200	<30	<1.5	<20	78
	07/24/13[D]	11	<1.0	54.3	14.6	<1.0	<2.0	<50	0.237	<1.0	1.57	<2.0	12900	<0.5	8210	NM	<2.0	<2.0	<1.0	<0.1	1220	<0.1	<2.0	<2.0	0.22	<2.0	16
	07/24/13[L]	7.3	<1.0	57	14.7	<1.0	<2.0	<50	0.194	<1.0	1.7	<2.0	13700	<0.5	8590	NM	<2.0	<2.0	<1.0	<0.1	1230	<0.1	<2.0	<2.0	0.26	<2.0	14.5
	07/24/13	11.2	<1.0	57.3	14.9	<1.0	<2.0	<50	0.225	<1.0	1.65	<2.0	13700	<0.5	8580	NM	<2.0	<2.0	<1.0	<0.1	1230	<0.1	<2.0	<2.0	0.23	<2.0	15.9
	11/05/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/05/13	13	<1.0	64	18	<1.0	<2.0	53	0.036	<1.0	1.9	12	19000	<0.5	11000	NM	<2.0	2.7	<1.0	<0.1	1300	<0.1	<2.0	<2.0	0.19	<2.0	87
	12/10/14[D]	13	<1	67	14	<1	<2	64	0.08	<1	1.8	<2	14000	<0.5	8900	<0.013	<2	<2	<1	<0.1	1300	<0.1	<2	<2	0.23	<2	5.7
	12/10/14	11	<1	69	15	<1	<2	58	0.38	<1	1.7	<2	15000	<0.5	9100	<0.013	<2	<2	<1	<0.1	1300	<0.1	<2	<2	0.21	<2	7.5
MSES-004-MW	03/26/13	240	<10	<6	7.4	<5	<20	<1000	<0.17	<10	<10	<20	2500	<10	1300	<0.013	<40	<30	<10	<1	320	<8	<200	<30	<1.5	<20	210
	07/26/13	517	<1.0	1.7	8.8	<1.0	<2.0	91	0.179	<1.0	1.22	<2.0	2510	<0.5	1630	NM	<2.0	3.2	<1.0	<0.1	314	<0.1	<2.0	<2.0	0.18	3.3	69.9
	11/15/13	290	<1.0	1.8	7.3	<1.0	<2.0	82	0.14	<1.0	1.6	<2.0	2700	<0.5	1700	NM	<2.0	2.4	<1.0	<0.1	370	<0.1	<2.0	<2.0	0.12	<2.0	7.5
	12/10/14	170	<1	1.9	7.5	<1	<2	85	0.073	<1	0.91	<2	1900	<0.5	1200	<0.013	<2	2	<1	<0.1	290	<0.1	<2	<2	<0.1	<2	63

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MSES-006-MW	03/26/13	130000	13000	450000	210000	330	2100	100	15	<0.01	<1000	<0.05	<0.01	<0.05	0.18	41	0.75	9.8	3500	6.9	2000	330	<1	3290	53.5	7.78	0.348	0.107	6.55	6.79
	07/24/13[L]	NM	NM	NM	NM	340	2100	110	12	<0.01	NM	NM	<0.01	<0.05	NM	68	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/24/13	142000	12900	483000	216000	340	2000	100	12	<0.01	<100	<0.05	<0.01	<0.05	0.17	81	0.51	8.4	3600	6.79	2100	340	<1	3230	51.3	2.9	0.278	0.037	6.51	6.75
	11/05/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<0.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/05/13	140000	14000	470000	230000	330	2200	100	12	<0.01	<100	<0.05	<0.01	<0.05	0.16	31	<0.5	11	3500	6.74	2100	330	<1	3400	54.2	5.25	0.2	-0.041	6.54	6.78
	12/10/14	25000	6900	430000	62000	250	790	52	23	<10	<100	<0.05	0.015	<0.05	0.22	5	1.7	4.6	2000	7.49	1300	250	<1	1500	22.9	9.74	0.432	0.667	6.58	6.83
MSES-008-MW	03/26/13[L]	NM	NM	NM	NM	190	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2400	7.3	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/26/13	130000	6600	420000	28000	190	1000	190	32	<0.01	<1000	<0.05	<0.01	<0.05	0.1	37	1.2	130	2400	7.3	1200	180	<1	1950	30.2	0.38	0.55	0.307	6.75	6.99
	07/26/13	115000	5770	458000	28700	160	1100	200	24	<0.01	<100	<0.05	<0.01	<0.05	0.1	46	1.3	120	2500	7.25	1300	160	<1	2080	32.6	2.78	0.472	0.228	6.78	7.02
	11/15/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2500	7.12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/15/13	120000	6100	430000	27000	200	930	200	27	<0.01	<100	<0.05	<0.01	<0.050	0.076	270	1.1	83	2500	7.11	1200	200	<1	1900	29	0.8	0.408	0.164	6.7	6.95
	12/10/14	120000	5400	420000	27000	180	760	150	27	<10	<100	<0.05	<0.01	<0.05	0.11	160	2.7	140	2300	6.96	1200	180	<1	1600	23.7	9.68	0.432	-0.024	6.74	6.98
MSES-012-MWA	03/15/13	290000	4900	240000	19000	180	510	360	35	<0.01	<100	0.43	<0.01	0.43	<0.05	17	0.85	5.5	2600	7.1	680	180	<1.0	1570	24.3	4.6	0.116	-0.129	6.98	7.23
	07/25/13[DL]	NM	NM	NM	NM	200	480	330	37	<0.01	NM	NM	<0.01	0.23	NM	19	NM	10	2200	7.08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/25/13[D]	198000	4230	242000	24300	200	440	330	37	<0.01	<100	0.23	<0.01	0.23	<0.05	15	0.85	11	2200	7.07	700	200	<1.0	1410	22.7	0.37	0.168	-0.077	6.9	7.15
	07/25/13	197000	4170	244000	24500	190	510	330	37	<0.01	<100	0.22	<0.01	0.22	0.052	25	0.91	15	2200	7.19	710	190	<1.0	1470	23.9	1.9	0.259	0.015	6.93	7.18
	11/05/13	200000	4600	240000	25000	200	570	280	37	<0.01	<100	0.19	<0.01	0.19	0.33	70	1.5	49	2200	6.91	720	200	<1.0	1500	23.9	0.97	0.005	-0.240	6.91	7.15
	12/16/14	150000	3500	290000	26000	180	49	230	43	18	<100	0.052	<0.01	<0.01	0.088	46	1.3	18	2100	6.9	220	180	<1	290	21.5	0.29	0.022	-0.222	6.88	7.13
MSES-104-MWA	03/28/13	17000	5600	410000	38000	67	1100	53	4.8	<0.01	<100	<0.05	<0.01	<0.05	0.25	15	16	960	2000	7.60	1200	67	<1	1700	26.4	3.94	0.409	0.165	7.19	7.44
	12/10/14	29000	7700	530000	44000	59	1400	56	5.4	<10	<100	<0.05	0.011	<0.05	0.44	<5	1	12	2300	7.61	1500	59	<1	2100	30.9	1.42	0.432	0.217	7.15	7.4
MSES-104-MWB	03/26/13	170000	12000	420000	200000	320	2200	70	18	<0.01	<1000	<0.05	<0.01	<0.05	0.55	54	3.5	92	3500	6.9	1900	320	<1	3370	53.9	8.24	0.299	0.058	6.6	6.84
	07/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/24/13	189000	11900	426000	208000	350	2100	73	12	<0.01	<100	<0.05	<0.01	<0.05	0.45	190	3.7	77	3500	6.86	1900	350	<1	3340	53.1	5.81	0.302	0.061	6.56	6.8
	11/05/13[D]	190000	12000	400000	200000	370	2000	71	13	<0.01	<100	<0.05	<0.01	<0.05	0.42	30	3.8	100	3500	6.88	1800	370	<1	3200	50.6	5.3	0.33	0.088	6.55	6.79
	11/05/13	190000	12000	390000	200000	370	2000	73	13	<0.01	<100	<0.05	<0.01	<0.05	0.42	40	4.1	99	3400	6.80	1800	370	<1	3200	51.8	6.56	0.242	0.000	6.56	6.8
	12/10/14	170000	13000	440000	210000	330	1800	70	14	<10	<100	<0.05	<0.01	<0.05	0.57	190	3.5	55	3400	6.67	2000	330	<1	3000	46.3	1.16	0.432	-0.13	6.56	6.8
MW2 SPAR RD	03/19/13[D]	170000	5600	160000	5200	120	140	380	31	<0.01	<100	0.19	<0.01	0.19	<0.05	<5	0.66	0.49	1700	7.9	430	120	<1	967	16	0.16	0.636	0.39	7.26	7.51
	03/19/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/19/13	180000	5800	140000	5000	120	140	380	28	<0.01	<100	0.19	<0.01	0.19	<0.05	<5	0.61	0.51	1700	7.9	370	120	<1	949	16	1.72	0.575	0.329	7.33	7.57
	07/24/13	139000	8430	109000	5430	150	120	240	33	0.01	<100	<0.05	<0.01	<0.05	<0.05	5.8	0.86	3.2	1300	7.72	290	150	<1	743	12.3	0.53	0.417	0.171	7.3	7.55
	11/6/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<0.05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/06/13	150000	8500	140000	6600	190	180	270	41	0.017	<100	<0.05	<0.01	<0.05	<0.05	5.6	1.3	7.7	1500	7.77	390	190	1.0	920	15.2	1.78	0.659	0.413	7.11	7.36
	12/16/14[D]	160,000	7700	120,000	5400	180	170	210	39	0.018	<100	0.07	0.01	0.081	<50	6.3	1.7	1.6	1400	7.83	320	180	1.1	820	13	2.12	0.638	0.391	7.19	7.44
	12/16/14	160000	8100	120000	5400	180	170	210	39	<10	<100	0.099	<0.01	<0.01	0.095	7.1	1.8	3	1400	7.83	320	180	1.1	820	13.1	1.14	0.631	0.384	7.2	7.44
SCU11-001-MWA	03/29/13	53000	5400	120000	14000	130	42	220	7.3	<0.01	<100	0.058	<0.01	0.058	<0.05	<5	0.89	>1000	1000	8.1	340	120	1.5	534	9.65	1.74	0.781	0.533	7.32	7.57
	07/17/13	55500	6280	132000	15600	97	39	260	8.4	<0.01	<100	<0.05	<0.01	<0.05	<0.05	<5	<50	>1000	1200	7.66	390	96	<1	570	9.95	2.31	0.28	0.033	7.38	7.63
	10/24/13	250000	5300	66000	9000	170	520	49	8.0	0.20	260	<0.05	0.016	0.066	1.2	<5	<5	85	1500	7.72	200	170	<1	1000	15.6	2.13	0.213	-0.032	7.51	7.75
	12/15/14	64000	6900	170000	19000	110	37	310	9.4	<10	<100	0.17	0.024	0.19	0.12	<5	<0.5	3.3	1400	7.52	490	110	<1	690	11.9	3.68	0.432	0.044	7.23	7.47

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
MSES-006-MW	03/26/13	<50	<10	<6	13	<5	<20	<1000	0.24	<10	<10	<20	3000	<10	49000	0.017	<40	<30	<10	<1	3500	<8	<200	<30	4.3	<20	65
	07/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/24/13	35.9	<1	1.5	13.9	<1	<2	309	0.083	<1	5.29	<2	1940	<0.5	50300	NM	<2	12.6	<1	<0.1	3610	<0.1	<2	<2	4.95	<2	55.9
	11/05/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/05/13	11	<1	1.8	13	<1	<2	300	0.027	<1	5.4	<2	2200	<0.5	60000	NM	<2	14	<1	<0.1	3600	<0.1	<2	<2	4.4	<2	89
	12/10/14	34	<1	1.1	23	<1	<2	100	0.11	<1	<0.4	<2	160	<0.5	1900	<0.013	<2	<2	<1	<0.1	770	<0.1	<2	<2	4.3	4.4	6.2
MSES-008-MW	03/26/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/26/13	<50	<10	16	8.1	<5	<20	<1000	<0.17	<10	<10	<20	13000	<10	1400	<0.013	<40	<30	<10	<1.0	660	<8	<200	<30	<1.5	<20	69
	07/26/13	10.7	<1.0	11.6	8.3	<1.0	<2.0	68	0.107	<1.0	<0.4	<2.0	12200	<0.50	1190	NM	3.2	<2.0	<1.0	<0.10	707	<0.10	<2.0	<2.0	0.72	<2.0	19
	11/15/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/15/13	9.3	<1.0	11	9.9	<1.0	<2.0	66	0.073	<1	<0.40	<2.0	9200	<0.50	820	NM	2.9	<2.0	<1.0	<0.10	660	<0.10	<2.0	<2.0	0.68	<2.0	72
	12/10/14	100	<1	14	7.9	<1	<2	70	0.082	<1	<0.4	<2	15000	<0.5	1200	<0.013	3.1	<2	<1	<0.1	590	<0.1	<2	<2	0.6	<2	41
MSES-012-MWA	03/15/13	14	<1.0	1.4	4.7	<0.5	<2.0	<100	0.039	<1.0	<1.0	<2.0	750	<1.0	110	<0.013	<4	3.3	9.3	<0.1	300	<0.8	<20	<3.0	0.3	2.5	58
	07/25/13[DL]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/25/13[D]	12.6	<1.0	<1.0	6.7	<1.0	<2.0	<50	0.028	<1.0	<0.40	<2.0	1960	<0.50	230	NM	<2.0	<2.0	6.7	<0.1	315	<0.1	<2.0	<2.0	0.34	<2.0	92
	07/25/13	21.4	<1.0	<1.0	7.1	<1.0	<2.0	<50	0.054	<1.0	<0.40	<2.0	2190	<0.50	253	NM	<2.0	2.1	6.6	<0.1	316	<0.1	<2.0	<2.0	0.31	<2.0	103
	11/05/13	17	<1.0	2.4	4.9	<1.0	<2.0	<50	0.069	<1.0	<0.40	<2.0	4800	<0.50	670	NM	<2.0	2.2	4.3	<0.1	300	<0.1	<2.0	<2.0	0.31	<2.0	190
	12/16/14	26	<1	<1	5.3	<1	<2	<50	0.37	<1	<0.4	3.7	1800	<0.5	230	<0.013	<2	<2	6.2	<0.1	320	<0.1	<2	<2	0.33	<2	52
MSES-104-MWA	03/28/13	8.9	<1	1.8	12	<0.5	<2	<100	<0.017	<1	<1	<2	1600	<1	400	0.28	<4	<3	3.4	<0.1	420	<0.8	<20	<3	<0.15	6.9	<5
	12/10/14	11	<1	1.8	16	<1	<2	<50	0.065	<1	<0.4	<2	890	<0.5	220	<0.013	5.6	<2	<1	<0.1	540	<0.1	<2	<2	<0.1	<2	<5
MSES-104-MWB	03/26/13	400	<10	<6	19	<5	<20	<1000	<0.17	<10	44	<20	13000	<10	83000	0.014	<40	48	<10	<1	2300	<8	<200	<30	<1.5	<20	110
	07/24/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/24/13	239	<1	4.2	17.5	<1	<2	187	0.071	<1	23.8	<2	9590	<0.5	75000	NM	<2	33.9	<1	<0.1	2230	<0.1	<2	<2	1.26	<2	45.2
	11/05/13[D]	110	<1	4.9	16	<1	<2	200	0.085	<1	7.1	<2	7000	<0.5	73000	NM	<2	25	<1	<0.1	2100	<0.1	<2	<2	1.3	<2	110
	11/05/13	150	<1	5.0	16	<1	<2	200	0.07	<1	7.3	<2	7100	<0.5	74000	NM	<2	30	<1	<0.1	2100	<0.1	<2	<2	1.3	<2	110
	12/10/14	550	<1	4.4	17	1.1	<2	200	0.14	<1	50	<2	11000	<0.5	88000	<0.013	<2	62	<1	<0.1	2400	<0.1	<2	<2	1.2	<2	34
MW2 SPAR RD	03/19/13[D]	9.7	10	13	78	<0.5	<2	<100	0.03	<1	<1	<2	<100	<1	<4	<0.013	<4	<3	6.5	<0.1	700	<0.8	<20	<3	3.2	4.1	12
	03/19/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<0.013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/19/13	7.3	9.6	11	72	<0.5	<2	<100	0.037	<1	<1	<2	<100	<1	<4	<0.013	<4	<3	5.8	<0.1	680	<0.8	<20	<3	3.3	3	9.8
	07/24/13	11.9	4.2	12.6	57.1	<1	<2	58	0.026	<1	<0.4	<2	<50	<0.5	7.6	NM	2.2	<2	<1	<0.1	532	<0.1	<2	<2	1.54	<2	15
	11/6/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	11/06/13	13	6.7	14	68	<1.0	<2.0	73	0.024	<1	<0.4	3.0	<50	<0.5	4.0	NM	<2	<2	1.4	<0.1	690	<0.1	<2.0	<2	4.4	<2.0	22
	12/16/14[D]	14	12	16	57	<1	<2	65	0.37	<1	<0.4	3.7	<50	<0.5	9.5	<0.013	2.1	<2	1.9	<0.1	560	<0.1	<2	<2	3.3	2	20
	12/16/14	13	12	16	53	<1	<2	65	0.38	<1	<0.4	<2	<50	<0.5	8.3	<0.013	2.1	<2	1.8	<0.1	560	<0.1	<2	<2	3.3	<2	18
SCU11-001-MWA	03/29/13	37	<1	0.73	240	<0.5	<2	<100	0.11	<1	<1	<2	<100	<1	150	0.021	<4	<3	1.6	<0.1	2700	<0.8	<20	<3	3.6	4.5	14
	07/17/13	<5	<1	<1	244	<1	<2	<50	0.019	<1	<0.4	<2	<50	<0.5	292	NM	3.8	<2	<1	<0.1	3250	<0.1	<2	<2	3.47	<2	<5
	10/24/13	120	<1	<1	28	<1	<2	160	0.03	<1	<0.40	<2.0	97	<0.50	170	NM	7.3	<2	4.6	<0.1	2300	<0.1	<2	4.8	0.60	<2	<5
	12/15/14	13	<1	<1	230	<1	<2	56	0.59	<1	<0.4	<2	<50	<0.5	440	<0.013	3.7	<2	<1	<0.1	3700	<0.1	<2	<2	3.9	<2	5.3

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Anion Sum	Ion Bal_	Langelier Ind_ (@20C)	Langelier Ind_ (@4C)	Sat_ pH (@20C)	Sat_ pH (@4C)
Units		µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	me/L	%	unitless	unitless	unitless	unitless
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		2300000	-	-	-	-	-	2300000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SCU11-001-MWB	03/29/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	220000	4500	45000	6200	160	440	43	5	<0.01	<100	<0.05	<0.01	<0.05	0.22	<5	1.8	>1000	1200	8.6	140	160	5.8	856	13.5	4.68	0.911	0.665	7.69	7.94
	07/17/13	246000	4620	60300	8370	140	500	51	8	0.026	<100	<0.05	<0.01	<0.05	0.081	<5	<5	240	1400	7.83	190	140	<1	967	14.7	0.79	0.213	-0.033	7.62	7.86
	10/24/13	63000	7300	150000	18000	120	38	310	8.7	<0.010	<100	0.1	0.033	0.13	0.13	<5	1.8	>1000	1300	7.64	440	120	<1	670	12.0	1.06	0.377	0.130	7.26	7.51
	12/15/14[D]	31000	2800	29000	3300	38	13	82	3.4	0.054	110	0.1	0.029	0.13	0.79	8.2	4.7	13	360	6.9	86	38	<1	190	3.35	2.29	-1.44	-1.69	8.34	8.59
	12/15/14	31000	2900	29000	3400	39	12	83	3.4	0.054	130	0.075	0.028	0.1	0.74	9.1	4.4	5.1	360	7.02	87	39	<1	190	3.38	2.11	0.432	-1.55	8.32	8.57
SCU7-001-MW	12/12/14	27000	2400	390000	15000	220	780	55	19	<10	<100	0.093	<0.01	0.093	0.69	<5	1.3	7.5	1800	7.05	1000	220	<1	1400	22.2	0.77	0.432	0.142	6.66	6.91
SCU7-003-MW	03/29/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	1.3	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	51000	6100	150000	13000	210	210	120	9.5	<0.01	<100	0.19	0.017	0.21	0.76	<5.0	1.1	67	1000	6.7	420	210	<1.0	685	11.9	4.92	-0.316	-0.563	7.02	7.26
	07/17/13[L]	NM	NM	NM	NM	NM	170	120	9	<0.01	NM	NM	<0.01	0.13	NM	<5.0	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	51000	5890	142000	14100	190	170	120	8.9	<0.01	<100	0.13	<0.01	0.13	1.1	<5.0	1.3	37	1100	7.0	410	190	<1.0	631	10.7	0	-0.073	-0.32	7.07	7.32
	11/07/13	63000	6100	130000	13000	180	180	130	8.7	<0.01	<100	<0.05	0.017	0.067	1.2	<5.0	1.1	41	1100	7.0	380	180	<1.0	640	10.9	1.44	-0.112	-0.359	7.11	7.36
	12/12/14	67000	5600	130000	12000	190	190	110	9.6	0.011	<100	0.97	0.02	0.99	1.0	<5	1.3	500	1000	6.75	360	190	<1	640	10.9	2.31	0.432	-0.622	7.13	7.37

Table A-3
LTMM Groundwater Monitoring Event December 2014 OHP and HE
Groundwater Analytical Results - Inorganic Chemistry

Sample Location	Sample Date	Al	Sb	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
NSE Tier 1 EQS[1]		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MOE Table 3[2]		-	20000	1900	29000	67	-	45000	2.7	810	66	87	-	25	-	0.29	9200	490	63	1.5	-	510	-	-	420	250	1100
SCU11-001-MWB	03/29/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	<0.013	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	8.6	<1	<0.6	22	<0.5	<2	140	<0.017	<1	<1	<2	100	<1	60	<0.013	28	<3	<1	<0.1	1700	<0.8	<20	<3	2.2	3.3	<5
	07/17/13	139	<1	<1	27.9	<1	<2	164	<0.017	<1	<0.4	<2	200	<0.5	154	NM	37.3	<2	<1	<0.1	2190	<0.1	<2	2.1	0.57	<2	9
	10/24/13	18	<1	1.6	370	<1	<2	57	<0.01	<1	<0.4	<2	<50	<0.50	1000	NM	4.9	<2	<1	<0.1	3500	<0.1	<2	<2	3.9	<2	<5
	12/15/14[D]	21	<1	<1	36	<1	<2	<50	0.16	<1	<0.4	<2	130	<0.5	500	<0.013	<2	<2	<1	<0.1	530	<0.1	<2	<2	<0.1	<2	8.2
	12/15/14	18	<1	<1	36	<1	<2	<50	0.12	<1	<0.4	<2	130	<0.5	510	<0.013	<2	<2	<1	<0.1	540	<0.1	<2	<2	<0.1	<2	7.3
SCU7-001-MW	12/12/14	12	<1	<1	51	<1	<2	<50	0.18	<1	<0.4	<2	<50	<0.5	160	<0.013	<2	<2	<1	<0.1	6100	<0.1	<2	<2	6.6	<2	6.7
SCU7-003-MW	03/29/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	03/29/13	<5	<1.0	0.72	16	<0.5	<2.0	<100	0.26	<1.0	1.1	<2.0	<100	<1.0	3200	0.013	<4	<3	<1	<0.10	610	<0.8	<20	<3	0.19	<2.0	72
	07/17/13[L]	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	07/17/13	5.2	<1.0	<1.0	17.5	<1.0	<2.0	99	0.213	<1.0	0.77	12.3	354	<0.5	2820	NM	<2.0	<2.0	<1.0	<0.10	586	<0.10	<2.0	<2.0	0.35	<2.0	93.2
	11/07/13	11	<1.0	<1.0	19	<1.0	<2.0	100	0.22	<1.0	0.80	4.3	360	<0.5	2400	NM	<2.0	<2.0	<1.0	<0.10	550	<0.10	<2.0	<2.0	0.38	<2.0	65
	12/12/14	10	<1	<1	17	<1	<2	100	0.31	<1	0.69	<2	190	<0.5	2400	<0.013	<2	<2	<1	<0.1	530	<0.1	<2	<2	0.28	<2	10

Notes:
D - Field Duplicate
L - Lab Duplicate
NM - Not Measured or not analyzed
lab duplicates do not analyze for all parameters
mg/L - Milligrams per litre
ug/L - Micrograms per litre
- Not applicable guideline criteria
Bold exceeds MOE Table 3 Standards
Underline Exceeds NSE Tier I EQS
This summary is to used in conjunction with, not as a replacement of, the Laboratory Certificates of Analysis, which contain QA/QC information
COTS-001-MWA could not be sampled during the December 2014 event due to insufficient water.
1 - Nova Scotia Environment Environmental Quality Standards for Groundwater (Coarse Grained Soil, No-potable Groundwater Commercial/Industrial Site) 2013.
2 - Ontario Ministry of Environment, Table 3 Full Depth Generic Site Condition Standards in a Non-potable Groundwater (Coarse Grained Soil) 2011.

Appendix B
QC Tables

TABLE B-1
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
SUMMARY OF FIELD DUPLICATES AND TRIP BLANKS

FD	Date Sampled	TB	Date Sampled	PROGRAM
FD-001 - B4N4511	12/9/2014	TB-001 - B4N4511	12/9/2014	GW
FD-002 - B4N4511	12/10/2014	TB-002 - B4N4511	12/10/2014	GW
FD-003 - B4N7361	12/15/2014	TB-003 - B4N6600	12/12/2014	GW
FD-004 - B4N8488	12/16/2014	TB-004 - B4N7361	12/15/2014	GW
FD-006 - B4O1493	12/18/2014	TB-005 - B4N8488	12/15/2014	GW
		TB-007- B4O0493	12/18/2014	GW

TABLE B-2
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
RPD FOR FIELD DUPLICATES (GROUNDWATER) - BTEX/TPH

Sample Location	Sample	Type	Sample Date	Benzene	Toluene	E. Benzene	Xylenes	C6-C10	C10-C16	C16-C21	C21-C32	Modified TPH
				mg/L								
MCWS-009-MW	FD-001	Field Duplicate	12/9/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-001	Regular	12/9/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-001	RPD (%)	12/9/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
MSES-003-MW	FD-002	Field Duplicate	12/10/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-002	Regular	12/10/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-002	RPD (%)	12/10/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCU11-001-MWB	FD-003	Field Duplicate	12/15/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-003	Regular	12/15/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-003	RPD (%)	12/15/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW2 SPAR RD	FD-004	Field Duplicate	12/16/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-004	Regular	12/16/2014	<0.001	<0.001	<0.001	<0.002	<0.05	<0.05	<0.05	<0.1	<0.1
	FD-004	RPD (%)	12/16/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCES-204-MW	FD-006	Field Duplicate	12/18/2014	0.017	0.0072	<0.001	0.0068	0.190	0.11	0.11	0.110	0.42
	FD-006	Regular	12/18/2014	0.017	0.0072	<0.001	0.0069	0.190	0.11	0.11	<0.1	0.31
	FD-006	RPD (%)	12/18/2014	0	0	NA	NA	0	NA	NA	NA	30

Notes:
NA - Not applicable (Either 1) Parameter not analyzed or 2) One or both sample results exhibit concentrations less than 5 times the RDL)
Bold - Calculation is outside of the acceptable RPD range.

TABLE B-3
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
RPD FOR FIELD DUPLICATES (GROUNDWATER) - PAHs

Sample Location	Sample	Type	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(j)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Perylene	Phenanthrene	Pyrene
				µg/L																			
MCWS-009-MW	FD-001	Field Duplicate	12/9/2014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.014	<0.01
	FD-001	Regular	12/9/2014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	0.011	<0.01
	FD-001	RPD (%)	12/9/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	24	NA
MSES-003-MW	FD-002	Field Duplicate	12/10/2014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	FD-002	Regular	12/10/2014	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.2	<0.01	<0.01	<0.01
	FD-002	RPD (%)	12/10/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SCU11-001-MWB	FD-003	Field Duplicate	12/15/2014	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.012	0.014	<0.01	<0.05	<0.05	<0.2	<0.01	0.021	0.012
	FD-003	Regular	12/15/2014	0.019	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.013	0.013	<0.01	<0.05	<0.05	<0.2	<0.01	0.02	0.01
	FD-003	RPD (%)	12/15/2014	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8	7	NA	NA	NA	NA	NA	10	0
MW2 SPAR RD	FD-004	Field Duplicate	12/16/2014	0.018	0.077	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.014	0.034	<0.01	0.25	0.120	1.7	<0.01	0.031
	FD-004	Regular	12/16/2014	0.055	<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	0.15	0.081	1.100	<0.01	0.016	<0.01
	FD-004	RPD (%)	12/16/2014	**101**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**102**	NA	NA	NA	NA
MCES-204-MW	FD-006	Field Duplicate	12/18/2014	0.41	<0.04	<0.05	0.033	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	0.65	0.130	<0.01	0.09	0.08	0.350	<0.01	<0.04	0.45
	FD-006	Regular	12/18/2014	1.6	1.9	1.9	0.13	0.035	0.031	0.02	0.021	0.020	0.140	<0.01	2.6	4.70	0.013	4.60	7.1	34	<0.01	9.2	1.5
	FD-006	RPD (%)	12/18/2014	**118**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**120**	**189**	NA	**193**	**196**	NA	NA	NA	**108**

Notes:
NA - Not applicable (Either 1) Parameter not analyzed or 2) One or both sample results exhibit concentrations less than 5 times the RDL)
Bold - Calculation is outside of the acceptable RPD range.

TABLE B-4
LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014 OHP AND HE
RPD FOR FIELD DUPLICATES (GROUNDWATER) - INORGANIC CHEMISTRY

Sample Location	Sample	Type	Sample Date	Na	K	Ca	Mg	ALK	SO4	Cl	SiO2	OPO4	P	NO3	NO2	NO2-NO3	NH3	Colour	TOC	TURB	COND	pH	HARD	BICARB ALK	CARB ALK	TDS	Al	Sb
				µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	TCU	mg/L	NTU	µS/cm	pH	mg/L	mg/L	mg/L	mg/L	µg/L	µg/L
MCWS-009-MW	FD-001	Field Duplicate	12/9/2014	55000	1800	110000	9100	300	36	77	12	<10	<100	0.071	<0.01	0.071	<50	<5	1	0.8	810	7.29	320	300	<1	490	8.3	<1
	FD-001	Regular	12/9/2014	55000	1700	110000	8900	300	37	76	12	<10	<100	0.079	<0.01	0.079	0.069	<5	1.1	1.1	810	7.3	320	300	<1	480	7.8	<1
	FD-001	RPD (%)	12/9/2014	0	6	0	2	0	3	1	0	NA	NA	NA	NA	NA	NA	NA	10	32	0	0	0	0	NA	2	NA	NA
MSES-003-MW	FD-002	Field Duplicate	12/10/2014	82000	1700	240000	27000	180	550	93	14	<10	<100	0.21	<0.01	0.21	0.19	96	6.3	130	1500	7.05	710	180	<1	1100	13	<1
	FD-002	Regular	12/10/2014	84000	1700	240000	28000	180	550	94	14	<10	<100	0.063	<0.01	0.063	0.19	91	6	110	1500	7.02	710	180	<1	1100	11	<1
	FD-002	RPD (%)	12/10/2014	2	0	0	4	0	0	1	0	NA	NA	NA	NA	**108**	0	5	5	17	0	0	0	0	NA	0	17	NA
SCU11-001-MWB	FD-003	Field Duplicate	12/15/2014	31000	2800	29000	3300	38	13	82	3.4	0.054	110	0.1	0.029	0.13	0.79	8.2	4.7	13	360	6.9	86	38	<1	190	21	<1
	FD-003	Regular	12/15/2014	31000	2900	29000	3400	39	12	83	3.4	0.054	130	0.075	0.028	0.1	0.74	9.1	4.4	5.1	360	7.02	87	39	<1	190	18	<1
	FD-003	RPD (%)	12/15/2014	0	4	0	3	3	8	1	0	0	17	29	4	26	7	10	7	87	0	2	1	3	NA	0	15	NA
MW2 SPAR RD	FD-004	Field Duplicate	12/16/2014	160,000	7700	120,000	5400	180	170	210	39	0.018	<100	0.07	0.01	0.081	<50	6.3	1.7	1.6	1400	7.83	320	180	1.1	820	14	12
	FD-004	Regular	12/16/2014	160000	8100	120000	5400	180	170	210	39	<10	<100	0.099	<0.01	<0.01	0.095	7.1	1.8	3	1400	7.83	320	180	1.1	820	13	12
	FD-004	RPD (%)	12/16/2014	0	5	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	12	6	**61**	0	0	0	0	0	0	7	0
MCES-204-MW	FD-006	Field Duplicate	12/18/2014	4400000	190000	610000	260000	21	740	7500	<5	<10	<1000	<0.05	<0.01	<0.05	2.5	<5	<5	<0.1	22000	7.28	2600	21	<1	14000	27	<1
	FD-006	Regular	12/18/2014	4300000	190000	610000	260000	22	730	7400	<5	<10	<100	<0.05	<0.01	<0.05	2.3	<5	<5	<0.1	23000	8	2600	22	<1	14000	20	<1
	FD-006	RPD (%)	12/18/2014	2	0	0	0	5	1	1	NA	NA	NA	NA	NA	NA	8	NA	NA	NA	4	9	0	5	NA	0	30	NA

Sample Location	Sample	Type	Sample Date	As	Ba	Be	Bi	B	Cd	Cr	Co	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Sr	Tl	Sn	Ti	U	V	Zn
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCWS-009-MW	FD-001	Field Duplicate	12/9/2014	<1	74	<1	<2	<50	0.042	<1	<0.4	<2	<50	<0.5	130	<0.013	<2	<2	<1	<0.1	320	<0.1	<2	<2	0.69	<2	<5
	FD-001	Regular	12/9/2014	<1	73	<1	<2	<50	0.033	<1	<0.4	<2	<50	<0.5	130	<0.013	<2	<2	<1	<0.1	310	<0.1	<2	<2	0.7	<2	<5
	FD-001	RPD (%)	12/9/2014	NA	1	NA	NA	NA	24	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	3	NA	NA	NA	3	NA	NA
MSES-003-MW	FD-002	Field Duplicate	12/10/2014	67	14	<1	<2	64	0.08	<1	1.8	<2	14000	<0.5	8900	<0.013	<2	<2	<1	<0.1	1300	<0.1	<2	<2	0.23	<2	5.7
	FD-002	Regular	12/10/2014	69	15	<1	<2	58	0.38	<1	1.7	<2	15000	<0.5	9100	<0.013	<2	<2	<1	<0.1	1300	<0.1	<2	<2	0.21	<2	7.5
	FD-002	RPD (%)	12/10/2014	3	7	NA	NA	10	130	NA	6	NA	7	NA	2	NA	NA	NA	NA	NA	0	NA	NA	NA	9	NA	NA
SCU11-001-MWB	FD-003	Field Duplicate	12/15/2014	<1	36	<1	<2	<50	0.16	<1	<0.4	<2	130	<0.5	500	<0.013	<2	<2	<1	<0.1	530	<0.1	<2	<2	<0.1	<2	8.2
	FD-003	Regular	12/15/2014	<1	36	<1	<2	<50	0.12	<1	<0.4	<2	130	<0.5	510	<0.013	<2	<2	<1	<0.1	540	<0.1	<2	<2	<0.1	<2	7.3
	FD-003	RPD (%)	12/15/2014	NA	0	NA	NA	NA	NA	NA	NA	NA	0	NA	2	NA	NA	NA	NA	NA	2	NA	NA	NA	NA	NA	NA
MW2 SPAR RD	FD-004	Field Duplicate	12/16/2014	16	57	<1	<2	65	0.37	<1	<0.4	3.7	<50	<0.5	9.5	<0.013	2.1	<2	1.9	<0.1	560	<0.1	<2	<2	3.3	2	20
	FD-004	Regular	12/16/2014	16	53	<1	<2	65	0.38	<1	<0.4	<2	<50	<0.5	8.3	<0.013	2.1	<2	1.8	<0.1	560	<0.1	<2	<2	3.3	<2	18
	FD-004	RPD (%)	12/16/2014	0	7	NA	NA	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	3	NA	0	NA	NA	NA	0	NA	NA
MCES-204-MW	FD-006	Field Duplicate	12/18/2014	1.5	74	<1	<2	1100	0.43	<1	<0.4	<2	97	<0.5	18	<0.013	<2	<2	39	<0.1	5000	<0.1	<2	<2	<0.1	<2	<5
	FD-006	Regular	12/18/2014	1.9	74	<1	<2	1100	0.21	<1	<0.4	<2	65	<0.5	19	<0.013	<2	<2	67	<0.1	5000	<0.1	<2	<2	<0.1	<2	<5
	FD-006	RPD (%)	12/18/2014	24	0	NA	NA	0	**69**	NA	NA	NA	40	NA	5	NA	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA

Notes:
NA - Not applicable (Either 1) Parameter not analyzed or 2) One or both sample results exhibit concentrations less than 5 times the RDL)
Bold - Calculation is outside of the acceptable RPD range.

Appendix C
Laboratory Certificates

Your P.O. #: 4104251070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/19
Report #: R3263653
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N4511
Received: 2014/12/10, 16:55

Sample Matrix: Water
Samples Received: 19

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide (1)	2	N/A	2014/12/17	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide (1)	15	N/A	2014/12/18	N/A	SM 22 4500-CO2 D
Alkalinity (1)	16	N/A	2014/12/16	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity (1)	1	N/A	2014/12/17	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	17	N/A	2014/12/17	ATL SOP 00014	SM 22 4500-Cl- E m
Colour (1)	17	N/A	2014/12/17	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	17	N/A	2014/12/17	ATL SOP 00004	SM 22 2510B m
TEH in Water (PIRI) (1)	18	2014/12/15	2014/12/16	ATL SOP 00113	Atl. PIRI v3 m
TEH in Water (PIRI) (1)	1	2014/12/15	2014/12/18	ATL SOP 00113	Atl. PIRI v3 m
Hardness (calculated as CaCO3) (1)	17	N/A	2014/12/18	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL) (1)	17	2014/12/16	2014/12/16	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd) (1)	15	N/A	2014/12/17	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd) (1)	2	N/A	2014/12/18	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	17	N/A	2014/12/18		Auto Calc.
Anion and Cation Sum (1)	17	N/A	2014/12/18		Auto Calc.
Nitrogen Ammonia - water (1)	16	N/A	2014/12/16	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water (1)	1	N/A	2014/12/17	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	17	N/A	2014/12/17	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	17	N/A	2014/12/17	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	17	N/A	2014/12/18	ATL SOP 00018	ASTM D3867
PAH in Water by GC/MS (SIM) (1)	17	2014/12/16	2014/12/18	ATL SOP 00103	EPA 8270D m
pH (1, 2)	17	N/A	2014/12/17	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	17	N/A	2014/12/17	ATL SOP 00021	EPA 365.2 m
VPH in Water (PIRI) (1)	15	N/A	2014/12/15	ATL SOP 00118	Atl. PIRI v3 m
VPH in Water (PIRI) (1)	4	N/A	2014/12/16	ATL SOP 00118	Atl. PIRI v3 m
Sat. pH and Langelier Index (@ 20C) (1)	17	N/A	2014/12/18	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	17	N/A	2014/12/18	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	17	N/A	2014/12/16	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	17	N/A	2014/12/17	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc) (1)	17	N/A	2014/12/18		Auto Calc.

