

ANNEX IV

2010 SURFACE WATER QUALITY LETTER REPORT

February 24, 2011
Project No. SB8931-03

Mr. Edmond Laratta
Xeneca Power Development Inc.
5160 Yonge Street, Suite 520
North York (GTA), Ontario
M2N 6L9

Attn: **Edmond Laratta, Manager, Environmental Affairs**
Email address: elaratta@xeneca.com

Re: **Surface Water Quality Monitoring Program**
Ivanhoe (The Chute), Ontario

Dear Mr. Laratta:

This letter report summarizes the surface water monitoring program completed on May 27 and July 21, 2010 at Ivanhoe (The Chute). It includes visual observations of each sampling event, sampling results, and conclusions.

BACKGROUND

WESA Inc. (WESA) was retained by Xeneca Power Development Inc (Xeneca) to prepare, manage data and report on the surface water sampling events completed on May 27 and July 21, 2010. As requested by Xeneca the onsite monitoring was conducted by Natural Resource Solutions Inc. (NRSI) in conjunction with their spring and summer sampling events. Onsite monitoring included sampling collection, water quality parameter collection and general field observations.

METHODOLOGY

A total of two sampling events (spring and summer) were conducted at two different locations (SW1 and SW3) at the Ivanhoe (The Chute) site. During the sampling events, general observations and characteristics of each sampling location was assessed and recorded (i.e. water level, current, colour and odour). The surface water monitoring and sampling at the site is summarized in Table 1: Ivanhoe (The Chute) Surface Water Locations and General Observations below.

Field parameters (pH, conductivity, temperature, and dissolved oxygen) were measured and recorded at each sampling location using a YSI 556 multi-probe meter. Ferrous iron was measured and recorded at each sampling location using a Ferrous Iron HACH kit. All instruments were calibrated prior to use in the field. The coordinates for each sample location was recorded using a hand held GPS instrument.

NRSI collected surface water samples using clean laboratory-supplied bottles and submitted all samples to Testmark Laboratories (Testmark) of Garson, Ontario for analysis. A total of 62 chemical parameters were analyzed for each sample (please note tellurium, Te, was only analyzed for the late summer event and ferrous iron was not analyzed during the July event). All samples were maintained at < 4°C from the time of sampling until delivery to Testmark. A blind field duplicate sample was taken at SW3 during the May and July sampling events. Full ‘chain of custody’ documentation accompanied the samples from each site to Testmark and is enclosed with this document.

All field parameters and analytical laboratory results can be found in Table 2: Ivanhoe (The Chute) Surface Water Chemistry enclosed with this document.

RESULTS

The GPS coordinates and general observations made by NRSI during each sampling event can be found in Table 1 below. In all cases the water levels were relatively low, the water current was relatively slow to moderate, the water colour had a brown hue, and there was a metallic odour associated with the samples.

Table 1: Ivanhoe (The Chute) Surface Water Locations and General Observations:

Surface Water Locations	UTM coordinates (Zone 17U)	General Observations			
		Water Level	Water Current	Water Colour	Water Odour
Summer – July 21, 2010					
SW1	E391050 N5359300	low	slow	brown	metallic
SW3	E392552 N5361025	low	moderate	brown	metallic

Surface water results can be found in Table 2: Ivanhoe (The Chute) Surface Water Chemistry in comparison to the Ontario Provincial Water Quality Objectives (PWQO, 1994). Of the 25 parameters that have associated PWQO values, 1 parameter had an exceedance. A total of 36 parameters had concentrations below their laboratory method detection limit. Parameters PWQO exceedances are listed below in Table 3 below. Laboratory certificates of analysis for surface water samples collected in 2010 are enclosed with this document.

Table 3: Ivanhoe (The Chute) PWQO Surface Water Exceedances:

Surface Water Locations	Parameters Exceeding PWQO
Spring – May 27, 2010	
SW1	-
SW3	-
Summer – July 21, 2010	
SW1	-
SW3	Zinc (DUP)

No parameters exceeded the PWQO for samples collected during the spring sampling event (May 27, 2010). One parameter exceeded the PWQO for samples collected during the summer sampling event (July 21, 2010).

The blind duplicate sample (DUP) of SW3 collected during the June sampling event generally correlated to the results for SW3 with some exceptions. Of note, the Zn concentration (219 µg/L) for the DUP sample exceeded the PWQO while the Zn concentration of SW3 (8.8 µg/L) did not. The reason for the discrepancy between the Zn concentrations is unknown. For reference, the PWQO for zinc is 30 µg/L.

CONCLUSION

A total of two surface water samples, SW1 and SW3 were collected in May and July of 2010 and analyzed for 62 parameters at the Ivanhoe (The Chute) site. Several parameter concentrations, including several metals, were below the method detection limit of the laboratory. For the July event, the blind field duplicate (DUP) at SW3 exceeded its PWQO for zinc.

The observations and results obtained by NRSI are representative of the conditions during the site visits made on May 27 and July 21, 2010 at Ivanhoe's The Chute site. The statements made in this report are based solely on the information obtained to date as part of the above referenced assessment. The information presented herein is based on observations and laboratory testing of samples collected at specific locations. Any inferences between specific sample locations should be made with caution. WESA has used professional judgement in analyzing this information and formulating its conclusions. No other warranty, expressed or implied, as to the accuracy of the information or recommendations is included or intended in this report.

If you have any questions, or require further assistance, please feel free to contact the undersigned at your convenience.

Yours sincerely,



Julia LaRonde
Occupational Hygiene /
Environmental Technologist

Reviewed by:



Darryl Roberts, Ph.D
Project Manager

Encl.

- Table 2: Ivanhoe (The Chute) Surface Water Chemistry
- Lab Chain of Custody No. 104439 dated May 27, 2010
- Lab Report Reference No. WO104439 dated June 04, 2010
- Lab Chain of Custody No. 108194 dated July 21, 2010
- Lab Chain of Custody No. 108192 dated July 21, 2010
- Lab Report Reference No. WO108192 dated July 29, 2010
- Lab Report Reference No. WO108194 dated July 30, 2010
- Lab Report Reference No. REG108194 dated July 30, 2010

Ref: SB8931-03 Feb 24-2011 The Chute LetRept.doc

Table 2: Ivanhoe (The Chute) Surface Water Chemistry
SB8931-00-03

		Total Alkalinity mg/L	Bicarbonate Alkalinity mg/L	Carbonate Alkalinity mg/L	pH	Total Phos. mg/L	TDS mg/L	TSS mg/L	Sulfide mg/L	TKN mg/L	Chloride mg/L	NO3 mg/L	NO2 mg/L	Phosphate mg/L	Sulphate mg/L	Ferric Iron mg/L	Ferrous Iron mg/L	Al µg/L	Sb µg/L	As mg/L
	PWQO	>25% ↓	nv	nv	6.5-8.5	0.03	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	nv	75	20	100
	MDL	1	1	1		0.002	25	0.4	0.021	1	0.2	0.1	0.03	1	1	1	1	1	0.5	1
Sample Location	Sample Date																			
SW1	27-May-10	80.7	80.3	<1	7.72	0.012	110	0.6	<0.021	<1	1.3	<0.1	<0.03	<1	1.8	<1	<1	25.5	<0.5	<1
	21-Jul-10	80.2	79.6	<1	7.88	0.0071	210	0.65	<0.021	<0.1	1.1	<0.1	<0.03	<1	1.9	<1	--	5.7	<0.5	<1
SW3	27-May-10	80.7	80.3	<1	7.69	0.017	120	<0.4	<0.021	<1	1.5	<0.1	<0.03	<1	2.2	<1	<1	29.8	<0.5	<1
	27-May-10 DUP	80.5	80.1	<1	7.72	0.012	120	<0.4	<0.021	<1	1.6	<0.1	<0.03	<1	1.9	<1	<1	21.5	<0.5	<1
	21-Jul-10	80.8	80.1	<1	7.91	0.010	140	0.8	<0.021	0.12	1.1	<0.1	<0.03	<1	1.7	<1	--	7.9	<0.5	<1
	21-Jul-10 DUP	81.2	80.5	<1	7.92	0.0072	180	0.8	<0.021	0.2	0.95	<0.1	<0.03	<1	1.7	<1	--	12.2	<0.5	<1

Notes:

PWQO Provincial Water Quality Objectives (1994)