Your P.O. #: 4104251070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/19
Report #: R3263653
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N4511
Received: 2014/12/10, 16:55

Sample Matrix: Water
Samples Received: 19

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Organic carbon - Total (TOC) (1, 3)	17	N/A	2014/12/16	ATL SOP 00037	SM 22 5310C m
ModTPH (T1) Calc. for Water (1)	18	N/A	2014/12/17	N/A	Atl. PIRI v3 m
ModTPH (T1) Calc. for Water (1)	1	N/A	2014/12/18	N/A	Atl. PIRI v3 m
Turbidity (1)	17	N/A	2014/12/17	ATL SOP 00011	EPA 180.1 R2 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902)567-1255 Ext:17

==========

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 465 George St., Unit G, Sydney, NS, B1P 1K5 Tel:902 567 1255 Toll Free: 888 535 7770 Fax: 902 539 6504 www.maxxam.ca

Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YU9439		YU9440		YU9441	YU9442		
Sampling Date		2014/12/09		2014/12/09		2014/12/09	2014/12/09		
COC Number		496259		496259		496259	496259		
	Units	MCWS-113-MWB	RDL	MCWS-306-MWB	RDL	MCWS-307-MWB	MCWS-310-MW	RDL	QC Batch
Petroleum Hydrocarbons									
Benzene	mg/L	<0.0010	0.0010	<0.0010	0.0010	<0.0010	<0.0010	0.0010	3859740
Toluene	mg/L	<0.0010	0.0010	<0.0010	0.0010	<0.0010	<0.0010	0.0010	3859740
Ethylbenzene	mg/L	<0.0010	0.0010	<0.0010	0.0010	<0.0010	<0.0010	0.0010	3859740
Total Xylenes	mg/L	<0.0020	0.0020	<0.0020	0.0020	<0.0020	<0.0020	0.0020	3859740
C6 - C10 (less BTEX)	mg/L	0.019	0.010	0.47 (1)	0.13	<0.010	<0.010	0.010	3859740
>C10-C16 Hydrocarbons	mg/L	0.48	0.050	<0.050	0.050	<0.050	<0.050	0.050	3859755
>C16-C21 Hydrocarbons	mg/L	0.21	0.050	<0.050	0.050	<0.050	<0.050	0.050	3859755
>C21-<C32 Hydrocarbons	mg/L	0.17	0.10	<0.10	0.10	<0.10	<0.10	0.10	3859755
Modified TPH (Tier1)	mg/L	0.87	0.10	0.47	0.13	<0.10	<0.10	0.10	3856522
Reached Baseline at C32	mg/L	Yes	N/A	NA	N/A	NA	NA	N/A	3859755
Hydrocarbon Resemblance	mg/L	COMMENT (2)	N/A	NA	N/A	NA	NA	N/A	3859755
Surrogate Recovery (%)									
Isobutylbenzene - Extractable	%	99		100		96	96		3859755
n-Dotriacontane - Extractable	%	110		114		107	109		3859755
Isobutylbenzene - Volatile	%	103		100 (3)		101	100		3859740

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) VPH analysis performed on previously opened vial.
(2) Weathered fuel oil fraction. Unidentified compound(s) in fuel oil range.
(3) Interference from Halocarbons in the gasoline range.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YU9443	YU9445	YU9446	YU9447	YU9448		
Sampling Date		2014/12/09	2014/12/09	2014/12/09	2014/12/10	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MCWS-009-MW	MCWS-309-MW	FD-001	MSES-003-MW	MSES-104-MWA	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3859740
Toluene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3859740
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3859740
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	3859740
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3859740
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	0.12	0.050	3859755
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	0.069	0.050	3859755
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3859755
Modified TPH (Tier1)	mg/L	<0.10	<0.10	<0.10	<0.10	0.18	0.10	3856522
Reached Baseline at C32	mg/L	NA	NA	NA	NA	Yes	N/A	3859755
Hydrocarbon Resemblance	mg/L	NA	NA	NA	NA	COMMENT (1)	N/A	3859755
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	99	97	118	105	103		3859755
n-Dotriacontane - Extractable	%	111	109	126	116	112		3859755
Isobutylbenzene - Volatile	%	100	99	100	101	99		3859740

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) One product in fuel oil range.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YU9449	YU9457	YU9458	YU9459	YU9460		
Sampling Date		2014/12/10	2014/12/10	2014/12/10	2014/12/10	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MSES-104-MWB	MSES-006-MW	MSES-004-MW	MSES-008-MW	MCES-001-MWA	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	0.0078	0.011	<0.0010	<0.0010	<0.0010	0.0010	3859740
Toluene	mg/L	0.0014	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3859740
Ethylbenzene	mg/L	0.0045	0.0053	<0.0010	<0.0010	<0.0010	0.0010	3859740
Total Xylenes	mg/L	0.0036	0.0028	<0.0020	<0.0020	<0.0020	0.0020	3859740
C6 - C10 (less BTEX)	mg/L	0.014	<0.010	<0.010	<0.010	<0.010	0.010	3859740
>C10-C16 Hydrocarbons	mg/L	0.44	0.32	<0.050	0.070	<0.050	0.050	3859755
>C16-C21 Hydrocarbons	mg/L	0.11	0.092	<0.050	<0.050	<0.050	0.050	3859755
>C21-<C32 Hydrocarbons	mg/L	0.12	0.29	<0.10	<0.10	<0.10	0.10	3859755
Modified TPH (Tier1)	mg/L	0.69	0.70	<0.10	<0.10	<0.10	0.10	3856522
Reached Baseline at C32	mg/L	Yes	Yes	NA	Yes	NA	N/A	3859755
Hydrocarbon Resemblance	mg/L	COMMENT (1)	COMMENT (2)	NA	NA	NA	N/A	3859755
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	106	90	102	104	98		3859755
n-Dotriacontane - Extractable	%	116	103	119	120	116		3859755
Isobutylbenzene - Volatile	%	100	99	100	99	98		3859740

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) One product in fuel oil range.
(2) One product in fuel oil range. Unidentified compound(s) in fuel / lube range.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YU9461	YU9462	YU9463	YU9580	YU9591		
Sampling Date		2014/12/10	2014/12/10	2014/12/10	2014/12/09	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MCES-001-MWB	MCES-006-MW	FD-002	TP-001	TP-002	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	0.0050	<0.0010	<0.0010	<0.0010	0.0010	3859740
Toluene	mg/L	<0.0010	0.0018	<0.0010	<0.0010	<0.0010	0.0010	3859740
Ethylbenzene	mg/L	<0.0010	0.0041	<0.0010	<0.0010	<0.0010	0.0010	3859740
Total Xylenes	mg/L	<0.0020	0.0043	<0.0020	<0.0020	<0.0020	0.0020	3859740
C6 - C10 (less BTEX)	mg/L	0.022	<0.010	<0.010	<0.010	<0.010	0.010	3859740
>C10-C16 Hydrocarbons	mg/L	<0.050	0.27	<0.050	<0.050	<0.050	0.050	3859755
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3859755
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3859755
Modified TPH (Tier1)	mg/L	<0.10	0.26	<0.10	<0.10	<0.10	0.10	3856522
Reached Baseline at C32	mg/L	NA	Yes	NA	NA	NA	N/A	3859755
Hydrocarbon Resemblance	mg/L	NA	COMMENT (1)	NA	NA	NA	N/A	3859755
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	94	105	105	100	106		3859755
n-Dotriacontane - Extractable	%	111	120	120	113	122		3859755
Isobutylbenzene - Volatile	%	97 (2)	100	99	98	98		3859740

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) One product in fuel oil range.
(2) Interference from Volatile Organic Compounds (VOCs) in the gasoline range.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9439		YU9440			YU9441		
Sampling Date		2014/12/09		2014/12/09			2014/12/09		
COC Number		496259		496259			496259		
	Units	MCWS-113-MWB	RDL	MCWS-306-MWB	RDL	QC Batch	MCWS-307-MWB	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	9.03	N/A	8.20	N/A	3856012	13.3	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	300	1.0	250	1.0	3856009	330	1.0	3856009
Calculated TDS	mg/L	470	1.0	460	1.0	3856017	750	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	3856009	1.7	1.0	3856009
Cation Sum	me/L	8.14	N/A	7.80	N/A	3856012	12.7	N/A	3856012
Hardness (CaCO3)	mg/L	230	1.0	350	1.0	3856010	220	1.0	3856010
Ion Balance (% Difference)	%	5.18	N/A	2.50	N/A	3856011	2.46	N/A	3856011
Langelier Index (@ 20C)	N/A	0.354		0.432		3856015	0.583		3856015
Langelier Index (@ 4C)	N/A	0.106		0.184		3856016	0.336		3856016
Nitrate (N)	mg/L	<0.050	0.050	<0.050	0.050	3856013	0.088	0.050	3856013
Saturation pH (@ 20C)	N/A	7.12		7.03		3856015	7.15		3856015
Saturation pH (@ 4C)	N/A	7.37		7.28		3856016	7.39		3856016
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	310	25	250	25	3861345	330	25	3861345
Dissolved Chloride (Cl)	mg/L	100	1.0	17	1.0	3861347	170	1.0	3861347
Colour	TCU	11	5.0	<5.0	5.0	3861358	<5.0	5.0	3861358
Nitrate + Nitrite	mg/L	<0.050	0.050	<0.050	0.050	3861379	0.099	0.050	3861379
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	3861387	0.011	0.010	3861387
Nitrogen (Ammonia Nitrogen)	mg/L	1.9	0.050	0.065	0.050	3861176	0.12	0.050	3861176
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	1.2	0.50	3861066	1.0	0.50	3861066
Orthophosphate (P)	mg/L	<0.010	0.010	0.015	0.010	3861371	0.012	0.010	3861371
pH	pH	7.47	N/A	7.46	N/A	3862571	7.73	N/A	3862587
Reactive Silica (SiO2)	mg/L	10	0.50	12	0.50	3861350	10	0.50	3861350
Dissolved Sulphate (SO4)	mg/L	<2.0	2.0	130	10	3861348	96	10	3861348
Turbidity	NTU	15	0.10	83	0.50	3863030	50	0.30	3863030
Conductivity	uS/cm	790	1.0	700	1.0	3862580	1200	1.0	3862589
Metals									
Dissolved Aluminum (Al)	ug/L	13	5.0	9.4	5.0	3862432	20	5.0	3862432
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Arsenic (As)	ug/L	<1.0	1.0	<1.0	1.0	3862432	1.8	1.0	3862432
Dissolved Barium (Ba)	ug/L	190	1.0	31	1.0	3862432	37	1.0	3862432
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Boron (B)	ug/L	320	50	78	50	3862432	130	50	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.

Maxxam Analytics International Corporation o/a Maxxam Analytics 465 George St., Unit G, Sydney, NS, B1P 1K5 Tel:902 567 1255 Toll Free: 888 535 7770 Fax: 902 539 6504 www.maxxam.ca

Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9439		YU9440			YU9441		
Sampling Date		2014/12/09		2014/12/09			2014/12/09		
COC Number		496259		496259			496259		
	Units	MCWS-113-MWB	RDL	MCWS-306-MWB	RDL	QC Batch	MCWS-307-MWB	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	1.0	0.010	0.28	0.010	3862432	<0.010	0.010	3862432
Dissolved Calcium (Ca)	ug/L	72000	100	110000	100	3862432	70000	100	3862432
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	0.85	0.40	3862432	<0.40	0.40	3862432
Dissolved Copper (Cu)	ug/L	4.1	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Iron (Fe)	ug/L	1800	50	<50	50	3862432	83	50	3862432
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3862432	<0.50	0.50	3862432
Dissolved Magnesium (Mg)	ug/L	12000	100	20000	100	3862432	11000	100	3862432
Dissolved Manganese (Mn)	ug/L	4300	2.0	2200	2.0	3862432	120	2.0	3862432
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Phosphorus (P)	ug/L	290	100	<100	100	3862432	<100	100	3862432
Dissolved Potassium (K)	ug/L	6800	100	2900	100	3862432	2200	100	3862432
Dissolved Selenium (Se)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3862432	<0.10	0.10	3862432
Dissolved Sodium (Na)	ug/L	74000	100	16000	100	3862432	190000	100	3862432
Dissolved Strontium (Sr)	ug/L	340	2.0	260	2.0	3862432	290	2.0	3862432
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3862432	<0.10	0.10	3862432
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Uranium (U)	ug/L	<0.10	0.10	0.89	0.10	3862432	1.3	0.10	3862432
Dissolved Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Zinc (Zn)	ug/L	45	5.0	5.6	5.0	3862432	5.2	5.0	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9442		YU9443			YU9445		
Sampling Date		2014/12/09		2014/12/09			2014/12/09		
COC Number		496259		496259			496259		
	Units	MCWS-310-MW	QC Batch	MCWS-009-MW	RDL	QC Batch	MCWS-309-MW	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	4.02	3856012	8.93	N/A	3856012	3.40	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	130	3856009	300	1.0	3856009	110	1.0	3856009
Calculated TDS	mg/L	190	3856017	480	1.0	3856017	220	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	3856009	<1.0	1.0	3856009	<1.0	1.0	3856009
Cation Sum	me/L	2.01	3856012	8.75	N/A	3856012	4.28	N/A	3856012
Hardness (CaCO3)	mg/L	61	3856010	320	1.0	3856010	14	1.0	3856010
Ion Balance (% Difference)	%	33.3	3856011	1.02	N/A	3856011	11.5	N/A	3856011
Langelier Index (@ 20C)	N/A	-0.547	3856015	0.361		3856015	-1.47		3856015
Langelier Index (@ 4C)	N/A	-0.796	3856016	0.113		3856016	-1.72		3856016
Nitrate (N)	mg/L	0.81	3856013	0.079	0.050	3856013	0.15	0.050	3856013
Saturation pH (@ 20C)	N/A	7.97	3856015	6.94		3856015	8.78		3856015
Saturation pH (@ 4C)	N/A	8.22	3856016	7.19		3856016	9.02		3856016
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	130	3861345	300	25	3861392	110	25	3861392
Dissolved Chloride (Cl)	mg/L	30	3861347	76	1.0	3861396	18	1.0	3861396
Colour	TCU	11	3861358	<5.0	5.0	3861401	21	5.0	3861401
Nitrate + Nitrite	mg/L	0.81	3861379	0.079	0.050	3861404	0.15	0.050	3861404
Nitrite (N)	mg/L	<0.010	3861387	<0.010	0.010	3861405	<0.010	0.010	3861405
Nitrogen (Ammonia Nitrogen)	mg/L	0.097	3861176	0.069	0.050	3861176	0.13	0.050	3861176
Total Organic Carbon (C)	mg/L	1.3	3861066	1.1	0.50	3861513	<5.0 (1)	5.0	3861066
Orthophosphate (P)	mg/L	<0.010	3861371	<0.010	0.010	3861402	0.091	0.010	3861402
pH	pH	7.42	3862581	7.30	N/A	3862581	7.31	N/A	3862581
Reactive Silica (SiO2)	mg/L	6.6	3861350	12	0.50	3861399	4.7	0.50	3861399
Dissolved Sulphate (SO4)	mg/L	29	3861348	37	2.0	3861397	35	2.0	3861397
Turbidity	NTU	31	3863030	1.1	0.10	3863030	510	3.0	3863030
Conductivity	uS/cm	400	3862586	810	1.0	3862586	340	1.0	3862586
Metals									
Dissolved Aluminum (Al)	ug/L	84	3862432	7.8	5.0	3862432	160	5.0	3862432
Dissolved Antimony (Sb)	ug/L	<1.0	3862432	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Arsenic (As)	ug/L	<1.0	3862432	<1.0	1.0	3862432	2.7	1.0	3862432
Dissolved Barium (Ba)	ug/L	23	3862432	73	1.0	3862432	6.3	1.0	3862432
Dissolved Beryllium (Be)	ug/L	<1.0	3862432	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Bismuth (Bi)	ug/L	<2.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Boron (B)	ug/L	<50	3862432	<50	50	3862432	210	50	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Reporting limit was increased due to turbidity.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9442		YU9443			YU9445		
Sampling Date		2014/12/09		2014/12/09			2014/12/09		
COC Number		496259		496259			496259		
	Units	MCWS-310-MW	QC Batch	MCWS-009-MW	RDL	QC Batch	MCWS-309-MW	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.038	3862432	0.033	0.010	3862432	0.023	0.010	3862432
Dissolved Calcium (Ca)	ug/L	21000	3862432	110000	100	3862432	3900	100	3862432
Dissolved Chromium (Cr)	ug/L	<1.0	3862432	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Cobalt (Co)	ug/L	<0.40	3862432	<0.40	0.40	3862432	<0.40	0.40	3862432
Dissolved Copper (Cu)	ug/L	3.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Iron (Fe)	ug/L	50	3862432	<50	50	3862432	770	50	3862432
Dissolved Lead (Pb)	ug/L	<0.50	3862432	<0.50	0.50	3862432	0.75	0.50	3862432
Dissolved Magnesium (Mg)	ug/L	2400	3862432	8900	100	3862432	1100	100	3862432
Dissolved Manganese (Mn)	ug/L	4.1	3862432	130	2.0	3862432	520	2.0	3862432
Dissolved Molybdenum (Mo)	ug/L	<2.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Nickel (Ni)	ug/L	<2.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Phosphorus (P)	ug/L	<100	3862432	<100	100	3862432	180	100	3862432
Dissolved Potassium (K)	ug/L	1500	3862432	1700	100	3862432	4700	100	3862432
Dissolved Selenium (Se)	ug/L	<1.0	3862432	<1.0	1.0	3862432	<1.0	1.0	3862432
Dissolved Silver (Ag)	ug/L	<0.10	3862432	<0.10	0.10	3862432	<0.10	0.10	3862432
Dissolved Sodium (Na)	ug/L	17000	3862432	55000	100	3862432	88000	100	3862432
Dissolved Strontium (Sr)	ug/L	360	3862432	310	2.0	3862432	14	2.0	3862432
Dissolved Thallium (Tl)	ug/L	<0.10	3862432	<0.10	0.10	3862432	<0.10	0.10	3862432
Dissolved Tin (Sn)	ug/L	<2.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Titanium (Ti)	ug/L	2.5	3862432	<2.0	2.0	3862432	3.3	2.0	3862432
Dissolved Uranium (U)	ug/L	0.37	3862432	0.70	0.10	3862432	0.13	0.10	3862432
Dissolved Vanadium (V)	ug/L	<2.0	3862432	<2.0	2.0	3862432	<2.0	2.0	3862432
Dissolved Zinc (Zn)	ug/L	410	3862432	<5.0	5.0	3862432	10	5.0	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9446			YU9447		YU9448		
Sampling Date		2014/12/09			2014/12/10		2014/12/10		
COC Number		496259			496259		496259		
	Units	FD-001	RDL	QC Batch	MSES-003-MW	RDL	MSES-104-MWA	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	8.93	N/A	3856012	17.7	N/A	30.9	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	300	1.0	3856009	180	1.0	59	1.0	3856009
Calculated TDS	mg/L	490	1.0	3856017	1100	1.0	2100	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3856009	<1.0	1.0	<1.0	1.0	3856009
Cation Sum	me/L	8.86	N/A	3856012	18.4	N/A	31.8	N/A	3856012
Hardness (CaCO3)	mg/L	320	1.0	3856010	710	1.0	1500	1.0	3856010
Ion Balance (% Difference)	%	0.390	N/A	3856011	2.19	N/A	1.42	N/A	3856011
Langelier Index (@ 20C)	N/A	0.360		3856015	0.0890		0.460		3856015
Langelier Index (@ 4C)	N/A	0.112		3856016	-0.157		0.217		3856016
Nitrate (N)	mg/L	0.071	0.050	3856013	0.063	0.050	<0.050	0.050	3856013
Saturation pH (@ 20C)	N/A	6.93		3856015	6.93		7.15		3856015
Saturation pH (@ 4C)	N/A	7.18		3856016	7.18		7.40		3856016
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	300	25	3861392	180	25	59	5.0	3861392
Dissolved Chloride (Cl)	mg/L	77	1.0	3861396	94	1.0	56	1.0	3861396
Colour	TCU	<5.0	5.0	3861401	91	25	<5.0	5.0	3861401
Nitrate + Nitrite	mg/L	0.071	0.050	3861404	0.063	0.050	<0.050	0.050	3861404
Nitrite (N)	mg/L	<0.010	0.010	3861405	<0.010	0.010	0.011	0.010	3861405
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	3861176	0.19	0.050	0.44	0.050	3861179
Total Organic Carbon (C)	mg/L	1.0	0.50	3861066	6.0	0.50	1.0	0.50	3861064
Orthophosphate (P)	mg/L	<0.010	0.010	3861402	<0.010	0.010	<0.010	0.010	3861402
pH	pH	7.29	N/A	3862581	7.02	N/A	7.61	N/A	3862581
Reactive Silica (SiO2)	mg/L	12	0.50	3861399	14	0.50	5.4	0.50	3861399
Dissolved Sulphate (SO4)	mg/L	36	2.0	3861397	550	40	1400	200	3861397
Turbidity	NTU	0.80	0.10	3863030	110	0.50	12	0.10	3863030
Conductivity	uS/cm	810	1.0	3862586	1500	1.0	2300	1.0	3862586
Metals									
Dissolved Aluminum (Al)	ug/L	8.3	5.0	3862432	11	5.0	11	5.0	3862432
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Arsenic (As)	ug/L	<1.0	1.0	3862432	69	1.0	1.8	1.0	3862432
Dissolved Barium (Ba)	ug/L	74	1.0	3862432	15	1.0	16	1.0	3862432
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Boron (B)	ug/L	<50	50	3862432	58	50	<50	50	3862432
Dissolved Cadmium (Cd)	ug/L	0.042	0.010	3862432	0.38	0.010	0.065	0.010	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9446			YU9447		YU9448		
Sampling Date		2014/12/09			2014/12/10		2014/12/10		
COC Number		496259			496259		496259		
	Units	FD-001	RDL	QC Batch	MSES-003-MW	RDL	MSES-104-MWA	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	110000	100	3862432	240000	100	530000	100	3862432
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3862432	1.7	0.40	<0.40	0.40	3862432
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Iron (Fe)	ug/L	<50	50	3862432	15000	50	890	50	3862432
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3862432	<0.50	0.50	<0.50	0.50	3862432
Dissolved Magnesium (Mg)	ug/L	9100	100	3862432	28000	100	44000	100	3862432
Dissolved Manganese (Mn)	ug/L	130	2.0	3862432	9100	2.0	220	2.0	3862432
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3862432	<2.0	2.0	5.6	2.0	3862432
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Phosphorus (P)	ug/L	<100	100	3862432	<100	100	<100	100	3862432
Dissolved Potassium (K)	ug/L	1800	100	3862432	1700	100	7700	100	3862432
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3862432	<0.10	0.10	<0.10	0.10	3862432
Dissolved Sodium (Na)	ug/L	55000	100	3862432	84000	100	29000	100	3862432
Dissolved Strontium (Sr)	ug/L	320	2.0	3862432	1300	2.0	540	2.0	3862432
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3862432	<0.10	0.10	<0.10	0.10	3862432
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Uranium (U)	ug/L	0.69	0.10	3862432	0.21	0.10	<0.10	0.10	3862432
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	3862432	7.5	5.0	<5.0	5.0	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9449			YU9457		YU9458		
Sampling Date		2014/12/10			2014/12/10		2014/12/10		
COC Number		496259			496259		496259		
	Units	MSES-104-MWB	RDL	QC Batch	MSES-006-MW	RDL	MSES-004-MW	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	46.3	N/A	3856012	22.9	N/A	16.7	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	330	1.0	3856009	250	1.0	92	1.0	3856009
Calculated TDS	mg/L	3000	1.0	3856017	1500	1.0	1100	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3856009	<1.0	1.0	<1.0	1.0	3856009
Cation Sum	me/L	47.4	N/A	3856012	27.8	N/A	19.4	N/A	3856012
Hardness (CaCO3)	mg/L	2000	1.0	3856010	1300	1.0	940	1.0	3856010
Ion Balance (% Difference)	%	1.16	N/A	3856011	9.74	N/A	7.67	N/A	3856011
Langelier Index (@ 20C)	N/A	0.111		3856015	0.911		-0.762		3856015
Langelier Index (@ 4C)	N/A	-0.130		3856016	0.667		-1.01		3856016
Nitrate (N)	mg/L	<0.050	0.050	3856013	<0.050	0.050	<0.050	0.050	3856013
Saturation pH (@ 20C)	N/A	6.56		3856015	6.58		7.13		3856015
Saturation pH (@ 4C)	N/A	6.80		3856016	6.83		7.38		3856016
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	330	25	3861392	250	25	92	5.0	3861392
Dissolved Chloride (Cl)	mg/L	70	1.0	3861396	52	1.0	21	1.0	3861396
Colour	TCU	190	25	3861401	5.0	5.0	30	5.0	3861401
Nitrate + Nitrite	mg/L	<0.050	0.050	3861404	<0.050	0.050	<0.050	0.050	3861404
Nitrite (N)	mg/L	<0.010	0.010	3861405	0.015	0.010	0.011	0.010	3861405
Nitrogen (Ammonia Nitrogen)	mg/L	0.57	0.050	3861179	0.22	0.050	0.19	0.050	3861179
Total Organic Carbon (C)	mg/L	3.5	0.50	3861066	1.7	0.50	1.5	0.50	3861064
Orthophosphate (P)	mg/L	<0.010	0.010	3861402	<0.010	0.010	<0.010	0.010	3861402
pH	pH	6.67	N/A	3862581	7.49	N/A	6.37	N/A	3862581
Reactive Silica (SiO2)	mg/L	14	0.50	3861399	23	0.50	5.4	0.50	3861399
Dissolved Sulphate (SO4)	mg/L	1800	100	3861397	790	40	690	40	3861397
Turbidity	NTU	55	0.30	3863030	4.6	0.10	12	0.10	3863035
Conductivity	uS/cm	3400	1.0	3862586	2000	1.0	1500	1.0	3862586
Metals									
Dissolved Aluminum (Al)	ug/L	550	5.0	3862432	34	5.0	170	5.0	3862432
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Arsenic (As)	ug/L	4.4	1.0	3862432	1.1	1.0	1.9	1.0	3862432
Dissolved Barium (Ba)	ug/L	17	1.0	3862432	23	1.0	7.5	1.0	3862432
Dissolved Beryllium (Be)	ug/L	1.1	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Boron (B)	ug/L	200	50	3862432	100	50	85	50	3862432
Dissolved Cadmium (Cd)	ug/L	0.14	0.010	3862432	0.11	0.010	0.073	0.010	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9449			YU9457		YU9458		
Sampling Date		2014/12/10			2014/12/10		2014/12/10		
COC Number		496259			496259		496259		
	Units	MSES-104-MWB	RDL	QC Batch	MSES-006-MW	RDL	MSES-004-MW	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	440000	100	3862432	430000	100	300000	100	3862432
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Cobalt (Co)	ug/L	50	0.40	3862432	<0.40	0.40	0.91	0.40	3862432
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Iron (Fe)	ug/L	11000	50	3862432	160	50	1900	50	3862432
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3862432	<0.50	0.50	<0.50	0.50	3862432
Dissolved Magnesium (Mg)	ug/L	210000	1000	3862432	62000	100	49000	100	3862432
Dissolved Manganese (Mn)	ug/L	88000	20	3862432	1900	2.0	1200	2.0	3862432
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Nickel (Ni)	ug/L	62	2.0	3862432	<2.0	2.0	2.0	2.0	3862432
Dissolved Phosphorus (P)	ug/L	<100	100	3862432	<100	100	<100	100	3862432
Dissolved Potassium (K)	ug/L	13000	100	3862432	6900	100	2100	100	3862432
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3862432	<1.0	1.0	<1.0	1.0	3862432
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3862432	<0.10	0.10	<0.10	0.10	3862432
Dissolved Sodium (Na)	ug/L	170000	100	3862432	25000	100	11000	100	3862432
Dissolved Strontium (Sr)	ug/L	2400	2.0	3862432	770	2.0	290	2.0	3862432
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3862432	<0.10	0.10	<0.10	0.10	3862432
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3862432	<2.0	2.0	<2.0	2.0	3862432
Dissolved Uranium (U)	ug/L	1.2	0.10	3862432	4.3	0.10	<0.10	0.10	3862432
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3862432	4.4	2.0	<2.0	2.0	3862432
Dissolved Zinc (Zn)	ug/L	34	5.0	3862432	6.2	5.0	63	5.0	3862432

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9459		YU9460			YU9461		
Sampling Date		2014/12/10		2014/12/10			2014/12/10		
COC Number		496259		496259			496259		
	Units	MSES-008-MW	RDL	MCES-001-MWA	RDL	QC Batch	MCES-001-MWB	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	23.7	N/A	12.4	N/A	3856012	346	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	1.0	<1.0	1.0	3856009	1400	1.0	3856009
Calculated TDS	mg/L	1600	1.0	730	1.0	3856017	21000	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	17	1.0	3856009	3.5	1.0	3856009
Cation Sum	me/L	28.8	N/A	14.3	N/A	3856012	403	N/A	3856012
Hardness (CaCO3)	mg/L	1200	1.0	610	1.0	3856010	5000	1.0	3856010
Ion Balance (% Difference)	%	9.68	N/A	6.93	N/A	3856011	7.51	N/A	3856011
Langelier Index (@ 20C)	N/A	0.220		2.12		3856015	1.38		3856015
Langelier Index (@ 4C)	N/A	-0.0240		1.88		3856016	1.14		3856016
Nitrate (N)	mg/L	<0.050	0.050	0.096	0.050	3856013	<0.050	0.050	3856013
Saturation pH (@ 20C)	N/A	6.74		9.78		3856015	6.03		3856015
Saturation pH (@ 4C)	N/A	6.98		10.0		3856016	6.27		3856016
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	180	25	420	25	3861392	1500	100	3861392
Dissolved Chloride (Cl)	mg/L	150	5.0	50	1.0	3861396	11000	120	3861396
Colour	TCU	160	25	<5.0	5.0	3861401	39	5.0	3861401
Nitrate + Nitrite	mg/L	<0.050	0.050	0.38	0.050	3861404	<0.050	0.050	3861404
Nitrite (N)	mg/L	<0.010	0.010	0.28	0.010	3861405	<0.010	0.010	3861405
Nitrogen (Ammonia Nitrogen)	mg/L	0.11	0.050	1.5	0.050	3861179	33	2.5	3861179
Total Organic Carbon (C)	mg/L	2.7	0.50	3.4	0.50	3861066	17 (1)	5.0	3861066
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	3861402	0.013	0.010	3861402
pH	pH	6.96	N/A	11.9 (2)	N/A	3862581	7.40	N/A	3862581
Reactive Silica (SiO2)	mg/L	27	1.0	3.5	0.50	3861399	25	1.0	3861399
Dissolved Sulphate (SO4)	mg/L	760	40	120	10	3861397	6.7	2.0	3861397
Turbidity	NTU	140	0.50	37	0.10	3863035	130	1.0	3863035
Conductivity	uS/cm	2300	1.0	1900	1.0	3862586	34000	1.0	3862586
Metals									
Dissolved Aluminum (Al)	ug/L	100	5.0	310	5.0	3862432	86	5.0	3862435
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862435
Dissolved Arsenic (As)	ug/L	14	1.0	<1.0	1.0	3862432	8.7	1.0	3862435
Dissolved Barium (Ba)	ug/L	7.9	1.0	160	1.0	3862432	7200	10	3862435
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3862432	<1.0	1.0	3862435
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862435
Dissolved Boron (B)	ug/L	70	50	<50	50	3862432	3600	50	3862435

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.
(2) pH value is beyond linear range, extended linearity has been confirmed.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9459		YU9460			YU9461		
Sampling Date		2014/12/10		2014/12/10			2014/12/10		
COC Number		496259		496259			496259		
	Units	MSES-008-MW	RDL	MCES-001-MWA	RDL	QC Batch	MCES-001-MWB	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.082	0.010	0.085	0.010	3862432	0.16	0.10	3862435
Dissolved Calcium (Ca)	ug/L	420000	100	240000	100	3862432	500000	1000	3862435
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	2.6	1.0	3862432	1.5	1.0	3862435
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	3862432	0.88	0.40	3862435
Dissolved Copper (Cu)	ug/L	<2.0	2.0	10	2.0	3862432	<2.0	2.0	3862435
Dissolved Iron (Fe)	ug/L	15000	50	<50	50	3862432	14000	50	3862435
Dissolved Lead (Pb)	ug/L	<0.50	0.50	0.83	0.50	3862432	<0.50	0.50	3862435
Dissolved Magnesium (Mg)	ug/L	27000	100	<100	100	3862432	900000	1000	3862435
Dissolved Manganese (Mn)	ug/L	1200	2.0	2.9	2.0	3862432	1400	2.0	3862435
Dissolved Molybdenum (Mo)	ug/L	3.1	2.0	9.5	2.0	3862432	<2.0	2.0	3862435
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862435
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	3862432	<1000 (1)	1000	3862435
Dissolved Potassium (K)	ug/L	5400	100	18000	100	3862432	160000	1000	3862435
Dissolved Selenium (Se)	ug/L	<1.0	1.0	1.8	1.0	3862432	<1.0	1.0	3862435
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3862432	<0.10	0.10	3862435
Dissolved Sodium (Na)	ug/L	120000	100	34000	100	3862432	6800000	1000	3862435
Dissolved Strontium (Sr)	ug/L	590	2.0	1200	2.0	3862432	52000	200	3862435
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3862432	<0.10	0.10	3862435
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3862432	<2.0	2.0	3862435
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3862432	3.3	2.0	3862435
Dissolved Uranium (U)	ug/L	0.60	0.10	<0.10	0.10	3862432	2.5	0.10	3862435
Dissolved Vanadium (V)	ug/L	<2.0	2.0	16	2.0	3862432	2.3	2.0	3862435
Dissolved Zinc (Zn)	ug/L	41	5.0	7.7	5.0	3862432	10	5.0	3862435

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9462		YU9463		
Sampling Date		2014/12/10		2014/12/10		
COC Number		496259		496259		
	Units	MCES-006-MW	RDL	FD-002	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	3.77	N/A	17.7	N/A	3856012
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	71	1.0	180	1.0	3856009
Calculated TDS	mg/L	260	1.0	1100	1.0	3856017
Carb. Alkalinity (calc. as CaCO3)	mg/L	5.4	1.0	<1.0	1.0	3856009
Cation Sum	me/L	4.67	N/A	18.3	N/A	3856012
Hardness (CaCO3)	mg/L	200	1.0	710	1.0	3856010
Ion Balance (% Difference)	%	10.7	N/A	1.69	N/A	3856011
Langelier Index (@ 20C)	N/A	1.24		0.111		3856015
Langelier Index (@ 4C)	N/A	0.990		-0.135		3856016
Nitrate (N)	mg/L	1.4	0.050	0.21	0.050	3856013
Saturation pH (@ 20C)	N/A	7.67		6.94		3856015
Saturation pH (@ 4C)	N/A	7.92		7.18		3856016
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	77	5.0	180	25	3861392
Dissolved Chloride (Cl)	mg/L	23	1.0	93	1.0	3861396
Colour	TCU	10	5.0	96	25	3861401
Nitrate + Nitrite	mg/L	1.5	0.050	0.21	0.050	3861404
Nitrite (N)	mg/L	0.11	0.010	<0.010	0.010	3861405
Nitrogen (Ammonia Nitrogen)	mg/L	0.18	0.050	0.19	0.050	3861179
Total Organic Carbon (C)	mg/L	3.6	0.50	6.3	0.50	3861066
Orthophosphate (P)	mg/L	0.014	0.010	<0.010	0.010	3861402
pH	pH	8.91	N/A	7.05	N/A	3862581
Reactive Silica (SiO2)	mg/L	14	0.50	14	0.50	3861399
Dissolved Sulphate (SO4)	mg/L	70	10	550	40	3861397
Turbidity	NTU	10	0.10	130	0.50	3863035
Conductivity	uS/cm	360	1.0	1500	1.0	3862586
Metals						
Dissolved Aluminum (Al)	ug/L	210	5.0	13	5.0	3862435
Dissolved Antimony (Sb)	ug/L	1.5	1.0	<1.0	1.0	3862435
Dissolved Arsenic (As)	ug/L	10	1.0	67	1.0	3862435
Dissolved Barium (Ba)	ug/L	130	1.0	14	1.0	3862435
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3862435
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3862435
Dissolved Boron (B)	ug/L	<50	50	64	50	3862435
Dissolved Cadmium (Cd)	ug/L	0.041	0.010	0.080	0.010	3862435

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YU9462		YU9463		
Sampling Date		2014/12/10		2014/12/10		
COC Number		496259		496259		
	Units	**MCES-006-MW**	**RDL**	**FD-002**	**RDL**	**QC Batch**
Dissolved Calcium (Ca)	ug/L	77000	100	240000	100	3862435
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3862435
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	1.8	0.40	3862435
Dissolved Copper (Cu)	ug/L	9.3	2.0	<2.0	2.0	3862435
Dissolved Iron (Fe)	ug/L	110	50	14000	50	3862435
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3862435
Dissolved Magnesium (Mg)	ug/L	3200	100	27000	100	3862435
Dissolved Manganese (Mn)	ug/L	550	2.0	8900	2.0	3862435
Dissolved Molybdenum (Mo)	ug/L	4.5	2.0	<2.0	2.0	3862435
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3862435
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	3862435
Dissolved Potassium (K)	ug/L	5800	100	1700	100	3862435
Dissolved Selenium (Se)	ug/L	2.9	1.0	<1.0	1.0	3862435
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3862435
Dissolved Sodium (Na)	ug/L	9600	100	82000	100	3862435
Dissolved Strontium (Sr)	ug/L	730	2.0	1300	2.0	3862435
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3862435
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3862435
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3862435
Dissolved Uranium (U)	ug/L	0.21	0.10	0.23	0.10	3862435
Dissolved Vanadium (V)	ug/L	120	2.0	<2.0	2.0	3862435
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	5.7	5.0	3862435

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YU9439	YU9440	YU9441	YU9442	YU9443		
Sampling Date		2014/12/09	2014/12/09	2014/12/09	2014/12/09	2014/12/09		
COC Number		496259	496259	496259	496259	496259		
	Units	MCWS-113-MWB	MCWS-306-MWB	MCWS-307-MWB	MCWS-310-MW	MCWS-009-MW	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	3860089

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YU9445	YU9446	YU9447	YU9448	YU9449		
Sampling Date		2014/12/09	2014/12/09	2014/12/10	2014/12/10	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MCWS-309-MW	FD-001	MSES-003-MW	MSES-104-MWA	MSES-104-MWB	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	0.013	<0.013	<0.013	<0.013	<0.013	0.013	3860089

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YU9457	YU9458	YU9459	YU9460	YU9461		
Sampling Date		2014/12/10	2014/12/10	2014/12/10	2014/12/10	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MSES-006-MW	MSES-004-MW	MSES-008-MW	MCES-001-MWA	MCES-001-MWB	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	0.017	0.013	3860089

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YU9462	YU9463		
Sampling Date		2014/12/10	2014/12/10		
COC Number		496259	496259		
	Units	MCES-006-MW	FD-002	RDL	QC Batch
Metals					
Total Mercury (Hg)	ug/L	<0.013	<0.013	0.013	3860089

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YU9439	YU9440	YU9441	YU9442	YU9443		
Sampling Date		2014/12/09	2014/12/09	2014/12/09	2014/12/09	2014/12/09		
COC Number		496259	496259	496259	496259	496259		
	Units	MCWS-113-MWB	MCWS-306-MWB	MCWS-307-MWB	MCWS-310-MW	MCWS-009-MW	RDL	QC Batch
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	8.7	<0.050	<0.050	<0.050	<0.050	0.050	3860847
2-Methylnaphthalene	ug/L	0.72	<0.050	<0.050	<0.050	<0.050	0.050	3860847
Acenaphthene	ug/L	0.74	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Acenaphthylene	ug/L	0.042	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Anthracene	ug/L	0.097	0.011	<0.010	<0.010	<0.010	0.010	3860847
Benzo(a)anthracene	ug/L	0.042	0.018	<0.010	<0.010	<0.010	0.010	3860847
Benzo(a)pyrene	ug/L	0.032	0.019	<0.010	<0.010	<0.010	0.010	3860847
Benzo(b)fluoranthene	ug/L	0.022	0.016	<0.010	<0.010	<0.010	0.010	3860847
Benzo(g,h,i)perylene	ug/L	0.019	0.011	<0.010	<0.010	<0.010	0.010	3860847
Benzo(j)fluoranthene	ug/L	0.013	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Benzo(k)fluoranthene	ug/L	0.015	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Chrysene	ug/L	0.044	0.018	<0.010	<0.010	<0.010	0.010	3860847
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Fluoranthene	ug/L	0.15	0.037	0.017	<0.010	<0.010	0.010	3860847
Fluorene	ug/L	0.44	<0.010	0.010	<0.010	<0.010	0.010	3860847
Indeno(1,2,3-cd)pyrene	ug/L	0.018	0.010	<0.010	<0.010	<0.010	0.010	3860847
Naphthalene	ug/L	0.39	<0.20	<0.20	<0.20	<0.20	0.20	3860847
Perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Phenanthrene	ug/L	0.26	0.033	0.030	0.016	0.011	0.010	3860847
Pyrene	ug/L	0.12	0.034	0.013	<0.010	<0.010	0.010	3860847
Surrogate Recovery (%)								
D10-Anthracene	%	68	81	84	76	108		3860847
D14-Terphenyl	%	67 (1)	75 (1)	81 (1)	72 (1)	100		3860847
D8-Acenaphthylene	%	67	73	80	72	98		3860847

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH sample contained sediment.

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
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SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YU9445	YU9446	YU9447	YU9448		YU9449		
Sampling Date		2014/12/09	2014/12/09	2014/12/10	2014/12/10		2014/12/10		
COC Number		496259	496259	496259	496259		496259		
	Units	MCWS-309-MW	FD-001	MSES-003-MW	MSES-104-MWA	RDL	MSES-104-MWB	RDL	QC Batch
Polyaromatic Hydrocarbons									
1-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	0.51	0.050	45 (1)	0.50	3860847
2-Methylnaphthalene	ug/L	0.062	<0.050	<0.050	0.21	0.050	0.12	0.050	3860847
Acenaphthene	ug/L	0.028	<0.010	<0.010	5.4	0.010	18	0.010	3860847
Acenaphthylene	ug/L	0.13	<0.010	<0.010	5.6	0.010	33	0.010	3860847
Anthracene	ug/L	0.22	<0.010	<0.010	0.38	0.010	1.4	0.010	3860847
Benzo(a)anthracene	ug/L	0.51	<0.010	<0.010	0.20	0.010	0.10	0.010	3860847
Benzo(a)pyrene	ug/L	0.50	<0.010	<0.010	0.079	0.010	0.018	0.010	3860847
Benzo(b)fluoranthene	ug/L	0.37	<0.010	<0.010	0.060	0.010	0.012	0.010	3860847
Benzo(g,h,i)perylene	ug/L	0.28	<0.010	<0.010	0.031	0.010	<0.010	0.010	3860847
Benzo(j)fluoranthene	ug/L	0.24	<0.010	<0.010	0.040	0.010	0.013	0.010	3860847
Benzo(k)fluoranthene	ug/L	0.24	<0.010	<0.010	0.036	0.010	0.011	0.010	3860847
Chrysene	ug/L	0.48	<0.010	<0.010	0.16	0.010	0.074	0.010	3860847
Dibenz(a,h)anthracene	ug/L	0.084	<0.010	<0.010	0.011	0.010	<0.010	0.010	3860847
Fluoranthene	ug/L	1.0	<0.010	<0.010	2.3	0.010	1.1	0.010	3860847
Fluorene	ug/L	0.13	<0.010	<0.010	1.1	0.010	14	0.010	3860847
Indeno(1,2,3-cd)pyrene	ug/L	0.28	<0.010	<0.010	0.034	0.010	<0.010	0.010	3860847
Naphthalene	ug/L	<0.20	<0.20	<0.20	3.7	0.20	17	0.20	3860847
Perylene	ug/L	0.13	<0.010	<0.010	0.015	0.010	<0.010	0.010	3860847
Phenanthrene	ug/L	0.60	0.014	<0.010	0.29	0.010	9.7	0.010	3860847
Pyrene	ug/L	0.79	<0.010	<0.010	1.4	0.010	0.72	0.010	3860847
Surrogate Recovery (%)									
D10-Anthracene	%	79	110	101	76		100		3860847
D14-Terphenyl	%	77 (2)	108 (2)	100 (2)	73 (2)		101		3860847
D8-Acenaphthylene	%	77	103	95	77		111		3860847

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated PAH RDL(s) due to sample dilution.
(2) PAH sample contained sediment.

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SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YU9457	YU9458	YU9459	YU9460	YU9461		
Sampling Date		2014/12/10	2014/12/10	2014/12/10	2014/12/10	2014/12/10		
COC Number		496259	496259	496259	496259	496259		
	Units	MSES-006-MW	MSES-004-MW	MSES-008-MW	MCES-001-MWA	MCES-001-MWB	RDL	QC Batch
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	0.52	0.11	0.94	0.18	<0.050	0.050	3860847
2-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3860847
Acenaphthene	ug/L	0.75	0.038	1.9	0.069	<0.010	0.010	3860847
Acenaphthylene	ug/L	1.4	0.069	2.7	0.098	<0.010	0.010	3860847
Anthracene	ug/L	<0.010	<0.010	0.21	0.023	<0.010	0.010	3860847
Benzo(a)anthracene	ug/L	<0.010	<0.010	0.070	0.039	<0.010	0.010	3860847
Benzo(a)pyrene	ug/L	<0.010	<0.010	<0.010	0.021	<0.010	0.010	3860847
Benzo(b)fluoranthene	ug/L	<0.010	<0.010	<0.010	0.022	<0.010	0.010	3860847
Benzo(g,h,i)perylene	ug/L	<0.010	<0.010	<0.010	0.014	<0.010	0.010	3860847
Benzo(j)fluoranthene	ug/L	<0.010	<0.010	<0.010	0.014	<0.010	0.010	3860847
Benzo(k)fluoranthene	ug/L	<0.010	<0.010	<0.010	0.014	<0.010	0.010	3860847
Chrysene	ug/L	<0.010	<0.010	0.049	0.044	<0.010	0.010	3860847
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Fluoranthene	ug/L	0.015	0.014	1.2	0.19	<0.010	0.010	3860847
Fluorene	ug/L	0.23	0.023	3.6	0.099	<0.010	0.010	3860847
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	<0.010	<0.010	0.015	<0.010	0.010	3860847
Naphthalene	ug/L	1.5	<0.20	<0.20	<0.20	<0.20	0.20	3860847
Perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3860847
Phenanthrene	ug/L	0.015	0.017	1.9	0.068	0.015	0.010	3860847
Pyrene	ug/L	<0.010	0.011	0.94	0.25	<0.010	0.010	3860847
Surrogate Recovery (%)								
D10-Anthracene	%	82	105	86	72	64		3860847
D14-Terphenyl	%	81 (1)	102 (1)	86 (1)	68 (1)	65 (1)		3860847
D8-Acenaphthylene	%	82	101	90	69	66		3860847

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH sample contained sediment.