MDL Method Detection Limit

nv No value listed in PWQO

Exceeds PWQO criteria

< Concentration less than the MDL

* Elevated Reporting Limits due to Limited Sample Volume

-- Sample not analyzed

Table 2: Ivanhoe (The Chute) Surface Water Chemistry
SB8931-00-03

Sample Location		Ba µg/L	Be µg/L	Bi µg/L	B µg/L	Cd µg/L	Ca µg/L	Ce µg/L	Cr µg/L	Co µg/L	Cu µg/L	Eu µg/L	Ga µg/L	Fe µg/L	La µg/L	Pb µg/L	Li µg/L	Mg µg/L	Mn µg/L	Hg µg/L	Mo µg/L	Ni µg/L	Nb µg/L	K µg/L	Rb µg/L
	PWQO	nv	11	nv	200	0.2	nv	nv	1	0.9	5	nv	nv	300	nv	1	nv	nv	nv	0.2	40	25	nv	nv	nv
	MDL	1	0.5	1	2	0.1	50	1	1	0.8	0.1	1	1	1	20	1	1	5	4	1	0.1	1	1	100	1
SW1	27-May-10	11.5	<0.5	<1	<2	<0.1	20,000	<1	<1	<0.8	<0.1	<1	<1	91	<1	<1	<5	5,440	38.3	<0.1	<1	1.2	<1	820	1.3
	21-Jul-10	11.5	<0.5	<1	<2	<0.1	24,600	<1	<1	<0.8	<0.1	1.2	<1	82	<1	<1	<5	5,440	27.1	<0.1	<1	<1	<1	300	1.3
SW3	27-May-10	12.1	<0.5	<1	<2	<0.1	19,400	<1	<1	<0.8	<0.1	1.1	<1	85	<1	<1	<5	5,820	39.4	<0.1	<1	1.5	<1	850	1.3
	27-May-10 DUP	12.0	<0.5	<1	<2	<0.1	19,600	<1	<1	<0.8	<0.1	<1	<1	90	<1	<1	<5	5,610	38.0	<0.1	<1	1.4	<1	850	1.4
	21-Jul-10	13.7	<0.5	<1	<2	<0.1	24,800	<1	<1	<0.8	<0.1	1.4	<1	75	<1	<1	<5	5,820	26.3	<0.1	<1	<1	<1	310	1.4
	21-Jul-10 DUP	12.3	<0.5	<1	<2	<0.1	23,600	<1	<1	<0.8	<0.1	1.1	<1	81	<1	<1	<5	5,390	24.3	<0.1	<1	1.5	<1	300	1.4

Notes:

PWQO Provincial Water Quality

MDL Method Detection Limit

nv No value listed in

Exceeds PWQO criteria

< Concentration less than the MDL

* Elevated Reporting Limits due to Limited Sample Volume

-- Sample not analyzed

Table 2: Ivanhoe (The Chute) Surface Water Chemistry
SB8931-00-03

Sample Location		Field Measurements																				Ferrous Iron mg/L		
		Sc µg/L	Se µg/L	Si µg/L	Ag µg/L	Na µg/L	Sr µg/L	Sulfur µg/L	Te µg/L	Tl µg/L	Th µg/L	Sn µg/L	Ti µg/L	W µg/L	U µg/L	V µg/L	Y µg/L	Zn µg/L	Zr µg/L	pH	Temp. °C	Cond. µS/cm	DO %	
	PWQO	nv	100	nv	0.1	nv	nv	nv	nv	0.3	nv	nv	nv	30	5	6	nv	30	4	6.5-8.5				
	MDL	1	1	2	0.1	100	1	800	1	0.1	1	1	1	1	1	1	1	1	1					
Sample Date																								
SW1	27-May-10	<1	<1	2,010	<0.1	1,630	32.5	2,400	--	<0.1	<1	<1	1.6	<1	<1	<1	<1	2.0	<1	--	--	--	--	<0.02
	21-Jul-10	<1	<1	1,710	<0.1	1,430	40.8	800	<1	<0.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	9.10	20.10	116	81	0.12
SW3	27-May-10	<1	<1	1,980	<0.1	1,660	32.6	<800	--	<0.1	<1	<1	1.4	<1	<1	<1	<1	14.6	<1	--	--	--	--	<0.02
	27-May-10 DUP	<1	<1	1,910	<0.1	1,580	33.5	2,200	--	<0.1	<1	<1	1.5	<1	<1	<1	<1	2.5	<1	--	--	--	--	<0.02
	21-Jul-10	<1	<1	1,720	<0.1	1,420	42.0	2,000	<1	<0.1	<1	<1	1.5	<1	<1	<1	<1	8.8	<1	8.70	24.3	155	102.4	0.80
	21-Jul-10 DUP	<1	<1	1,700	<0.1	1,300	41.9	960	<1	<0.1	<1	<1	<1	<1	<1	<1	<1	219	<1	8.70	24.3	155	102.4	0.80

Notes:

PWQO Provincial Water Quality

MDL Method Detection Limit

nv No value listed in

Exceeds PWQO criteria

< Concentration less than the MDL

* Elevated Reporting Limits due to Limited Sample Volume

-- Sample not analyzed

TESTMARK Laboratories Ltd.