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SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YU9462		YU9463		
Sampling Date		2014/12/10		2014/12/10		
COC Number		496259		496259		
	Units	MCES-006-MW	RDL	FD-002	RDL	QC Batch
Polyaromatic Hydrocarbons						
1-Methylnaphthalene	ug/L	8.7	0.050	<0.050	0.050	3860847
2-Methylnaphthalene	ug/L	2.5	0.050	<0.050	0.050	3860847
Acenaphthene	ug/L	11	0.010	<0.010	0.010	3860847
Acenaphthylene	ug/L	0.26	0.010	<0.010	0.010	3860847
Anthracene	ug/L	0.15	0.010	<0.010	0.010	3860847
Benzo(a)anthracene	ug/L	0.017	0.010	<0.010	0.010	3860847
Benzo(a)pyrene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Benzo(b)fluoranthene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Benzo(g,h,i)perylene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Benzo(j)fluoranthene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Benzo(k)fluoranthene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Chrysene	ug/L	0.024	0.010	<0.010	0.010	3860847
Dibenz(a,h)anthracene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Fluoranthene	ug/L	0.25	0.010	<0.010	0.010	3860847
Fluorene	ug/L	3.3	0.010	<0.010	0.010	3860847
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Naphthalene	ug/L	63 (1)	2.0	<0.20	0.20	3860847
Perylene	ug/L	<0.010	0.010	<0.010	0.010	3860847
Phenanthrene	ug/L	1.1	0.010	<0.010	0.010	3860847
Pyrene	ug/L	0.22	0.010	<0.010	0.010	3860847
Surrogate Recovery (%)						
D10-Anthracene	%	87		107		3860847
D14-Terphenyl	%	81 (2)		98 (2)		3860847
D8-Acenaphthylene	%	85		95		3860847

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated PAH RDL(s) due to sample dilution.
(2) PAH sample contained sediment.

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GENERAL COMMENTS

Sample YU9439-01 : Poor RCAp Ion Balance due to sample matrix. Cation sum does not include contribution from Mn.

Sample YU9442-01 : Poor ion balance: sample was re-analysed for metals and alkalinity. A new aliquot from the client supplied metals tube was re-analysed along side the original metals aliquot, result were consistent. A new aliquot from the RCAp bottle was also re-analysed for alkalinity and compared to the original results, results were also consistent.

Sample YU9445-01 : Poor RCAp Ion Balance due to sample matrix. Possibly due to fine particulate matter.

Sample YU9457-01 : Poor RCAp Ion Balance due to sample matrix.

Sample YU9458-01 : Poor RCAp Ion Balance due to sample matrix.

Sample YU9459-01 : Poor RCAp Ion Balance due to sample matrix. Possibly due to fine particulate matter.

Sample YU9460-01 : Poor RCAp Ion Balance due to sample matrix.

Sample YU9461-01 : Poor RCAp Ion Balance due to sample matrix.

Sample YU9462-01 : Poor RCAp Ion Balance due to sample matrix.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3859740	ASL	Matrix Spike [YU9440-07]	Isobutylbenzene - Volatile	2014/12/15		102	%	70 - 130
			Benzene	2014/12/15		114	%	70 - 130
			Toluene	2014/12/15		111	%	70 - 130
			Ethylbenzene	2014/12/15		110	%	70 - 130
			Total Xylenes	2014/12/15		112	%	70 - 130
3859740	ASL	Spiked Blank	Isobutylbenzene - Volatile	2014/12/15		101	%	70 - 130
			Benzene	2014/12/15		109	%	70 - 130
			Toluene	2014/12/15		109	%	70 - 130
			Ethylbenzene	2014/12/15		110	%	70 - 130
			Total Xylenes	2014/12/15		110	%	70 - 130
3859740	ASL	Method Blank	Isobutylbenzene - Volatile	2014/12/15		99	%	70 - 130
			Benzene	2014/12/15	<0.0010		mg/L	
			Toluene	2014/12/15	<0.0010		mg/L	
			Ethylbenzene	2014/12/15	<0.0010		mg/L	
			Total Xylenes	2014/12/15	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/15	<0.010		mg/L	
3859740	ASL	RPD [YU9439-07]	Benzene	2014/12/15	NC		%	40
			Toluene	2014/12/15	NC		%	40
			Ethylbenzene	2014/12/15	NC		%	40
			Total Xylenes	2014/12/15	NC		%	40
			C6 - C10 (less BTEX)	2014/12/15	NC		%	40
3859755	BHR	Matrix Spike	Isobutylbenzene - Extractable	2014/12/16		101	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/16		117	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/16		82	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/16		89	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/16		106	%	30 - 130
3859755	BHR	Spiked Blank	Isobutylbenzene - Extractable	2014/12/16		107	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/16		121	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/16		87	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/16		94	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/16		116	%	30 - 130
3859755	BHR	Method Blank	Isobutylbenzene - Extractable	2014/12/16		104	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/16		118	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/16	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/16	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/16	<0.10		mg/L	
3859755	BHR	RPD [YU9580-01]	>C10-C16 Hydrocarbons	2014/12/16	NC		%	40
			>C16-C21 Hydrocarbons	2014/12/16	NC		%	40
			>C21-<C32 Hydrocarbons	2014/12/16	NC		%	40
3860089	ALG	Matrix Spike [YU9440-05]	Total Mercury (Hg)	2014/12/16		102	%	80 - 120
3860089	ALG	Spiked Blank	Total Mercury (Hg)	2014/12/16		100	%	80 - 120
3860089	ALG	Method Blank	Total Mercury (Hg)	2014/12/16	<0.013		ug/L	
3860089	ALG	RPD [YU9439-05]	Total Mercury (Hg)	2014/12/16	NC		%	20
3860847	GTH	Matrix Spike [YU9440-08]	D10-Anthracene	2014/12/18		79	%	30 - 130
			D14-Terphenyl	2014/12/18		78 (1)	%	30 - 130
			D8-Acenaphthylene	2014/12/18		77	%	30 - 130
			1-Methylnaphthalene	2014/12/18		77	%	30 - 130
			2-Methylnaphthalene	2014/12/18		80	%	30 - 130
			Acenaphthene	2014/12/18		82	%	30 - 130
			Acenaphthylene	2014/12/18		87	%	30 - 130
			Anthracene	2014/12/18		92	%	30 - 130
			Benzo(a)anthracene	2014/12/18		95	%	30 - 130
			Benzo(a)pyrene	2014/12/18		94	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		98	%	30 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Benzo(g,h,i)perylene	2014/12/18		82	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		92	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		89	%	30 - 130
			Chrysene	2014/12/18		100	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		71	%	30 - 130
			Fluoranthene	2014/12/18		91	%	30 - 130
			Fluorene	2014/12/18		90	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		77	%	30 - 130
			Naphthalene	2014/12/18		82	%	30 - 130
			Perylene	2014/12/18		84	%	30 - 130
			Phenanthrene	2014/12/18		89	%	30 - 130
			Pyrene	2014/12/18		92	%	30 - 130
3860847	GTH	Spiked Blank	D10-Anthracene	2014/12/18		102	%	30 - 130
			D14-Terphenyl	2014/12/18		98	%	30 - 130
			D8-Acenaphthylene	2014/12/18		102	%	30 - 130
			1-Methylnaphthalene	2014/12/18		100	%	30 - 130
			2-Methylnaphthalene	2014/12/18		115	%	30 - 130
			Acenaphthene	2014/12/18		108	%	30 - 130
			Acenaphthylene	2014/12/18		113	%	30 - 130
			Anthracene	2014/12/18		114	%	30 - 130
			Benzo(a)anthracene	2014/12/18		120	%	30 - 130
			Benzo(a)pyrene	2014/12/18		123	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		113	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/18		121	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		120	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		118	%	30 - 130
			Chrysene	2014/12/18		122	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		109	%	30 - 130
			Fluoranthene	2014/12/18		117	%	30 - 130
			Fluorene	2014/12/18		117	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		117	%	30 - 130
			Naphthalene	2014/12/18		108	%	30 - 130
			Perylene	2014/12/18		123	%	30 - 130
			Phenanthrene	2014/12/18		114	%	30 - 130
			Pyrene	2014/12/18		116	%	30 - 130
3860847	GTH	Method Blank	D10-Anthracene	2014/12/18		108	%	30 - 130
			D14-Terphenyl	2014/12/18		106	%	30 - 130
			D8-Acenaphthylene	2014/12/18		99	%	30 - 130
			1-Methylnaphthalene	2014/12/18	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/18	<0.050		ug/L	
			Acenaphthene	2014/12/18	<0.010		ug/L	
			Acenaphthylene	2014/12/18	<0.010		ug/L	
			Anthracene	2014/12/18	<0.010		ug/L	
			Benzo(a)anthracene	2014/12/18	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/18	<0.010		ug/L	
			Benzo(b)fluoranthene	2014/12/18	<0.010		ug/L	
			Benzo(g,h,i)perylene	2014/12/18	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/18	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/18	<0.010		ug/L	
			Chrysene	2014/12/18	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/18	<0.010		ug/L	
			Fluoranthene	2014/12/18	<0.010		ug/L	
			Fluorene	2014/12/18	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/18	<0.010		ug/L	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Naphthalene	2014/12/18	<0.20		ug/L	
			Perylene	2014/12/18	<0.010		ug/L	
			Phenanthrene	2014/12/18	<0.010		ug/L	
			Pyrene	2014/12/18	<0.010		ug/L	
3860847	GTH	RPD [YU9439-08]	1-Methylnaphthalene	2014/12/18	21		%	40
			2-Methylnaphthalene	2014/12/18	68 (2)		%	40
			Acenaphthene	2014/12/18	5.6		%	40
			Acenaphthylene	2014/12/18	NC		%	40
			Anthracene	2014/12/18	11		%	40
			Benzo(a)anthracene	2014/12/18	NC		%	40
			Benzo(a)pyrene	2014/12/18	NC		%	40
			Benzo(b)fluoranthene	2014/12/18	NC		%	40
			Benzo(g,h,i)perylene	2014/12/18	NC		%	40
			Benzo(j)fluoranthene	2014/12/18	NC		%	40
			Benzo(k)fluoranthene	2014/12/18	NC		%	40
			Chrysene	2014/12/18	NC		%	40
			Dibenz(a,h)anthracene	2014/12/18	NC		%	40
			Fluoranthene	2014/12/18	64 (2)		%	40
			Fluorene	2014/12/18	3.2		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/18	NC		%	40
			Naphthalene	2014/12/18	NC		%	40
			Perylene	2014/12/18	NC		%	40
			Phenanthrene	2014/12/18	20		%	40
			Pyrene	2014/12/18	71 (2)		%	40
3861064	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/16		98	%	80 - 120
3861064	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/16		98	%	80 - 120
3861064	MCY	Method Blank	Total Organic Carbon (C)	2014/12/16	<0.50		mg/L	
3861064	MCY	RPD [YU9458-04]	Total Organic Carbon (C)	2014/12/16	NC		%	20
3861066	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/16		99	%	80 - 120
3861066	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/16		97	%	80 - 120
3861066	MCY	Method Blank	Total Organic Carbon (C)	2014/12/16	<0.50		mg/L	
3861066	MCY	RPD	Total Organic Carbon (C)	2014/12/16	NC		%	20
3861176	ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/12/16		92	%	80 - 120
3861176	ARS	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/16		95	%	80 - 120
3861176	ARS	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/16	<0.050		mg/L	
3861176	ARS	RPD	Nitrogen (Ammonia Nitrogen)	2014/12/16	NC		%	25
3861179	ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/12/16		NC	%	80 - 120
3861179	ARS	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/16		96	%	80 - 120
3861179	ARS	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/16	<0.050		mg/L	
3861179	ARS	RPD	Nitrogen (Ammonia Nitrogen)	2014/12/16	0.58		%	25
3861345	ARS	Matrix Spike	Total Alkalinity (Total as CaCO3)	2014/12/16		89	%	80 - 120
3861345	ARS	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/16		104	%	80 - 120
3861345	ARS	Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/16	<5.0		mg/L	
3861345	ARS	RPD	Total Alkalinity (Total as CaCO3)	2014/12/16	NC		%	25
3861347	ARS	Matrix Spike	Dissolved Chloride (Cl)	2014/12/17		NC	%	80 - 120
3861347	ARS	QC Standard	Dissolved Chloride (Cl)	2014/12/17		111	%	80 - 120
3861347	ARS	Spiked Blank	Dissolved Chloride (Cl)	2014/12/17		101	%	80 - 120
3861347	ARS	Method Blank	Dissolved Chloride (Cl)	2014/12/17	<1.0		mg/L	
3861347	ARS	RPD	Dissolved Chloride (Cl)	2014/12/17	1.3		%	25
3861348	ARS	Matrix Spike	Dissolved Sulphate (SO4)	2014/12/17		NC	%	80 - 120
3861348	ARS	Spiked Blank	Dissolved Sulphate (SO4)	2014/12/17		102	%	80 - 120
3861348	ARS	Method Blank	Dissolved Sulphate (SO4)	2014/12/17	<2.0		mg/L	
3861348	ARS	RPD	Dissolved Sulphate (SO4)	2014/12/17	0.40		%	25
3861350	ARS	Matrix Spike	Reactive Silica (SiO2)	2014/12/16		NC	%	80 - 120

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3861350	ARS	Spiked Blank	Reactive Silica (SiO2)	2014/12/16		102	%	80 - 120
3861350	ARS	Method Blank	Reactive Silica (SiO2)	2014/12/16	<0.50		mg/L	
3861350	ARS	RPD	Reactive Silica (SiO2)	2014/12/16	0.19		%	25
3861358	ARS	Spiked Blank	Colour	2014/12/17		99	%	80 - 120
3861358	ARS	Method Blank	Colour	2014/12/17	<5.0		TCU	
3861358	ARS	RPD	Colour	2014/12/17	NC		%	25
3861371	ARS	Matrix Spike	Orthophosphate (P)	2014/12/17		101	%	80 - 120
3861371	ARS	Spiked Blank	Orthophosphate (P)	2014/12/17		103	%	80 - 120
3861371	ARS	Method Blank	Orthophosphate (P)	2014/12/17	<0.010		mg/L	
3861371	ARS	RPD	Orthophosphate (P)	2014/12/17	NC		%	25
3861379	ARS	Matrix Spike	Nitrate + Nitrite	2014/12/17		104	%	80 - 120
3861379	ARS	Spiked Blank	Nitrate + Nitrite	2014/12/17		105	%	80 - 120
3861379	ARS	Method Blank	Nitrate + Nitrite	2014/12/17	<0.050		mg/L	
3861379	ARS	RPD	Nitrate + Nitrite	2014/12/17	NC		%	25
3861387	ARS	Matrix Spike	Nitrite (N)	2014/12/17		100	%	80 - 120
3861387	ARS	Spiked Blank	Nitrite (N)	2014/12/17		111	%	80 - 120
3861387	ARS	Method Blank	Nitrite (N)	2014/12/17	<0.010		mg/L	
3861387	ARS	RPD	Nitrite (N)	2014/12/17	NC		%	25
3861392	ARS	Matrix Spike	Total Alkalinity (Total as CaCO3)	2014/12/16		NC	%	80 - 120
3861392	ARS	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/16		106	%	80 - 120
3861392	ARS	Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/16	<5.0		mg/L	
3861392	ARS	RPD	Total Alkalinity (Total as CaCO3)	2014/12/16	0.87		%	25
3861396	ARS	Matrix Spike	Dissolved Chloride (Cl)	2014/12/17		NC	%	80 - 120
3861396	ARS	QC Standard	Dissolved Chloride (Cl)	2014/12/17		102	%	80 - 120
3861396	ARS	Spiked Blank	Dissolved Chloride (Cl)	2014/12/17		102	%	80 - 120
3861396	ARS	Method Blank	Dissolved Chloride (Cl)	2014/12/17	<1.0		mg/L	
3861396	ARS	RPD	Dissolved Chloride (Cl)	2014/12/17	0.68		%	25
3861397	ARS	Matrix Spike	Dissolved Sulphate (SO4)	2014/12/17		NC	%	80 - 120
3861397	ARS	Spiked Blank	Dissolved Sulphate (SO4)	2014/12/17		101	%	80 - 120
3861397	ARS	Method Blank	Dissolved Sulphate (SO4)	2014/12/17	<2.0		mg/L	
3861397	ARS	RPD	Dissolved Sulphate (SO4)	2014/12/17	0.31		%	25
3861399	ARS	Matrix Spike	Reactive Silica (SiO2)	2014/12/16		100	%	80 - 120
3861399	ARS	Spiked Blank	Reactive Silica (SiO2)	2014/12/16		103	%	80 - 120
3861399	ARS	Method Blank	Reactive Silica (SiO2)	2014/12/16	<0.50		mg/L	
3861399	ARS	RPD	Reactive Silica (SiO2)	2014/12/16	0.36		%	25
3861401	ARS	Spiked Blank	Colour	2014/12/17		102	%	80 - 120
3861401	ARS	Method Blank	Colour	2014/12/17	<5.0		TCU	
3861401	ARS	RPD	Colour	2014/12/17	NC		%	25
3861402	ARS	Matrix Spike	Orthophosphate (P)	2014/12/17		99	%	80 - 120
3861402	ARS	Spiked Blank	Orthophosphate (P)	2014/12/17		100	%	80 - 120
3861402	ARS	Method Blank	Orthophosphate (P)	2014/12/17	<0.010		mg/L	
3861402	ARS	RPD	Orthophosphate (P)	2014/12/17	NC		%	25
3861404	ARS	Matrix Spike	Nitrate + Nitrite	2014/12/17		99	%	80 - 120
3861404	ARS	Spiked Blank	Nitrate + Nitrite	2014/12/17		100	%	80 - 120
3861404	ARS	Method Blank	Nitrate + Nitrite	2014/12/17	<0.050		mg/L	
3861405	ARS	Matrix Spike	Nitrite (N)	2014/12/17		111	%	80 - 120
3861405	ARS	Spiked Blank	Nitrite (N)	2014/12/17		101	%	80 - 120
3861405	ARS	Method Blank	Nitrite (N)	2014/12/17	<0.010		mg/L	
3861405	ARS	RPD	Nitrite (N)	2014/12/17	NC		%	25
3861513	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/16		96	%	80 - 120
3861513	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/16		96	%	80 - 120
3861513	MCY	Method Blank	Total Organic Carbon (C)	2014/12/16	<0.50		mg/L	
3861513	MCY	RPD	Total Organic Carbon (C)	2014/12/16	3.0		%	20
3862432	DLB	Matrix Spike [YU9448-02]	Dissolved Aluminum (Al)	2014/12/17		104	%	80 - 120

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			Dissolved Antimony (Sb)	2014/12/17		103	%	80 - 120
			Dissolved Arsenic (As)	2014/12/17		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/17		94	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/17		99	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/17		98	%	80 - 120
			Dissolved Boron (B)	2014/12/17		102	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/17		103	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/17		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/17		96	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/17		96	%	80 - 120
			Dissolved Copper (Cu)	2014/12/17		93	%	80 - 120
			Dissolved Iron (Fe)	2014/12/17		NC	%	80 - 120
			Dissolved Lead (Pb)	2014/12/17		94	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/17		NC	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/17		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/17		103	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/17		96	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/17		106	%	80 - 120
			Dissolved Potassium (K)	2014/12/17		NC	%	80 - 120
			Dissolved Selenium (Se)	2014/12/17		107	%	80 - 120
			Dissolved Silver (Ag)	2014/12/17		97	%	80 - 120
			Dissolved Sodium (Na)	2014/12/17		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/17		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/17		101	%	80 - 120
			Dissolved Tin (Sn)	2014/12/17		104	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/17		101	%	80 - 120
			Dissolved Uranium (U)	2014/12/17		104	%	80 - 120
			Dissolved Vanadium (V)	2014/12/17		98	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/17		96	%	80 - 120
3862432	DLB	Spiked Blank	Dissolved Aluminum (Al)	2014/12/17		108	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/17		105	%	80 - 120
			Dissolved Arsenic (As)	2014/12/17		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/17		97	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/17		101	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/17		103	%	80 - 120
			Dissolved Boron (B)	2014/12/17		102	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/17		103	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/17		98	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/17		96	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/17		97	%	80 - 120
			Dissolved Copper (Cu)	2014/12/17		97	%	80 - 120
			Dissolved Iron (Fe)	2014/12/17		106	%	80 - 120
			Dissolved Lead (Pb)	2014/12/17		97	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/17		107	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/17		99	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/17		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/17		98	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/17		110	%	80 - 120
			Dissolved Potassium (K)	2014/12/17		106	%	80 - 120
			Dissolved Selenium (Se)	2014/12/17		102	%	80 - 120
			Dissolved Silver (Ag)	2014/12/17		101	%	80 - 120
			Dissolved Sodium (Na)	2014/12/17		104	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/17		98	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/17		102	%	80 - 120

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			Dissolved Tin (Sn)	2014/12/17		103	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/17		100	%	80 - 120
			Dissolved Uranium (U)	2014/12/17		105	%	80 - 120
			Dissolved Vanadium (V)	2014/12/17		97	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/17		100	%	80 - 120
3862432	DLB	Method Blank	Dissolved Aluminum (Al)	2014/12/17	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/17	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/17	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/17	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/17	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/17	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/17	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/17	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/17	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/17	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/17	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/17	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/17	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/17	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/17	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/17	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/17	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/17	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/17	<100		ug/L	
			Dissolved Potassium (K)	2014/12/17	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/17	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/17	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/17	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/17	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/17	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/17	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/17	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/17	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/17	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/17	<5.0		ug/L	
3862432	DLB	RPD [YU9448-02]	Dissolved Aluminum (Al)	2014/12/17	NC		%	20
			Dissolved Antimony (Sb)	2014/12/17	NC		%	20
			Dissolved Arsenic (As)	2014/12/17	NC		%	20
			Dissolved Barium (Ba)	2014/12/17	2.9		%	20
			Dissolved Beryllium (Be)	2014/12/17	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/17	NC		%	20
			Dissolved Boron (B)	2014/12/17	NC		%	20
			Dissolved Cadmium (Cd)	2014/12/17	1.7		%	20
			Dissolved Calcium (Ca)	2014/12/17	0.59		%	20
			Dissolved Chromium (Cr)	2014/12/17	NC		%	20
			Dissolved Cobalt (Co)	2014/12/17	NC		%	20
			Dissolved Copper (Cu)	2014/12/17	NC		%	20
			Dissolved Iron (Fe)	2014/12/17	0.91		%	20
			Dissolved Lead (Pb)	2014/12/17	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/17	0.41		%	20
			Dissolved Manganese (Mn)	2014/12/17	0.66		%	20
			Dissolved Molybdenum (Mo)	2014/12/17	NC		%	20
			Dissolved Nickel (Ni)	2014/12/17	NC		%	20
			Dissolved Phosphorus (P)	2014/12/17	NC		%	20

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			Dissolved Potassium (K)	2014/12/17	1.7		%	20
			Dissolved Selenium (Se)	2014/12/17	NC		%	20
			Dissolved Silver (Ag)	2014/12/17	NC		%	20
			Dissolved Sodium (Na)	2014/12/17	0.014		%	20
			Dissolved Strontium (Sr)	2014/12/17	0.13		%	20
			Dissolved Thallium (Tl)	2014/12/17	NC		%	20
			Dissolved Tin (Sn)	2014/12/17	NC		%	20
			Dissolved Titanium (Ti)	2014/12/17	NC		%	20
			Dissolved Uranium (U)	2014/12/17	NC		%	20
			Dissolved Vanadium (V)	2014/12/17	NC		%	20
			Dissolved Zinc (Zn)	2014/12/17	NC		%	20
3862435	DLB	Matrix Spike	Dissolved Aluminum (Al)	2014/12/18		105	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/18		106	%	80 - 120
			Dissolved Arsenic (As)	2014/12/18		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/18		97	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/18		100	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/18		105	%	80 - 120
			Dissolved Boron (B)	2014/12/18		80	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/18		102	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/18		97	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/18		96	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/18		96	%	80 - 120
			Dissolved Copper (Cu)	2014/12/18		96	%	80 - 120
			Dissolved Iron (Fe)	2014/12/18		104	%	80 - 120
			Dissolved Lead (Pb)	2014/12/18		99	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/18		105	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/18		100	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/18		103	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/18		98	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/18		111	%	80 - 120
			Dissolved Potassium (K)	2014/12/18		107	%	80 - 120
			Dissolved Selenium (Se)	2014/12/18		102	%	80 - 120
			Dissolved Silver (Ag)	2014/12/18		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/18		102	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/18		100	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/18		103	%	80 - 120
			Dissolved Tin (Sn)	2014/12/18		107	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/18		100	%	80 - 120
			Dissolved Uranium (U)	2014/12/18		107	%	80 - 120
			Dissolved Vanadium (V)	2014/12/18		96	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/18		99	%	80 - 120
3862435	DLB	Spiked Blank	Dissolved Aluminum (Al)	2014/12/17		105	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/17		103	%	80 - 120
			Dissolved Arsenic (As)	2014/12/17		103	%	80 - 120
			Dissolved Barium (Ba)	2014/12/17		98	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/17		98	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/17		102	%	80 - 120
			Dissolved Boron (B)	2014/12/17		100	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/17		102	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/17		94	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/17		99	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/17		100	%	80 - 120
			Dissolved Copper (Cu)	2014/12/17		99	%	80 - 120
			Dissolved Iron (Fe)	2014/12/17		107	%	80 - 120

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Lead (Pb)	2014/12/17		97	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/17		108	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/17		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/17		103	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/17		103	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/17		108	%	80 - 120
			Dissolved Potassium (K)	2014/12/17		106	%	80 - 120
			Dissolved Selenium (Se)	2014/12/17		102	%	80 - 120
			Dissolved Silver (Ag)	2014/12/17		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/17		105	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/17		98	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/17		102	%	80 - 120
			Dissolved Tin (Sn)	2014/12/17		105	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/17		100	%	80 - 120
			Dissolved Uranium (U)	2014/12/17		105	%	80 - 120
			Dissolved Vanadium (V)	2014/12/17		100	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/17		101	%	80 - 120
3862435	DLB	Method Blank	Dissolved Aluminum (Al)	2014/12/17	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/17	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/17	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/17	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/17	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/17	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/17	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/17	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/17	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/17	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/17	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/17	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/17	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/17	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/17	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/17	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/17	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/17	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/17	<100		ug/L	
			Dissolved Potassium (K)	2014/12/17	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/17	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/17	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/17	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/17	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/17	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/17	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/17	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/17	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/17	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/17	<5.0		ug/L	
3862435	DLB	RPD	Dissolved Arsenic (As)	2014/12/18	NC		%	20
			Dissolved Barium (Ba)	2014/12/18	NC		%	20
			Dissolved Chromium (Cr)	2014/12/18	NC		%	20
			Dissolved Copper (Cu)	2014/12/18	NC		%	20
			Dissolved Lead (Pb)	2014/12/18	NC		%	20
			Dissolved Zinc (Zn)	2014/12/18	NC		%	20
3862571	KSR	QC Standard	pH	2014/12/17		100	%	97 - 103

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Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3862571	KSR	RPD	pH	2014/12/17	1.4 (3)		%	N/A
3862580	KSR	Spiked Blank	Conductivity	2014/12/17		98	%	80 - 120
3862580	KSR	Method Blank	Conductivity	2014/12/17	1.5, RDL=1.0		uS/cm	
3862581	KSR	QC Standard	pH	2014/12/17		100	%	97 - 103
3862581	KSR	RPD	pH	2014/12/17	0.61		%	N/A
3862586	KSR	Spiked Blank	Conductivity	2014/12/17		97	%	80 - 120
3862586	KSR	Method Blank	Conductivity	2014/12/17	1.5, RDL=1.0		uS/cm	
3862586	KSR	RPD	Conductivity	2014/12/17	0.00064		%	25
3862587	KSR	QC Standard	pH	2014/12/17		100	%	97 - 103
3862587	KSR	RPD [YU9441-01]	pH	2014/12/17	0.90		%	N/A
3862589	KSR	Spiked Blank	Conductivity	2014/12/17		97	%	80 - 120
3862589	KSR	Method Blank	Conductivity	2014/12/17	1.6, RDL=1.0		uS/cm	
3862589	KSR	RPD [YU9441-01]	Conductivity	2014/12/17	0.98		%	25
3863030	KSR	QC Standard	Turbidity	2014/12/17		109	%	80 - 120
3863030	KSR	Method Blank	Turbidity	2014/12/17	<0.10		NTU	
3863030	KSR	RPD	Turbidity	2014/12/17	4.8		%	25
3863035	KSR	QC Standard	Turbidity	2014/12/17		104	%	80 - 120
3863035	KSR	Method Blank	Turbidity	2014/12/17	<0.10		NTU	
3863035	KSR	RPD	Turbidity	2014/12/17	3.8		%	25

N/A = Not Applicable

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 sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) PAH sample contained sediment.

(2) Duplicate: results are outside acceptance limit. Insufficient sample for repeat analysis.

(3) pH value is beyond linear range, extended linearity has been confirmed.

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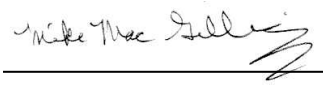
Maxxam Job #: B4N4511
Report Date: 2014/12/19

Dillon Consulting Limited
Your P.O. #: 4104251070

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)

Rose MacDonald, Scientific Specialist (Organics)

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Your P.O. #: 4104257070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/22
Report #: R3268404
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N6600
Received: 2014/12/12, 16:55

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide (1)	1	N/A	2014/12/18	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide (1)	10	N/A	2014/12/19	N/A	SM 22 4500-CO2 D
Alkalinity (1)	11	N/A	2014/12/18	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	11	N/A	2014/12/19	ATL SOP 00014	SM 22 4500-Cl- E m
Colour (1)	11	N/A	2014/12/19	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	11	N/A	2014/12/18	ATL SOP 00004	SM 22 2510B m
TEH in Water (PIRI) (1)	12	2014/12/16	2014/12/17	ATL SOP 00113	Atl. PIRI v3 m
Hardness (calculated as CaCO3) (1)	11	N/A	2014/12/19	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL) (1)	11	2014/12/17	2014/12/17	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd) (1)	10	N/A	2014/12/18	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd) (1)	1	N/A	2014/12/19	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	11	N/A	2014/12/22		Auto Calc.
Anion and Cation Sum (1)	11	N/A	2014/12/19		Auto Calc.
Nitrogen Ammonia - water (1)	5	N/A	2014/12/17	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water (1)	6	N/A	2014/12/18	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	11	N/A	2014/12/18	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	11	N/A	2014/12/18	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	11	N/A	2014/12/19	ATL SOP 00018	ASTM D3867
PAH in Water by GC/MS (SIM) (1)	3	2014/12/17	2014/12/18	ATL SOP 00103	EPA 8270D m
PAH in Water by GC/MS (SIM) (1)	8	2014/12/17	2014/12/19	ATL SOP 00103	EPA 8270D m
pH (1, 2)	11	N/A	2014/12/18	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	11	N/A	2014/12/19	ATL SOP 00021	EPA 365.2 m
VPH in Water (PIRI) (1)	12	N/A	2014/12/18	ATL SOP 00118	Atl. PIRI v3 m
Sat. pH and Langelier Index (@ 20C) (1)	11	N/A	2014/12/22	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	11	N/A	2014/12/22	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	11	N/A	2014/12/19	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	10	N/A	2014/12/19	ATL SOP 00023	EPA 375.4 R1978 m
Sulphate (1)	1	N/A	2014/12/22	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc) (1)	11	N/A	2014/12/22		Auto Calc.
Organic carbon - Total (TOC) (1, 3)	11	N/A	2014/12/16	ATL SOP 00037	SM 22 5310C m

Your P.O. #: 4104257070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/22
Report #: R3268404
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N6600
Received: 2014/12/12, 16:55

Sample Matrix: Water
Samples Received: 12

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
ModTPH (T1) Calc. for Water (1)	12	N/A	2014/12/18	N/A	Atl. PIRI v3 m
Turbidity (1)	9	N/A	2014/12/18	ATL SOP 00011	EPA 180.1 R2 m
Turbidity (1)	2	N/A	2014/12/19	ATL SOP 00011	EPA 180.1 R2 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902)567-1255 Ext:17

==========

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YV9156	YV9166	YV9167	YV9169	YV9170		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COSCW-002-MWB	COSCW-002-MWA	COSCW-001-MWB	COBT-003-MWB	SCU7-003-MW	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3861535
Toluene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3861535
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3861535
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	3861535
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3861535
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3861665
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3861665
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3861665
Modified TPH (Tier1)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3859981
Reached Baseline at C32	mg/L	NA	NA	NA	NA	NA	N/A	3861665
Hydrocarbon Resemblance	mg/L	NA	NA	NA	NA	NA	N/A	3861665
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	102	100	101	101	102		3861665
n-Dotriacontane - Extractable	%	103	104	104	105	106		3861665
Isobutylbenzene - Volatile	%	98	100	99	100	97		3861535

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YV9171	YV9172	YV9173	YV9174	YV9175		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COBC-002-MWA	COBC-004-MWA	COBC-001-MWA	SCU7-001-MWA	CONCW-101-MWB	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	<0.0010	0.0045	<0.0010	<0.0010	0.0010	3861535
Toluene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3861535
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3861535
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	3861535
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3861535
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	0.058	<0.050	<0.050	0.050	3861665
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3861665
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3861665
Modified TPH (Tier1)	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	3859981
Reached Baseline at C32	mg/L	NA	NA	NA	NA	NA	N/A	3861665
Hydrocarbon Resemblance	mg/L	NA	NA	NA	NA	NA	N/A	3861665
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	105	104	103	104	105		3861665
n-Dotriacontane - Extractable	%	110	107	106	106	106		3861665
Isobutylbenzene - Volatile	%	99	100	101	99	100		3861535

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YV9176	YV9178		
Sampling Date		2014/12/12	2014/12/12		
COC Number		496259	496259		
	Units	CODT-203-MW	TB-003	RDL	QC Batch
Petroleum Hydrocarbons					
Benzene	mg/L	<0.0010	<0.0010	0.0010	3861535
Toluene	mg/L	<0.0010	<0.0010	0.0010	3861535
Ethylbenzene	mg/L	<0.0010	<0.0010	0.0010	3861535
Total Xylenes	mg/L	<0.0020	<0.0020	0.0020	3861535
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	0.010	3861535
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	0.050	3861665
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	0.050	3861665
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	0.10	3861665
Modified TPH (Tier1)	mg/L	<0.10	<0.10	0.10	3859981
Reached Baseline at C32	mg/L	NA	NA	N/A	3861665
Hydrocarbon Resemblance	mg/L	NA	NA	N/A	3861665
Surrogate Recovery (%)					
Isobutylbenzene - Extractable	%	104	105		3861665
n-Dotriacontane - Extractable	%	105	108		3861665
Isobutylbenzene - Volatile	%	101	98		3861535

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9156		YV9166			YV9167		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	COSCW-002-MWB	QC Batch	COSCW-002-MWA	RDL	QC Batch	COSCW-001-MWB	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	7.21	3860253	10.2	N/A	3860253	5.28	N/A	3860253
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	3860250	330	1.0	3860250	200	1.0	3860250
Calculated TDS	mg/L	430	3860258	570	1.0	3860258	290	1.0	3860258
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	3860250	<1.0	1.0	3860250	1.5	1.0	3860250
Cation Sum	me/L	7.09	3860253	9.90	N/A	3860253	5.11	N/A	3860253
Hardness (CaCO3)	mg/L	300	3860251	480	1.0	3860251	210	1.0	3860251
Ion Balance (% Difference)	%	0.840	3860252	1.64	N/A	3860252	1.64	N/A	3860252
Langelier Index (@ 20C)	N/A	0.453	3860256	0.744		3860256	0.587		3860256
Langelier Index (@ 4C)	N/A	0.205	3860257	0.497		3860257	0.338		3860257
Nitrate (N)	mg/L	0.11	3860254	0.10	0.050	3860254	0.091	0.050	3860254
Saturation pH (@ 20C)	N/A	7.19	3860256	6.75		3860256	7.29		3860256
Saturation pH (@ 4C)	N/A	7.43	3860257	7.00		3860257	7.54		3860257
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	180	3863116	340	25	3863116	210	25	3863116
Dissolved Chloride (Cl)	mg/L	9.0	3863140	8.2	1.0	3863140	13	1.0	3863140
Colour	TCU	<5.0	3863147	<5.0	5.0	3863147	<5.0	5.0	3863147
Nitrate + Nitrite	mg/L	0.11	3863149	0.10	0.050	3863149	0.091	0.050	3863149
Nitrite (N)	mg/L	<0.010	3863151	<0.010	0.010	3863151	<0.010	0.010	3863151
Nitrogen (Ammonia Nitrogen)	mg/L	0.11	3862767	0.066	0.050	3862767	0.11	0.050	3862767
Total Organic Carbon (C)	mg/L	0.50	3861513	<0.50	0.50	3861513	1.2	0.50	3861513
Orthophosphate (P)	mg/L	<0.010	3863148	<0.010	0.010	3863148	<0.010	0.010	3863148
pH	pH	7.64	3864426	7.49	N/A	3864209	7.88	N/A	3864426
Reactive Silica (SiO2)	mg/L	9.1	3863146	12	0.50	3863146	11	0.50	3863146
Dissolved Sulphate (SO4)	mg/L	160	3863141	160	10	3863141	38	2.0	3863141
Turbidity	NTU	3.9	3865012	8.1	0.10	3865012	0.32	0.10	3865012
Conductivity	uS/cm	640	3864427	840	1.0	3864212	460	1.0	3864427
Metals									
Dissolved Aluminum (Al)	ug/L	11	3864214	17	5.0	3864214	22	5.0	3864214
Dissolved Antimony (Sb)	ug/L	<1.0	3864214	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Arsenic (As)	ug/L	<1.0	3864214	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Barium (Ba)	ug/L	34	3864214	22	1.0	3864214	130	1.0	3864214
Dissolved Beryllium (Be)	ug/L	<1.0	3864214	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Bismuth (Bi)	ug/L	<2.0	3864214	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Boron (B)	ug/L	<50	3864214	<50	50	3864214	62	50	3864214
Dissolved Cadmium (Cd)	ug/L	0.63	3864214	0.26	0.010	3864214	0.22	0.010	3864214

RDL = Reportable Detection Limit
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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9156		YV9166			YV9167		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	COSCW-002-MWB	QC Batch	COSCW-002-MWA	RDL	QC Batch	COSCW-001-MWB	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	100000	3864214	160000	100	3864214	65000	100	3864214
Dissolved Chromium (Cr)	ug/L	<1.0	3864214	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Cobalt (Co)	ug/L	<0.40	3864214	<0.40	0.40	3864214	<0.40	0.40	3864214
Dissolved Copper (Cu)	ug/L	4.5	3864214	12	2.0	3864214	<2.0	2.0	3864214
Dissolved Iron (Fe)	ug/L	80	3864214	<50	50	3864214	57	50	3864214
Dissolved Lead (Pb)	ug/L	<0.50	3864214	<0.50	0.50	3864214	1.1	0.50	3864214
Dissolved Magnesium (Mg)	ug/L	11000	3864214	17000	100	3864214	11000	100	3864214
Dissolved Manganese (Mn)	ug/L	130	3864214	5.2	2.0	3864214	66	2.0	3864214
Dissolved Molybdenum (Mo)	ug/L	7.2	3864214	<2.0	2.0	3864214	5.7	2.0	3864214
Dissolved Nickel (Ni)	ug/L	<2.0	3864214	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Phosphorus (P)	ug/L	<100	3864214	<100	100	3864214	<100	100	3864214
Dissolved Potassium (K)	ug/L	2100	3864214	1600	100	3864214	3700	100	3864214
Dissolved Selenium (Se)	ug/L	<1.0	3864214	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Silver (Ag)	ug/L	<0.10	3864214	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Sodium (Na)	ug/L	25000	3864214	7400	100	3864214	19000	100	3864214
Dissolved Strontium (Sr)	ug/L	190	3864214	250	2.0	3864214	1400	2.0	3864214
Dissolved Thallium (Tl)	ug/L	<0.10	3864214	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Tin (Sn)	ug/L	<2.0	3864214	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Titanium (Ti)	ug/L	<2.0	3864214	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Uranium (U)	ug/L	3.2	3864214	4.9	0.10	3864214	1.2	0.10	3864214
Dissolved Vanadium (V)	ug/L	<2.0	3864214	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Zinc (Zn)	ug/L	47	3864214	59	5.0	3864214	20	5.0	3864214

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Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9169		YV9170			YV9171		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	COBT-003-MWB	RDL	SCU7-003-MW	RDL	QC Batch	COBC-002-MWA	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	12.2	N/A	10.9	N/A	3860253	12.8	N/A	3860253
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	220	1.0	190	1.0	3860250	61	1.0	3860250
Calculated TDS	mg/L	700	1.0	640	1.0	3860258	790	1.0	3860258
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	3860250	<1.0	1.0	3860250
Cation Sum	me/L	12.1	N/A	10.4	N/A	3860253	12.5	N/A	3860253
Hardness (CaCO3)	mg/L	340	1.0	360	1.0	3860251	380	1.0	3860251
Ion Balance (% Difference)	%	0.620	N/A	2.31	N/A	3860252	1.38	N/A	3860252
Langelier Index (@ 20C)	N/A	0.222		-0.374		3860256	-1.64		3860256
Langelier Index (@ 4C)	N/A	-0.0250		-0.622		3860257	-1.88		3860257
Nitrate (N)	mg/L	0.14	0.050	0.97	0.050	3860254	0.15	0.050	3860254
Saturation pH (@ 20C)	N/A	7.10		7.13		3860256	7.62		3860256
Saturation pH (@ 4C)	N/A	7.35		7.37		3860257	7.87		3860257
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	220	25	190	25	3863116	61	5.0	3863116
Dissolved Chloride (Cl)	mg/L	220	5.0	110	1.0	3863140	190	1.0	3863140
Colour	TCU	<5.0	5.0	<5.0	5.0	3863147	<5.0	5.0	3863147
Nitrate + Nitrite	mg/L	0.14	0.050	0.99	0.050	3863149	0.15	0.050	3863149
Nitrite (N)	mg/L	<0.010	0.010	0.020	0.010	3863151	<0.010	0.010	3863151
Nitrogen (Ammonia Nitrogen)	mg/L	0.074	0.050	1.0	0.050	3862767	0.057	0.050	3862767
Total Organic Carbon (C)	mg/L	<0.50	0.50	1.3	0.50	3861513	1.5	0.50	3861513
Orthophosphate (P)	mg/L	<0.010	0.010	0.011	0.010	3863148	<0.010	0.010	3863148
pH	pH	7.32	N/A	6.75	N/A	3864426	5.99	N/A	3864872
Reactive Silica (SiO2)	mg/L	13	0.50	9.6	0.50	3863146	4.4	0.50	3863146
Dissolved Sulphate (SO4)	mg/L	78	10	190	10	3863141	300	40	3868002
Turbidity	NTU	1.3	0.10	500	3.0	3865012	1.4	0.10	3866496
Conductivity	uS/cm	1200	1.0	1000	1.0	3864427	1300	1.0	3864896
Metals									
Dissolved Aluminum (Al)	ug/L	20	5.0	10	5.0	3864214	60	5.0	3864214
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Arsenic (As)	ug/L	3.4	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Barium (Ba)	ug/L	56	1.0	17	1.0	3864214	11	1.0	3864214
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Boron (B)	ug/L	64	50	100	50	3864214	79	50	3864214
Dissolved Cadmium (Cd)	ug/L	1.7	0.010	0.31	0.010	3864214	0.47	0.010	3864214

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9169		YV9170			YV9171		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	**COBT-003-MWB**	**RDL**	**SCU7-003-MW**	**RDL**	**QC Batch**	**COBC-002-MWA**	**RDL**	**QC Batch**
Dissolved Calcium (Ca)	ug/L	110000	100	130000	100	3864214	130000	100	3864214
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Cobalt (Co)	ug/L	0.42	0.40	0.69	0.40	3864214	0.41	0.40	3864214
Dissolved Copper (Cu)	ug/L	<2.0	2.0	<2.0	2.0	3864214	7.2	2.0	3864214
Dissolved Iron (Fe)	ug/L	240	50	190	50	3864214	<50	50	3864214
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3864214	0.57	0.50	3864214
Dissolved Magnesium (Mg)	ug/L	13000	100	12000	100	3864214	13000	100	3864214
Dissolved Manganese (Mn)	ug/L	2300	2.0	2400	2.0	3864214	51	2.0	3864214
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	3864214	<100	100	3864214
Dissolved Potassium (K)	ug/L	3100	100	5600	100	3864214	2200	100	3864214
Dissolved Selenium (Se)	ug/L	<1.0	1.0	<1.0	1.0	3864214	8.3	1.0	3864214
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Sodium (Na)	ug/L	120000	100	67000	100	3864214	110000	100	3864214
Dissolved Strontium (Sr)	ug/L	1500	2.0	530	2.0	3864214	500	2.0	3864214
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Uranium (U)	ug/L	0.26	0.10	0.28	0.10	3864214	<0.10	0.10	3864214
Dissolved Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Zinc (Zn)	ug/L	20	5.0	10	5.0	3864214	110	5.0	3864214

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9172		YV9173			YV9174		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	COBC-004-MWA	RDL	COBC-001-MWA	RDL	QC Batch	SCU7-001-MWA	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	3.59	N/A	9.12	N/A	3860253	22.2	N/A	3860253
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	98	1.0	160	1.0	3860250	220	1.0	3860250
Calculated TDS	mg/L	210	1.0	550	1.0	3860258	1400	1.0	3860258
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	3860250	<1.0	1.0	3860250
Cation Sum	me/L	3.46	N/A	8.90	N/A	3860253	21.9	N/A	3860253
Hardness (CaCO3)	mg/L	110	1.0	350	1.0	3860251	1000	1.0	3860251
Ion Balance (% Difference)	%	1.84	N/A	1.22	N/A	3860252	0.770	N/A	3860252
Langelier Index (@ 20C)	N/A	-0.0350		-0.0600		3860256	0.387		3860256
Langelier Index (@ 4C)	N/A	-0.285		-0.308		3860257	0.142		3860257
Nitrate (N)	mg/L	0.18	0.050	0.10	0.050	3860254	0.093	0.050	3860254
Saturation pH (@ 20C)	N/A	7.86		7.16		3860256	6.66		3860256
Saturation pH (@ 4C)	N/A	8.11		7.41		3860257	6.91		3860257
Inorganics									
Total Alkalinity (Total as CaCO3)	mg/L	99	10	160	25	3863116	220	25	3863116
Dissolved Chloride (Cl)	mg/L	41	1.0	78	1.0	3863140	55	1.0	3863140
Colour	TCU	<5.0	5.0	6.5	5.0	3863147	<5.0	5.0	3863147
Nitrate + Nitrite	mg/L	0.18	0.050	0.12	0.050	3863149	0.093	0.050	3863149
Nitrite (N)	mg/L	<0.010	0.010	0.017	0.010	3863151	<0.010	0.010	3863151
Nitrogen (Ammonia Nitrogen)	mg/L	<0.050	0.050	0.69	0.050	3862767	0.069	0.050	3862767
Total Organic Carbon (C)	mg/L	0.53	0.50	3.8	0.50	3861513	1.3	0.50	3861513
Orthophosphate (P)	mg/L	0.086	0.010	<0.010	0.010	3863148	<0.010	0.010	3863148
pH	pH	7.83	N/A	7.10	N/A	3864426	7.05	N/A	3864872
Reactive Silica (SiO2)	mg/L	13	0.50	11	0.50	3863146	19	0.50	3863146
Dissolved Sulphate (SO4)	mg/L	20	2.0	170	10	3863141	780	40	3863141
Turbidity	NTU	3.0	0.10	49	0.30	3865012	7.5	0.10	3866496
Conductivity	uS/cm	350	1.0	860	1.0	3864427	1800	1.0	3864896
Metals									
Dissolved Aluminum (Al)	ug/L	11	5.0	10	5.0	3864214	12	5.0	3864214
Dissolved Antimony (Sb)	ug/L	1.5	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Arsenic (As)	ug/L	4.6	1.0	2.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Barium (Ba)	ug/L	3.9	1.0	50	1.0	3864214	51	1.0	3864214
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Boron (B)	ug/L	<50	50	<50	50	3864214	<50	50	3864214
Dissolved Cadmium (Cd)	ug/L	0.12	0.010	0.058	0.010	3864214	0.18	0.010	3864214

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9172		YV9173			YV9174		
Sampling Date		2014/12/12		2014/12/12			2014/12/12		
COC Number		496259		496259			496259		
	Units	COBC-004-MWA	RDL	COBC-001-MWA	RDL	QC Batch	SCU7-001-MWA	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	34000	100	130000	100	3864214	390000	100	3864214
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	0.44	0.40	3864214	<0.40	0.40	3864214
Dissolved Copper (Cu)	ug/L	2.9	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Iron (Fe)	ug/L	<50	50	3900	50	3864214	<50	50	3864214
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3864214	<0.50	0.50	3864214
Dissolved Magnesium (Mg)	ug/L	5100	100	7200	100	3864214	15000	100	3864214
Dissolved Manganese (Mn)	ug/L	7.6	2.0	1200	2.0	3864214	160	2.0	3864214
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Phosphorus (P)	ug/L	140	100	<100	100	3864214	<100	100	3864214
Dissolved Potassium (K)	ug/L	2200	100	2400	100	3864214	2400	100	3864214
Dissolved Selenium (Se)	ug/L	<1.0	1.0	<1.0	1.0	3864214	<1.0	1.0	3864214
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Sodium (Na)	ug/L	29000	100	39000	100	3864214	27000	100	3864214
Dissolved Strontium (Sr)	ug/L	210	2.0	3600	2.0	3864214	6100	20	3864214
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3864214	<0.10	0.10	3864214
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Uranium (U)	ug/L	0.14	0.10	<0.10	0.10	3864214	6.6	0.10	3864214
Dissolved Vanadium (V)	ug/L	8.6	2.0	<2.0	2.0	3864214	<2.0	2.0	3864214
Dissolved Zinc (Zn)	ug/L	18	5.0	20	5.0	3864214	6.7	5.0	3864214

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9175		YV9176		
Sampling Date		2014/12/12		2014/12/12		
COC Number		496259		496259		
	Units	CONCW-101-MWB	RDL	CODT-203-MW	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	5.52	N/A	7.05	N/A	3860253
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	20	1.0	120	1.0	3860250
Calculated TDS	mg/L	400	1.0	450	1.0	3860258
Carb. Alkalinity (calc. as CaCO3)	mg/L	6.6	1.0	<1.0	1.0	3860250
Cation Sum	me/L	7.15	N/A	6.97	N/A	3860253
Hardness (CaCO3)	mg/L	220	1.0	290	1.0	3860251
Ion Balance (% Difference)	%	12.9	N/A	0.570	N/A	3860252
Langelier Index (@ 20C)	N/A	1.33		-0.166		3860256
Langelier Index (@ 4C)	N/A	1.08		-0.414		3860257
Nitrate (N)	mg/L	0.31	0.050	0.42	0.050	3860254
Saturation pH (@ 20C)	N/A	8.22		7.35		3860256
Saturation pH (@ 4C)	N/A	8.47		7.60		3860257
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	28	5.0	120	25	3863116
Dissolved Chloride (Cl)	mg/L	85	1.0	27	1.0	3863140
Colour	TCU	5.2	5.0	6.5	5.0	3863147
Nitrate + Nitrite	mg/L	0.33	0.050	0.42	0.050	3863149
Nitrite (N)	mg/L	0.026	0.010	<0.010	0.010	3863151
Nitrogen (Ammonia Nitrogen)	mg/L	0.35	0.050	0.10	0.050	3862767
Total Organic Carbon (C)	mg/L	2.7	0.50	4.4	0.50	3861513
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	3863148
pH	pH	9.55	N/A	7.19	N/A	3864426
Reactive Silica (SiO2)	mg/L	21	0.50	23	0.50	3863146
Dissolved Sulphate (SO4)	mg/L	120	10	190	10	3863141
Turbidity	NTU	1.8	0.10	14	0.10	3865012
Conductivity	uS/cm	580	1.0	660	1.0	3864427
Metals						
Dissolved Aluminum (Al)	ug/L	82	5.0	15	5.0	3864214
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	3864214
Dissolved Arsenic (As)	ug/L	8.2	1.0	<1.0	1.0	3864214
Dissolved Barium (Ba)	ug/L	46	1.0	58	1.0	3864214
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3864214
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3864214
Dissolved Boron (B)	ug/L	<50	50	57	50	3864214
Dissolved Cadmium (Cd)	ug/L	0.27	0.010	0.34	0.010	3864214

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N/A = Not Applicable

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YV9175		YV9176		
Sampling Date		2014/12/12		2014/12/12		
COC Number		496259		496259		
	Units	CONCW-101-MWB	RDL	CODT-203-MW	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	85000	100	110000	100	3864214
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3864214
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	3864214
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3.3	2.0	3864214
Dissolved Iron (Fe)	ug/L	<50	50	90	50	3864214
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3864214
Dissolved Magnesium (Mg)	ug/L	1800	100	6000	100	3864214
Dissolved Manganese (Mn)	ug/L	7.7	2.0	130	2.0	3864214
Dissolved Molybdenum (Mo)	ug/L	7.2	2.0	<2.0	2.0	3864214
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3864214
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	3864214
Dissolved Potassium (K)	ug/L	5500	100	2500	100	3864214
Dissolved Selenium (Se)	ug/L	3.1	1.0	1.0	1.0	3864214
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3864214
Dissolved Sodium (Na)	ug/L	59000	100	24000	100	3864214
Dissolved Strontium (Sr)	ug/L	540	2.0	260	2.0	3864214
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	0.19	0.10	3864214
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3864214
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3864214
Dissolved Uranium (U)	ug/L	0.68	0.10	0.72	0.10	3864214
Dissolved Vanadium (V)	ug/L	2.7	2.0	<2.0	2.0	3864214
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	25	5.0	3864214

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YV9156	YV9166	YV9167	YV9169	YV9170		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COSCW-002-MWB	COSCW-002-MWA	COSCW-001-MWB	COBT-003-MWB	SCU7-003-MW	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	3862642

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YV9171	YV9172	YV9173	YV9174	YV9175		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COBC-002-MWA	COBC-004-MWA	COBC-001-MWA	SCU7-001-MWA	CONCW-101-MWB	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	3862642

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YV9176		
Sampling Date		2014/12/12		
COC Number		496259		
	Units	CODT-203-MW	RDL	QC Batch
Metals				
Total Mercury (Hg)	ug/L	<0.013	0.013	3862642

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2014/12/22

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Your P.O. #: 4104257070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YV9156	YV9166	YV9167	YV9169	YV9170		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COSCW-002-MWB	COSCW-002-MWA	COSCW-001-MWB	COBT-003-MWB	SCU7-003-MW	RDL	QC Batch
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	<0.050	0.057	<0.050	<0.050	<0.050	0.050	3862916
2-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3862916
Acenaphthene	ug/L	0.020	0.039	0.017	<0.010	0.060	0.010	3862916
Acenaphthylene	ug/L	0.010	0.020	0.011	<0.010	0.011	0.010	3862916
Anthracene	ug/L	0.013	<0.010	<0.010	<0.010	0.026	0.010	3862916
Benzo(a)anthracene	ug/L	<0.010	0.011	<0.010	<0.010	0.044	0.010	3862916
Benzo(a)pyrene	ug/L	<0.010	<0.010	<0.010	<0.010	0.025	0.010	3862916
Benzo(b)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	0.022	0.010	3862916
Benzo(g,h,i)perylene	ug/L	<0.010	<0.010	<0.010	<0.010	0.012	0.010	3862916
Benzo(j)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	0.013	0.010	3862916
Benzo(k)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	0.013	0.010	3862916
Chrysene	ug/L	<0.010	0.011	<0.010	<0.010	0.047	0.010	3862916
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Fluoranthene	ug/L	0.019	0.031	0.010	<0.010	0.19	0.010	3862916
Fluorene	ug/L	0.011	0.028	<0.010	<0.010	0.047	0.010	3862916
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Naphthalene	ug/L	<0.20	0.22	<0.20	<0.20	<0.20	0.20	3862916
Perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Phenanthrene	ug/L	0.011	0.042	<0.010	<0.010	0.10	0.010	3862916
Pyrene	ug/L	0.011	0.023	<0.010	<0.010	0.11	0.010	3862916
Surrogate Recovery (%)								
D10-Anthracene	%	62	62	65	91	63		3862916
D14-Terphenyl	%	62	62	63	99	47 (1)		3862916
D8-Acenaphthylene	%	64	64	64	97	65		3862916

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH surrogate(s) not within acceptance limits. Analysis was repeated with similar results.

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SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YV9171	YV9172	YV9173	YV9174	YV9175		
Sampling Date		2014/12/12	2014/12/12	2014/12/12	2014/12/12	2014/12/12		
COC Number		496259	496259	496259	496259	496259		
	Units	COBC-002-MWA	COBC-004-MWA	COBC-001-MWA	SCU7-001-MWA	CONCW-101-MWB	RDL	QC Batch
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	<0.050	0.060	0.050	3862916
2-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3862916
Acenaphthene	ug/L	0.019	0.015	4.2	0.029	0.055	0.010	3862916
Acenaphthylene	ug/L	<0.010	<0.010	1.5	0.045	0.043	0.010	3862916
Anthracene	ug/L	<0.010	<0.010	0.020	<0.010	0.016	0.010	3862916
Benzo(a)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Benzo(a)pyrene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Benzo(b)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Benzo(g,h,i)perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Benzo(j)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Benzo(k)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Chrysene	ug/L	<0.010	<0.010	<0.010	0.010	<0.010	0.010	3862916
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Fluoranthene	ug/L	0.012	<0.010	0.075	0.030	0.032	0.010	3862916
Fluorene	ug/L	<0.010	<0.010	0.15	0.024	0.035	0.010	3862916
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Naphthalene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	0.20	3862916
Perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3862916
Phenanthrene	ug/L	<0.010	<0.010	0.011	0.026	0.066	0.010	3862916
Pyrene	ug/L	0.011	0.010	0.047	0.019	0.024	0.010	3862916
Surrogate Recovery (%)								
D10-Anthracene	%	100	97	56	67	95		3862916
D14-Terphenyl	%	98	102	56	65	96		3862916
D8-Acenaphthylene	%	102	101	57	63	97		3862916

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Report Date: 2014/12/22

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Your P.O. #: 4104257070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YV9176		
Sampling Date		2014/12/12		
COC Number		496259		
	Units	CODT-203-MW	RDL	QC Batch
Polyaromatic Hydrocarbons				
1-Methylnaphthalene	ug/L	<0.050	0.050	3862916
2-Methylnaphthalene	ug/L	<0.050	0.050	3862916
Acenaphthene	ug/L	0.23	0.010	3862916
Acenaphthylene	ug/L	<0.010	0.010	3862916
Anthracene	ug/L	0.55	0.010	3862916
Benzo(a)anthracene	ug/L	0.81	0.010	3862916
Benzo(a)pyrene	ug/L	0.69	0.010	3862916
Benzo(b)fluoranthene	ug/L	0.49	0.010	3862916
Benzo(g,h,i)perylene	ug/L	0.29	0.010	3862916
Benzo(j)fluoranthene	ug/L	0.35	0.010	3862916
Benzo(k)fluoranthene	ug/L	0.35	0.010	3862916
Chrysene	ug/L	0.83	0.010	3862916
Dibenz(a,h)anthracene	ug/L	0.10	0.010	3862916
Fluoranthene	ug/L	1.9	0.010	3862916
Fluorene	ug/L	0.29	0.010	3862916
Indeno(1,2,3-cd)pyrene	ug/L	0.28	0.010	3862916
Naphthalene	ug/L	<0.20	0.20	3862916
Perylene	ug/L	0.14	0.010	3862916
Phenanthrene	ug/L	1.7	0.010	3862916
Pyrene	ug/L	1.4	0.010	3862916
Surrogate Recovery (%)				
D10-Anthracene	%	88		3862916
D14-Terphenyl	%	98		3862916
D8-Acenaphthylene	%	97		3862916

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GENERAL COMMENTS

Sample YV9175-01 : Poor RCAp Ion Balance due to sample matrix.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3861513	MCY	Matrix Spike [YV9156-04]	Total Organic Carbon (C)	2014/12/16		96	%	80 - 120
3861513	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/16		96	%	80 - 120
3861513	MCY	Method Blank	Total Organic Carbon (C)	2014/12/16	<0.50		mg/L	
3861513	MCY	RPD	Total Organic Carbon (C)	2014/12/16	3.0		%	20
3861535	MS3	Matrix Spike	Isobutylbenzene - Volatile	2014/12/18		101	%	70 - 130
			Benzene	2014/12/18		112	%	70 - 130
			Toluene	2014/12/18		107	%	70 - 130
			Ethylbenzene	2014/12/18		106	%	70 - 130
			Total Xylenes	2014/12/18		107	%	70 - 130
3861535	MS3	Spiked Blank	Isobutylbenzene - Volatile	2014/12/18		100	%	70 - 130
			Benzene	2014/12/18		113	%	70 - 130
			Toluene	2014/12/18		111	%	70 - 130
			Ethylbenzene	2014/12/18		112	%	70 - 130
			Total Xylenes	2014/12/18		111	%	70 - 130
3861535	MS3	Method Blank	Isobutylbenzene - Volatile	2014/12/18		99	%	70 - 130
			Benzene	2014/12/18	<0.0010		mg/L	
			Toluene	2014/12/18	<0.0010		mg/L	
			Ethylbenzene	2014/12/18	<0.0010		mg/L	
			Total Xylenes	2014/12/18	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/18	<0.010		mg/L	
3861535	MS3	RPD	Benzene	2014/12/18	NC		%	40
			Toluene	2014/12/18	NC		%	40
			Ethylbenzene	2014/12/18	NC		%	40
			Total Xylenes	2014/12/18	NC		%	40
			C6 - C10 (less BTEX)	2014/12/18	NC		%	40
3861665	AJS	Matrix Spike [YV9166-06]	Isobutylbenzene - Extractable	2014/12/17		102	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/17		107	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/17		88	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/17		92	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/17		92	%	30 - 130
3861665	AJS	Spiked Blank	Isobutylbenzene - Extractable	2014/12/17		104	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/17		110	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/17		86	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/17		92	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/17		91	%	30 - 130
3861665	AJS	Method Blank	Isobutylbenzene - Extractable	2014/12/17		99	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/17		103	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/17	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/17	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/17	<0.10		mg/L	
3861665	AJS	RPD	>C10-C16 Hydrocarbons	2014/12/17	NC		%	40
			>C16-C21 Hydrocarbons	2014/12/17	NC		%	40
			>C21-<C32 Hydrocarbons	2014/12/17	NC		%	40
3862642	ALG	Matrix Spike [YV9156-05]	Total Mercury (Hg)	2014/12/17		97	%	80 - 120
3862642	ALG	Spiked Blank	Total Mercury (Hg)	2014/12/17		97	%	80 - 120
3862642	ALG	Method Blank	Total Mercury (Hg)	2014/12/17	<0.013		ug/L	
3862642	ALG	RPD	Total Mercury (Hg)	2014/12/17	11		%	20
3862767	ARS	Matrix Spike [YV9169-03]	Nitrogen (Ammonia Nitrogen)	2014/12/18		96	%	80 - 120
3862767	ARS	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/17		100	%	80 - 120
3862767	ARS	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/17	<0.050		mg/L	
3862767	ARS	RPD [YV9169-03]	Nitrogen (Ammonia Nitrogen)	2014/12/18	NC		%	25
3862916	GTH	Matrix Spike	D10-Anthracene	2014/12/18		99	%	30 - 130
			D14-Terphenyl	2014/12/18		102	%	30 - 130
			D8-Acenaphthylene	2014/12/18		101	%	30 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			1-Methylnaphthalene	2014/12/18		97	%	30 - 130
			2-Methylnaphthalene	2014/12/18		100	%	30 - 130
			Acenaphthene	2014/12/18		102	%	30 - 130
			Acenaphthylene	2014/12/18		114	%	30 - 130
			Anthracene	2014/12/18		108	%	30 - 130
			Benzo(a)anthracene	2014/12/18		99	%	30 - 130
			Benzo(a)pyrene	2014/12/18		109	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		111	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/18		110	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		112	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		116	%	30 - 130
			Chrysene	2014/12/18		110	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		103	%	30 - 130
			Fluoranthene	2014/12/18		108	%	30 - 130
			Fluorene	2014/12/18		115	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		106	%	30 - 130
			Naphthalene	2014/12/18		86	%	30 - 130
			Perylene	2014/12/18		107	%	30 - 130
			Phenanthrene	2014/12/18		102	%	30 - 130
			Pyrene	2014/12/18		104	%	30 - 130
3862916	GTH	Spiked Blank	D10-Anthracene	2014/12/18		95	%	30 - 130
			D14-Terphenyl	2014/12/18		100	%	30 - 130
			D8-Acenaphthylene	2014/12/18		101	%	30 - 130
			1-Methylnaphthalene	2014/12/18		96	%	30 - 130
			2-Methylnaphthalene	2014/12/18		99	%	30 - 130
			Acenaphthene	2014/12/18		101	%	30 - 130
			Acenaphthylene	2014/12/18		113	%	30 - 130
			Anthracene	2014/12/18		109	%	30 - 130
			Benzo(a)anthracene	2014/12/18		100	%	30 - 130
			Benzo(a)pyrene	2014/12/18		107	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		110	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/18		113	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		111	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		115	%	30 - 130
			Chrysene	2014/12/18		107	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		103	%	30 - 130
			Fluoranthene	2014/12/18		109	%	30 - 130
			Fluorene	2014/12/18		113	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		112	%	30 - 130
			Naphthalene	2014/12/18		84	%	30 - 130
			Perylene	2014/12/18		107	%	30 - 130
			Phenanthrene	2014/12/18		100	%	30 - 130
			Pyrene	2014/12/18		106	%	30 - 130
3862916	GTH	Method Blank	D10-Anthracene	2014/12/22		100	%	30 - 130
			D14-Terphenyl	2014/12/22		101	%	30 - 130
			D8-Acenaphthylene	2014/12/22		107	%	30 - 130
			1-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			Acenaphthene	2014/12/22	<0.010		ug/L	
			Acenaphthylene	2014/12/22	<0.010		ug/L	
			Anthracene	2014/12/22	<0.010		ug/L	
			Benzo(a)anthracene	2014/12/22	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/22	<0.010		ug/L	
			Benzo(b)fluoranthene	2014/12/22	<0.010		ug/L	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Benzo(g,h,i)perylene	2014/12/22	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/22	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/22	<0.010		ug/L	
			Chrysene	2014/12/22	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/22	<0.010		ug/L	
			Fluoranthene	2014/12/22	<0.010		ug/L	
			Fluorene	2014/12/22	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/22	<0.010		ug/L	
			Naphthalene	2014/12/22	<0.20		ug/L	
			Perylene	2014/12/22	<0.010		ug/L	
			Phenanthrene	2014/12/22	<0.010		ug/L	
			Pyrene	2014/12/22	<0.010		ug/L	
3862916	GTH	RPD	1-Methylnaphthalene	2014/12/18	NC		%	40
			2-Methylnaphthalene	2014/12/18	NC		%	40
			Acenaphthene	2014/12/18	NC		%	40
			Acenaphthylene	2014/12/18	NC		%	40
			Anthracene	2014/12/18	NC		%	40
			Benzo(a)anthracene	2014/12/18	NC		%	40
			Benzo(a)pyrene	2014/12/18	NC		%	40
			Benzo(b)fluoranthene	2014/12/18	NC		%	40
			Benzo(g,h,i)perylene	2014/12/18	NC		%	40
			Benzo(j)fluoranthene	2014/12/18	NC		%	40
			Benzo(k)fluoranthene	2014/12/18	NC		%	40
			Chrysene	2014/12/18	NC		%	40
			Dibenz(a,h)anthracene	2014/12/18	NC		%	40
			Fluoranthene	2014/12/18	NC		%	40
			Fluorene	2014/12/18	NC		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/18	NC		%	40
			Naphthalene	2014/12/18	NC		%	40
			Perylene	2014/12/18	NC		%	40
			Phenanthrene	2014/12/18	NC		%	40
			Pyrene	2014/12/18	NC		%	40
3863116	MCN	Matrix Spike [YV9166-01]	Total Alkalinity (Total as CaCO3)	2014/12/18		NC	%	80 - 120
3863116	MCN	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/18		106	%	80 - 120
3863116	MCN	Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/18	<5.0		mg/L	
3863116	MCN	RPD [YV9166-01]	Total Alkalinity (Total as CaCO3)	2014/12/18	0.32		%	25
3863140	MCN	Matrix Spike [YV9166-01]	Dissolved Chloride (Cl)	2014/12/19		105	%	80 - 120
3863140	MCN	QC Standard	Dissolved Chloride (Cl)	2014/12/19		106	%	80 - 120
3863140	MCN	Spiked Blank	Dissolved Chloride (Cl)	2014/12/19		103	%	80 - 120
3863140	MCN	Method Blank	Dissolved Chloride (Cl)	2014/12/19	<1.0		mg/L	
3863140	MCN	RPD [YV9166-01]	Dissolved Chloride (Cl)	2014/12/19	3.3		%	25
3863141	MCN	Matrix Spike [YV9166-01]	Dissolved Sulphate (SO4)	2014/12/19		NC	%	80 - 120
3863141	MCN	Spiked Blank	Dissolved Sulphate (SO4)	2014/12/19		98	%	80 - 120
3863141	MCN	Method Blank	Dissolved Sulphate (SO4)	2014/12/19	<2.0		mg/L	
3863141	MCN	RPD [YV9166-01]	Dissolved Sulphate (SO4)	2014/12/19	2.2		%	25
3863146	MCN	Matrix Spike [YV9166-01]	Reactive Silica (SiO2)	2014/12/19		NC	%	80 - 120
3863146	MCN	Spiked Blank	Reactive Silica (SiO2)	2014/12/19		101	%	80 - 120
3863146	MCN	Method Blank	Reactive Silica (SiO2)	2014/12/19	<0.50		mg/L	
3863146	MCN	RPD [YV9166-01]	Reactive Silica (SiO2)	2014/12/19	3.5		%	25
3863147	NRG	Spiked Blank	Colour	2014/12/19		97	%	80 - 120
3863147	NRG	Method Blank	Colour	2014/12/19	<5.0		TCU	
3863147	NRG	RPD [YV9166-01]	Colour	2014/12/19	NC		%	25
3863148	MCN	Matrix Spike [YV9166-01]	Orthophosphate (P)	2014/12/19		93	%	80 - 120
3863148	MCN	Spiked Blank	Orthophosphate (P)	2014/12/19		96	%	80 - 120

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3863148	MCN	Method Blank	Orthophosphate (P)	2014/12/19	<0.010		mg/L	
3863148	MCN	RPD [YV9166-01]	Orthophosphate (P)	2014/12/19	NC		%	25
3863149	MCN	Matrix Spike [YV9166-01]	Nitrate + Nitrite	2014/12/18		93	%	80 - 120
3863149	MCN	Spiked Blank	Nitrate + Nitrite	2014/12/18		105	%	80 - 120
3863149	MCN	Method Blank	Nitrate + Nitrite	2014/12/18	0.081, RDL=0.050		mg/L	
3863149	MCN	RPD [YV9166-01]	Nitrate + Nitrite	2014/12/18	NC		%	25
3863151	MCN	Matrix Spike [YV9166-01]	Nitrite (N)	2014/12/18		93	%	80 - 120
3863151	MCN	Spiked Blank	Nitrite (N)	2014/12/18		95	%	80 - 120
3863151	MCN	Method Blank	Nitrite (N)	2014/12/18	<0.010		mg/L	
3863151	MCN	RPD [YV9166-01]	Nitrite (N)	2014/12/18	NC		%	25
3864209	KSR	QC Standard	pH	2014/12/18		100	%	97 - 103
3864209	KSR	RPD	pH	2014/12/18	2.0		%	N/A
3864212	KSR	Spiked Blank	Conductivity	2014/12/18		99	%	80 - 120
3864212	KSR	Method Blank	Conductivity	2014/12/18	1.2, RDL=1.0		uS/cm	
3864212	KSR	RPD	Conductivity	2014/12/18	0.99		%	25
3864214	DLB	Matrix Spike [YV9173-02]	Dissolved Aluminum (Al)	2014/12/18		105	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/18		104	%	80 - 120
			Dissolved Arsenic (As)	2014/12/18		99	%	80 - 120
			Dissolved Barium (Ba)	2014/12/18		NC	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/18		98	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/18		99	%	80 - 120
			Dissolved Boron (B)	2014/12/18		96	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/18		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/18		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/18		96	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/18		96	%	80 - 120
			Dissolved Copper (Cu)	2014/12/18		94	%	80 - 120
			Dissolved Iron (Fe)	2014/12/18		NC	%	80 - 120
			Dissolved Lead (Pb)	2014/12/18		100	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/18		NC	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/18		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/18		105	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/18		97	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/18		107	%	80 - 120
			Dissolved Potassium (K)	2014/12/18		101	%	80 - 120
			Dissolved Selenium (Se)	2014/12/18		101	%	80 - 120
			Dissolved Silver (Ag)	2014/12/18		76 (1)	%	80 - 120
			Dissolved Sodium (Na)	2014/12/18		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/18		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/18		102	%	80 - 120
			Dissolved Tin (Sn)	2014/12/18		105	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/18		103	%	80 - 120
			Dissolved Uranium (U)	2014/12/18		104	%	80 - 120
			Dissolved Vanadium (V)	2014/12/18		98	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/18		96	%	80 - 120
3864214	DLB	Spiked Blank	Dissolved Aluminum (Al)	2014/12/18		106	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/18		101	%	80 - 120
			Dissolved Arsenic (As)	2014/12/18		99	%	80 - 120
			Dissolved Barium (Ba)	2014/12/18		99	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/18		97	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/18		103	%	80 - 120
			Dissolved Boron (B)	2014/12/18		98	%	80 - 120

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Cadmium (Cd)	2014/12/18		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/18		97	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/18		98	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/18		98	%	80 - 120
			Dissolved Copper (Cu)	2014/12/18		98	%	80 - 120
			Dissolved Iron (Fe)	2014/12/18		109	%	80 - 120
			Dissolved Lead (Pb)	2014/12/18		101	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/18		109	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/18		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/18		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/18		101	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/18		109	%	80 - 120
			Dissolved Potassium (K)	2014/12/18		106	%	80 - 120
			Dissolved Selenium (Se)	2014/12/18		102	%	80 - 120
			Dissolved Silver (Ag)	2014/12/18		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/18		104	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/18		100	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/18		102	%	80 - 120
			Dissolved Tin (Sn)	2014/12/18		104	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/18		103	%	80 - 120
			Dissolved Uranium (U)	2014/12/18		105	%	80 - 120
			Dissolved Vanadium (V)	2014/12/18		99	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/18		102	%	80 - 120
3864214	DLB	Method Blank	Dissolved Aluminum (Al)	2014/12/18	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/18	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/18	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/18	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/18	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/18	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/18	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/18	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/18	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/18	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/18	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/18	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/18	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/18	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/18	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/18	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/18	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/18	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/18	<100		ug/L	
			Dissolved Potassium (K)	2014/12/18	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/18	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/18	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/18	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/18	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/18	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/18	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/18	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/18	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/18	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/18	<5.0		ug/L	
3864214	DLB	RPD [YV9173-02]	Dissolved Aluminum (Al)	2014/12/18	NC		%	20

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Antimony (Sb)	2014/12/18	NC		%	20
			Dissolved Arsenic (As)	2014/12/18	NC		%	20
			Dissolved Barium (Ba)	2014/12/18	0.29		%	20
			Dissolved Beryllium (Be)	2014/12/18	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/18	NC		%	20
			Dissolved Boron (B)	2014/12/18	NC		%	20
			Dissolved Cadmium (Cd)	2014/12/18	22 (2)		%	20
			Dissolved Calcium (Ca)	2014/12/18	0.65		%	20
			Dissolved Chromium (Cr)	2014/12/18	NC		%	20
			Dissolved Cobalt (Co)	2014/12/18	NC		%	20
			Dissolved Copper (Cu)	2014/12/18	NC		%	20
			Dissolved Iron (Fe)	2014/12/18	1.1		%	20
			Dissolved Lead (Pb)	2014/12/18	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/18	0.54		%	20
			Dissolved Manganese (Mn)	2014/12/18	0.25		%	20
			Dissolved Molybdenum (Mo)	2014/12/18	NC		%	20
			Dissolved Nickel (Ni)	2014/12/18	NC		%	20
			Dissolved Phosphorus (P)	2014/12/18	NC		%	20
			Dissolved Potassium (K)	2014/12/18	0.50		%	20
			Dissolved Selenium (Se)	2014/12/18	NC		%	20
			Dissolved Silver (Ag)	2014/12/18	NC		%	20
			Dissolved Sodium (Na)	2014/12/18	1.7		%	20
			Dissolved Strontium (Sr)	2014/12/18	1.9		%	20
			Dissolved Thallium (Tl)	2014/12/18	NC		%	20
			Dissolved Tin (Sn)	2014/12/18	NC		%	20
			Dissolved Titanium (Ti)	2014/12/18	NC		%	20
			Dissolved Uranium (U)	2014/12/18	NC		%	20
			Dissolved Vanadium (V)	2014/12/18	NC		%	20
			Dissolved Zinc (Zn)	2014/12/18	NC		%	20
3864426	KSR	QC Standard	pH	2014/12/18		100	%	97 - 103
3864426	KSR	RPD [YV9156-01]	pH	2014/12/18	0.76		%	N/A
3864427	KSR	Spiked Blank	Conductivity	2014/12/18		99	%	80 - 120
3864427	KSR	Method Blank	Conductivity	2014/12/18	<1.0		uS/cm	
3864427	KSR	RPD [YV9156-01]	Conductivity	2014/12/18	0.16		%	25
3864872	KSR	QC Standard	pH	2014/12/18		100	%	97 - 103
3864872	KSR	RPD	pH	2014/12/18	0.070		%	N/A
3864896	KSR	Spiked Blank	Conductivity	2014/12/18		101	%	80 - 120
3864896	KSR	Method Blank	Conductivity	2014/12/18	1.6, RDL=1.0		uS/cm	
3864896	KSR	RPD	Conductivity	2014/12/18	0.065		%	25
3865012	KSR	QC Standard	Turbidity	2014/12/18		100	%	80 - 120
3865012	KSR	Method Blank	Turbidity	2014/12/18	<0.10		NTU	
3865012	KSR	RPD [YV9172-01]	Turbidity	2014/12/18	11		%	25
3866496	KSR	QC Standard	Turbidity	2014/12/19		103	%	80 - 120
3866496	KSR	Method Blank	Turbidity	2014/12/19	<0.10		NTU	
3866496	KSR	RPD	Turbidity	2014/12/19	3.7		%	25
3868002	MCY	Matrix Spike	Dissolved Sulphate (SO4)	2014/12/22		NC	%	80 - 120
3868002	MCY	Spiked Blank	Dissolved Sulphate (SO4)	2014/12/22		96	%	80 - 120
3868002	MCY	Method Blank	Dissolved Sulphate (SO4)	2014/12/22	<2.0		mg/L	

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3868002	MCY	RPD	Dissolved Sulphate (SO4)	2014/12/22	3.4		%	25

N/A = Not Applicable

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 sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) Low recovery due to sample matrix. < 10 % of compounds in multi-component analysis in violation.

(2) Poor RPD due to sample inhomogeneity. < 10 % of compounds in multi-component analysis in violation.

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Maxxam Job #: B4N6600
Report Date: 2014/12/22

Dillon Consulting Limited
Your P.O. #: 4104257070

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Alan Stewart, Scientific Specialist (Organics)

Kevin MacDonald, Inorganics Supervisor

Mike MacGillivray, Scientific Specialist (Inorganics)

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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Your P.O. #: 4104257070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/24
Report #: R3271495
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N7361
Received: 2014/12/15, 16:50

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Carbonate, Bicarbonate and Hydroxide (1)	7	N/A	2014/12/19	N/A	SM 22 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide (1)	6	N/A	2014/12/22	N/A	SM 22 4500-CO2 D
Alkalinity (1)	4	N/A	2014/12/22	ATL SOP 00013	EPA 310.2 R1974 m
Alkalinity (1)	9	N/A	2014/12/23	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	13	N/A	2014/12/22	ATL SOP 00014	SM 22 4500-Cl- E m
Colour (1)	13	N/A	2014/12/22	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	3	N/A	2014/12/18	ATL SOP 00004	SM 22 2510B m
Conductance - water (1)	4	N/A	2014/12/19	ATL SOP 00004	SM 22 2510B m
Conductance - water (1)	6	N/A	2014/12/21	ATL SOP 00004	SM 22 2510B m
TEH in Water (PIRI) (1)	10	2014/12/18	2014/12/18	ATL SOP 00113	Atl. PIRI v3 m
TEH in Water (PIRI) (1)	4	2014/12/18	2014/12/19	ATL SOP 00113	Atl. PIRI v3 m
Hardness (calculated as CaCO3) (1)	13	N/A	2014/12/22	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL) (1)	13	2014/12/22	2014/12/22	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd) (1)	13	N/A	2014/12/19	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	13	N/A	2014/12/23		Auto Calc.
Anion and Cation Sum (1)	13	N/A	2014/12/22		Auto Calc.
Nitrogen Ammonia - water (1)	1	N/A	2014/12/18	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen Ammonia - water (1)	12	N/A	2014/12/19	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	13	N/A	2014/12/22	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	13	N/A	2014/12/23	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	13	N/A	2014/12/23	ATL SOP 00018	ASTM D3867
PAH in Water by GC/MS (SIM) (1)	2	2014/12/17	2014/12/19	ATL SOP 00103	EPA 8270D m
PAH in Water by GC/MS (SIM) (1)	2	2014/12/17	2014/12/22	ATL SOP 00103	EPA 8270D m
PAH in Water by GC/MS (SIM) (1)	8	2014/12/18	2014/12/22	ATL SOP 00103	EPA 8270D m
PAH in Water by GC/MS (SIM) (1)	1	2014/12/18	2014/12/23	ATL SOP 00103	EPA 8270D m
pH (1, 2)	3	N/A	2014/12/18	ATL SOP 00003	SM 22 4500-H+ B m
pH (1, 2)	4	N/A	2014/12/19	ATL SOP 00003	SM 22 4500-H+ B m
pH (1, 2)	6	N/A	2014/12/21	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	13	N/A	2014/12/23	ATL SOP 00021	EPA 365.2 m
VPH in Water (PIRI) (1)	11	N/A	2014/12/20	ATL SOP 00118	Atl. PIRI v3 m

Your P.O. #: 4104257070
Your C.O.C. #: 496259

Attention:Nadine Wambolt

Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2014/12/24
Report #: R3271495
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B4N7361
Received: 2014/12/15, 16:50

Sample Matrix: Water
Samples Received: 14

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
VPH in Water (PIRI) (1)	3	N/A	2014/12/22	ATL SOP 00118	Atl. PIRI v3 m
Sat. pH and Langelier Index (@ 20C) (1)	12	N/A	2014/12/23	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 20C) (1)	1	N/A	2014/12/24	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	12	N/A	2014/12/23	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	1	N/A	2014/12/24	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	13	N/A	2014/12/23	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	13	N/A	2014/12/22	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc) (1)	12	N/A	2014/12/23		Auto Calc.
Total Dissolved Solids (TDS calc) (1)	1	N/A	2014/12/24		Auto Calc.
Organic carbon - Total (TOC) (1, 3)	13	N/A	2014/12/18	ATL SOP 00037	SM 22 5310C m
ModTPH (T1) Calc. for Water (1)	11	N/A	2014/12/22	N/A	Atl. PIRI v3 m
ModTPH (T1) Calc. for Water (1)	3	N/A	2014/12/23	N/A	Atl. PIRI v3 m
Turbidity (1)	13	N/A	2014/12/22	ATL SOP 00011	EPA 180.1 R2 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902)567-1255 Ext:17

==========

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW3511		YW3512	YW3513		YW3514		
Sampling Date		2014/12/15		2014/12/15	2014/12/15		2014/12/15		
COC Number		496259		496259	496259		496259		
	Units	CODT-201-MWC	RDL	CODT-201-MWA	CODT-206-MW	QC Batch	CODT-205-MWA	RDL	QC Batch
Petroleum Hydrocarbons									
Benzene	mg/L	0.10	0.010	<0.0010	<0.0010	3864904	<0.0010	0.0010	3864904
Toluene	mg/L	0.20	0.010	<0.0010	<0.0010	3864904	<0.0010	0.0010	3864904
Ethylbenzene	mg/L	0.15	0.010	0.0010	<0.0010	3864904	<0.0010	0.0010	3864904
Total Xylenes	mg/L	0.61	0.020	0.0045	<0.0020	3864904	<0.0020	0.0020	3864904
C6 - C10 (less BTEX)	mg/L	1.0	0.10	<0.010	<0.010	3864904	<0.010	0.010	3864904
>C10-C16 Hydrocarbons	mg/L	15 (1)	0.50	0.086	0.064	3864222	<0.050	0.050	3864221
>C16-C21 Hydrocarbons	mg/L	0.49	0.050	<0.050	<0.050	3864222	<0.050	0.050	3864221
>C21-<C32 Hydrocarbons	mg/L	0.22	0.10	<0.10	<0.10	3864222	<0.10	0.10	3864221
Modified TPH (Tier1)	mg/L	17	0.50	<0.10	<0.10	3861466	<0.10	0.10	3861466
Reached Baseline at C32	mg/L	Yes	N/A	NA	NA	3864222	NA	N/A	3864221
Hydrocarbon Resemblance	mg/L	COMMENT (2)	N/A	NA	NA	3864222	NA	N/A	3864221
Surrogate Recovery (%)									
Isobutylbenzene - Extractable	%	108		106	109	3864222	101		3864221
n-Dotriacontane - Extractable	%	118		105	110	3864222	106		3864221
Isobutylbenzene - Volatile	%	99		99	99	3864904	97		3864904

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated TEH RDL(s) due to sample dilution.
(2) One product in the gas/fuel oil range. Unidentified compound(s) in fuel oil range.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW3515	YW3516	YW3517	YW3518	YW3519		
Sampling Date		2014/12/15	2014/12/15	2014/12/15	2014/12/15	2014/12/15		
COC Number		496259	496259	496259	496259	496259		
	Units	CODT-008-MWB	SCU11-001-MWB	SCU11-001-MWA	COSB-002-MWA	COCP-110-MW	RDL	QC Batch
Petroleum Hydrocarbons								
Benzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3864904
Toluene	mg/L	0.0015	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3864904
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	3864904
Total Xylenes	mg/L	0.0028	<0.0020	<0.0020	<0.0020	<0.0020	0.0020	3864904
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3864904
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	3864222
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	<0.050	0.072	0.050	3864222
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	<0.10	0.29	0.10	3864222
Modified TPH (Tier1)	mg/L	<0.10	<0.10	<0.10	<0.10	0.36	0.10	3861466
Reached Baseline at C32	mg/L	NA	NA	NA	NA	Yes	N/A	3864222
Hydrocarbon Resemblance	mg/L	NA	NA	NA	NA	COMMENT (1)	N/A	3864222
Surrogate Recovery (%)								
Isobutylbenzene - Extractable	%	107	103	103	103	102		3864222
n-Dotriacontane - Extractable	%	113	117	113	111	103		3864222
Isobutylbenzene - Volatile	%	99	98	97	98	100		3864904

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Lube oil fraction.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW3520	YW3521		YW3522		YW3551		
Sampling Date		2014/12/15	2014/12/15		2014/12/15		2014/12/15		
COC Number		496259	496259		496259		496259		
	Units	COBP-006-MWA	CONPL-202-MWA	QC Batch	TB-004	RDL	COBB-004-MWA	RDL	QC Batch
Petroleum Hydrocarbons									
Benzene	mg/L	0.020	<0.0010	3864904	<0.0010	0.0010	<0.0013	0.0013	3864931
Toluene	mg/L	<0.0010	<0.0010	3864904	<0.0010	0.0010	<0.0013	0.0013	3864931
Ethylbenzene	mg/L	0.0025	<0.0010	3864904	<0.0010	0.0010	<0.0013	0.0013	3864931
Total Xylenes	mg/L	<0.0020	<0.0020	3864904	<0.0020	0.0020	<0.0026	0.0026	3864931
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	3864904	<0.010	0.010	<0.013	0.013	3864931
>C10-C16 Hydrocarbons	mg/L	0.17	<0.050	3864222	<0.050	0.050	<0.050	0.050	3864222
>C16-C21 Hydrocarbons	mg/L	0.19	<0.050	3864222	<0.050	0.050	<0.050	0.050	3864222
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	3864222	<0.10	0.10	<0.10	0.10	3864222
Modified TPH (Tier1)	mg/L	0.35	<0.10	3861466	<0.10	0.10	<0.10	0.10	3861466
Reached Baseline at C32	mg/L	Yes	NA	3864222	NA	N/A	NA	N/A	3864222
Hydrocarbon Resemblance	mg/L	COMMENT (1)	NA	3864222	NA	N/A	NA	N/A	3864222
Surrogate Recovery (%)									
Isobutylbenzene - Extractable	%	101	103	3864222	100		105		3864222
n-Dotriacontane - Extractable	%	101	98	3864222	103		104		3864222
Isobutylbenzene - Volatile	%	100	95	3864904	100		98 (2)		3864931

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) One product in fuel oil range. Unidentified compound(s) in fuel oil range.
(2) VPH analysis performed on previously opened vial.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW3552		
Sampling Date		2014/12/15		
COC Number		496259		
	Units	FD-003	RDL	QC Batch
Petroleum Hydrocarbons				
Benzene	mg/L	<0.0010	0.0010	3864931
Toluene	mg/L	<0.0010	0.0010	3864931
Ethylbenzene	mg/L	<0.0010	0.0010	3864931
Total Xylenes	mg/L	<0.0020	0.0020	3864931
C6 - C10 (less BTEX)	mg/L	<0.010	0.010	3864931
>C10-C16 Hydrocarbons	mg/L	<0.050	0.050	3864222
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	3864222
>C21-<C32 Hydrocarbons	mg/L	<0.10	0.10	3864222
Modified TPH (Tier1)	mg/L	<0.10	0.10	3861466
Reached Baseline at C32	mg/L	NA	N/A	3864222
Hydrocarbon Resemblance	mg/L	NA	N/A	3864222
Surrogate Recovery (%)				
Isobutylbenzene - Extractable	%	106		3864222
n-Dotriacontane - Extractable	%	101		3864222
Isobutylbenzene - Volatile	%	101		3864931

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3511			YW3512			YW3513		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	CODT-201-MWC	RDL	QC Batch	CODT-201-MWA	RDL	QC Batch	CODT-206-MW	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	5.32	N/A	3860906	6.30	N/A	3860906	2.68	N/A	3860906
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	3860902	220	1.0	3860902	96	1.0	3860902
Calculated TDS	mg/L	290	1.0	3860911	360	1.0	3860911	190	1.0	3860911
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.4	1.0	3860902	<1.0	1.0	3860902	<1.0	1.0	3860902
Cation Sum	me/L	5.21	N/A	3860906	6.36	N/A	3860906	2.76	N/A	3860906
Hardness (CaCO3)	mg/L	110	1.0	3860904	290	1.0	3860904	130	1.0	3860904
Ion Balance (% Difference)	%	1.04	N/A	3860905	0.470	N/A	3860905	1.47	N/A	3860905
Langelier Index (@ 20C)	N/A	0.327		3860909	0.472		3860909	0.106		3860909
Langelier Index (@ 4C)	N/A	0.0770		3860910	0.223		3860910	-0.144		3860910
Nitrate (N)	mg/L	<0.050	0.050	3860907	3.2	0.050	3860907	0.37	0.050	3860907
Saturation pH (@ 20C)	N/A	7.54		3860909	7.10		3860909	7.72		3860909
Saturation pH (@ 4C)	N/A	7.79		3860910	7.35		3860910	7.97		3860910
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	200	25	3867996	220	25	3867996	96	10	3867996
Dissolved Chloride (Cl)	mg/L	43	1.0	3868001	12	1.0	3868001	5.7	1.0	3868001
Colour	TCU	5.5	5.0	3868004	6.5	5.0	3868004	18	5.0	3868004
Nitrate + Nitrite	mg/L	<0.050	0.050	3868006	3.2	0.050	3868006	0.37	0.050	3868006
Nitrite (N)	mg/L	<0.010	0.010	3868007	<0.010	0.010	3868007	<0.010	0.010	3868007
Nitrogen (Ammonia Nitrogen)	mg/L	0.52	0.050	3865174	<0.050	0.050	3865174	<0.050	0.050	3865174
Total Organic Carbon (C)	mg/L	5.2 (1)	5.0	3864858	3.8	0.50	3864859	5.3	0.50	3864858
Orthophosphate (P)	mg/L	0.010	0.010	3868005	0.019	0.010	3868005	0.035	0.010	3868005
pH	pH	7.87	N/A	3867748	7.57	N/A	3865960	7.83	N/A	3865960
Reactive Silica (SiO2)	mg/L	11	0.50	3868003	14	0.50	3868003	37	1.0	3869441
Dissolved Sulphate (SO4)	mg/L	5.3	2.0	3868002	67	10	3868002	27	2.0	3868002
Turbidity	NTU	9.3	0.10	3868087	240	1.0	3868087	32	0.10	3868087
Conductivity	uS/cm	500	1.0	3867749	570	1.0	3865974	260	1.0	3865974
Metals										
Dissolved Aluminum (Al)	ug/L	13	5.0	3865874	17	5.0	3865874	38	5.0	3865874
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Arsenic (As)	ug/L	4.1	1.0	3865874	<1.0	1.0	3865874	4.0	1.0	3865874
Dissolved Barium (Ba)	ug/L	340	1.0	3865874	27	1.0	3865874	33	1.0	3865874
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Boron (B)	ug/L	77	50	3865874	<50	50	3865874	<50	50	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3511			YW3512			YW3513		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	CODT-201-MWC	RDL	QC Batch	CODT-201-MWA	RDL	QC Batch	CODT-206-MW	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.28	0.010	3865874	0.27	0.010	3865874	1.3	0.010	3865874
Dissolved Calcium (Ca)	ug/L	38000	100	3865874	100000	100	3865874	47000	100	3865874
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3865874	<0.40	0.40	3865874	<0.40	0.40	3865874
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3865874	2.6	2.0	3865874	5.9	2.0	3865874
Dissolved Iron (Fe)	ug/L	<50	50	3865874	<50	50	3865874	<50	50	3865874
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3865874	<0.50	0.50	3865874	<0.50	0.50	3865874
Dissolved Magnesium (Mg)	ug/L	4300	100	3865874	11000	100	3865874	1800	100	3865874
Dissolved Manganese (Mn)	ug/L	690	2.0	3865874	2.6	2.0	3865874	5.0	2.0	3865874
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3865874	2.2	2.0	3865874	<2.0	2.0	3865874
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Phosphorus (P)	ug/L	<100	100	3865874	<100	100	3865874	<100	100	3865874
Dissolved Potassium (K)	ug/L	2300	100	3865874	2800	100	3865874	2300	100	3865874
Dissolved Selenium (Se)	ug/L	3.2	1.0	3865874	4.3	1.0	3865874	1.4	1.0	3865874
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Sodium (Na)	ug/L	66000	100	3865874	9900	100	3865874	4400	100	3865874
Dissolved Strontium (Sr)	ug/L	520	2.0	3865874	260	2.0	3865874	180	2.0	3865874
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Uranium (U)	ug/L	<0.10	0.10	3865874	0.71	0.10	3865874	2.2	0.10	3865874
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	4.9	2.0	3865874
Dissolved Zinc (Zn)	ug/L	6.0	5.0	3865874	11	5.0	3865874	14	5.0	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3514			YW3515			YW3516		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	CODT-205-MWA	RDL	QC Batch	CODT-008-MWB	RDL	QC Batch	SCU11-001-MWB	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	7.12	N/A	3860906	3.73	N/A	3860906	3.38	N/A	3860906
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	300	1.0	3860902	5.5	1.0	3860902	39	1.0	3860902
Calculated TDS	mg/L	380	1.0	3860911	260	1.0	3860911	190	1.0	3860911
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3860902	38	1.0	3860902	<1.0	1.0	3860902
Cation Sum	me/L	6.91	N/A	3860906	4.46	N/A	3860906	3.24	N/A	3860906
Hardness (CaCO3)	mg/L	260	1.0	3860904	170	1.0	3860904	87	1.0	3860904
Ion Balance (% Difference)	%	1.50	N/A	3860905	8.91	N/A	3860905	2.11	N/A	3860905
Langelier Index (@ 20C)	N/A	0.482		3860909	2.04		3860909	-1.30		3860909
Langelier Index (@ 4C)	N/A	0.234		3860910	1.79		3860910	-1.55		3860910
Nitrate (N)	mg/L	<0.050	0.050	3860907	0.23	0.050	3860907	0.075	0.050	3860907
Saturation pH (@ 20C)	N/A	7.03		3860909	8.83		3860909	8.32		3860909
Saturation pH (@ 4C)	N/A	7.28		3860910	9.08		3860910	8.57		3860910
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	310	25	3867996	80	5.0	3867996	39	5.0	3867996
Dissolved Chloride (Cl)	mg/L	18	1.0	3868001	31	1.0	3868001	83	1.0	3868001
Colour	TCU	7.7	5.0	3868004	20	5.0	3868004	9.1	5.0	3868004
Nitrate + Nitrite	mg/L	<0.050	0.050	3868006	0.39	0.050	3868006	0.10	0.050	3868006
Nitrite (N)	mg/L	<0.010	0.010	3868007	0.15	0.010	3868007	0.028	0.010	3868007
Nitrogen (Ammonia Nitrogen)	mg/L	0.24	0.050	3865174	0.31	0.050	3865174	0.74	0.050	3865174
Total Organic Carbon (C)	mg/L	7.0	0.50	3864859	3.6	0.50	3864859	4.4	0.50	3864859
Orthophosphate (P)	mg/L	<0.010	0.010	3868005	<0.010	0.010	3868005	0.054	0.010	3868005
pH	pH	7.52	N/A	3864872	10.9 (1)	N/A	3867748	7.02	N/A	3864872
Reactive Silica (SiO2)	mg/L	17	0.50	3868003	23	0.50	3868003	3.4	0.50	3868003
Dissolved Sulphate (SO4)	mg/L	24	2.0	3868002	58	10	3868002	12	2.0	3868002
Turbidity	NTU	66	0.50	3868087	1.8	0.10	3868087	5.1	0.10	3868092
Conductivity	uS/cm	620	1.0	3864896	460	1.0	3867749	360	1.0	3864896
Metals										
Dissolved Aluminum (Al)	ug/L	29	5.0	3865874	510	5.0	3865874	18	5.0	3865874
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Arsenic (As)	ug/L	4.1	1.0	3865874	7.2	1.0	3865874	<1.0	1.0	3865874
Dissolved Barium (Ba)	ug/L	140	1.0	3865874	25	1.0	3865874	36	1.0	3865874
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Boron (B)	ug/L	55	50	3865874	<50	50	3865874	<50	50	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) pH value is beyond linear range, extended linearity has been confirmed.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3514			YW3515			YW3516		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	CODT-205-MWA	RDL	QC Batch	CODT-008-MWB	RDL	QC Batch	SCU11-001-MWB	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.25	0.010	3865874	0.085	0.010	3865874	0.12	0.010	3865874
Dissolved Calcium (Ca)	ug/L	84000	100	3865874	69000	100	3865874	29000	100	3865874
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3865874	1.3	1.0	3865874	<1.0	1.0	3865874
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3865874	<0.40	0.40	3865874	<0.40	0.40	3865874
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3865874	5.6	2.0	3865874	<2.0	2.0	3865874
Dissolved Iron (Fe)	ug/L	2100	50	3865874	<50	50	3865874	130	50	3865874
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3865874	<0.50	0.50	3865874	<0.50	0.50	3865874
Dissolved Magnesium (Mg)	ug/L	12000	100	3865874	330	100	3865874	3400	100	3865874
Dissolved Manganese (Mn)	ug/L	1300	2.0	3865874	<2.0	2.0	3865874	510	2.0	3865874
Dissolved Molybdenum (Mo)	ug/L	5.7	2.0	3865874	5.1	2.0	3865874	<2.0	2.0	3865874
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Phosphorus (P)	ug/L	<100	100	3865874	<100	100	3865874	130	100	3865874
Dissolved Potassium (K)	ug/L	5400	100	3865874	7800	100	3865874	2900	100	3865874
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3865874	1.8	1.0	3865874	<1.0	1.0	3865874
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Sodium (Na)	ug/L	35000	100	3865874	18000	100	3865874	31000	100	3865874
Dissolved Strontium (Sr)	ug/L	3900	2.0	3865874	840	2.0	3865874	540	2.0	3865874
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Uranium (U)	ug/L	1.2	0.10	3865874	0.19	0.10	3865874	<0.10	0.10	3865874
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3865874	11	2.0	3865874	<2.0	2.0	3865874
Dissolved Zinc (Zn)	ug/L	16	5.0	3865874	<5.0	5.0	3865874	7.3	5.0	3865874

RDL = Reportable Detection Limit
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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3517			YW3518			YW3519		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	SCU11-001-MWA	RDL	QC Batch	COSB-002-MWA	RDL	QC Batch	COCP-110-MW	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	11.9	N/A	3860906	9.29	N/A	3860906	9.15	N/A	3860906
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	110	1.0	3860902	200	1.0	3860902	210	1.0	3860902
Calculated TDS	mg/L	690	1.0	3860911	580	1.0	3860911	590	1.0	3860911
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3860902	<1.0	1.0	3860902	<1.0	1.0	3860902
Cation Sum	me/L	12.8	N/A	3860906	9.78	N/A	3860906	9.98	N/A	3860906
Hardness (CaCO3)	mg/L	490	1.0	3860904	450	1.0	3860904	430	1.0	3860904
Ion Balance (% Difference)	%	3.68	N/A	3860905	2.57	N/A	3860905	4.34	N/A	3860905
Langelier Index (@ 20C)	N/A	0.291		3860909	-0.276		3860909	0.501		3860909
Langelier Index (@ 4C)	N/A	0.0440		3860910	-0.524		3860910	0.254		3860910
Nitrate (N)	mg/L	0.17	0.050	3860907	1.6	0.050	3860907	0.15	0.050	3860907
Saturation pH (@ 20C)	N/A	7.23		3860909	7.00		3860909	6.98		3860909
Saturation pH (@ 4C)	N/A	7.47		3860910	7.25		3860910	7.23		3860910
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	110	25	3867996	200	25	3867996	210	25	3867996
Dissolved Chloride (Cl)	mg/L	310	5.0	3868001	26	1.0	3868001	35	1.0	3868001
Colour	TCU	<5.0	5.0	3868004	<5.0	5.0	3868004	9.2	5.0	3868004
Nitrate + Nitrite	mg/L	0.19	0.050	3868006	1.6	0.050	3868006	0.16	0.050	3868006
Nitrite (N)	mg/L	0.024	0.010	3868007	<0.010	0.010	3868007	0.012	0.010	3868007
Nitrogen (Ammonia Nitrogen)	mg/L	0.12	0.050	3865175	0.098	0.050	3865175	1.2	0.050	3865175
Total Organic Carbon (C)	mg/L	<0.50	0.50	3864861	1.9	0.50	3864858	5.0	0.50	3864858
Orthophosphate (P)	mg/L	<0.010	0.010	3868005	<0.010	0.010	3868005	<0.010	0.010	3868005
pH	pH	7.52	N/A	3864872	6.72	N/A	3865960	7.48	N/A	3867748
Reactive Silica (SiO2)	mg/L	9.4	0.50	3868003	20	0.50	3868003	35	1.0	3868003
Dissolved Sulphate (SO4)	mg/L	37	2.0	3868002	210	40	3868002	190	10	3868002
Turbidity	NTU	3.3	0.10	3868092	17	0.10	3868092	73	0.50	3868092
Conductivity	uS/cm	1400	1.0	3864896	860	1.0	3865974	880	1.0	3867749
Metals										
Dissolved Aluminum (Al)	ug/L	13	5.0	3865874	73	5.0	3865874	13	5.0	3865874
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	2.5	1.0	3865874
Dissolved Arsenic (As)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	13	1.0	3865874
Dissolved Barium (Ba)	ug/L	230	1.0	3865874	19	1.0	3865874	77	1.0	3865874
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Boron (B)	ug/L	56	50	3865874	<50	50	3865874	76	50	3865874
Dissolved Cadmium (Cd)	ug/L	0.59	0.010	3865874	0.66	0.010	3865874	0.18	0.010	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3517			YW3518			YW3519		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	SCU11-001-MWA	RDL	QC Batch	COSB-002-MWA	RDL	QC Batch	COCP-110-MW	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	170000	100	3865874	150000	100	3865874	150000	100	3865874
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3865874	0.43	0.40	3865874	<0.40	0.40	3865874
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3865874	5.1	2.0	3865874	<2.0	2.0	3865874
Dissolved Iron (Fe)	ug/L	<50	50	3865874	1700	50	3865874	4400	50	3865874
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3865874	0.52	0.50	3865874	<0.50	0.50	3865874
Dissolved Magnesium (Mg)	ug/L	19000	100	3865874	17000	100	3865874	11000	100	3865874
Dissolved Manganese (Mn)	ug/L	440	2.0	3865874	480	2.0	3865874	390	2.0	3865874
Dissolved Molybdenum (Mo)	ug/L	3.7	2.0	3865874	<2.0	2.0	3865874	6.6	2.0	3865874
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3865874	7.3	2.0	3865874	<2.0	2.0	3865874
Dissolved Phosphorus (P)	ug/L	<100	100	3865874	<100	100	3865874	170	100	3865874
Dissolved Potassium (K)	ug/L	6900	100	3865874	3200	100	3865874	10000	100	3865874
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	1.3	1.0	3865874
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Sodium (Na)	ug/L	64000	100	3865874	14000	100	3865874	20000	100	3865874
Dissolved Strontium (Sr)	ug/L	3700	2.0	3865874	390	2.0	3865874	610	2.0	3865874
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Uranium (U)	ug/L	3.9	0.10	3865874	0.22	0.10	3865874	3.0	0.10	3865874
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	5.1	2.0	3865874
Dissolved Zinc (Zn)	ug/L	5.3	5.0	3865874	92	5.0	3865874	9.8	5.0	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3520			YW3521			YW3551		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	COBP-006-MWA	RDL	QC Batch	CONPL-202-MWA	RDL	QC Batch	COBB-004-MWA	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	8.98	N/A	3860906	12.4	N/A	3860906	6.90	N/A	3860906
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	250	1.0	3860902	410	1.0	3860902	100	1.0	3860902
Calculated TDS	mg/L	550	1.0	3860911	680	1.0	3860911	460	1.0	3860911
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3860902	<1.0	1.0	3860902	<1.0	1.0	3860902
Cation Sum	me/L	9.81	N/A	3860906	12.1	N/A	3860906	7.33	N/A	3860906
Hardness (CaCO3)	mg/L	400	1.0	3860904	550	1.0	3860904	340	1.0	3860904
Ion Balance (% Difference)	%	4.42	N/A	3860905	1.27	N/A	3860905	3.02	N/A	3860905
Langelier Index (@ 20C)	N/A	-0.00700		3860909	0.693		3860909	0.212		3860909
Langelier Index (@ 4C)	N/A	-0.254		3860910	0.446		3860910	-0.0360		3860910
Nitrate (N)	mg/L	<0.050	0.050	3860907	<0.050	0.050	3860907	0.16	0.050	3861610
Saturation pH (@ 20C)	N/A	6.96		3860909	6.65		3860909	7.35		3860909
Saturation pH (@ 4C)	N/A	7.20		3860910	6.90		3860910	7.59		3860910
Inorganics										
Total Alkalinity (Total as CaCO3)	mg/L	250	25	3867996	410	25	3867996	100	10	3867996
Dissolved Chloride (Cl)	mg/L	34	1.0	3868001	22	1.0	3868001	16	1.0	3868001
Colour	TCU	17	5.0	3868004	<5.0	5.0	3868004	10	5.0	3868004
Nitrate + Nitrite	mg/L	<0.050	0.050	3868006	<0.050	0.050	3868006	0.16	0.050	3868006
Nitrite (N)	mg/L	<0.010	0.010	3868007	<0.010	0.010	3868007	<0.010	0.010	3868007
Nitrogen (Ammonia Nitrogen)	mg/L	1.2	0.050	3865175	0.081	0.050	3865175	<0.050	0.050	3865175
Total Organic Carbon (C)	mg/L	7.8 (1)	5.0	3864858	1.7	0.50	3864859	7.4	0.50	3864859
Orthophosphate (P)	mg/L	<0.010	0.010	3868005	<0.010	0.010	3868005	0.022	0.010	3868005
pH	pH	6.95	N/A	3867748	7.34	N/A	3867748	7.56	N/A	3865960
Reactive Silica (SiO2)	mg/L	16	0.50	3868003	12	0.50	3868003	27	1.0	3868003
Dissolved Sulphate (SO4)	mg/L	150	10	3868002	170	10	3868002	210	40	3868002
Turbidity	NTU	170	1.0	3868092	14	0.10	3868092	1.8	0.10	3868092
Conductivity	uS/cm	820	1.0	3867749	1000	1.0	3867749	680	1.0	3865974
Metals										
Dissolved Aluminum (Al)	ug/L	26	5.0	3865874	17	5.0	3865874	27	5.0	3865874
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Arsenic (As)	ug/L	1.4	1.0	3865874	2.2	1.0	3865874	2.2	1.0	3865874
Dissolved Barium (Ba)	ug/L	37	1.0	3865874	43	1.0	3865874	57	1.0	3865874
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Boron (B)	ug/L	61	50	3865874	<50	50	3865874	55	50	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable
(1) Elevated reporting limit due to sample matrix.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3520			YW3521			YW3551		
Sampling Date		2014/12/15			2014/12/15			2014/12/15		
COC Number		496259			496259			496259		
	Units	COBP-006-MWA	RDL	QC Batch	CONPL-202-MWA	RDL	QC Batch	COBB-004-MWA	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.18	0.010	3865874	0.27	0.010	3865874	0.46	0.010	3865874
Dissolved Calcium (Ca)	ug/L	130000	100	3865874	170000	100	3865874	130000	100	3865874
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	<1.0	1.0	3865874
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3865874	0.84	0.40	3865874	<0.40	0.40	3865874
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	5.7	2.0	3865874
Dissolved Iron (Fe)	ug/L	19000	50	3865874	280	50	3865874	<50	50	3865874
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3865874	<0.50	0.50	3865874	<0.50	0.50	3865874
Dissolved Magnesium (Mg)	ug/L	17000	100	3865874	28000	100	3865874	4800	100	3865874
Dissolved Manganese (Mn)	ug/L	6200	2.0	3865874	1100	2.0	3865874	41	2.0	3865874
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	3.2	2.0	3865874
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Phosphorus (P)	ug/L	130	100	3865874	<100	100	3865874	<100	100	3865874
Dissolved Potassium (K)	ug/L	4000	100	3865874	1900	100	3865874	3500	100	3865874
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3865874	<1.0	1.0	3865874	1.5	1.0	3865874
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Sodium (Na)	ug/L	21000	100	3865874	22000	100	3865874	8000	100	3865874
Dissolved Strontium (Sr)	ug/L	480	2.0	3865874	720	2.0	3865874	600	2.0	3865874
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3865874	<0.10	0.10	3865874	<0.10	0.10	3865874
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Uranium (U)	ug/L	<0.10	0.10	3865874	2.7	0.10	3865874	1.6	0.10	3865874
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3865874	<2.0	2.0	3865874	<2.0	2.0	3865874
Dissolved Zinc (Zn)	ug/L	29	5.0	3865874	14	5.0	3865874	20	5.0	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3552		
Sampling Date		2014/12/15		
COC Number		496259		
	Units	FD-003	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	3.35	N/A	3860906
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	38	1.0	3860902
Calculated TDS	mg/L	190	1.0	3860911
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	3860902
Cation Sum	me/L	3.20	N/A	3860906
Hardness (CaCO3)	mg/L	86	1.0	3860904
Ion Balance (% Difference)	%	2.29	N/A	3860905
Langelier Index (@ 20C)	N/A	-1.44		3860909
Langelier Index (@ 4C)	N/A	-1.69		3860910
Nitrate (N)	mg/L	0.10	0.050	3861610
Saturation pH (@ 20C)	N/A	8.34		3860909
Saturation pH (@ 4C)	N/A	8.59		3860910
Inorganics				
Total Alkalinity (Total as CaCO3)	mg/L	38	5.0	3867996
Dissolved Chloride (Cl)	mg/L	82	1.0	3868001
Colour	TCU	8.2	5.0	3868004
Nitrate + Nitrite	mg/L	0.13	0.050	3868006
Nitrite (N)	mg/L	0.029	0.010	3868007
Nitrogen (Ammonia Nitrogen)	mg/L	0.79	0.050	3865175
Total Organic Carbon (C)	mg/L	4.7	0.50	3864861
Orthophosphate (P)	mg/L	0.054	0.010	3868005
pH	pH	6.90	N/A	3867748
Reactive Silica (SiO2)	mg/L	3.4	0.50	3868003
Dissolved Sulphate (SO4)	mg/L	13	2.0	3868002
Turbidity	NTU	13	0.10	3868092
Conductivity	uS/cm	360	1.0	3867749
Metals				
Dissolved Aluminum (Al)	ug/L	21	5.0	3865874
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3865874
Dissolved Arsenic (As)	ug/L	<1.0	1.0	3865874
Dissolved Barium (Ba)	ug/L	36	1.0	3865874
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3865874
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3865874
Dissolved Boron (B)	ug/L	<50	50	3865874
Dissolved Cadmium (Cd)	ug/L	0.16	0.010	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW3552		
Sampling Date		2014/12/15		
COC Number		496259		
	Units	FD-003	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	29000	100	3865874
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3865874
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3865874
Dissolved Copper (Cu)	ug/L	<2.0	2.0	3865874
Dissolved Iron (Fe)	ug/L	130	50	3865874
Dissolved Lead (Pb)	ug/L	<0.50	0.50	3865874
Dissolved Magnesium (Mg)	ug/L	3300	100	3865874
Dissolved Manganese (Mn)	ug/L	500	2.0	3865874
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3865874
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3865874
Dissolved Phosphorus (P)	ug/L	110	100	3865874
Dissolved Potassium (K)	ug/L	2800	100	3865874
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3865874
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3865874
Dissolved Sodium (Na)	ug/L	31000	100	3865874
Dissolved Strontium (Sr)	ug/L	530	2.0	3865874
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3865874
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3865874
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3865874
Dissolved Uranium (U)	ug/L	<0.10	0.10	3865874
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3865874
Dissolved Zinc (Zn)	ug/L	8.2	5.0	3865874

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Report Date: 2014/12/24

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MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YW3511	YW3512	YW3513	YW3514	YW3515		
Sampling Date		2014/12/15	2014/12/15	2014/12/15	2014/12/15	2014/12/15		
COC Number		496259	496259	496259	496259	496259		
	Units	CODT-201-MWC	CODT-201-MWA	CODT-206-MW	CODT-205-MWA	CODT-008-MWB	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	0.032	<0.013	<0.013	<0.013	0.013	3867933

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YW3516	YW3517	YW3518	YW3519	YW3520		
Sampling Date		2014/12/15	2014/12/15	2014/12/15	2014/12/15	2014/12/15		
COC Number		496259	496259	496259	496259	496259		
	Units	SCU11-001-MWB	SCU11-001-MWA	COSB-002-MWA	COCP-110-MW	COBP-006-MWA	RDL	QC Batch
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	0.017	<0.013	0.013	3867933

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		YW3521	YW3551		YW3552		
Sampling Date		2014/12/15	2014/12/15		2014/12/15		
COC Number		496259	496259		496259		
	Units	CONPL-202-MWA	COBB-004-MWA	QC Batch	FD-003	RDL	QC Batch
Metals							
Total Mercury (Hg)	ug/L	<0.013	<0.013	3867933	<0.013	0.013	3868555

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YW3511		YW3512		YW3513	YW3514		
Sampling Date		2014/12/15		2014/12/15		2014/12/15	2014/12/15		
COC Number		496259		496259		496259	496259		
	Units	CODT-201-MWC	RDL	CODT-201-MWA	RDL	CODT-206-MW	CODT-205-MWA	RDL	QC Batch
Polyaromatic Hydrocarbons									
1-Methylnaphthalene	ug/L	670 (1)	25	3.3	0.050	0.86	0.40	0.050	3862916
2-Methylnaphthalene	ug/L	450 (1)	25	2.1	0.050	0.38	0.16	0.050	3862916
Acenaphthene	ug/L	230 (1)	5.0	1.6	0.010	0.89	0.37	0.010	3862916
Acenaphthylene	ug/L	12	0.010	0.16	0.010	0.060	0.35	0.010	3862916
Anthracene	ug/L	5.9	0.010	2.5	0.010	0.076	0.030	0.010	3862916
Benzo(a)anthracene	ug/L	0.058	0.010	4.5	0.010	0.083	0.018	0.010	3862916
Benzo(a)pyrene	ug/L	<0.010	0.010	3.7	0.010	0.12	0.012	0.010	3862916
Benzo(b)fluoranthene	ug/L	<0.010	0.010	2.9	0.010	0.10	0.012	0.010	3862916
Benzo(g,h,i)perylene	ug/L	<0.010	0.010	1.6	0.010	0.057	<0.010	0.010	3862916
Benzo(j)fluoranthene	ug/L	<0.010	0.010	1.9	0.010	0.052	<0.010	0.010	3862916
Benzo(k)fluoranthene	ug/L	<0.010	0.010	1.9	0.010	0.053	<0.010	0.010	3862916
Chrysene	ug/L	0.048	0.010	4.5	0.010	0.16	0.018	0.010	3862916
Dibenz(a,h)anthracene	ug/L	<0.010	0.010	0.57	0.010	0.015	<0.010	0.010	3862916
Fluoranthene	ug/L	3.7	0.010	10	0.010	0.27	0.15	0.010	3862916
Fluorene	ug/L	110 (1)	5.0	1.3	0.010	0.36	0.31	0.010	3862916
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	0.010	1.5	0.010	0.049	<0.010	0.010	3862916
Naphthalene	ug/L	7200 (1)	100	46 (1)	2.0	8.7	4.3	0.20	3862916
Perylene	ug/L	<0.010	0.010	0.83	0.010	0.023	<0.010	0.010	3862916
Phenanthrene	ug/L	76 (1)	5.0	8.1	0.010	0.31	0.15	0.010	3862916
Pyrene	ug/L	1.8	0.010	8.1	0.010	0.19	0.088	0.010	3862916
Surrogate Recovery (%)									
D10-Anthracene	%	115		59		64	57		3862916
D14-Terphenyl	%	100		67		64	62		3862916
D8-Acenaphthylene	%	113		68		66	62		3862916

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated PAH RDL(s) due to sample dilution.

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SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YW3515	YW3516	YW3517	YW3518	YW3519		
Sampling Date		2014/12/15	2014/12/15	2014/12/15	2014/12/15	2014/12/15		
COC Number		496259	496259	496259	496259	496259		
	Units	CODT-008-MWB	SCU11-001-MWB	SCU11-001-MWA	COSB-002-MWA	COCP-110-MW	RDL	QC Batch
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	0.15	<0.050	<0.050	<0.050	0.060	0.050	3864843
2-Methylnaphthalene	ug/L	0.064	<0.050	<0.050	<0.050	<0.050	0.050	3864843
Acenaphthene	ug/L	0.12	0.019	<0.010	0.013	0.062	0.010	3864843
Acenaphthylene	ug/L	0.026	<0.010	<0.010	0.018	0.021	0.010	3864843
Anthracene	ug/L	2.0	<0.010	<0.010	<0.010	0.056	0.010	3864843
Benzo(a)anthracene	ug/L	0.029	<0.010	<0.010	<0.010	0.10	0.010	3864843
Benzo(a)pyrene	ug/L	0.032	<0.010	<0.010	<0.010	0.071	0.010	3864843
Benzo(b)fluoranthene	ug/L	0.022	<0.010	<0.010	<0.010	0.056	0.010	3864843
Benzo(g,h,i)perylene	ug/L	0.020	<0.010	<0.010	<0.010	0.042	0.010	3864843
Benzo(j)fluoranthene	ug/L	0.016	<0.010	<0.010	<0.010	0.035	0.010	3864843
Benzo(k)fluoranthene	ug/L	0.016	<0.010	<0.010	<0.010	0.033	0.010	3864843
Chrysene	ug/L	0.058	<0.010	<0.010	<0.010	0.12	0.010	3864843
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	0.012	0.010	3864843
Fluoranthene	ug/L	0.11	0.013	<0.010	<0.010	0.19	0.010	3864843
Fluorene	ug/L	0.060	0.013	<0.010	0.015	0.042	0.010	3864843
Indeno(1,2,3-cd)pyrene	ug/L	0.018	<0.010	<0.010	<0.010	0.035	0.010	3864843
Naphthalene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	3864843
Perylene	ug/L	0.010	<0.010	<0.010	<0.010	0.017	0.010	3864843
Phenanthrene	ug/L	0.052	0.019	0.015	0.014	0.16	0.010	3864843
Pyrene	ug/L	0.11	0.012	<0.010	0.012	0.24	0.010	3864843
Surrogate Recovery (%)								
D10-Anthracene	%	88	63	71	96	97		3864843
D14-Terphenyl	%	92	67 (1)	70 (1)	98 (1)	106 (1)		3864843
D8-Acenaphthylene	%	96	68	76	105	108		3864843

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH sample contained sediment.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YW3520	YW3521	YW3551	YW3552		
Sampling Date		2014/12/15	2014/12/15	2014/12/15	2014/12/15		
COC Number		496259	496259	496259	496259		
	Units	COBP-006-MWA	CONPL-202-MWA	COBB-004-MWA	FD-003	RDL	QC Batch
Polyaromatic Hydrocarbons							
1-Methylnaphthalene	ug/L	1.2	<0.050	<0.050	<0.050	0.050	3864843
2-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	3864843
Acenaphthene	ug/L	13	0.054	0.023	0.019	0.010	3864843
Acenaphthylene	ug/L	0.44	0.030	<0.010	<0.010	0.010	3864843
Anthracene	ug/L	0.034	0.031	<0.010	<0.010	0.010	3864843
Benzo(a)anthracene	ug/L	0.050	0.062	<0.010	<0.010	0.010	3864843
Benzo(a)pyrene	ug/L	0.044	0.059	<0.010	<0.010	0.010	3864843
Benzo(b)fluoranthene	ug/L	0.033	0.045	<0.010	<0.010	0.010	3864843
Benzo(g,h,i)perylene	ug/L	0.021	0.030	<0.010	<0.010	0.010	3864843
Benzo(j)fluoranthene	ug/L	0.020	0.026	<0.010	<0.010	0.010	3864843
Benzo(k)fluoranthene	ug/L	0.020	0.027	<0.010	<0.010	0.010	3864843
Chrysene	ug/L	0.043	0.053	<0.010	<0.010	0.010	3864843
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	0.010	3864843
Fluoranthene	ug/L	0.10	0.12	<0.010	0.012	0.010	3864843
Fluorene	ug/L	0.67	0.028	<0.010	0.014	0.010	3864843
Indeno(1,2,3-cd)pyrene	ug/L	0.020	0.027	<0.010	<0.010	0.010	3864843
Naphthalene	ug/L	0.95	<0.20	<0.20	<0.20	0.20	3864843
Perylene	ug/L	0.012	0.014	<0.010	<0.010	0.010	3864843
Phenanthrene	ug/L	0.067	0.086	<0.010	0.021	0.010	3864843
Pyrene	ug/L	0.10	0.096	<0.010	0.012	0.010	3864843
Surrogate Recovery (%)							
D10-Anthracene	%	104	64	110	55		3864843
D14-Terphenyl	%	104 (1)	65 (1)	107 (1)	60 (1)		3864843
D8-Acenaphthylene	%	115	72	111	62		3864843

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH sample contained sediment.

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GENERAL COMMENTS

Sample YW3515-01 : Poor RCAp Ion Balance due to sample matrix.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3862916	GTH	Matrix Spike	D10-Anthracene	2014/12/18		99	%	30 - 130
			D14-Terphenyl	2014/12/18		102	%	30 - 130
			D8-Acenaphthylene	2014/12/18		101	%	30 - 130
			1-Methylnaphthalene	2014/12/18		97	%	30 - 130
			2-Methylnaphthalene	2014/12/18		100	%	30 - 130
			Acenaphthene	2014/12/18		102	%	30 - 130
			Acenaphthylene	2014/12/18		114	%	30 - 130
			Anthracene	2014/12/18		108	%	30 - 130
			Benzo(a)anthracene	2014/12/18		99	%	30 - 130
			Benzo(a)pyrene	2014/12/18		109	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		111	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/18		110	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		112	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		116	%	30 - 130
			Chrysene	2014/12/18		110	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		103	%	30 - 130
			Fluoranthene	2014/12/18		108	%	30 - 130
			Fluorene	2014/12/18		115	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		106	%	30 - 130
			Naphthalene	2014/12/18		86	%	30 - 130
			Perylene	2014/12/18		107	%	30 - 130
			Phenanthrene	2014/12/18		102	%	30 - 130
			Pyrene	2014/12/18		104	%	30 - 130
3862916	GTH	Spiked Blank	D10-Anthracene	2014/12/18		95	%	30 - 130
			D14-Terphenyl	2014/12/18		100	%	30 - 130
			D8-Acenaphthylene	2014/12/18		101	%	30 - 130
			1-Methylnaphthalene	2014/12/18		96	%	30 - 130
			2-Methylnaphthalene	2014/12/18		99	%	30 - 130
			Acenaphthene	2014/12/18		101	%	30 - 130
			Acenaphthylene	2014/12/18		113	%	30 - 130
			Anthracene	2014/12/18		109	%	30 - 130
			Benzo(a)anthracene	2014/12/18		100	%	30 - 130
			Benzo(a)pyrene	2014/12/18		107	%	30 - 130
			Benzo(b)fluoranthene	2014/12/18		110	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/18		113	%	30 - 130
			Benzo(j)fluoranthene	2014/12/18		111	%	30 - 130
			Benzo(k)fluoranthene	2014/12/18		115	%	30 - 130
			Chrysene	2014/12/18		107	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/18		103	%	30 - 130
			Fluoranthene	2014/12/18		109	%	30 - 130
			Fluorene	2014/12/18		113	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/18		112	%	30 - 130
			Naphthalene	2014/12/18		84	%	30 - 130
			Perylene	2014/12/18		107	%	30 - 130
			Phenanthrene	2014/12/18		100	%	30 - 130
			Pyrene	2014/12/18		106	%	30 - 130
3862916	GTH	Method Blank	D10-Anthracene	2014/12/22		100	%	30 - 130
			D14-Terphenyl	2014/12/22		101	%	30 - 130
			D8-Acenaphthylene	2014/12/22		107	%	30 - 130
			1-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			Acenaphthene	2014/12/22	<0.010		ug/L	
			Acenaphthylene	2014/12/22	<0.010		ug/L	
			Anthracene	2014/12/22	<0.010		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Benzo(a)anthracene	2014/12/22	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/22	<0.010		ug/L	
			Benzo(b)fluoranthene	2014/12/22	<0.010		ug/L	
			Benzo(g,h,i)perylene	2014/12/22	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/22	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/22	<0.010		ug/L	
			Chrysene	2014/12/22	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/22	<0.010		ug/L	
			Fluoranthene	2014/12/22	<0.010		ug/L	
			Fluorene	2014/12/22	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/22	<0.010		ug/L	
			Naphthalene	2014/12/22	<0.20		ug/L	
			Perylene	2014/12/22	<0.010		ug/L	
			Phenanthrene	2014/12/22	<0.010		ug/L	
			Pyrene	2014/12/22	<0.010		ug/L	
3862916	GTH	RPD	1-Methylnaphthalene	2014/12/18	NC		%	40
			2-Methylnaphthalene	2014/12/18	NC		%	40
			Acenaphthene	2014/12/18	NC		%	40
			Acenaphthylene	2014/12/18	NC		%	40
			Anthracene	2014/12/18	NC		%	40
			Benzo(a)anthracene	2014/12/18	NC		%	40
			Benzo(a)pyrene	2014/12/18	NC		%	40
			Benzo(b)fluoranthene	2014/12/18	NC		%	40
			Benzo(g,h,i)perylene	2014/12/18	NC		%	40
			Benzo(j)fluoranthene	2014/12/18	NC		%	40
			Benzo(k)fluoranthene	2014/12/18	NC		%	40
			Chrysene	2014/12/18	NC		%	40
			Dibenz(a,h)anthracene	2014/12/18	NC		%	40
			Fluoranthene	2014/12/18	NC		%	40
			Fluorene	2014/12/18	NC		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/18	NC		%	40
			Naphthalene	2014/12/18	NC		%	40
			Perylene	2014/12/18	NC		%	40
			Phenanthrene	2014/12/18	NC		%	40
			Pyrene	2014/12/18	NC		%	40
3864221	KCR	Matrix Spike [YW3514-06]	Isobutylbenzene - Extractable	2014/12/19		98	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		123	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19		73	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/19		84	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/19		85	%	30 - 130
3864221	KCR	Spiked Blank	Isobutylbenzene - Extractable	2014/12/18		100	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/18		108	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/18		73	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/18		83	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/18		83	%	30 - 130
3864221	KCR	Method Blank	Isobutylbenzene - Extractable	2014/12/18		97	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/18		98	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/18	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/18	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/18	<0.10		mg/L	
3864221	KCR	RPD	>C10-C16 Hydrocarbons	2014/12/18	NC		%	40
			>C16-C21 Hydrocarbons	2014/12/18	NC		%	40
			>C21-<C32 Hydrocarbons	2014/12/18	NC		%	40

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3864222	KCR	Matrix Spike [YW3551-06]	Isobutylbenzene - Extractable	2014/12/18		103	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/18		117	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/18		75	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/18		86	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/18		85	%	30 - 130
3864222	KCR	Spiked Blank	Isobutylbenzene - Extractable	2014/12/18		97	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/18		104	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/18		76	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/18		84	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/18		81	%	30 - 130
3864222	KCR	Method Blank	Isobutylbenzene - Extractable	2014/12/18		104	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/18		110	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/18	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/18	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/18	<0.10		mg/L	
3864222	KCR	RPD	>C10-C16 Hydrocarbons	2014/12/18	NC		%	40
			>C16-C21 Hydrocarbons	2014/12/18	NC		%	40
			>C21-<C32 Hydrocarbons	2014/12/18	NC		%	40
3864843	HIN	Matrix Spike [YW3516-08]	D10-Anthracene	2014/12/22		64	%	30 - 130
			D14-Terphenyl	2014/12/22		64 (1)	%	30 - 130
			D8-Acenaphthylene	2014/12/22		73	%	30 - 130
			1-Methylnaphthalene	2014/12/22		64	%	30 - 130
			2-Methylnaphthalene	2014/12/22		64	%	30 - 130
			Acenaphthene	2014/12/22		63	%	30 - 130
			Acenaphthylene	2014/12/22		82	%	30 - 130
			Anthracene	2014/12/22		65	%	30 - 130
			Benzo(a)anthracene	2014/12/22		61	%	30 - 130
			Benzo(a)pyrene	2014/12/22		62	%	30 - 130
			Benzo(b)fluoranthene	2014/12/22		66	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/22		56	%	30 - 130
			Benzo(j)fluoranthene	2014/12/22		52	%	30 - 130
			Benzo(k)fluoranthene	2014/12/22		67	%	30 - 130
			Chrysene	2014/12/22		70	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/22		52	%	30 - 130
			Fluoranthene	2014/12/22		66	%	30 - 130
			Fluorene	2014/12/22		74	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/22		52	%	30 - 130
			Naphthalene	2014/12/22		51	%	30 - 130
			Perylene	2014/12/22		53	%	30 - 130
			Phenanthrene	2014/12/22		69	%	30 - 130
			Pyrene	2014/12/22		65	%	30 - 130
3864843	HIN	Spiked Blank	D10-Anthracene	2014/12/23		109	%	30 - 130
			D14-Terphenyl	2014/12/23		110	%	30 - 130
			D8-Acenaphthylene	2014/12/23		115	%	30 - 130
			1-Methylnaphthalene	2014/12/23		104	%	30 - 130
			2-Methylnaphthalene	2014/12/23		111	%	30 - 130
			Acenaphthene	2014/12/23		103	%	30 - 130
			Acenaphthylene	2014/12/23		128	%	30 - 130
			Anthracene	2014/12/23		109	%	30 - 130
			Benzo(a)anthracene	2014/12/23		97	%	30 - 130
			Benzo(a)pyrene	2014/12/23		116	%	30 - 130
			Benzo(b)fluoranthene	2014/12/23		115	%	30 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Benzo(g,h,i)perylene	2014/12/23		103	%	30 - 130
			Benzo(j)fluoranthene	2014/12/23		99	%	30 - 130
			Benzo(k)fluoranthene	2014/12/23		125	%	30 - 130
			Chrysene	2014/12/23		106	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/23		89	%	30 - 130
			Fluoranthene	2014/12/23		108	%	30 - 130
			Fluorene	2014/12/23		120	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/23		100	%	30 - 130
			Naphthalene	2014/12/23		90	%	30 - 130
			Perylene	2014/12/23		110	%	30 - 130
			Phenanthrene	2014/12/23		100	%	30 - 130
			Pyrene	2014/12/23		105	%	30 - 130
3864843	HIN	Method Blank	D10-Anthracene	2014/12/22		95	%	30 - 130
			D14-Terphenyl	2014/12/22		103	%	30 - 130
			D8-Acenaphthylene	2014/12/22		99	%	30 - 130
			1-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/22	<0.050		ug/L	
			Acenaphthene	2014/12/22	<0.010		ug/L	
			Acenaphthylene	2014/12/22	<0.010		ug/L	
			Anthracene	2014/12/22	<0.010		ug/L	
			Benzo(a)anthracene	2014/12/22	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/22	<0.010		ug/L	
			Benzo(b)fluoranthene	2014/12/22	<0.010		ug/L	
			Benzo(g,h,i)perylene	2014/12/22	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/22	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/22	<0.010		ug/L	
			Chrysene	2014/12/22	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/22	<0.010		ug/L	
			Fluoranthene	2014/12/22	<0.010		ug/L	
			Fluorene	2014/12/22	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/22	<0.010		ug/L	
			Naphthalene	2014/12/22	<0.20		ug/L	
			Perylene	2014/12/22	<0.010		ug/L	
			Phenanthrene	2014/12/22	<0.010		ug/L	
			Pyrene	2014/12/22	<0.010		ug/L	
3864843	HIN	RPD [YW3515-08]	1-Methylnaphthalene	2014/12/22	NC		%	40
			2-Methylnaphthalene	2014/12/22	NC		%	40
			Acenaphthene	2014/12/22	27		%	40
			Acenaphthylene	2014/12/22	NC		%	40
			Anthracene	2014/12/22	NC		%	40
			Benzo(a)anthracene	2014/12/22	NC		%	40
			Benzo(a)pyrene	2014/12/22	NC		%	40
			Benzo(b)fluoranthene	2014/12/22	NC		%	40
			Benzo(g,h,i)perylene	2014/12/22	NC		%	40
			Benzo(j)fluoranthene	2014/12/22	NC		%	40
			Benzo(k)fluoranthene	2014/12/22	NC		%	40
			Chrysene	2014/12/22	NC		%	40
			Dibenz(a,h)anthracene	2014/12/22	NC		%	40
			Fluoranthene	2014/12/22	20		%	40
			Fluorene	2014/12/22	NC		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/22	NC		%	40
			Naphthalene	2014/12/22	NC		%	40
			Perylene	2014/12/22	NC		%	40
			Phenanthrene	2014/12/22	NC		%	40

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Pyrene	2014/12/22	22		%	40
3864858	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/18		NC	%	80 - 120
3864858	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/18		99	%	80 - 120
3864858	MCY	Method Blank	Total Organic Carbon (C)	2014/12/18	<0.50		mg/L	
3864858	MCY	RPD	Total Organic Carbon (C)	2014/12/18	1.7		%	20
3864859	MCY	Matrix Spike [YW3514-04]	Total Organic Carbon (C)	2014/12/18		NC	%	80 - 120
3864859	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/18		97	%	80 - 120
3864859	MCY	Method Blank	Total Organic Carbon (C)	2014/12/18	<0.50		mg/L	
3864859	MCY	RPD [YW3512-04]	Total Organic Carbon (C)	2014/12/18	0.83		%	20
3864861	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/18		NC	%	80 - 120
3864861	MCY	Spiked Blank	Total Organic Carbon (C)	2014/12/18		97	%	80 - 120
3864861	MCY	Method Blank	Total Organic Carbon (C)	2014/12/18	<0.50		mg/L	
3864861	MCY	RPD	Total Organic Carbon (C)	2014/12/18	4.6		%	20
3864872	KSR	QC Standard	pH	2014/12/18		100	%	97 - 103
3864872	KSR	RPD	pH	2014/12/18	0.070		%	N/A
3864896	KSR	Spiked Blank	Conductivity	2014/12/18		101	%	80 - 120
3864896	KSR	Method Blank	Conductivity	2014/12/18	1.6, RDL=1.0		uS/cm	
3864896	KSR	RPD	Conductivity	2014/12/18	0.065		%	25
3864904	MS3	Matrix Spike [YW3512-07]	Isobutylbenzene - Volatile	2014/12/20		99	%	70 - 130
			Benzene	2014/12/20		105	%	70 - 130
			Toluene	2014/12/20		106	%	70 - 130
			Ethylbenzene	2014/12/20		105	%	70 - 130
			Total Xylenes	2014/12/20		107	%	70 - 130
3864904	MS3	Spiked Blank	Isobutylbenzene - Volatile	2014/12/20		100	%	70 - 130
			Benzene	2014/12/20		106	%	70 - 130
			Toluene	2014/12/20		111	%	70 - 130
			Ethylbenzene	2014/12/20		112	%	70 - 130
			Total Xylenes	2014/12/20		113	%	70 - 130
3864904	MS3	Method Blank	Isobutylbenzene - Volatile	2014/12/20		100	%	70 - 130
			Benzene	2014/12/20	<0.0010		mg/L	
			Toluene	2014/12/20	<0.0010		mg/L	
			Ethylbenzene	2014/12/20	<0.0010		mg/L	
			Total Xylenes	2014/12/20	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/20	<0.010		mg/L	
3864904	MS3	RPD	Benzene	2014/12/20	NC		%	40
			Toluene	2014/12/20	NC		%	40
			Ethylbenzene	2014/12/20	NC		%	40
			Total Xylenes	2014/12/20	NC		%	40
			C6 - C10 (less BTEX)	2014/12/20	NC		%	40
3864931	MS3	Matrix Spike	Isobutylbenzene - Volatile	2014/12/22		75	%	70 - 130
			Benzene	2014/12/22		105	%	70 - 130
			Toluene	2014/12/22		105	%	70 - 130
			Ethylbenzene	2014/12/22		101	%	70 - 130
			Total Xylenes	2014/12/22		103	%	70 - 130
3864931	MS3	Spiked Blank	Isobutylbenzene - Volatile	2014/12/22		100	%	70 - 130
			Benzene	2014/12/22		107	%	70 - 130
			Toluene	2014/12/22		108	%	70 - 130
			Ethylbenzene	2014/12/22		108	%	70 - 130
			Total Xylenes	2014/12/22		109	%	70 - 130
3864931	MS3	Method Blank	Isobutylbenzene - Volatile	2014/12/22		99	%	70 - 130
			Benzene	2014/12/22	<0.0010		mg/L	

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			Toluene	2014/12/22	<0.0010		mg/L	
			Ethylbenzene	2014/12/22	<0.0010		mg/L	
			Total Xylenes	2014/12/22	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/22	<0.010		mg/L	
3864931	MS3	RPD	Benzene	2014/12/22	NC		%	40
			Toluene	2014/12/22	NC		%	40
			Ethylbenzene	2014/12/22	NC		%	40
			Total Xylenes	2014/12/22	NC		%	40
			C6 - C10 (less BTEX)	2014/12/22	NC		%	40
3865174	MCN	Matrix Spike [YW3516-03]	Nitrogen (Ammonia Nitrogen)	2014/12/19		NC	%	80 - 120
3865174	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/18		101	%	80 - 120
3865174	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/18	<0.050		mg/L	
3865174	MCN	RPD [YW3516-03]	Nitrogen (Ammonia Nitrogen)	2014/12/19	10		%	25
3865175	MCN	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/12/19		98	%	80 - 120
3865175	MCN	Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/19		96	%	80 - 120
3865175	MCN	Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/19	<0.050		mg/L	
3865175	MCN	RPD	Nitrogen (Ammonia Nitrogen)	2014/12/19	NC		%	25
3865874	DLB	Matrix Spike	Dissolved Aluminum (Al)	2014/12/19		102	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/19		107	%	80 - 120
			Dissolved Arsenic (As)	2014/12/19		102	%	80 - 120
			Dissolved Barium (Ba)	2014/12/19		94	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/19		99	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/19		104	%	80 - 120
			Dissolved Boron (B)	2014/12/19		97	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/19		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/19		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/19		98	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/19		97	%	80 - 120
			Dissolved Copper (Cu)	2014/12/19		97	%	80 - 120
			Dissolved Iron (Fe)	2014/12/19		NC	%	80 - 120
			Dissolved Lead (Pb)	2014/12/19		100	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/19		NC	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/19		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/19		106	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/19		100	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/19		109	%	80 - 120
			Dissolved Potassium (K)	2014/12/19		102	%	80 - 120
			Dissolved Selenium (Se)	2014/12/19		101	%	80 - 120
			Dissolved Silver (Ag)	2014/12/19		99	%	80 - 120
			Dissolved Sodium (Na)	2014/12/19		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/19		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/19		103	%	80 - 120
			Dissolved Tin (Sn)	2014/12/19		105	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/19		102	%	80 - 120
			Dissolved Uranium (U)	2014/12/19		108	%	80 - 120
			Dissolved Vanadium (V)	2014/12/19		100	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/19		102	%	80 - 120
3865874	DLB	Spiked Blank	Dissolved Aluminum (Al)	2014/12/19		105	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/19		102	%	80 - 120
			Dissolved Arsenic (As)	2014/12/19		100	%	80 - 120
			Dissolved Barium (Ba)	2014/12/19		96	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/19		100	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/19		106	%	80 - 120

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Dissolved Boron (B)	2014/12/19		97	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/19		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/19		99	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/19		97	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/19		97	%	80 - 120
			Dissolved Copper (Cu)	2014/12/19		98	%	80 - 120
			Dissolved Iron (Fe)	2014/12/19		106	%	80 - 120
			Dissolved Lead (Pb)	2014/12/19		101	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/19		109	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/19		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/19		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/19		101	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/19		109	%	80 - 120
			Dissolved Potassium (K)	2014/12/19		106	%	80 - 120
			Dissolved Selenium (Se)	2014/12/19		99	%	80 - 120
			Dissolved Silver (Ag)	2014/12/19		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/19		105	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/19		102	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/19		103	%	80 - 120
			Dissolved Tin (Sn)	2014/12/19		103	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/19		102	%	80 - 120
			Dissolved Uranium (U)	2014/12/19		108	%	80 - 120
			Dissolved Vanadium (V)	2014/12/19		98	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/19		102	%	80 - 120
3865874	DLB	Method Blank	Dissolved Aluminum (Al)	2014/12/19	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/19	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/19	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/19	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/19	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/19	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/19	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/19	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/19	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/19	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/19	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/19	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/19	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/19	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/19	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/19	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/19	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/19	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/19	<100		ug/L	
			Dissolved Potassium (K)	2014/12/19	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/19	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/19	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/19	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/19	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/19	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/19	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/19	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/19	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/19	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/19	<5.0		ug/L	

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QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3865874	DLB	RPD	Dissolved Aluminum (Al)	2014/12/19	7.0		%	20
			Dissolved Antimony (Sb)	2014/12/19	NC		%	20
			Dissolved Arsenic (As)	2014/12/19	NC		%	20
			Dissolved Barium (Ba)	2014/12/19	0.62		%	20
			Dissolved Beryllium (Be)	2014/12/19	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/19	NC		%	20
			Dissolved Boron (B)	2014/12/19	NC		%	20
			Dissolved Cadmium (Cd)	2014/12/19	7.0		%	20
			Dissolved Calcium (Ca)	2014/12/19	0.13		%	20
			Dissolved Chromium (Cr)	2014/12/19	NC		%	20
			Dissolved Cobalt (Co)	2014/12/19	4.6		%	20
			Dissolved Copper (Cu)	2014/12/19	NC		%	20
			Dissolved Iron (Fe)	2014/12/19	0.61		%	20
			Dissolved Lead (Pb)	2014/12/19	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/19	0.087		%	20
			Dissolved Manganese (Mn)	2014/12/19	0.19		%	20
			Dissolved Molybdenum (Mo)	2014/12/19	NC		%	20
			Dissolved Nickel (Ni)	2014/12/19	1.7		%	20
			Dissolved Phosphorus (P)	2014/12/19	NC		%	20
			Dissolved Potassium (K)	2014/12/19	1.0		%	20
			Dissolved Selenium (Se)	2014/12/19	NC		%	20
			Dissolved Silver (Ag)	2014/12/19	NC		%	20
			Dissolved Sodium (Na)	2014/12/19	0.28		%	20
			Dissolved Strontium (Sr)	2014/12/19	0.29		%	20
			Dissolved Thallium (Tl)	2014/12/19	NC		%	20
			Dissolved Tin (Sn)	2014/12/19	NC		%	20
			Dissolved Titanium (Ti)	2014/12/19	NC		%	20
			Dissolved Uranium (U)	2014/12/19	NC		%	20
			Dissolved Vanadium (V)	2014/12/19	NC		%	20
			Dissolved Zinc (Zn)	2014/12/19	1.1		%	20
3865960	KSR	QC Standard	pH	2014/12/19		100	%	97 - 103
3865960	KSR	RPD [YW3513-01]	pH	2014/12/19	0.64		%	N/A
3865974	KSR	Spiked Blank	Conductivity	2014/12/19		98	%	80 - 120
3865974	KSR	Method Blank	Conductivity	2014/12/19	1.5, RDL=1.0		uS/cm	
3865974	KSR	RPD [YW3513-01]	Conductivity	2014/12/19	0.000078		%	25
3867748	KMC	QC Standard	pH	2014/12/21		100	%	97 - 103
3867748	KMC	RPD	pH	2014/12/21	0.40		%	N/A
			pH	2014/12/21	0.27		%	N/A
3867749	KMC	Spiked Blank	Conductivity	2014/12/21		100	%	80 - 120
3867749	KMC	Method Blank	Conductivity	2014/12/21	1.1, RDL=1.0		uS/cm	
3867749	KMC	RPD	Conductivity	2014/12/21	0.19		%	25
3867933	ALG	Matrix Spike	Total Mercury (Hg)	2014/12/22		105	%	80 - 120
3867933	ALG	Spiked Blank	Total Mercury (Hg)	2014/12/22		105	%	80 - 120
3867933	ALG	Method Blank	Total Mercury (Hg)	2014/12/22	<0.013		ug/L	
3867933	ALG	RPD	Total Mercury (Hg)	2014/12/22	NC		%	20
3867996	MCY	Matrix Spike [YW3552-01]	Total Alkalinity (Total as CaCO3)	2014/12/22		NC	%	80 - 120
3867996	MCY	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/22		106	%	80 - 120
3867996	MCY	Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/22	<5.0		mg/L	
3867996	MCY	RPD [YW3552-01]	Total Alkalinity (Total as CaCO3)	2014/12/22	0.82		%	25
3868001	MCY	Matrix Spike [YW3552-01]	Dissolved Chloride (Cl)	2014/12/22		NC	%	80 - 120

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3868001	MCY	QC Standard	Dissolved Chloride (Cl)	2014/12/22		101	%	80 - 120
3868001	MCY	Spiked Blank	Dissolved Chloride (Cl)	2014/12/22		103	%	80 - 120
3868001	MCY	Method Blank	Dissolved Chloride (Cl)	2014/12/22	<1.0		mg/L	
3868001	MCY	RPD [YW3552-01]	Dissolved Chloride (Cl)	2014/12/22	0.020		%	25
3868002	MCY	Matrix Spike [YW3552-01]	Dissolved Sulphate (SO4)	2014/12/22		NC	%	80 - 120
3868002	MCY	Spiked Blank	Dissolved Sulphate (SO4)	2014/12/22		96	%	80 - 120
3868002	MCY	Method Blank	Dissolved Sulphate (SO4)	2014/12/22	<2.0		mg/L	
3868002	MCY	RPD [YW3552-01]	Dissolved Sulphate (SO4)	2014/12/22	3.4		%	25
3868003	JRM	Matrix Spike [YW3552-01]	Reactive Silica (SiO2)	2014/12/23		103	%	80 - 120
3868003	JRM	Spiked Blank	Reactive Silica (SiO2)	2014/12/22		102	%	80 - 120
3868003	JRM	Method Blank	Reactive Silica (SiO2)	2014/12/22	<0.50		mg/L	
3868003	JRM	RPD [YW3552-01]	Reactive Silica (SiO2)	2014/12/23	0.12		%	25
3868004	MCY	Spiked Blank	Colour	2014/12/22		107	%	80 - 120
3868004	MCY	Method Blank	Colour	2014/12/22	<5.0		TCU	
3868004	MCY	RPD [YW3552-01]	Colour	2014/12/22	NC		%	25
3868005	MCY	Matrix Spike [YW3552-01]	Orthophosphate (P)	2014/12/23		98	%	80 - 120
3868005	MCY	Spiked Blank	Orthophosphate (P)	2014/12/23		97	%	80 - 120
3868005	MCY	Method Blank	Orthophosphate (P)	2014/12/23	<0.010		mg/L	
3868005	MCY	RPD [YW3552-01]	Orthophosphate (P)	2014/12/23	2.8		%	25
3868006	MCY	Matrix Spike [YW3552-01]	Nitrate + Nitrite	2014/12/22		97	%	80 - 120
3868006	MCY	Spiked Blank	Nitrate + Nitrite	2014/12/22		94	%	80 - 120
3868006	MCY	Method Blank	Nitrate + Nitrite	2014/12/22	<0.050		mg/L	
3868006	MCY	RPD [YW3552-01]	Nitrate + Nitrite	2014/12/22	NC		%	25
3868007	MCY	Matrix Spike [YW3552-01]	Nitrite (N)	2014/12/23		95	%	80 - 120
3868007	MCY	Spiked Blank	Nitrite (N)	2014/12/23		107	%	80 - 120
3868007	MCY	Method Blank	Nitrite (N)	2014/12/23	<0.010		mg/L	
3868007	MCY	RPD [YW3552-01]	Nitrite (N)	2014/12/23	NC		%	25
3868087	KMC	QC Standard	Turbidity	2014/12/22		109	%	80 - 120
3868087	KMC	Method Blank	Turbidity	2014/12/22	<0.10		NTU	
3868087	KMC	RPD	Turbidity	2014/12/22	6.5		%	25
3868092	KMC	QC Standard	Turbidity	2014/12/22		109	%	80 - 120
3868092	KMC	Method Blank	Turbidity	2014/12/22	<0.10		NTU	
3868092	KMC	RPD	Turbidity	2014/12/22	8.7		%	25
3868555	ALG	Matrix Spike	Total Mercury (Hg)	2014/12/22		100	%	80 - 120
3868555	ALG	Spiked Blank	Total Mercury (Hg)	2014/12/22		99	%	80 - 120
3868555	ALG	Method Blank	Total Mercury (Hg)	2014/12/22	<0.013		ug/L	
3868555	ALG	RPD [YW3552-05]	Total Mercury (Hg)	2014/12/22	NC		%	20
3869441	MCY	Matrix Spike	Reactive Silica (SiO2)	2014/12/23		NC	%	80 - 120
3869441	MCY	Spiked Blank	Reactive Silica (SiO2)	2014/12/23		104	%	80 - 120
3869441	MCY	Method Blank	Reactive Silica (SiO2)	2014/12/23	<0.50		mg/L	

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
3869441	MCY	RPD	Reactive Silica (SiO2)	2014/12/23	0.68		%	25

N/A = Not Applicable

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 sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).

(1) PAH sample contained sediment.

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Maxxam Job #: B4N7361
Report Date: 2014/12/24

Dillon Consulting Limited
Your P.O. #: 4104257070

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Kevin MacDonald, Inorganics Supervisor

Mike MacGillivray, Scientific Specialist (Inorganics)

Phil Deveau

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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Your P.O. #: 4104251070
Your C.O.C. #: 496259

Attention: Nadine Wambolt
Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2015/01/19
Report #: R3306263
Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4N8488
Received: 2014/12/16, 16:25

Sample Matrix: Water
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Carbonate, Bicarbonate and Hydroxide (1)	5	N/A	2014/12/22	N/A	SM 22 4500-CO2 D
Alkalinity (1)	5	N/A	2014/12/22	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	5	N/A	2014/12/22	ATL SOP 00014	SM 22 4500-Cl- E m
Colour (1)	5	N/A	2014/12/22	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	5	N/A	2014/12/21	ATL SOP 00004	SM 22 2510B m
TEH in Water (PIRI) (1)	4	2014/12/19	2014/12/20	ATL SOP 00113	Atl. PIRI v3 m
TEH in Water (PIRI) (1)	2	2014/12/19	2014/12/22	ATL SOP 00113	Atl. PIRI v3 m
Hardness (calculated as CaCO3) (1)	4	N/A	2014/12/22	ATL SOP 00048	SM 22 2340 B
Hardness (calculated as CaCO3) (1)	1	N/A	2014/12/23	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL) (1)	5	2014/12/22	2014/12/22	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd) (1)	4	N/A	2014/12/19	ATL SOP 00058	EPA 6020A R1 m
Metals Water Diss. MS (as rec'd) (1)	1	N/A	2014/12/22	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	5	N/A	2014/12/23		Auto Calc.
Anion and Cation Sum (1)	5	N/A	2014/12/23		Auto Calc.
Nitrogen Ammonia - water (1)	5	N/A	2014/12/22	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	5	N/A	2014/12/22	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	5	N/A	2014/12/23	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	5	N/A	2014/12/23	ATL SOP 00018	ASTM D3867
PAH in Water by GC/MS (SIM) (1)	5	2014/12/24	2014/12/29	ATL SOP 00103	EPA 8270D m
pH (1,2)	5	N/A	2014/12/21	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	5	N/A	2014/12/23	ATL SOP 00021	EPA 365.2 m
VPH in Water (PIRI) (1)	6	N/A	2014/12/23	ATL SOP 00118	Atl. PIRI v3 m
Sat. pH and Langelier Index (@ 20C) (1)	5	N/A	2014/12/23	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	5	N/A	2014/12/23	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	3	N/A	2014/12/22	ATL SOP 00022	EPA 366.0 m
Reactive Silica (1)	2	N/A	2014/12/23	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	5	N/A	2014/12/22	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc) (1)	5	N/A	2014/12/23		Auto Calc.
Organic carbon - Total (TOC) (1,3)	5	N/A	2014/12/19	ATL SOP 00037	SM 22 5310C m
ModTPH (T1) Calc. for Water (1)	2	N/A	2014/12/23	N/A	Atl. PIRI v3 m
ModTPH (T1) Calc. for Water (1)	4	N/A	2014/12/24	N/A	Atl. PIRI v3 m
Turbidity (1)	5	N/A	2014/12/23	ATL SOP 00011	EPA 180.1 R2 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.
(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902) 567-1255 Ext:17

==========

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Total cover pages: 1

Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW8497	YW8529		YW8530		
Sampling Date		2014/12/16	2014/12/16		2014/12/16		
COC Number		496259	496259		496259		
	Units	**COSCW-001-MWA**	**MSES-012-MWA**	**QC Batch**	**CODT-105-MW**	**RDL**	**QC Batch**
Petroleum Hydrocarbons							
Benzene	mg/L	<0.0010	<0.0010	3866243	<0.0010	0.0010	3866243
Toluene	mg/L	<0.0010	<0.0010	3866243	<0.0010	0.0010	3866243
Ethylbenzene	mg/L	<0.0010	<0.0010	3866243	<0.0010	0.0010	3866243
Total Xylenes	mg/L	<0.0020	<0.0020	3866243	<0.0020	0.0020	3866243
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	3866243	<0.010	0.010	3866243
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	3865786	<0.050	0.050	3865785
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	3865786	<0.050	0.050	3865785
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	3865786	<0.10	0.10	3865785
Modified TPH (Tier1)	mg/L	<0.10	<0.10	3862578	<0.10	0.10	3862578
Reached Baseline at C32	mg/L	NA	NA	3865786	NA	N/A	3865785
Hydrocarbon Resemblance	mg/L	NA	NA	3865786	NA	N/A	3865785
Surrogate Recovery (%)							
Isobutylbenzene - Extractable	%	110	103	3865786	98		3865785
n-Dotriacontane - Extractable	%	123	127	3865786	106		3865785
Isobutylbenzene - Volatile	%	104	104	3866243	106		3866243

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YW8531	YW8532	YW8549		
Sampling Date		2014/12/16	2014/12/16	2014/12/15		
COC Number		496259	496259	496259		
	Units	**MW 2 SPAR RD**	**FD-004**	**TB-005**	**RDL**	**QC Batch**
Petroleum Hydrocarbons						
Benzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	3866243
Toluene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	3866243
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	3866243
Total Xylenes	mg/L	<0.0020	<0.0020	<0.0020	0.0020	3866243
C6 - C10 (less BTEX)	mg/L	<0.010	<0.010	<0.010	0.010	3866243
>C10-C16 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	0.050	3865786
>C16-C21 Hydrocarbons	mg/L	<0.050	<0.050	<0.050	0.050	3865786
>C21-<C32 Hydrocarbons	mg/L	<0.10	<0.10	<0.10	0.10	3865786
Modified TPH (Tier1)	mg/L	<0.10	<0.10	<0.10	0.10	3862578
Reached Baseline at C32	mg/L	NA	NA	NA	N/A	3865786
Hydrocarbon Resemblance	mg/L	NA	NA	NA	N/A	3865786
Surrogate Recovery (%)						
Isobutylbenzene - Extractable	%	100	100	99		3865786
n-Dotriacontane - Extractable	%	122	113	124		3865786
Isobutylbenzene - Volatile	%	103	114	103		3866243

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW8497		YW8529		YW8530		
Sampling Date		2014/12/16		2014/12/16		2014/12/16		
COC Number		496259		496259		496259		
	Units	**COSCW-001-MWA**	**RDL**	**MSES-012-MWA**	**RDL**	**CODT-105-MW**	**RDL**	**QC Batch**
Calculated Parameters								
Anion Sum	me/L	5.11	N/A	21.5	N/A	8.84	N/A	3863122
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	1.0	180	1.0	300	1.0	3863084
Calculated TDS	mg/L	290	1.0	1400	1.0	500	1.0	3863123
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	1.7	1.0	3863084
Cation Sum	me/L	5.08	N/A	23.2	N/A	8.67	N/A	3863122
Hardness (CaCO3)	mg/L	220	1.0	830	1.0	390	1.0	3863120
Ion Balance (% Difference)	%	0.290	N/A	3.65	N/A	0.970	N/A	3863121
Langelier Index (@ 20C)	N/A	0.334		0.0220		0.902		3863086
Langelier Index (@ 4C)	N/A	0.0850		-0.222		0.654		3863087
Nitrate (N)	mg/L	0.052	0.050	0.53	0.050	1.1	0.050	3863085
Saturation pH (@ 20C)	N/A	7.28		6.88		6.89		3863086
Saturation pH (@ 4C)	N/A	7.53		7.13		7.13		3863087
Inorganics								
Total Alkalinity (Total as CaCO3)	mg/L	180	25	180	25	300	25	3868057
Dissolved Chloride (Cl)	mg/L	14	1.0	230	5.0	13	1.0	3868059
Colour	TCU	<5.0	5.0	46	5.0	11	5.0	3868062
Nitrate + Nitrite	mg/L	0.052	0.050	0.53	0.050	1.1	0.050	3868064
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	0.037	0.010	3868065
Nitrogen (Ammonia Nitrogen)	mg/L	0.093	0.050	0.088	0.050	<0.050	0.050	3868358
Total Organic Carbon (C)	mg/L	0.93	0.50	1.3	0.50	3.3	0.50	3866023
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	0.018	0.010	3868063
pH	pH	7.61	N/A	6.90	N/A	7.79	N/A	3867752
Reactive Silica (SiO2)	mg/L	12	0.50	43	2.5	17	0.50	3868061
Dissolved Sulphate (SO4)	mg/L	49	10	550	40	110	10	3868060
Turbidity	NTU	46	0.50	18	0.10	0.56	0.10	3869496
Conductivity	uS/cm	480	1.0	2100	1.0	780	1.0	3867753
Metals								
Dissolved Aluminum (Al)	ug/L	13	5.0	26	5.0	20	5.0	3865879
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	2.2	1.0	3865879
Dissolved Arsenic (As)	ug/L	<1.0	1.0	<1.0	1.0	2.1	1.0	3865879
Dissolved Barium (Ba)	ug/L	48	1.0	5.3	1.0	25	1.0	3865879

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW8497		YW8529		YW8530		
Sampling Date		2014/12/16		2014/12/16		2014/12/16		
COC Number		496259		496259		496259		
	Units	**COSCW-001-MWA**	**RDL**	**MSES-012-MWA**	**RDL**	**CODT-105-MW**	**RDL**	**QC Batch**
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	1.0	3865879
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	2.0	3865879
Dissolved Boron (B)	ug/L	<50	50	<50	50	62	50	3865879
Dissolved Cadmium (Cd)	ug/L	0.13	0.010	0.37	0.010	0.13	0.010	3865879
Dissolved Calcium (Ca)	ug/L	74000	100	290000	100	130000	100	3865879
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	1.0	3865879
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	<0.40	0.40	3865879
Dissolved Copper (Cu)	ug/L	7.5	2.0	<2.0	2.0	4.3	2.0	3865879
Dissolved Iron (Fe)	ug/L	<50	50	1800	50	<50	50	3865879
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	0.50	3865879
Dissolved Magnesium (Mg)	ug/L	8800	100	26000	100	18000	100	3865879
Dissolved Manganese (Mn)	ug/L	10	2.0	230	2.0	2.9	2.0	3865879
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	5.4	2.0	3865879
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	2.0	3865879
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	<100	100	3865879
Dissolved Potassium (K)	ug/L	1900	100	3500	100	7200	100	3865879
Dissolved Selenium (Se)	ug/L	<1.0	1.0	6.2	1.0	15	1.0	3865879
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	<0.10	0.10	3865879
Dissolved Sodium (Na)	ug/L	13000	100	150000	100	14000	100	3865879
Dissolved Strontium (Sr)	ug/L	650	2.0	320	2.0	380	2.0	3865879
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	<0.10	0.10	3865879
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	2.0	3865879
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	2.0	3865879
Dissolved Uranium (U)	ug/L	0.82	0.10	0.33	0.10	2.3	0.10	3865879
Dissolved Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	2.5	2.0	3865879
Dissolved Zinc (Zn)	ug/L	45	5.0	52	5.0	18	5.0	3865879

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW8531		YW8532		
Sampling Date		2014/12/16		2014/12/16		
COC Number		496259		496259		
	Units	**MW 2 SPAR RD**	**QC Batch**	**FD-004**	**RDL**	**QC Batch**
Calculated Parameters						
Anion Sum	me/L	13.1	3863122	13.0	N/A	3863122
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	3863084	180	1.0	3863084
Calculated TDS	mg/L	820	3863123	820	1.0	3863123
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.1	3863084	1.1	1.0	3863084
Cation Sum	me/L	13.4	3863122	13.5	N/A	3863122
Hardness (CaCO3)	mg/L	320	3863120	320	1.0	3863120
Ion Balance (% Difference)	%	1.14	3863121	2.12	N/A	3863121
Langelier Index (@ 20C)	N/A	0.631	3863086	0.638		3863086
Langelier Index (@ 4C)	N/A	0.384	3863087	0.391		3863087
Nitrate (N)	mg/L	0.099	3863085	0.070	0.050	3863085
Saturation pH (@ 20C)	N/A	7.20	3863086	7.19		3863086
Saturation pH (@ 4C)	N/A	7.44	3863087	7.44		3863087
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	180	3868057	180	25	3868057
Dissolved Chloride (Cl)	mg/L	210	3868059	210	2.0	3868059
Colour	TCU	7.1	3868062	6.3	5.0	3868062
Nitrate + Nitrite	mg/L	0.099	3868064	0.081	0.050	3868064
Nitrite (N)	mg/L	<0.010	3868065	0.010	0.010	3868065
Nitrogen (Ammonia Nitrogen)	mg/L	0.095	3868358	<0.050	0.050	3868358
Total Organic Carbon (C)	mg/L	1.8	3866023	1.7	0.50	3866023
Orthophosphate (P)	mg/L	0.018	3868063	0.018	0.010	3868063
pH	pH	7.83	3867752	7.83	N/A	3867752
Reactive Silica (SiO2)	mg/L	39	3868061	39	1.0	3868061
Dissolved Sulphate (SO4)	mg/L	170	3868060	170	10	3868060
Turbidity	NTU	3.0	3869496	1.6	0.10	3869496
Conductivity	uS/cm	1400	3867753	1400	1.0	3867753
Metals						
Dissolved Aluminum (Al)	ug/L	13	3865879	14	5.0	3867779
Dissolved Antimony (Sb)	ug/L	12	3865879	12	1.0	3867779
Dissolved Arsenic (As)	ug/L	16	3865879	16	1.0	3867779

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 465 George St., Unit G Sydney, NS B1P 1K5 Tel: (902) 567-1255 Toll-Free: (888) 535-7770 Fax: (902) 539-6504 www.maxxam.ca

Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YW8531		YW8532		
Sampling Date		2014/12/16		2014/12/16		
COC Number		496259		496259		
	Units	**MW 2 SPAR RD**	**QC Batch**	**FD-004**	**RDL**	**QC Batch**
Dissolved Barium (Ba)	ug/L	53	3865879	57	1.0	3867779
Dissolved Beryllium (Be)	ug/L	<1.0	3865879	<1.0	1.0	3867779
Dissolved Bismuth (Bi)	ug/L	<2.0	3865879	<2.0	2.0	3867779
Dissolved Boron (B)	ug/L	65	3865879	65	50	3867779
Dissolved Cadmium (Cd)	ug/L	0.38	3865879	0.37	0.010	3867779
Dissolved Calcium (Ca)	ug/L	120000	3865879	120000	100	3867779
Dissolved Chromium (Cr)	ug/L	<1.0	3865879	<1.0	1.0	3867779
Dissolved Cobalt (Co)	ug/L	<0.40	3865879	<0.40	0.40	3867779
Dissolved Copper (Cu)	ug/L	3.7	3865879	3.7	2.0	3867779
Dissolved Iron (Fe)	ug/L	<50	3865879	<50	50	3867779
Dissolved Lead (Pb)	ug/L	<0.50	3865879	<0.50	0.50	3867779
Dissolved Magnesium (Mg)	ug/L	5400	3865879	5400	100	3867779
Dissolved Manganese (Mn)	ug/L	8.3	3865879	9.5	2.0	3867779
Dissolved Molybdenum (Mo)	ug/L	2.1	3865879	2.1	2.0	3867779
Dissolved Nickel (Ni)	ug/L	<2.0	3865879	<2.0	2.0	3867779
Dissolved Phosphorus (P)	ug/L	<100	3865879	<100	100	3867779
Dissolved Potassium (K)	ug/L	8100	3865879	7700	100	3867779
Dissolved Selenium (Se)	ug/L	1.8	3865879	1.9	1.0	3867779
Dissolved Silver (Ag)	ug/L	<0.10	3865879	<0.10	0.10	3867779
Dissolved Sodium (Na)	ug/L	160000	3865879	160000	100	3867779
Dissolved Strontium (Sr)	ug/L	560	3865879	560	2.0	3867779
Dissolved Thallium (Tl)	ug/L	<0.10	3865879	<0.10	0.10	3867779
Dissolved Tin (Sn)	ug/L	<2.0	3865879	<2.0	2.0	3867779
Dissolved Titanium (Ti)	ug/L	<2.0	3865879	<2.0	2.0	3867779
Dissolved Uranium (U)	ug/L	3.3	3865879	3.3	0.10	3867779
Dissolved Vanadium (V)	ug/L	<2.0	3865879	2.0	2.0	3867779
Dissolved Zinc (Zn)	ug/L	18	3865879	20	5.0	3867779

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YW8497	YW8529	YW8530	YW8531	YW8532		
Sampling Date		2014/12/16	2014/12/16	2014/12/16	2014/12/16	2014/12/16		
COC Number		496259	496259	496259	496259	496259		
	Units	**COSCW-001-MWA**	**MSES-012-MWA**	**CODT-105-MW**	**MW 2 SPAR RD**	**FD-004**	**RDL**	**QC Batch**
Metals								
Total Mercury (Hg)	ug/L	<0.013	<0.013	<0.013	<0.013	<0.013	0.013	3868555

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YW8497	YW8529	YW8530	YW8531	YW8532		
Sampling Date		2014/12/16	2014/12/16	2014/12/16	2014/12/16	2014/12/16		
COC Number		496259	496259	496259	496259	496259		
	Units	**COSCW-001-MWA**	**MSES-012-MWA**	**CODT-105-MW**	**MW 2 SPAR RD**	**FD-004**	**RDL**	**QC Batch**
Polyaromatic Hydrocarbons								
1-Methylnaphthalene	ug/L	0.12	0.43	<0.050	0.15	0.25	0.050	3870775
2-Methylnaphthalene	ug/L	0.050	0.19	<0.050	0.081	0.12	0.050	3870775
Acenaphthene	ug/L	0.045	0.15	0.079	0.055	0.077	0.010	3870775
Acenaphthylene	ug/L	<0.010	0.033	<0.010	<0.010	<0.010	0.010	3870775
Anthracene	ug/L	<0.010	0.017	<0.010	<0.010	<0.010	0.010	3870775
Benzo(a)anthracene	ug/L	<0.010	<0.010	0.015	<0.010	<0.010	0.010	3870775
Benzo(a)pyrene	ug/L	<0.010	<0.010	0.014	<0.010	<0.010	0.010	3870775
Benzo(b)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Benzo(g,h,i)perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Benzo(j)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Benzo(k)fluoranthene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Chrysene	ug/L	<0.010	<0.010	0.012	<0.010	<0.010	0.010	3870775
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Fluoranthene	ug/L	<0.010	0.059	0.090	<0.010	0.014	0.010	3870775
Fluorene	ug/L	0.020	0.12	0.012	0.024	0.034	0.010	3870775
Indeno(1,2,3-cd)pyrene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Naphthalene	ug/L	1.0	4.0	<0.20	1.1	1.7	0.20	3870775
Perylene	ug/L	<0.010	<0.010	<0.010	<0.010	<0.010	0.010	3870775
Phenanthrene	ug/L	0.022	0.036	0.042	0.016	0.031	0.010	3870775
Pyrene	ug/L	<0.010	0.039	0.072	<0.010	0.014	0.010	3870775
Surrogate Recovery (%)								
D10-Anthracene	%	63	87	51	91	59		3870775
D14-Terphenyl	%	70 (1)	99 (1)	94	97 (1)	61 (1)		3870775
D8-Acenaphthylene	%	72	96	73	98	63		3870775

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(1) PAH sample contained sediment.

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Dillon Consulting Limited

Maxxam Job #: B4N8488
Report Date: 2015/01/19

Your P.O. #: 4104251070

GENERAL COMMENTS

REISSUED REPORT to split files as requested by Nadine Wambolt via email - Jan 19, 2015 NBU

Results relate only to the items tested.

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3865785	KCR	Matrix Spike						
		[YW8530-06]	Isobutylbenzene - Extractable	2014/12/19		89	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		121	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19		75	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/19		84	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/19		86	%	30 - 130
		Spiked Blank	Isobutylbenzene - Extractable	2014/12/19		95	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		129	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19		78	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/19		89	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/19		94	%	30 - 130
		Method Blank	Isobutylbenzene - Extractable	2014/12/19		88	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		115	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/19	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/19	<0.10		mg/L	
		RPD	>C10-C16 Hydrocarbons	2014/12/19	NC		%	40
			>C16-C21 Hydrocarbons	2014/12/19	NC		%	40
			>C21-<C32 Hydrocarbons	2014/12/19	NC		%	40
3865786	BHR	Matrix Spike	Isobutylbenzene - Extractable	2014/12/22		99	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/22		116	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/22		84	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/22		97	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/22		117	%	30 - 130
		Spiked Blank	Isobutylbenzene - Extractable	2014/12/19		107	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		118	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19		89	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/19		100	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/19		128	%	30 - 130
		Method Blank	Isobutylbenzene - Extractable	2014/12/19		104	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/19		123	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/19	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/19	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/19	<0.10		mg/L	
3865879	DLB	Matrix Spike	Dissolved Aluminum (Al)	2014/12/19		105	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/19		109	%	80 - 120
			Dissolved Arsenic (As)	2014/12/19		102	%	80 - 120
			Dissolved Barium (Ba)	2014/12/19		NC	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/19		101	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/19		102	%	80 - 120
			Dissolved Boron (B)	2014/12/19		98	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/19		103	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/19		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/19		96	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/19		96	%	80 - 120
			Dissolved Copper (Cu)	2014/12/19		96	%	80 - 120
			Dissolved Iron (Fe)	2014/12/19		106	%	80 - 120
			Dissolved Lead (Pb)	2014/12/19		100	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/19		106	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/19		101	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/19		106	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/19		99	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/19		109	%	80 - 120
			Dissolved Potassium (K)	2014/12/19		103	%	80 - 120
			Dissolved Selenium (Se)	2014/12/19		102	%	80 - 120

Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3865879	DLB	Matrix Spike	Dissolved Silver (Ag)	2014/12/19		101	%	80 - 120
			Dissolved Sodium (Na)	2014/12/19		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/19		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/19		104	%	80 - 120
			Dissolved Tin (Sn)	2014/12/19		109	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/19		103	%	80 - 120
			Dissolved Uranium (U)	2014/12/19		109	%	80 - 120
			Dissolved Vanadium (V)	2014/12/19		100	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/19		NC	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2014/12/19		104	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/19		103	%	80 - 120
			Dissolved Arsenic (As)	2014/12/19		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/19		96	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/19		99	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/19		104	%	80 - 120
			Dissolved Boron (B)	2014/12/19		97	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/19		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/19		96	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/19		97	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/19		98	%	80 - 120
			Dissolved Copper (Cu)	2014/12/19		99	%	80 - 120
			Dissolved Iron (Fe)	2014/12/19		108	%	80 - 120
			Dissolved Lead (Pb)	2014/12/19		100	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/19		109	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/19		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/19		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/19		101	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/19		109	%	80 - 120
			Dissolved Potassium (K)	2014/12/19		107	%	80 - 120
			Dissolved Selenium (Se)	2014/12/19		100	%	80 - 120
			Dissolved Silver (Ag)	2014/12/19		98	%	80 - 120
			Dissolved Sodium (Na)	2014/12/19		105	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/19		101	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/19		104	%	80 - 120
			Dissolved Tin (Sn)	2014/12/19		104	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/19		101	%	80 - 120
			Dissolved Uranium (U)	2014/12/19		107	%	80 - 120
			Dissolved Vanadium (V)	2014/12/19		99	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/19		103	%	80 - 120
		Method Blank	Dissolved Aluminum (Al)	2014/12/19	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/19	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/19	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/19	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/19	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/19	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/19	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/19	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/19	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/19	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/19	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/19	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/19	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/19	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/19	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/19	<2.0		ug/L	

Dillon Consulting Limited
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Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3865879	DLB	Method Blank	Dissolved Molybdenum (Mo)	2014/12/19	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/19	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/19	<100		ug/L	
			Dissolved Potassium (K)	2014/12/19	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/19	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/19	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/19	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/19	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/19	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/19	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/19	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/19	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/19	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/19	<5.0		ug/L	
		RPD	Dissolved Aluminum (Al)	2014/12/19	NC		%	20
			Dissolved Antimony (Sb)	2014/12/19	NC		%	20
			Dissolved Arsenic (As)	2014/12/19	NC		%	20
			Dissolved Barium (Ba)	2014/12/19	1.0		%	20
			Dissolved Beryllium (Be)	2014/12/19	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/19	NC		%	20
			Dissolved Boron (B)	2014/12/19	NC		%	20
			Dissolved Cadmium (Cd)	2014/12/19	2.0		%	20
			Dissolved Calcium (Ca)	2014/12/19	2.3		%	20
			Dissolved Chromium (Cr)	2014/12/19	NC		%	20
			Dissolved Cobalt (Co)	2014/12/19	NC		%	20
			Dissolved Copper (Cu)	2014/12/19	NC		%	20
			Dissolved Iron (Fe)	2014/12/19	NC		%	20
			Dissolved Lead (Pb)	2014/12/19	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/19	1.2		%	20
			Dissolved Manganese (Mn)	2014/12/19	NC		%	20
			Dissolved Molybdenum (Mo)	2014/12/19	NC		%	20
			Dissolved Nickel (Ni)	2014/12/19	NC		%	20
			Dissolved Phosphorus (P)	2014/12/19	NC		%	20
			Dissolved Potassium (K)	2014/12/19	0.4		%	20
			Dissolved Selenium (Se)	2014/12/19	NC		%	20
			Dissolved Silver (Ag)	2014/12/19	NC		%	20
			Dissolved Sodium (Na)	2014/12/19	0.3		%	20
			Dissolved Strontium (Sr)	2014/12/19	1.9		%	20
			Dissolved Thallium (Tl)	2014/12/19	NC		%	20
			Dissolved Tin (Sn)	2014/12/19	NC		%	20
			Dissolved Titanium (Ti)	2014/12/19	NC		%	20
			Dissolved Uranium (U)	2014/12/19	NC		%	20
			Dissolved Vanadium (V)	2014/12/19	NC		%	20
			Dissolved Zinc (Zn)	2014/12/19	0.9		%	20
3866023	MCY	Matrix Spike	Total Organic Carbon (C)	2014/12/19		105	%	80 - 120
		Spiked Blank	Total Organic Carbon (C)	2014/12/19		102	%	80 - 120
		Method Blank	Total Organic Carbon (C)	2014/12/19	<0.50		mg/L	
		RPD	Total Organic Carbon (C)	2014/12/19	NC		%	20
3866243	MS3	Matrix Spike						
		[YW8497-07]	Isobutylbenzene - Volatile	2014/12/23		103	%	70 - 130
			Benzene	2014/12/23		105	%	70 - 130
			Toluene	2014/12/23		106	%	70 - 130
			Ethylbenzene	2014/12/23		107	%	70 - 130
			Total Xylenes	2014/12/23		109	%	70 - 130
		Spiked Blank	Isobutylbenzene - Volatile	2014/12/23		105	%	70 - 130

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3866243	MS3	Spiked Blank	Benzene	2014/12/23		108	%	70 - 130
			Toluene	2014/12/23		108	%	70 - 130
			Ethylbenzene	2014/12/23		111	%	70 - 130
			Total Xylenes	2014/12/23		111	%	70 - 130
		Method Blank	Isobutylbenzene - Volatile	2014/12/23		104	%	70 - 130
			Benzene	2014/12/23	<0.0010		mg/L	
			Toluene	2014/12/23	<0.0010		mg/L	
			Ethylbenzene	2014/12/23	<0.0010		mg/L	
			Total Xylenes	2014/12/23	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/23	<0.010		mg/L	
		RPD [YW8529-07]	Benzene	2014/12/23	NC		%	40
			Toluene	2014/12/23	NC		%	40
			Ethylbenzene	2014/12/23	NC		%	40
			Total Xylenes	2014/12/23	NC		%	40
			C6 - C10 (less BTEX)	2014/12/23	NC		%	40
3867752	KMC	QC Standard	pH	2014/12/21		100	%	97 - 103
		RPD	pH	2014/12/21	1.2		%	N/A
3867753	KMC	Spiked Blank	Conductivity	2014/12/21		100	%	80 - 120
		Method Blank	Conductivity	2014/12/21	1.2, RDL=1.0		uS/cm	
		RPD	Conductivity	2014/12/21	0.1		%	25
3867779	DLB	Matrix Spike	Dissolved Aluminum (Al)	2014/12/22		99	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/22		104	%	80 - 120
			Dissolved Arsenic (As)	2014/12/22		99	%	80 - 120
			Dissolved Barium (Ba)	2014/12/22		99	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/22		100	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/22		99	%	80 - 120
			Dissolved Boron (B)	2014/12/22		97	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/22		101	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/22		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/22		98	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/22		97	%	80 - 120
			Dissolved Copper (Cu)	2014/12/22		95	%	80 - 120
			Dissolved Iron (Fe)	2014/12/22		NC	%	80 - 120
			Dissolved Lead (Pb)	2014/12/22		99	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/22		NC	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/22		NC	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/22		104	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/22		98	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/22		108	%	80 - 120
			Dissolved Potassium (K)	2014/12/22		NC	%	80 - 120
			Dissolved Selenium (Se)	2014/12/22		102	%	80 - 120
			Dissolved Silver (Ag)	2014/12/22		96	%	80 - 120
			Dissolved Sodium (Na)	2014/12/22		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/22		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/22		102	%	80 - 120
			Dissolved Tin (Sn)	2014/12/22		104	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/22		101	%	80 - 120
			Dissolved Uranium (U)	2014/12/22		104	%	80 - 120
			Dissolved Vanadium (V)	2014/12/22		101	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/22		96	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2014/12/22		104	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/22		102	%	80 - 120
			Dissolved Arsenic (As)	2014/12/22		98	%	80 - 120
			Dissolved Barium (Ba)	2014/12/22		97	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/22		97	%	80 - 120

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3867779	DLB	Spiked Blank	Dissolved Bismuth (Bi)	2014/12/22		103	%	80 - 120
			Dissolved Boron (B)	2014/12/22		96	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/22		102	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/22		102	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/22		97	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/22		98	%	80 - 120
			Dissolved Copper (Cu)	2014/12/22		101	%	80 - 120
			Dissolved Iron (Fe)	2014/12/22		130 (1)	%	80 - 120
			Dissolved Lead (Pb)	2014/12/22		101	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/22		106	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/22		119	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/22		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/22		104	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/22		107	%	80 - 120
			Dissolved Potassium (K)	2014/12/22		102	%	80 - 120
			Dissolved Selenium (Se)	2014/12/22		101	%	80 - 120
			Dissolved Silver (Ag)	2014/12/22		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/22		103	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/22		102	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/22		102	%	80 - 120
			Dissolved Tin (Sn)	2014/12/22		102	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/22		98	%	80 - 120
			Dissolved Uranium (U)	2014/12/22		102	%	80 - 120
			Dissolved Vanadium (V)	2014/12/22		100	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/22		102	%	80 - 120
		Method Blank	Dissolved Aluminum (Al)	2014/12/22	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/22	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/22	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/22	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/22	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/22	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/22	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/22	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/22	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/22	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/22	<0.40		ug/L	
			Dissolved Copper (Cu)	2014/12/22	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/22	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/22	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/22	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/22	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/22	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/22	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/22	<100		ug/L	
			Dissolved Potassium (K)	2014/12/22	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/22	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/22	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/22	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/22	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/22	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/22	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/22	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/22	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/22	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/22	<5.0		ug/L	

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Dillon Consulting Limited
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3867779	DLB	RPD	Dissolved Aluminum (Al)	2014/12/22	4.4		%	20
			Dissolved Iron (Fe)	2014/12/22	0.5		%	20
			Dissolved Manganese (Mn)	2014/12/22	0.6		%	20
			Dissolved Nickel (Ni)	2014/12/22	NC		%	20
3868057	MCY	Matrix Spike	Total Alkalinity (Total as CaCO3)	2014/12/23		NC	%	80 - 120
		Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/22		106	%	80 - 120
		Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/22	<5.0		mg/L	
		RPD	Total Alkalinity (Total as CaCO3)	2014/12/23	NC		%	25
3868059	MCY	Matrix Spike	Dissolved Chloride (Cl)	2014/12/22		100	%	80 - 120
		QC Standard	Dissolved Chloride (Cl)	2014/12/22		99	%	80 - 120
		Spiked Blank	Dissolved Chloride (Cl)	2014/12/22		101	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2014/12/22	<1.0		mg/L	
		RPD	Dissolved Chloride (Cl)	2014/12/22	5.2		%	25
3868060	MCN	Matrix Spike	Dissolved Sulphate (SO4)	2014/12/22		NC	%	80 - 120
		Spiked Blank	Dissolved Sulphate (SO4)	2014/12/22		90	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2014/12/22	<2.0		mg/L	
		RPD	Dissolved Sulphate (SO4)	2014/12/22	4.5		%	25
3868061	JRM	Matrix Spike	Reactive Silica (SiO2)	2014/12/22		NC	%	80 - 120
		Spiked Blank	Reactive Silica (SiO2)	2014/12/23		105	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2014/12/23	<0.50		mg/L	
		RPD	Reactive Silica (SiO2)	2014/12/22	0.8		%	25
3868062	MCY	Spiked Blank	Colour	2014/12/22		107	%	80 - 120
		Method Blank	Colour	2014/12/22	<5.0		TCU	
		RPD	Colour	2014/12/22	NC		%	25
3868063	MCY	Matrix Spike	Orthophosphate (P)	2014/12/23		96	%	80 - 120
		Spiked Blank	Orthophosphate (P)	2014/12/23		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2014/12/23	<0.010		mg/L	
		RPD	Orthophosphate (P)	2014/12/23	NC		%	25
3868064	MCY	Matrix Spike	Nitrate + Nitrite	2014/12/22		98	%	80 - 120
		Spiked Blank	Nitrate + Nitrite	2014/12/22		96	%	80 - 120
		Method Blank	Nitrate + Nitrite	2014/12/22	<0.050		mg/L	
		RPD	Nitrate + Nitrite	2014/12/22	NC		%	25
3868065	MCY	Matrix Spike	Nitrite (N)	2014/12/23		85	%	80 - 120
		Spiked Blank	Nitrite (N)	2014/12/23		109	%	80 - 120
		Method Blank	Nitrite (N)	2014/12/23	<0.010		mg/L	
		RPD	Nitrite (N)	2014/12/23	NC		%	25
3868358	MCY	Matrix Spike [YW8530-03]	Nitrogen (Ammonia Nitrogen)	2014/12/22		95	%	80 - 120
		Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/22		98	%	80 - 120
		Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/22	<0.050		mg/L	
		RPD [YW8530-03]	Nitrogen (Ammonia Nitrogen)	2014/12/22	NC		%	25
3868555	ALG	Matrix Spike	Total Mercury (Hg)	2014/12/22		100	%	80 - 120
		Spiked Blank	Total Mercury (Hg)	2014/12/22		99	%	80 - 120
		Method Blank	Total Mercury (Hg)	2014/12/22	<0.013		ug/L	
		RPD	Total Mercury (Hg)	2014/12/22	NC		%	20
3869496	SSI	QC Standard	Turbidity	2014/12/23		94	%	80 - 120
		Method Blank	Turbidity	2014/12/23	<0.10		NTU	
		RPD	Turbidity	2014/12/23	NC		%	25
3870775	HIN	Matrix Spike [YW8529-08]	D10-Anthracene	2014/12/29		85	%	30 - 130
			D14-Terphenyl	2014/12/29		95 (2)	%	30 - 130
			D8-Acenaphthylene	2014/12/29		96	%	30 - 130
			1-Methylnaphthalene	2014/12/29		95	%	30 - 130
			2-Methylnaphthalene	2014/12/29		101	%	30 - 130
			Acenaphthene	2014/12/29		97	%	30 - 130

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Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3870775	HIN	Matrix Spike						
		[YW8529-08]	Acenaphthylene	2014/12/29		120	%	30 - 130
			Anthracene	2014/12/29		104	%	30 - 130
			Benzo(a)anthracene	2014/12/29		99	%	30 - 130
			Benzo(a)pyrene	2014/12/29		101	%	30 - 130
			Benzo(b)fluoranthene	2014/12/29		88	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/29		101	%	30 - 130
			Benzo(j)fluoranthene	2014/12/29		85	%	30 - 130
			Benzo(k)fluoranthene	2014/12/29		100	%	30 - 130
			Chrysene	2014/12/29		99	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/29		96	%	30 - 130
			Fluoranthene	2014/12/29		102	%	30 - 130
			Fluorene	2014/12/29		111	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/29		98	%	30 - 130
			Naphthalene	2014/12/29		NC	%	30 - 130
			Perylene	2014/12/29		98	%	30 - 130
			Phenanthrene	2014/12/29		93	%	30 - 130
			Pyrene	2014/12/29		102	%	30 - 130
		Spiked Blank	D10-Anthracene	2014/12/29		111	%	30 - 130
			D14-Terphenyl	2014/12/29		111	%	30 - 130
			D8-Acenaphthylene	2014/12/29		102	%	30 - 130
			1-Methylnaphthalene	2014/12/29		90	%	30 - 130
			2-Methylnaphthalene	2014/12/29		94	%	30 - 130
			Acenaphthene	2014/12/29		93	%	30 - 130
			Acenaphthylene	2014/12/29		111	%	30 - 130
			Anthracene	2014/12/29		92	%	30 - 130
			Benzo(a)anthracene	2014/12/29		92	%	30 - 130
			Benzo(a)pyrene	2014/12/29		97	%	30 - 130
			Benzo(b)fluoranthene	2014/12/29		98	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/29		89	%	30 - 130
			Benzo(j)fluoranthene	2014/12/29		82	%	30 - 130
			Benzo(k)fluoranthene	2014/12/29		103	%	30 - 130
			Chrysene	2014/12/29		96	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/29		82	%	30 - 130
			Fluoranthene	2014/12/29		97	%	30 - 130
			Fluorene	2014/12/29		107	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/29		90	%	30 - 130
			Naphthalene	2014/12/29		79	%	30 - 130
			Perylene	2014/12/29		95	%	30 - 130
			Phenanthrene	2014/12/29		102	%	30 - 130
			Pyrene	2014/12/29		98	%	30 - 130
		Method Blank	D10-Anthracene	2014/12/29		108	%	30 - 130
			D14-Terphenyl	2014/12/29		109	%	30 - 130
			D8-Acenaphthylene	2014/12/29		100	%	30 - 130
			1-Methylnaphthalene	2014/12/29	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/29	<0.050		ug/L	
			Acenaphthene	2014/12/29	<0.010		ug/L	
			Acenaphthylene	2014/12/29	<0.010		ug/L	
			Anthracene	2014/12/29	<0.010		ug/L	
			Benzo(a)anthracene	2014/12/29	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/29	<0.010		ug/L	
			Benzo(b)fluoranthene	2014/12/29	<0.010		ug/L	
			Benzo(g,h,i)perylene	2014/12/29	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/29	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/29	<0.010		ug/L	

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Quality Assurance Report (Continued)

Maxxam Job Number: KB4N8488

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3870775	HIN	Method Blank	Chrysene	2014/12/29	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/29	<0.010		ug/L	
			Fluoranthene	2014/12/29	<0.010		ug/L	
			Fluorene	2014/12/29	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/29	<0.010		ug/L	
			Naphthalene	2014/12/29	<0.20		ug/L	
			Perylene	2014/12/29	<0.010		ug/L	
			Phenanthrene	2014/12/29	<0.010		ug/L	
			Pyrene	2014/12/29	<0.010		ug/L	
		RPD [YW8497-08]	1-Methylnaphthalene	2014/12/29	NC		%	40
			2-Methylnaphthalene	2014/12/29	NC		%	40
			Acenaphthene	2014/12/29	NC		%	40
			Acenaphthylene	2014/12/29	NC		%	40
			Anthracene	2014/12/29	NC		%	40
			Benzo(a)anthracene	2014/12/29	NC		%	40
			Benzo(a)pyrene	2014/12/29	NC		%	40
			Benzo(b)fluoranthene	2014/12/29	NC		%	40
			Benzo(g,h,i)perylene	2014/12/29	NC		%	40
			Benzo(j)fluoranthene	2014/12/29	NC		%	40
			Benzo(k)fluoranthene	2014/12/29	NC		%	40
			Chrysene	2014/12/29	NC		%	40
			Dibenz(a,h)anthracene	2014/12/29	NC		%	40
			Fluoranthene	2014/12/29	NC		%	40
			Fluorene	2014/12/29	NC		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/29	NC		%	40
			Naphthalene	2014/12/29	106 (3)		%	40
			Perylene	2014/12/29	NC		%	40
			Phenanthrene	2014/12/29	NC		%	40
			Pyrene	2014/12/29	NC		%	40

N/A = Not Applicable
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 sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).
(1) Recovery within QC acceptance limits. < 10 % of compounds in multi-component analysis in violation.
(2) PAH sample contained sediment.
(3) Duplicate: results are outside acceptance limit. Insufficient sample for repeat analysis.

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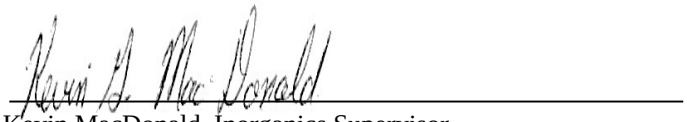
Validation Signature Page

Maxxam Job #: B4N8488

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Kevin MacDonald, Inorganics Supervisor

Rose MacDonald, Scientific Specialist (Organics)

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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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Your C.O.C. #: B143232

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Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2015/01/19
Report #: R3306269
Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4N9543
Received: 2014/12/17, 17:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
TEH in Water (PIRI) (1)	1	2014/12/19	2014/12/22	ATL SOP 00113	Atl. PIRI v3 m
Mercury - Total (CVAA,LL) (1)	1	2014/12/22	2014/12/22	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (1,2)	1	N/A	2014/12/23	ATL SOP 00058	EPA 6020A R1 m
PAH in Water by GC/MS (SIM) (1)	1	2014/12/30	2014/12/31	ATL SOP 00103	EPA 8270D m
VPH in Water (PIRI) (1)	1	N/A	2014/12/24	ATL SOP 00118	Atl. PIRI v3 m
ModTPH (T1) Calc. for Water (1)	1	N/A	2014/12/29	N/A	Atl. PIRI v3 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) Sample filtered in laboratory prior to analysis for dissolved metals.
New RDLs in effect due to release of NS Contaminated Sites Regulations. Reduced RDL based on MDL study performance. Low level analytical run checks being implemented.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902) 567-1255 Ext:17

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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

Dillon Consulting Limited

Maxxam Job #: B4N9543
Report Date: 2015/01/19

Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YX3512		
Sampling Date		2014/12/17		
COC Number		B143232		
	Units	**EB-001**	**RDL**	**QC Batch**
Petroleum Hydrocarbons				
Benzene	mg/L	<0.0010	0.0010	3869294
Toluene	mg/L	<0.0010	0.0010	3869294
Ethylbenzene	mg/L	<0.0010	0.0010	3869294
Total Xylenes	mg/L	<0.0020	0.0020	3869294
C6 - C10 (less BTEX)	mg/L	<0.010	0.010	3869294
>C10-C16 Hydrocarbons	mg/L	<0.050	0.050	3866376
>C16-C21 Hydrocarbons	mg/L	<0.050	0.050	3866376
>C21-<C32 Hydrocarbons	mg/L	<0.10	0.10	3866376
Modified TPH (Tier1)	mg/L	<0.10	0.10	3864898
Reached Baseline at C32	mg/L	NA	N/A	3866376
Hydrocarbon Resemblance	mg/L	NA	N/A	3866376
Surrogate Recovery (%)				
Isobutylbenzene - Extractable	%	92		3866376
n-Dotriacontane - Extractable	%	108		3866376
Isobutylbenzene - Volatile	%	96		3869294

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Analytics International Corporation o/a Maxxam Analytics 465 George St., Unit G Sydney, NS B1P 1K5 Tel: (902) 567-1255 Toll-Free: (888) 535-7770 Fax: (902) 539-6504 www.maxxam.ca

Dillon Consulting Limited

Maxxam Job #: B4N9543
Report Date: 2015/01/19

Your P.O. #: 4104251070

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YX3512		
Sampling Date		2014/12/17		
COC Number		B143232		
	Units	**EB-001**	**RDL**	**QC Batch**
Metals				
Total Mercury (Hg)	ug/L	<0.013	0.013	3868557

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B4N9543
Report Date: 2015/01/19

Your P.O. #: 4104251070

ELEMENTS BY ICP/MS (WATER)

Maxxam ID		YX3512		
Sampling Date		2014/12/17		
COC Number		B143232		
	Units	**EB-001**	**RDL**	**QC Batch**
Metals				
Dissolved Aluminum (Al)	ug/L	9.7	5.0	3869104
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	3869104
Dissolved Arsenic (As)	ug/L	<1.0	1.0	3869104
Dissolved Barium (Ba)	ug/L	<1.0	1.0	3869104
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	3869104
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	3869104
Dissolved Boron (B)	ug/L	<50	50	3869104
Dissolved Cadmium (Cd)	ug/L	<0.010	0.010	3869104
Dissolved Calcium (Ca)	ug/L	280	100	3869104
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	3869104
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	3869104
Dissolved Copper (Cu)	ug/L	83	2.0	3869104
Dissolved Iron (Fe)	ug/L	<50	50	3869104
Dissolved Lead (Pb)	ug/L	1.7	0.50	3869104
Dissolved Magnesium (Mg)	ug/L	<100	100	3869104
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	3869104
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	3869104
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	3869104
Dissolved Phosphorus (P)	ug/L	<100	100	3869104
Dissolved Potassium (K)	ug/L	110	100	3869104
Dissolved Selenium (Se)	ug/L	<1.0	1.0	3869104
Dissolved Silver (Ag)	ug/L	<0.10	0.10	3869104
Dissolved Sodium (Na)	ug/L	340	100	3869104
Dissolved Strontium (Sr)	ug/L	<2.0	2.0	3869104
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	3869104
Dissolved Tin (Sn)	ug/L	<2.0	2.0	3869104
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	3869104
Dissolved Uranium (U)	ug/L	<0.10	0.10	3869104
Dissolved Vanadium (V)	ug/L	<2.0	2.0	3869104
Dissolved Zinc (Zn)	ug/L	33	5.0	3869104

RDL = Reportable Detection Limit
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Dillon Consulting Limited

Maxxam Job #: B4N9543
Report Date: 2015/01/19

Your P.O. #: 4104251070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YX3512		
Sampling Date		2014/12/17		
COC Number		B143232		
	Units	**EB-001**	**RDL**	**QC Batch**
Polyaromatic Hydrocarbons				
1-Methylnaphthalene	ug/L	0.23	0.050	3872976
2-Methylnaphthalene	ug/L	0.25	0.050	3872976
Acenaphthene	ug/L	0.057	0.010	3872976
Acenaphthylene	ug/L	0.11	0.010	3872976
Anthracene	ug/L	0.12	0.010	3872976
Benzo(a)anthracene	ug/L	0.20	0.010	3872976
Benzo(a)pyrene	ug/L	0.17	0.010	3872976
Benzo(b)fluoranthene	ug/L	0.17	0.010	3872976
Benzo(g,h,i)perylene	ug/L	0.10	0.010	3872976
Benzo(j)fluoranthene	ug/L	0.088	0.010	3872976
Benzo(k)fluoranthene	ug/L	0.087	0.010	3872976
Chrysene	ug/L	0.24	0.010	3872976
Dibenz(a,h)anthracene	ug/L	0.025	0.010	3872976
Fluoranthene	ug/L	0.59	0.010	3872976
Fluorene	ug/L	0.15	0.010	3872976
Indeno(1,2,3-cd)pyrene	ug/L	0.099	0.010	3872976
Naphthalene	ug/L	1.1	0.20	3872976
Perylene	ug/L	0.044	0.010	3872976
Phenanthrene	ug/L	0.55	0.010	3872976
Pyrene	ug/L	0.43	0.010	3872976
Surrogate Recovery (%)				
D10-Anthracene	%	96		3872976
D14-Terphenyl	%	107 (1)		3872976
D8-Acenaphthylene	%	95		3872976

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) PAH sample contained sediment.

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Dillon Consulting Limited

Maxxam Job #: B4N9543
Report Date: 2015/01/19

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GENERAL COMMENTS

REISSUED REPORT to split files as requested by Nadine Wambolt via email - Jan 19, 2015 NBU

Results relate only to the items tested.

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report

Maxxam Job Number: KB4N9543

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3866376	AJS	Matrix Spike	Isobutylbenzene - Extractable	2014/12/22		91	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/22		105	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/22		60 (1)	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/22		61 (1)	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/22		67 (1)	%	30 - 130
		Spiked Blank	Isobutylbenzene - Extractable	2014/12/22		92	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/22		98	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/22		76	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/22		82	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/22		93	%	30 - 130
		Method Blank	Isobutylbenzene - Extractable	2014/12/22		99	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/22		106	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/22	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/22	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/22	<0.10		mg/L	
3868557	ALG	Matrix Spike	Total Mercury (Hg)	2014/12/22		97	%	80 - 120
		Spiked Blank	Total Mercury (Hg)	2014/12/22		98	%	80 - 120
		Method Blank	Total Mercury (Hg)	2014/12/22	<0.013		ug/L	
		RPD	Total Mercury (Hg)	2014/12/22	NC		%	20
3869104	DLB	Matrix Spike						
		[YX3512-01]	Dissolved Aluminum (Al)	2014/12/23		107	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/23		100	%	80 - 120
			Dissolved Arsenic (As)	2014/12/23		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/23		101	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/23		101	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/23		105	%	80 - 120
			Dissolved Boron (B)	2014/12/23		97	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/23		103	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/23		102	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/23		103	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/23		101	%	80 - 120
			Dissolved Copper (Cu)	2014/12/23		NC	%	80 - 120
			Dissolved Iron (Fe)	2014/12/23		109	%	80 - 120
			Dissolved Lead (Pb)	2014/12/23		101	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/23		112	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/23		102	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/23		102	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/23		103	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/23		111	%	80 - 120
			Dissolved Potassium (K)	2014/12/23		108	%	80 - 120
			Dissolved Selenium (Se)	2014/12/23		103	%	80 - 120
			Dissolved Silver (Ag)	2014/12/23		100	%	80 - 120
			Dissolved Sodium (Na)	2014/12/23		109	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/23		100	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/23		103	%	80 - 120
			Dissolved Tin (Sn)	2014/12/23		106	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/23		107	%	80 - 120
			Dissolved Uranium (U)	2014/12/23		103	%	80 - 120
			Dissolved Vanadium (V)	2014/12/23		104	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/23		101	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2014/12/23		108	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/23		104	%	80 - 120
			Dissolved Arsenic (As)	2014/12/23		102	%	80 - 120
			Dissolved Barium (Ba)	2014/12/23		101	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/23		100	%	80 - 120

Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N9543

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3869104 DLB	Spiked Blank	Dissolved Bismuth (Bi)	2014/12/23		105	%	80 - 120
		Dissolved Boron (B)	2014/12/23		98	%	80 - 120
		Dissolved Cadmium (Cd)	2014/12/23		102	%	80 - 120
		Dissolved Calcium (Ca)	2014/12/23		106	%	80 - 120
		Dissolved Chromium (Cr)	2014/12/23		102	%	80 - 120
		Dissolved Cobalt (Co)	2014/12/23		100	%	80 - 120
		Dissolved Copper (Cu)	2014/12/23		100	%	80 - 120
		Dissolved Iron (Fe)	2014/12/23		110	%	80 - 120
		Dissolved Lead (Pb)	2014/12/23		102	%	80 - 120
		Dissolved Magnesium (Mg)	2014/12/23		112	%	80 - 120
		Dissolved Manganese (Mn)	2014/12/23		103	%	80 - 120
		Dissolved Molybdenum (Mo)	2014/12/23		104	%	80 - 120
		Dissolved Nickel (Ni)	2014/12/23		103	%	80 - 120
		Dissolved Phosphorus (P)	2014/12/23		111	%	80 - 120
		Dissolved Potassium (K)	2014/12/23		107	%	80 - 120
		Dissolved Selenium (Se)	2014/12/23		101	%	80 - 120
		Dissolved Silver (Ag)	2014/12/23		99	%	80 - 120
		Dissolved Sodium (Na)	2014/12/23		107	%	80 - 120
		Dissolved Strontium (Sr)	2014/12/23		101	%	80 - 120
		Dissolved Thallium (Tl)	2014/12/23		104	%	80 - 120
		Dissolved Tin (Sn)	2014/12/23		106	%	80 - 120
		Dissolved Titanium (Ti)	2014/12/23		101	%	80 - 120
		Dissolved Uranium (U)	2014/12/23		105	%	80 - 120
		Dissolved Vanadium (V)	2014/12/23		103	%	80 - 120
		Dissolved Zinc (Zn)	2014/12/23		103	%	80 - 120
	Method Blank	Dissolved Aluminum (Al)	2014/12/23	<5.0		ug/L	
		Dissolved Antimony (Sb)	2014/12/23	<1.0		ug/L	
		Dissolved Arsenic (As)	2014/12/23	<1.0		ug/L	
		Dissolved Barium (Ba)	2014/12/23	<1.0		ug/L	
		Dissolved Beryllium (Be)	2014/12/23	<1.0		ug/L	
		Dissolved Bismuth (Bi)	2014/12/23	<2.0		ug/L	
		Dissolved Boron (B)	2014/12/23	<50		ug/L	
		Dissolved Cadmium (Cd)	2014/12/23	<0.010		ug/L	
		Dissolved Calcium (Ca)	2014/12/23	<100		ug/L	
		Dissolved Chromium (Cr)	2014/12/23	<1.0		ug/L	
		Dissolved Cobalt (Co)	2014/12/23	<0.40		ug/L	
		Dissolved Copper (Cu)	2014/12/23	<2.0		ug/L	
		Dissolved Iron (Fe)	2014/12/23	<50		ug/L	
		Dissolved Lead (Pb)	2014/12/23	<0.50		ug/L	
		Dissolved Magnesium (Mg)	2014/12/23	<100		ug/L	
		Dissolved Manganese (Mn)	2014/12/23	<2.0		ug/L	
		Dissolved Molybdenum (Mo)	2014/12/23	<2.0		ug/L	
		Dissolved Nickel (Ni)	2014/12/23	<2.0		ug/L	
		Dissolved Phosphorus (P)	2014/12/23	<100		ug/L	
		Dissolved Potassium (K)	2014/12/23	<100		ug/L	
		Dissolved Selenium (Se)	2014/12/23	<1.0		ug/L	
		Dissolved Silver (Ag)	2014/12/23	<0.10		ug/L	
		Dissolved Sodium (Na)	2014/12/23	<100		ug/L	
		Dissolved Strontium (Sr)	2014/12/23	<2.0		ug/L	
		Dissolved Thallium (Tl)	2014/12/23	<0.10		ug/L	
		Dissolved Tin (Sn)	2014/12/23	<2.0		ug/L	
		Dissolved Titanium (Ti)	2014/12/23	<2.0		ug/L	
		Dissolved Uranium (U)	2014/12/23	<0.10		ug/L	
		Dissolved Vanadium (V)	2014/12/23	<2.0		ug/L	
		Dissolved Zinc (Zn)	2014/12/23	<5.0		ug/L	

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Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N9543

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3869104	DLB	RPD [YX3512-01]	Dissolved Aluminum (Al)	2014/12/23	NC		%	20
			Dissolved Antimony (Sb)	2014/12/23	NC		%	20
			Dissolved Arsenic (As)	2014/12/23	NC		%	20
			Dissolved Barium (Ba)	2014/12/23	NC		%	20
			Dissolved Beryllium (Be)	2014/12/23	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/23	NC		%	20
			Dissolved Boron (B)	2014/12/23	NC		%	20
			Dissolved Cadmium (Cd)	2014/12/23	NC		%	20
			Dissolved Calcium (Ca)	2014/12/23	NC		%	20
			Dissolved Chromium (Cr)	2014/12/23	NC		%	20
			Dissolved Cobalt (Co)	2014/12/23	NC		%	20
			Dissolved Copper (Cu)	2014/12/23	0.9		%	20
			Dissolved Iron (Fe)	2014/12/23	NC		%	20
			Dissolved Lead (Pb)	2014/12/23	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/23	NC		%	20
			Dissolved Manganese (Mn)	2014/12/23	NC		%	20
			Dissolved Molybdenum (Mo)	2014/12/23	NC		%	20
			Dissolved Nickel (Ni)	2014/12/23	NC		%	20
			Dissolved Phosphorus (P)	2014/12/23	NC		%	20
			Dissolved Potassium (K)	2014/12/23	NC		%	20
			Dissolved Selenium (Se)	2014/12/23	NC		%	20
			Dissolved Silver (Ag)	2014/12/23	NC		%	20
			Dissolved Sodium (Na)	2014/12/23	NC		%	20
			Dissolved Strontium (Sr)	2014/12/23	NC		%	20
			Dissolved Thallium (Tl)	2014/12/23	NC		%	20
			Dissolved Tin (Sn)	2014/12/23	NC		%	20
			Dissolved Titanium (Ti)	2014/12/23	NC		%	20
			Dissolved Uranium (U)	2014/12/23	NC		%	20
			Dissolved Vanadium (V)	2014/12/23	NC		%	20
			Dissolved Zinc (Zn)	2014/12/23	1.3		%	20
3869294	MSK	Matrix Spike [YX3513-02]	Isobutylbenzene - Volatile	2014/12/24		101	%	70 - 130
			Benzene	2014/12/24		92	%	70 - 130
			Toluene	2014/12/24		103	%	70 - 130
			Ethylbenzene	2014/12/24		124	%	70 - 130
			Total Xylenes	2014/12/24		120	%	70 - 130
		Spiked Blank	Isobutylbenzene - Volatile	2014/12/24		106	%	70 - 130
			Benzene	2014/12/24		105	%	70 - 130
			Toluene	2014/12/24		113	%	70 - 130
			Ethylbenzene	2014/12/24		109	%	70 - 130
			Total Xylenes	2014/12/24		112	%	70 - 130
		Method Blank	Isobutylbenzene - Volatile	2014/12/29		103	%	70 - 130
			Benzene	2014/12/29	<0.0010		mg/L	
			Toluene	2014/12/29	<0.0010		mg/L	
			Ethylbenzene	2014/12/29	<0.0010		mg/L	
			Total Xylenes	2014/12/29	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/29	<0.010		mg/L	
		RPD [YX3512-04]	Benzene	2014/12/24	NC		%	40
			Toluene	2014/12/24	NC		%	40
			Ethylbenzene	2014/12/24	NC		%	40
			Total Xylenes	2014/12/24	NC		%	40
			C6 - C10 (less BTEX)	2014/12/24	NC		%	40
3872976	GTH	Matrix Spike [YX3504-05]	D10-Anthracene	2014/12/31		92	%	30 - 130
			D14-Terphenyl	2014/12/31		105	%	30 - 130

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N9543

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3872976	GTH	Matrix Spike [YX3504-05]	D8-Acenaphthylene	2014/12/31		83	%	30 - 130
			1-Methylnaphthalene	2014/12/31		NC	%	30 - 130
			2-Methylnaphthalene	2014/12/31		73	%	30 - 130
			Acenaphthene	2014/12/31		NC	%	30 - 130
			Acenaphthylene	2014/12/31		96	%	30 - 130
			Anthracene	2014/12/31		80	%	30 - 130
			Benzo(a)anthracene	2014/12/31		97	%	30 - 130
			Benzo(a)pyrene	2014/12/31		91	%	30 - 130
			Benzo(b)fluoranthene	2014/12/31		95	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/31		83	%	30 - 130
			Benzo(j)fluoranthene	2014/12/31		85	%	30 - 130
			Benzo(k)fluoranthene	2014/12/31		79	%	30 - 130
			Chrysene	2014/12/31		105	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/31		75	%	30 - 130
			Fluoranthene	2014/12/31		NC	%	30 - 130
			Fluorene	2014/12/31		NC	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/31		81	%	30 - 130
			Naphthalene	2014/12/31		NC	%	30 - 130
			Perylene	2014/12/31		79	%	30 - 130
			Phenanthrene	2014/12/31		NC	%	30 - 130
			Pyrene	2014/12/31		NC	%	30 - 130
		Spiked Blank	D10-Anthracene	2014/12/31		98	%	30 - 130
			D14-Terphenyl	2014/12/31		109	%	30 - 130
			D8-Acenaphthylene	2014/12/31		107	%	30 - 130
			1-Methylnaphthalene	2014/12/31		98	%	30 - 130
			2-Methylnaphthalene	2014/12/31		100	%	30 - 130
			Acenaphthene	2014/12/31		95	%	30 - 130
			Acenaphthylene	2014/12/31		124	%	30 - 130
			Anthracene	2014/12/31		87	%	30 - 130
			Benzo(a)anthracene	2014/12/31		90	%	30 - 130
			Benzo(a)pyrene	2014/12/31		98	%	30 - 130
			Benzo(b)fluoranthene	2014/12/31		102	%	30 - 130
			Benzo(g,h,i)perylene	2014/12/31		98	%	30 - 130
			Benzo(j)fluoranthene	2014/12/31		90	%	30 - 130
			Benzo(k)fluoranthene	2014/12/31		95	%	30 - 130
			Chrysene	2014/12/31		104	%	30 - 130
			Dibenz(a,h)anthracene	2014/12/31		88	%	30 - 130
			Fluoranthene	2014/12/31		99	%	30 - 130
			Fluorene	2014/12/31		115	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2014/12/31		93	%	30 - 130
			Naphthalene	2014/12/31		85	%	30 - 130
			Perylene	2014/12/31		97	%	30 - 130
			Phenanthrene	2014/12/31		102	%	30 - 130
			Pyrene	2014/12/31		98	%	30 - 130
		Method Blank	D10-Anthracene	2014/12/31		110	%	30 - 130
			D14-Terphenyl	2014/12/31		112	%	30 - 130
			D8-Acenaphthylene	2014/12/31		107	%	30 - 130
			1-Methylnaphthalene	2014/12/31	<0.050		ug/L	
			2-Methylnaphthalene	2014/12/31	<0.050		ug/L	
			Acenaphthene	2014/12/31	<0.010		ug/L	
			Acenaphthylene	2014/12/31	<0.010		ug/L	
			Anthracene	2014/12/31	<0.010		ug/L	
			Benzo(a)anthracene	2014/12/31	<0.010		ug/L	
			Benzo(a)pyrene	2014/12/31	<0.010		ug/L	

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4N9543

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3872976	GTH	Method Blank	Benzo(b)fluoranthene	2014/12/31	<0.010		ug/L	
			Benzo(g,h,i)perylene	2014/12/31	<0.010		ug/L	
			Benzo(j)fluoranthene	2014/12/31	<0.010		ug/L	
			Benzo(k)fluoranthene	2014/12/31	<0.010		ug/L	
			Chrysene	2014/12/31	<0.010		ug/L	
			Dibenz(a,h)anthracene	2014/12/31	<0.010		ug/L	
			Fluoranthene	2014/12/31	<0.010		ug/L	
			Fluorene	2014/12/31	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2014/12/31	<0.010		ug/L	
			Naphthalene	2014/12/31	<0.20		ug/L	
			Perylene	2014/12/31	<0.010		ug/L	
			Phenanthrene	2014/12/31	<0.010		ug/L	
			Pyrene	2014/12/31	<0.010		ug/L	
		RPD	1-Methylnaphthalene	2014/12/31	NC		%	40
			2-Methylnaphthalene	2014/12/31	NC		%	40
			Acenaphthene	2014/12/31	NC		%	40
			Acenaphthylene	2014/12/31	NC		%	40
			Anthracene	2014/12/31	NC		%	40
			Benzo(a)anthracene	2014/12/31	NC		%	40
			Benzo(a)pyrene	2014/12/31	NC		%	40
			Benzo(b)fluoranthene	2014/12/31	NC		%	40
			Benzo(g,h,i)perylene	2014/12/31	NC		%	40
			Benzo(j)fluoranthene	2014/12/31	NC		%	40
			Benzo(k)fluoranthene	2014/12/31	NC		%	40
			Chrysene	2014/12/31	NC		%	40
			Dibenz(a,h)anthracene	2014/12/31	NC		%	40
			Fluoranthene	2014/12/31	NC		%	40
			Fluorene	2014/12/31	NC		%	40
			Indeno(1,2,3-cd)pyrene	2014/12/31	NC		%	40
			Naphthalene	2014/12/31	NC		%	40
			Perylene	2014/12/31	NC		%	40
			Phenanthrene	2014/12/31	NC		%	40
			Pyrene	2014/12/31	NC		%	40

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 sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).
(1) Matrix Spike: results are outside acceptance limit. Analysis was repeated with similar results.

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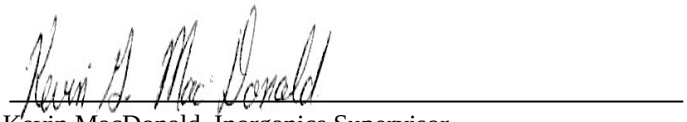
Validation Signature Page

Maxxam Job #: B4N9543

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Kevin MacDonald, Inorganics Supervisor

Rose MacDonald, Scientific Specialist (Organics)

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Your P.O. #: 4104251070
Your C.O.C. #: 496259

Attention: Nadine Wambolt
Dillon Consulting Limited
275 Charlotte St
Sydney, NS
B1P 1C6

Report Date: 2015/01/19
Report #: R3306271
Version: 2R

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B4O0493
Received: 2014/12/18, 16:47

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Carbonate, Bicarbonate and Hydroxide (1)	2	N/A	2014/12/30	N/A	SM 22 4500-CO2 D
Alkalinity (1)	2	N/A	2014/12/29	ATL SOP 00013	EPA 310.2 R1974 m
Chloride (1)	2	N/A	2014/12/30	ATL SOP 00014	SM 22 4500-Cl- E m
Colour (1)	2	N/A	2014/12/30	ATL SOP 00020	SM 22 2120C m
Conductance - water (1)	2	N/A	2014/12/30	ATL SOP 00004	SM 22 2510B m
TEH in Water (PIRI) (1)	3	2014/12/22	2014/12/23	ATL SOP 00113	Atl. PIRI v3 m
Hardness (calculated as CaCO3) (1)	2	N/A	2014/12/29	ATL SOP 00048	SM 22 2340 B
Mercury - Total (CVAA,LL) (1)	2	2014/12/29	2014/12/29	ATL SOP 00026	EPA 245.1 R3 m
Metals Water Diss. MS (as rec'd) (1)	2	N/A	2014/12/29	ATL SOP 00058	EPA 6020A R1 m
Ion Balance (% Difference) (1)	2	N/A	2014/12/31		Auto Calc.
Anion and Cation Sum (1)	2	N/A	2014/12/30		Auto Calc.
Nitrogen Ammonia - water (1)	2	N/A	2014/12/29	ATL SOP 00015	EPA 350.1 R2 m
Nitrogen - Nitrate + Nitrite (1)	2	N/A	2014/12/30	ATL SOP 00016	USGS SOPINCF0452.2 m
Nitrogen - Nitrite (1)	2	N/A	2014/12/30	ATL SOP 00017	SM 22 4500-NO2- B m
Nitrogen - Nitrate (as N) (1)	2	N/A	2014/12/31	ATL SOP 00018	ASTM D3867
PAH in Water by GC/MS (SIM) (1)	2	2014/12/30	2015/01/05	ATL SOP 00103	EPA 8270D m
pH (1,2)	2	N/A	2014/12/30	ATL SOP 00003	SM 22 4500-H+ B m
Phosphorus - ortho (1)	2	N/A	2014/12/31	ATL SOP 00021	EPA 365.2 m
VPH in Water (PIRI) (1)	3	N/A	2014/12/25	ATL SOP 00118	Atl. PIRI v3 m
Sat. pH and Langelier Index (@ 20C) (1)	2	N/A	2014/12/31	ATL SOP 00049	Auto Calc.
Sat. pH and Langelier Index (@ 4C) (1)	2	N/A	2014/12/31	ATL SOP 00049	Auto Calc.
Reactive Silica (1)	2	N/A	2014/12/29	ATL SOP 00022	EPA 366.0 m
Sulphate (1)	2	N/A	2014/12/30	ATL SOP 00023	EPA 375.4 R1978 m
Total Dissolved Solids (TDS calc) (1)	2	N/A	2014/12/31		Auto Calc.
Organic carbon - Total (TOC) (1,3)	2	N/A	2014/12/30	ATL SOP 00037	SM 22 5310C m
ModTPH (T1) Calc. for Water (1)	3	N/A	2014/12/29	N/A	Atl. PIRI v3 m
Turbidity (1)	2	N/A	2014/12/30	ATL SOP 00011	EPA 180.1 R2 m

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Maxxam Bedford
(2) The APHA Standard Method require pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the APHA Standard Method holding time.

(3) TOC / DOC present in the sample should be considered as non-purgeable TOC / DOC.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Natalie MacAskill, Sr. Project Manager
Email: NMacAskill@maxxam.ca
Phone# (902) 567-1255 Ext:17

==========

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Total cover pages: 1

Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

RBCA HYDROCARBONS IN WATER (WATER)

Maxxam ID		YX8041	YX8228	YX8237		
Sampling Date		2014/12/18	2014/12/18	2014/12/18		
COC Number		496259	496259	496259		
	Units	**MCES-204-MW**	**FD-006**	**TB-007**	**RDL**	**QC Batch**
Petroleum Hydrocarbons						
Benzene	mg/L	0.017	0.017	<0.0010	0.0010	3869323
Toluene	mg/L	0.0072	0.0072	<0.0010	0.0010	3869323
Ethylbenzene	mg/L	<0.0010	<0.0010	<0.0010	0.0010	3869323
Total Xylenes	mg/L	0.0069	0.0068	<0.0020	0.0020	3869323
C6 - C10 (less BTEX)	mg/L	0.013	0.010	<0.010	0.010	3869323
>C10-C16 Hydrocarbons	mg/L	0.19	0.19	<0.050	0.050	3868332
>C16-C21 Hydrocarbons	mg/L	0.11	0.11	<0.050	0.050	3868332
>C21-<C32 Hydrocarbons	mg/L	<0.10	0.11	<0.10	0.10	3868332
Modified TPH (Tier1)	mg/L	0.31	0.42	<0.10	0.10	3865939
Reached Baseline at C32	mg/L	Yes	Yes	NA	N/A	3868332
Hydrocarbon Resemblance	mg/L	COMMENT (1)	COMMENT (1)	NA	N/A	3868332
Surrogate Recovery (%)						
Isobutylbenzene - Extractable	%	101	101	101		3868332
n-Dotriacontane - Extractable	%	104	112	110		3868332
Isobutylbenzene - Volatile	%	99	98	99		3869323

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) One product in fuel oil range.

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Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YX8041		YX8228		
Sampling Date		2014/12/18		2014/12/18		
COC Number		496259		496259		
	Units	**MCES-204-MW**	**RDL**	**FD-006**	**RDL**	**QC Batch**
Calculated Parameters						
Anion Sum	me/L	224	N/A	228	N/A	3865872
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	22	1.0	21	1.0	3865868
Calculated TDS	mg/L	14000	1.0	14000	1.0	3865865
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	<1.0	1.0	3865868
Cation Sum	me/L	245	N/A	246	N/A	3865872
Hardness (CaCO3)	mg/L	2600	1.0	2600	1.0	3865870
Ion Balance (% Difference)	%	4.44	N/A	3.91	N/A	3865871
Langelier Index (@ 20C)	N/A	0.228		-0.505		3865863
Langelier Index (@ 4C)	N/A	-0.0100		-0.742		3865864
Nitrate (N)	mg/L	<0.050	0.050	<0.050	0.050	3865873
Saturation pH (@ 20C)	N/A	7.77		7.78		3865863
Saturation pH (@ 4C)	N/A	8.01		8.02		3865864
Inorganics						
Total Alkalinity (Total as CaCO3)	mg/L	22	5.0	21	5.0	3872171
Dissolved Chloride (Cl)	mg/L	7400	100	7500	100	3872174
Colour	TCU	<5.0	5.0	<5.0	5.0	3872177
Nitrate + Nitrite	mg/L	<0.050	0.050	<0.050	0.050	3872180
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	3872181
Nitrogen (Ammonia Nitrogen)	mg/L	2.3	0.25	2.5	0.25	3872510
Total Organic Carbon (C)	mg/L	<5.0 (1)	5.0	<5.0 (1)	5.0	3873222
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	3872178
pH	pH	8.00	N/A	7.28	N/A	3872969
Reactive Silica (SiO2)	mg/L	<0.50	0.50	<0.50	0.50	3872176
Dissolved Sulphate (SO4)	mg/L	730	40	740	40	3872175
Turbidity	NTU	<0.10	0.10	<0.10	0.10	3873221
Conductivity	uS/cm	23000	1.0	22000	1.0	3872970
Metals						
Dissolved Aluminum (Al)	ug/L	20	5.0	27	5.0	3870588
Dissolved Antimony (Sb)	ug/L	<1.0	1.0	<1.0	1.0	3870588
Dissolved Arsenic (As)	ug/L	1.9	1.0	1.5	1.0	3870588

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated reporting limit due to sample matrix.

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Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

AT. RCAP-MS DISSOLVED (FIELDFILT) IN W

Maxxam ID		YX8041		YX8228		
Sampling Date		2014/12/18		2014/12/18		
COC Number		496259		496259		
	Units	**MCES-204-MW**	**RDL**	**FD-006**	**RDL**	**QC Batch**
Dissolved Barium (Ba)	ug/L	74	1.0	74	1.0	3870588
Dissolved Beryllium (Be)	ug/L	<1.0	1.0	<1.0	1.0	3870588
Dissolved Bismuth (Bi)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Boron (B)	ug/L	1100	50	1100	50	3870588
Dissolved Cadmium (Cd)	ug/L	0.21	0.010	0.43	0.010	3870588
Dissolved Calcium (Ca)	ug/L	610000	100	610000	100	3870588
Dissolved Chromium (Cr)	ug/L	<1.0	1.0	<1.0	1.0	3870588
Dissolved Cobalt (Co)	ug/L	<0.40	0.40	<0.40	0.40	3870588
Dissolved Copper (Cu)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Iron (Fe)	ug/L	65	50	97	50	3870588
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	3870588
Dissolved Magnesium (Mg)	ug/L	260000	1000	260000	1000	3870588
Dissolved Manganese (Mn)	ug/L	19	2.0	18	2.0	3870588
Dissolved Molybdenum (Mo)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Nickel (Ni)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Phosphorus (P)	ug/L	<100	100	<1000 (1)	1000	3870588
Dissolved Potassium (K)	ug/L	190000	1000	190000	1000	3870588
Dissolved Selenium (Se)	ug/L	67	1.0	39	1.0	3870588
Dissolved Silver (Ag)	ug/L	<0.10	0.10	<0.10	0.10	3870588
Dissolved Sodium (Na)	ug/L	4300000	1000	4400000	1000	3870588
Dissolved Strontium (Sr)	ug/L	5000	20	5000	20	3870588
Dissolved Thallium (Tl)	ug/L	<0.10	0.10	<0.10	0.10	3870588
Dissolved Tin (Sn)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Titanium (Ti)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Uranium (U)	ug/L	<0.10	0.10	<0.10	0.10	3870588
Dissolved Vanadium (V)	ug/L	<2.0	2.0	<2.0	2.0	3870588
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	5.0	3870588

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated reporting limit due to sample matrix.

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Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

MERCURY BY COLD VAPOUR AA (WATER)

Maxxam ID		YX8041	YX8228		
Sampling Date		2014/12/18	2014/12/18		
COC Number		496259	496259		
	Units	**MCES-204-MW**	**FD-006**	**RDL**	**QC Batch**
Metals					
Total Mercury (Hg)	ug/L	<0.013	<0.013	0.013	3872151

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

Maxxam ID		YX8041	YX8228		
Sampling Date		2014/12/18	2014/12/18		
COC Number		496259	496259		
	Units	**MCES-204-MW**	**FD-006**	**RDL**	**QC Batch**
Polyaromatic Hydrocarbons					
1-Methylnaphthalene	ug/L	4.6	4.6	0.050	3872977
2-Methylnaphthalene	ug/L	7.1	7.1	0.050	3872977
Acenaphthene	ug/L	1.6	1.6	0.010	3872977
Acenaphthylene	ug/L	1.9	1.9	0.010	3872977
Anthracene	ug/L	1.9	2.1	0.010	3872977
Benzo(a)anthracene	ug/L	0.13	0.13	0.010	3872977
Benzo(a)pyrene	ug/L	0.035	0.024	0.010	3872977
Benzo(b)fluoranthene	ug/L	0.031	0.022	0.010	3872977
Benzo(g,h,i)perylene	ug/L	0.015	<0.010	0.010	3872977
Benzo(j)fluoranthene	ug/L	0.021	0.016	0.010	3872977
Benzo(k)fluoranthene	ug/L	0.020	0.013	0.010	3872977
Chrysene	ug/L	0.14	0.14	0.010	3872977
Dibenz(a,h)anthracene	ug/L	<0.010	<0.010	0.010	3872977
Fluoranthene	ug/L	2.6	2.7	0.010	3872977
Fluorene	ug/L	4.7	4.6	0.010	3872977
Indeno(1,2,3-cd)pyrene	ug/L	0.013	<0.010	0.010	3872977
Naphthalene	ug/L	34 (1)	42 (1)	2.0	3872977
Perylene	ug/L	<0.010	<0.010	0.010	3872977
Phenanthrene	ug/L	9.2	9.0	0.010	3872977
Pyrene	ug/L	1.5	1.6	0.010	3872977
Surrogate Recovery (%)					
D10-Anthracene	%	110	112		3872977
D14-Terphenyl	%	117	119		3872977
D8-Acenaphthylene	%	101	101		3872977

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Elevated PAH RDL(s) due to sample dilution.

Maxxam Analytics International Corporation o/a Maxxam Analytics 465 George St., Unit G Sydney, NS B1P 1K5 Tel: (902) 567-1255 Toll-Free: (888) 535-7770 Fax: (902) 539-6504 www.maxxam.ca

Dillon Consulting Limited

Maxxam Job #: B4O0493
Report Date: 2015/01/19

Your P.O. #: 4104251070

GENERAL COMMENTS

REISSUED REPORT to split files as requested by Nadine Wambolt via email - Jan 19, 2015 NBU

Results relate only to the items tested.

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report

Maxxam Job Number: KB4O0493

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3868332	BHR	Matrix Spike	Isobutylbenzene - Extractable	2014/12/23		102	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/23		119	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/23		71	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/23		83	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/23		97	%	30 - 130
		Spiked Blank	Isobutylbenzene - Extractable	2014/12/23		101	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/23		117	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/23		83	%	30 - 130
			>C16-C21 Hydrocarbons	2014/12/23		90	%	30 - 130
			>C21-<C32 Hydrocarbons	2014/12/23		107	%	30 - 130
		Method Blank	Isobutylbenzene - Extractable	2014/12/23		103	%	30 - 130
			n-Dotriacontane - Extractable	2014/12/23		111	%	30 - 130
			>C10-C16 Hydrocarbons	2014/12/23	<0.050		mg/L	
			>C16-C21 Hydrocarbons	2014/12/23	<0.050		mg/L	
			>C21-<C32 Hydrocarbons	2014/12/23	<0.10		mg/L	
3869323	LNH	Matrix Spike						
		[YX8196-04]	Isobutylbenzene - Volatile	2014/12/25		100	%	70 - 130
			Benzene	2014/12/25		112	%	70 - 130
			Toluene	2014/12/25		112	%	70 - 130
			Ethylbenzene	2014/12/25		111	%	70 - 130
			Total Xylenes	2014/12/25		113	%	70 - 130
		Spiked Blank	Isobutylbenzene - Volatile	2014/12/24		99	%	70 - 130
			Benzene	2014/12/24		106	%	70 - 130
			Toluene	2014/12/24		105	%	70 - 130
			Ethylbenzene	2014/12/24		104	%	70 - 130
			Total Xylenes	2014/12/24		104	%	70 - 130
		Method Blank	Isobutylbenzene - Volatile	2014/12/24		100	%	70 - 130
			Benzene	2014/12/24	<0.0010		mg/L	
			Toluene	2014/12/24	<0.0010		mg/L	
			Ethylbenzene	2014/12/24	<0.0010		mg/L	
			Total Xylenes	2014/12/24	<0.0020		mg/L	
			C6 - C10 (less BTEX)	2014/12/24	<0.010		mg/L	
		RPD [YX8041-07]	Benzene	2014/12/25	2.0		%	40
			Toluene	2014/12/25	1.2		%	40
			Ethylbenzene	2014/12/25	NC		%	40
			Total Xylenes	2014/12/25	NC		%	40
			C6 - C10 (less BTEX)	2014/12/25	NC		%	40
3870588	DLB	Matrix Spike						
		[YX8228-02]	Dissolved Aluminum (Al)	2014/12/24		119	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/24		103	%	80 - 120
			Dissolved Arsenic (As)	2014/12/24		99	%	80 - 120
			Dissolved Barium (Ba)	2014/12/24		NC	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/24		103	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/24		79 (1)	%	80 - 120
			Dissolved Boron (B)	2014/12/24		NC	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/24		98	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/24		NC	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/24		98	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/24		92	%	80 - 120
			Dissolved Copper (Cu)	2014/12/24		82	%	80 - 120
			Dissolved Iron (Fe)	2014/12/24		105	%	80 - 120
			Dissolved Lead (Pb)	2014/12/24		102	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/24		NC	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/24		104	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/24		94	%	80 - 120

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Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4O0493

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3870588	DLB	Matrix Spike						
		[YX8228-02]	Dissolved Nickel (Ni)	2014/12/24		88	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/24		114	%	80 - 120
			Dissolved Potassium (K)	2014/12/24		NC	%	80 - 120
			Dissolved Selenium (Se)	2014/12/24		55 (2)	%	80 - 120
			Dissolved Silver (Ag)	2014/12/24		60 (2)	%	80 - 120
			Dissolved Sodium (Na)	2014/12/24		NC	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/24		NC	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/24		106	%	80 - 120
			Dissolved Tin (Sn)	2014/12/24		116	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/24		112	%	80 - 120
			Dissolved Uranium (U)	2014/12/24		105	%	80 - 120
			Dissolved Vanadium (V)	2014/12/24		104	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/24		90	%	80 - 120
		Spiked Blank	Dissolved Aluminum (Al)	2014/12/24		108	%	80 - 120
			Dissolved Antimony (Sb)	2014/12/24		102	%	80 - 120
			Dissolved Arsenic (As)	2014/12/24		101	%	80 - 120
			Dissolved Barium (Ba)	2014/12/24		101	%	80 - 120
			Dissolved Beryllium (Be)	2014/12/24		100	%	80 - 120
			Dissolved Bismuth (Bi)	2014/12/24		104	%	80 - 120
			Dissolved Boron (B)	2014/12/24		102	%	80 - 120
			Dissolved Cadmium (Cd)	2014/12/24		100	%	80 - 120
			Dissolved Calcium (Ca)	2014/12/24		100	%	80 - 120
			Dissolved Chromium (Cr)	2014/12/24		100	%	80 - 120
			Dissolved Cobalt (Co)	2014/12/24		99	%	80 - 120
			Dissolved Copper (Cu)	2014/12/24		101	%	80 - 120
			Dissolved Iron (Fe)	2014/12/24		109	%	80 - 120
			Dissolved Lead (Pb)	2014/12/24		101	%	80 - 120
			Dissolved Magnesium (Mg)	2014/12/24		108	%	80 - 120
			Dissolved Manganese (Mn)	2014/12/24		103	%	80 - 120
			Dissolved Molybdenum (Mo)	2014/12/24		103	%	80 - 120
			Dissolved Nickel (Ni)	2014/12/24		102	%	80 - 120
			Dissolved Phosphorus (P)	2014/12/24		108	%	80 - 120
			Dissolved Potassium (K)	2014/12/24		102	%	80 - 120
			Dissolved Selenium (Se)	2014/12/24		100	%	80 - 120
			Dissolved Silver (Ag)	2014/12/24		99	%	80 - 120
			Dissolved Sodium (Na)	2014/12/24		106	%	80 - 120
			Dissolved Strontium (Sr)	2014/12/24		102	%	80 - 120
			Dissolved Thallium (Tl)	2014/12/24		105	%	80 - 120
			Dissolved Tin (Sn)	2014/12/24		101	%	80 - 120
			Dissolved Titanium (Ti)	2014/12/24		102	%	80 - 120
			Dissolved Uranium (U)	2014/12/24		103	%	80 - 120
			Dissolved Vanadium (V)	2014/12/24		101	%	80 - 120
			Dissolved Zinc (Zn)	2014/12/24		102	%	80 - 120
		Method Blank	Dissolved Aluminum (Al)	2014/12/24	<5.0		ug/L	
			Dissolved Antimony (Sb)	2014/12/24	<1.0		ug/L	
			Dissolved Arsenic (As)	2014/12/24	<1.0		ug/L	
			Dissolved Barium (Ba)	2014/12/24	<1.0		ug/L	
			Dissolved Beryllium (Be)	2014/12/24	<1.0		ug/L	
			Dissolved Bismuth (Bi)	2014/12/24	<2.0		ug/L	
			Dissolved Boron (B)	2014/12/24	<50		ug/L	
			Dissolved Cadmium (Cd)	2014/12/24	<0.010		ug/L	
			Dissolved Calcium (Ca)	2014/12/24	<100		ug/L	
			Dissolved Chromium (Cr)	2014/12/24	<1.0		ug/L	
			Dissolved Cobalt (Co)	2014/12/24	<0.40		ug/L	

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Client Project #:
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Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4O0493

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3870588	DLB	Method Blank	Dissolved Copper (Cu)	2014/12/24	<2.0		ug/L	
			Dissolved Iron (Fe)	2014/12/24	<50		ug/L	
			Dissolved Lead (Pb)	2014/12/24	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2014/12/24	<100		ug/L	
			Dissolved Manganese (Mn)	2014/12/24	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2014/12/24	<2.0		ug/L	
			Dissolved Nickel (Ni)	2014/12/24	<2.0		ug/L	
			Dissolved Phosphorus (P)	2014/12/24	<100		ug/L	
			Dissolved Potassium (K)	2014/12/24	<100		ug/L	
			Dissolved Selenium (Se)	2014/12/24	<1.0		ug/L	
			Dissolved Silver (Ag)	2014/12/24	<0.10		ug/L	
			Dissolved Sodium (Na)	2014/12/24	<100		ug/L	
			Dissolved Strontium (Sr)	2014/12/24	<2.0		ug/L	
			Dissolved Thallium (Tl)	2014/12/24	<0.10		ug/L	
			Dissolved Tin (Sn)	2014/12/24	<2.0		ug/L	
			Dissolved Titanium (Ti)	2014/12/24	<2.0		ug/L	
			Dissolved Uranium (U)	2014/12/24	<0.10		ug/L	
			Dissolved Vanadium (V)	2014/12/24	<2.0		ug/L	
			Dissolved Zinc (Zn)	2014/12/24	<5.0		ug/L	
		RPD [YX8228-02]	Dissolved Aluminum (Al)	2014/12/29	1.6		%	20
			Dissolved Antimony (Sb)	2014/12/29	NC		%	20
			Dissolved Arsenic (As)	2014/12/29	NC		%	20
			Dissolved Barium (Ba)	2014/12/29	3.5		%	20
			Dissolved Beryllium (Be)	2014/12/29	NC		%	20
			Dissolved Bismuth (Bi)	2014/12/29	NC		%	20
			Dissolved Boron (B)	2014/12/29	2.3		%	20
			Dissolved Cadmium (Cd)	2014/12/29	22.2 (3)		%	20
			Dissolved Calcium (Ca)	2014/12/29	1.1		%	20
			Dissolved Chromium (Cr)	2014/12/29	NC		%	20
			Dissolved Cobalt (Co)	2014/12/29	NC		%	20
			Dissolved Copper (Cu)	2014/12/29	NC		%	20
			Dissolved Iron (Fe)	2014/12/29	NC		%	20
			Dissolved Lead (Pb)	2014/12/29	NC		%	20
			Dissolved Magnesium (Mg)	2014/12/29	2.5		%	20
			Dissolved Manganese (Mn)	2014/12/29	1.1		%	20
			Dissolved Molybdenum (Mo)	2014/12/29	NC		%	20
			Dissolved Nickel (Ni)	2014/12/29	NC		%	20
			Dissolved Phosphorus (P)	2014/12/29	NC		%	20
			Dissolved Potassium (K)	2014/12/29	1.7		%	20
			Dissolved Selenium (Se)	2014/12/29	25.5 (3)		%	20
			Dissolved Silver (Ag)	2014/12/29	NC		%	20
			Dissolved Sodium (Na)	2014/12/29	1.6		%	20
			Dissolved Strontium (Sr)	2014/12/29	2.6		%	20
			Dissolved Thallium (Tl)	2014/12/29	NC		%	20
			Dissolved Tin (Sn)	2014/12/29	NC		%	20
			Dissolved Titanium (Ti)	2014/12/29	NC		%	20
			Dissolved Uranium (U)	2014/12/29	NC		%	20
			Dissolved Vanadium (V)	2014/12/29	NC		%	20
			Dissolved Zinc (Zn)	2014/12/29	NC		%	20
3872151	ALG	Matrix Spike [YX8196-02]	Total Mercury (Hg)	2014/12/29		91	%	80 - 120
		Spiked Blank	Total Mercury (Hg)	2014/12/29		96	%	80 - 120
		Method Blank	Total Mercury (Hg)	2014/12/29	<0.013		ug/L	
		RPD [YX8041-05]	Total Mercury (Hg)	2014/12/29	NC		%	20
3872171	ARS	Matrix Spike	Total Alkalinity (Total as CaCO3)	2014/12/29		102	%	80 - 120

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Quality Assurance Report (Continued)

Maxxam Job Number: KB4O0493

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3872171	ARS	Spiked Blank	Total Alkalinity (Total as CaCO3)	2014/12/29		105	%	80 - 120
		Method Blank	Total Alkalinity (Total as CaCO3)	2014/12/29	<5.0		mg/L	
		RPD	Total Alkalinity (Total as CaCO3)	2014/12/29	NC		%	25
3872174	MCY	Matrix Spike	Dissolved Chloride (Cl)	2014/12/30		100	%	80 - 120
		QC Standard	Dissolved Chloride (Cl)	2014/12/30		103	%	80 - 120
		Spiked Blank	Dissolved Chloride (Cl)	2014/12/30		98	%	80 - 120
		Method Blank	Dissolved Chloride (Cl)	2014/12/30	<1.0		mg/L	
		RPD	Dissolved Chloride (Cl)	2014/12/30	NC		%	25
3872175	MCY	Matrix Spike	Dissolved Sulphate (SO4)	2014/12/30		86	%	80 - 120
		Spiked Blank	Dissolved Sulphate (SO4)	2014/12/30		92	%	80 - 120
		Method Blank	Dissolved Sulphate (SO4)	2014/12/30	<2.0		mg/L	
		RPD	Dissolved Sulphate (SO4)	2014/12/30	NC		%	25
3872176	ARS	Matrix Spike	Reactive Silica (SiO2)	2014/12/29		104	%	80 - 120
		Spiked Blank	Reactive Silica (SiO2)	2014/12/29		104	%	80 - 120
		Method Blank	Reactive Silica (SiO2)	2014/12/29	<0.50		mg/L	
		RPD	Reactive Silica (SiO2)	2014/12/29	1.1		%	25
3872177	NRG	Spiked Blank	Colour	2014/12/30		97	%	80 - 120
		Method Blank	Colour	2014/12/30	<5.0		TCU	
		RPD	Colour	2014/12/30	NC		%	25
3872178	NRG	Matrix Spike	Orthophosphate (P)	2014/12/31		96	%	80 - 120
		Spiked Blank	Orthophosphate (P)	2014/12/31		99	%	80 - 120
		Method Blank	Orthophosphate (P)	2014/12/31	<0.010		mg/L	
		RPD	Orthophosphate (P)	2014/12/31	NC		%	25
3872180	NRG	Matrix Spike	Nitrate + Nitrite	2014/12/30		99	%	80 - 120
		Spiked Blank	Nitrate + Nitrite	2014/12/30		95	%	80 - 120
		Method Blank	Nitrate + Nitrite	2014/12/30	0.051, RDL=0.050		mg/L	
		RPD	Nitrate + Nitrite	2014/12/30	NC		%	25
3872181	MCY	Matrix Spike	Nitrite (N)	2014/12/30		91	%	80 - 120
		Spiked Blank	Nitrite (N)	2014/12/30		113	%	80 - 120
		Method Blank	Nitrite (N)	2014/12/30	<0.010		mg/L	
		RPD	Nitrite (N)	2014/12/30	NC		%	25
3872510	ARS	Matrix Spike	Nitrogen (Ammonia Nitrogen)	2014/12/29		96	%	80 - 120
		Spiked Blank	Nitrogen (Ammonia Nitrogen)	2014/12/29		100	%	80 - 120
		Method Blank	Nitrogen (Ammonia Nitrogen)	2014/12/30	<0.050		mg/L	
		RPD	Nitrogen (Ammonia Nitrogen)	2014/12/29	NC		%	25
3872969	KSR	QC Standard	pH	2014/12/30		101	%	97 - 103
		RPD	pH	2014/12/30	2.7		%	N/A
3872970	KSR	Spiked Blank	Conductivity	2014/12/30		100	%	80 - 120
		Method Blank	Conductivity	2014/12/30	1.4, RDL=1.0		uS/cm	
		RPD	Conductivity	2014/12/30	0.5		%	25
3872977	GTH	Matrix Spike	D10-Anthracene	2015/01/01		76	%	30 - 130
			D14-Terphenyl	2015/01/01		105 (4)	%	30 - 130
			D8-Acenaphthylene	2015/01/01		77	%	30 - 130
			1-Methylnaphthalene	2015/01/01		NC	%	30 - 130
			2-Methylnaphthalene	2015/01/01		NC	%	30 - 130
			Acenaphthene	2015/01/01		NC	%	30 - 130
			Acenaphthylene	2015/01/01		NC	%	30 - 130
			Anthracene	2015/01/01		NC	%	30 - 130
			Benzo(a)anthracene	2015/01/01		NC	%	30 - 130
			Benzo(a)pyrene	2015/01/01		NC	%	30 - 130
			Benzo(b)fluoranthene	2015/01/01		NC	%	30 - 130
			Benzo(g,h,i)perylene	2015/01/01		NC	%	30 - 130
			Benzo(j)fluoranthene	2015/01/01		NC	%	30 - 130
			Benzo(k)fluoranthene	2015/01/01		NC	%	30 - 130
			Chrysene	2015/01/01		NC	%	30 - 130

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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
3872977	GTH	Matrix Spike	Dibenz(a,h)anthracene	2015/01/01		60	%	30 - 130
			Fluoranthene	2015/01/01		NC	%	30 - 130
			Fluorene	2015/01/01		NC	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2015/01/01		NC	%	30 - 130
			Naphthalene	2015/01/01		NC	%	30 - 130
			Perylene	2015/01/01		61	%	30 - 130
			Phenanthrene	2015/01/01		NC	%	30 - 130
			Pyrene	2015/01/01		NC	%	30 - 130
		Spiked Blank	D10-Anthracene	2015/01/01		105	%	30 - 130
			D14-Terphenyl	2015/01/01		113	%	30 - 130
			D8-Acenaphthylene	2015/01/01		107	%	30 - 130
			1-Methylnaphthalene	2015/01/01		96	%	30 - 130
			2-Methylnaphthalene	2015/01/01		99	%	30 - 130
			Acenaphthene	2015/01/01		92	%	30 - 130
			Acenaphthylene	2015/01/01		120	%	30 - 130
			Anthracene	2015/01/01		93	%	30 - 130
			Benzo(a)anthracene	2015/01/01		93	%	30 - 130
			Benzo(a)pyrene	2015/01/01		97	%	30 - 130
			Benzo(b)fluoranthene	2015/01/01		104	%	30 - 130
			Benzo(g,h,i)perylene	2015/01/01		91	%	30 - 130
			Benzo(j)fluoranthene	2015/01/01		95	%	30 - 130
			Benzo(k)fluoranthene	2015/01/01		95	%	30 - 130
			Chrysene	2015/01/01		109	%	30 - 130
			Dibenz(a,h)anthracene	2015/01/01		77	%	30 - 130
			Fluoranthene	2015/01/01		103	%	30 - 130
			Fluorene	2015/01/01		111	%	30 - 130
			Indeno(1,2,3-cd)pyrene	2015/01/01		87	%	30 - 130
			Naphthalene	2015/01/01		81	%	30 - 130
			Perylene	2015/01/01		96	%	30 - 130
			Phenanthrene	2015/01/01		96	%	30 - 130
			Pyrene	2015/01/01		100	%	30 - 130
		Method Blank	D10-Anthracene	2015/01/01		105	%	30 - 130
			D14-Terphenyl	2015/01/01		108	%	30 - 130
			D8-Acenaphthylene	2015/01/01		108	%	30 - 130
			1-Methylnaphthalene	2015/01/01	<0.050		ug/L	
			2-Methylnaphthalene	2015/01/01	<0.050		ug/L	
			Acenaphthene	2015/01/01	<0.010		ug/L	
			Acenaphthylene	2015/01/01	<0.010		ug/L	
			Anthracene	2015/01/01	<0.010		ug/L	
			Benzo(a)anthracene	2015/01/01	<0.010		ug/L	
			Benzo(a)pyrene	2015/01/01	<0.010		ug/L	
			Benzo(b)fluoranthene	2015/01/01	<0.010		ug/L	
			Benzo(g,h,i)perylene	2015/01/01	<0.010		ug/L	
			Benzo(j)fluoranthene	2015/01/01	<0.010		ug/L	
			Benzo(k)fluoranthene	2015/01/01	<0.010		ug/L	
			Chrysene	2015/01/01	<0.010		ug/L	
			Dibenz(a,h)anthracene	2015/01/01	<0.010		ug/L	
			Fluoranthene	2015/01/01	<0.010		ug/L	
			Fluorene	2015/01/01	<0.010		ug/L	
			Indeno(1,2,3-cd)pyrene	2015/01/01	<0.010		ug/L	
			Naphthalene	2015/01/01	<0.20		ug/L	
			Perylene	2015/01/01	<0.010		ug/L	
			Phenanthrene	2015/01/01	<0.010		ug/L	
			Pyrene	2015/01/01	<0.010		ug/L	
		RPD	1-Methylnaphthalene	2015/01/01	9.6		%	40

Maxxam Analytics International Corporation o/a Maxxam Analytics 465 George St., Unit G Sydney, NS B1P 1K5 Tel: (902) 567-1255 Toll-Free: (888) 535-7770 Fax: (902) 539-6504 www.maxxam.ca

Dillon Consulting Limited
Attention: Nadine Wambolt
Client Project #:
P.O. #: 4104251070
Site Location:

Quality Assurance Report (Continued)

Maxxam Job Number: KB4O0493

QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3872977	GTH	RPD	2-Methylnaphthalene	2015/01/01	12.8		%	40
			Acenaphthene	2015/01/01	17.1		%	40
			Acenaphthylene	2015/01/01	11.9		%	40
			Anthracene	2015/01/01	40.2 (5)		%	40
			Benzo(a)anthracene	2015/01/01	NC		%	40
			Benzo(a)pyrene	2015/01/01	NC		%	40
			Benzo(b)fluoranthene	2015/01/01	NC		%	40
			Benzo(g,h,i)perylene	2015/01/01	NC		%	40
			Benzo(j)fluoranthene	2015/01/01	NC		%	40
			Benzo(k)fluoranthene	2015/01/01	NC		%	40
			Chrysene	2015/01/01	NC		%	40
			Dibenz(a,h)anthracene	2015/01/01	NC		%	40
			Fluoranthene	2015/01/01	26.4		%	40
			Fluorene	2015/01/01	11.2		%	40
			Indeno(1,2,3-cd)pyrene	2015/01/01	NC		%	40
			Naphthalene	2015/01/01	17.3		%	40
			Perylene	2015/01/01	NC		%	40
			Phenanthrene	2015/01/01	13.4		%	40
			Pyrene	2015/01/01	31.4		%	40
3873221	KSR	QC Standard	Turbidity	2014/12/30		95	%	80 - 120
		Method Blank	Turbidity	2014/12/30	<0.10		NTU	
		RPD	Turbidity	2014/12/30	NC		%	25
3873222	KMC	Matrix Spike	Total Organic Carbon (C)	2014/12/30		100	%	80 - 120
		Spiked Blank	Total Organic Carbon (C)	2014/12/30		99	%	80 - 120
		Method Blank	Total Organic Carbon (C)	2014/12/30	<0.50		mg/L	
		RPD	Total Organic Carbon (C)	2014/12/30	NC		%	20

N/A = Not Applicable
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 sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.
Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.
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 too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).
(1) Recovery is within QC acceptance limits. < 10 % of compounds in multi-component analysis in violation.
(2) Low recovery due to sample matrix. Result confirmed by repeat spike and re-analysis.
(3) Poor RPD due to sample inhomogeneity. < 10 % of compounds in multi-component analysis in violation.
(4) PAH sample contained sediment.
(5) Duplicate: results are outside acceptance limit. Insufficient sample for repeat analysis.

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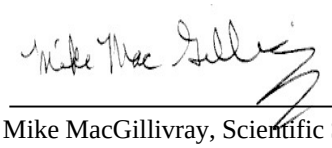
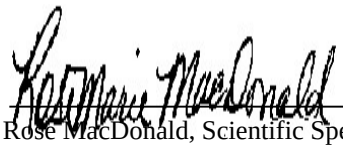
Validation Signature Page

Maxxam Job #: B4O0493

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Mike MacGillivray, Scientific Specialist (Inorganics)



Rose MacDonald, Scientific Specialist (Organics)

==========

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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Appendix D
Mann-Kendall Tables

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-008-MWB										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Acenaphthylene	0.6	2.8	3.4	0.026							
	29-Mar-13	24-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	-1	0	0	0	0	0	0	1
Row 2: Compare to Event 2:			1	-1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **0**

Confidence Level Chart							
S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0	X						
± 1							
± 2							
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results	
X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME **MONITORING WELL NO: CODT-008-MWB**

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Anthracene	15	140	11	2							
	29-Mar-13	24-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	-1	-1	0	0	0	0	0	0	-1
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-4**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-008-MWB										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Benzo(a)pyrene	1.7	30	2.6	0.032							
	29-Mar-13	24-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	-1	0	0	0	0	0	0	1
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-2**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2	X						
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-008-MWB										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Indeno(1,2,3-cd)pyrene	0.65	14	0.64	0.018							
	29-Mar-13	24-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	-1	-1	0	0	0	0	0	0	-1
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-4**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME **MONITORING WELL NO: CODT-008-MWB**

	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Naphthalene	17	29	2.8	0.1							
	29-Mar-13	24-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	-1	-1	0	0	0	0	0	0	-1
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-4**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24		Not Physically possible					
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWA										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Anthracene	0.45	2.5	1.7	2.5							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			-1	0	0	0	0	0	0	0	-1
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **3**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3	X						
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWA										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Benzo(a)pyrene	0.73	3.6	2.5	3.7							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			-1	1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **4**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWA										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Indeno(1,2,3-cd)pyrene	0.33	1.5	1.1	1.5							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			-1	0	0	0	0	0	0	0	-1
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **3**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3	X						
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWC										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Acenaphthylene	3.8	8	10	12							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			1	1	0	0	0	0	0	0	2
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **6**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4							
± 5							
± 6	X						
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)	
X	Trend Is Present (≥90% Confidence)	
	S < 0	Diminishing Plume
X	S > 0	Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWC										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Anthracene	4.9	4.5	3.3	5.9							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		-1	-1	1	0	0	0	0	0	0	-1
Row 2: Compare to Event 2:			-1	1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **0**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0	X						
± 1							
± 2							
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
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± 14							
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± 20							
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± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
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± 31							
± 32							
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± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-201-MWC										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Naphthalene	5100	4900	6300	7200							
	13-Mar-13	16-Jul-13	23-Oct-13	15-Dec-14							
Row 1: Compare to Event 1:		-1	1	1	0	0	0	0	0	0	1
Row 2: Compare to Event 2:			1	1	0	0	0	0	0	0	2
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **4**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
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± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-203-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Anthracene	2.1	2.6	2.5	0.55							
	13-Mar-13	16-Jul-13	23-Oct-13	12-Dec-14							
Row 1: Compare to Event 1:		1	1	-1	0	0	0	0	0	0	1
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-2**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2	X						
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: CODT-203-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Indeno(1,2,3-cd)pyrene	0.24	0.38	0.29	0.28							
	13-Mar-13	16-Jul-13	23-Oct-13	12-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **0**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0	X						
± 1							
± 2							
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
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± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
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± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: MCES-204-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Acenaphthylene	1.7	1.8	2.5	1.9							
	28-Mar-13	24-Jul-13	7-Nov-13	18-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			1	1	0	0	0	0	0	0	2
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **4**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24		Not Physically possible					
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: MCES-204-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Anthracene	3.6	3.3	4.2	1.9							
	28-Mar-13	24-Jul-13	7-Nov-13	18-Dec-14							
Row 1: Compare to Event 1:		-1	1	-1	0	0	0	0	0	0	-1
Row 2: Compare to Event 2:			1	-1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-2**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2	X						
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
± 18							
± 19							
± 20							
± 21							
± 22							
± 23							
± 24	Not Physically possible						
± 25							
± 26							
± 27							
± 28							
± 29							
± 30							
± 31							
± 32							
± 33							
± 34							
± 35							
± 36							
± 37							
± 38							
± 39							
± 40							
± 41							
± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: MSES-008-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Acenaphthylene	4.2	3.2	4.1	2.7							
	26-Mar-13	26-Jul-13	15-Nov-13	10-Dec-14							
Row 1: Compare to Event 1:		-1	-1	-1	0	0	0	0	0	0	-3
Row 2: Compare to Event 2:			1	-1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-4**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
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± 24	Not Physically possible						
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± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: MCES-204-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
Selenium	210	120	36	67							
	28-Mar-13	24-Jul-13	7-Nov-13	18-Dec-14							
Row 1: Compare to Event 1:		-1	-1	-1	0	0	0	0	0	0	-3
Row 2: Compare to Event 2:			-1	-1	0	0	0	0	0	0	-2
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **-4**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4	X						
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
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± 14							
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± 24	Not Physically possible						
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± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE
Nova Scotia Lands Incorporated
141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO: MCES-006-MW										
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
pH	7.5	7.57	7.61	8.91							
	28-Mar-13	26-Jul-13	5-Nov-13	10-Dec-14							
Row 1: Compare to Event 1:		1	1	1	0	0	0	0	0	0	3
Row 2: Compare to Event 2:			1	1	0	0	0	0	0	0	2
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **6**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3							
± 4							
± 5							
± 6	X						
± 7							
±8							
± 9							
± 10							
± 11							
± 12							
± 13							
± 14							
± 15							
± 16							
± 17							
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± 22							
± 23							
± 24	Not Physically possible						
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± 42							
± 43							
± 44							
± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)	
X	Trend Is Present (≥90% Confidence)	
	S < 0	Diminishing Plume
X	S > 0	Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE

Nova Scotia Lands Incorporated

141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO:	MCES-006-MW								
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
TDS	374	376	390	260							
	28-Mar-13	26-Jul-13	5-Nov-13	10-Dec-14							
Row 1: Compare to Event 1:		1	1	-1	0	0	0	0	0	0	1
Row 2: Compare to Event 2:			1	-1	0	0	0	0	0	0	0
Row 3: Compare to Event 3:				-1	0	0	0	0	0	0	-1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **0**

Confidence Level Chart

S	Total No. of Sampling Events						
Value	4	5	6	7	8	9	10
0	X						
± 1							
± 2							
± 3							
± 4							
± 5							
± 6							
± 7							
±8							
± 9							
± 10							
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± 43							
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± 45							

Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

MANN-KENDALL PLUME STABILITY ANALYSIS

Syndney OHP & HE

Nova Scotia Lands Incorporated

141360 - LTMM GROUNDWATER MONITORING EVENT DECEMBER 2014

MANN-KENDALL ANALYSIS OF PLUME	MONITORING WELL NO:	MCES-006-MW								
	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8	Event 9	Event 10	Sum Rows
SO4	34	28	34	70							
	28-Mar-13	26-Jul-13	5-Nov-13	10-Dec-14							
Row 1: Compare to Event 1:		-1	0	1	0	0	0	0	0	0	0
Row 2: Compare to Event 2:			1	1	0	0	0	0	0	0	2
Row 3: Compare to Event 3:				1	0	0	0	0	0	0	1
Row 4: Compare to Event 4:					0	0	0	0	0	0	0
Row 5: Compare to Event 5:						0	0	0	0	0	0
Row 6: Compare to Event 6:							0	0	0	0	0
Row 7: Compare to Event 7:								0	0	0	0
Row 8: Compare to Event 8:									0	0	0
Row 9: Compare to Event 9:										0	0

1/2 detection limit used for nd, historical data assumed EQL of 0.001 mg/L

Mann-Kendall (S) Statistic = **3**

Confidence Level Chart

S Value	Total No. of Sampling Events						
	4	5	6	7	8	9	10
0							
± 1							
± 2							
± 3	X						
± 4							
± 5							
± 6							
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Unshaded area indicates generally stable trend (if CV<1)

Shaded area indicates
Expanding trend if S>0
Declining trend if S<0

Stability Evaulation Results

X	No Trend Indicated, Plume Not Dimishing or Expanding (Plume is Stable if CV<1)
	Trend Is Present (≥90% Confidence)
	S < 0 Diminishing Plume
	S > 0 Expanding Plume

References

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