Committed to Quality and Service

 7 Margaret St.

Garson, ON CANADA P3L 1E1

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 677 MacDonald Ave., Unit 7

Sault Ste. Marie, ON CANADA P6B 1J4

Phone: (705) 254-7117 Fax: (705) 254-3820

Email: ssm@testmark.ca

 Client: **WESA**

 Address: **273 Elm Street**
Sudbury, ON P3C 1V5

 Contact: **Shawna Davy**

Phone: (705) 525-6075 Fax: (705) 525-6072

Testmark Quote

2965
iNORG

Client P.O. #:

SB8931-03

DWS/SDWS #:

 Email Address: **sdavy@wesa.ca**

REPORTING FORMAT				TURN AROUND TIME (TAT)*		NUMBER OF CONTAINERS	ANALYSIS REQUESTED								LABORATORY USE ONLY							
				<input type="checkbox"/> 1 Day	<input type="checkbox"/> 2 Days		<input type="checkbox"/> 3 Days	<input checked="" type="checkbox"/> Standard	TSS	TDS	pH	POH	Alk	ICPMS-T	Fe+3	Sulphide	TKN	TP	Bicarbonate	Carbonate	Anions[Cl, NO ₂ , NO ₃ , PO ₄ , SO ₄]	Field Fe+2
QC DATA REPORTED				SPECIFIC DATE: Mon 7		*RUSH analysis may involve additional charges								WORK ORDER NUMBER:								
SAMPLE DISPOSAL				SAMPLE DESCRIPTION (This Will Appear On The Report)										104439								
SAMPLING														TEMP	LAB ID	BOTTLE TYPE						
DATE	TIME	TYPE	MATRIX			5																
May 27/2010	17:20	G	SW	SW - 1		5																
		G	SW	SW - 2		5																
		G	SW	SW - 3		5																
		G	SW	SW - 4		5																
														iNORG								
LEGEND		TYPE: G=Grab, C=Composite O.REG. 170 / O.REG. 318/319 / O.REG. 243: R=Raw, E=Entry / Treated, D=Distribution, P=Plumbing														Page: _____ of _____.						
REGULATION		Matrix: A=Air, B=Biota, F=Fish, GW=Groundwater, O=Oil, P=Paint, S=Soil, SD=Sediment, SL=Sludge, SW=Water, W=Water, DW=Drinking Water																				
		Comments: CONFIRMATION REPORT SENT																				
Sampled By (Signature)				Date May 27, 2010		Time		Shipped By Hand								Shipping Reference 13141						
Received By (Signature)				Date		Time		Relinquished to Testmark By (Signature)								Date Hand	Time					
Received By (Signature)				Date		Time		Received at Testmark By JM								Date RECEIVED	Time 15:03					

MAY 29 2010 V2008-2



TESTMARK Laboratories Ltd.

Committed to Quality and Service

Analytical Report

Client:	Shawna Davy	Work Order Number:	104439
Company:	WESA	Date Order Received:	05/29/10
Address:	273 Elm Street Sudbury, ON, P3C 1V5	Regulation:	Information not provided
Phone:	(705) 525-6075	PO #:	
Fax:	(705) 525-6077	Project #:	SB8931-03
Email:	sdavy@wesa.ca		
Notes:	Please see sample notes.		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Type	Comments	Date Collected	Time Collected
SW-1	286464	Water	Grab		05/27/10	17:20
SW-3	286465	Water	Grab		05/27/10	20:10
SW-4	286466	Water	Grab		05/27/10	20:15



TESTMARK Laboratories Ltd.

Committed to Quality and Service

WESA

Work Order: 104439

The following instrumentation and reference methods were used for your sample(s)

Method Name	Description	Reference
ALKA	Determination of Alkalinity Instrument group: Metrohm Analyzer	Based on APHA-2320
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex IC	Based on SW846-9056
Carbonate	Determination of Carbonate and Bi-Carbonate Instrument group: Calculation	Based on APHA-2330
FE2FE3 Water	Determination of Fe2+ and Fe3+ Instrument group: UV/Vis Spectrophotometer	Based on APHA 3500
ICPMS Tot. Water	Determination of Total Metals in Water by ICP/MS with Digestion Instrument group: Perkin Elmer ICPMS	Based on SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Metrohm Analyzer	Based on APHA-4500
pOH	Calculation of pOH in water Instrument group: Calculation	Based on APHA-4500
Sulphide Water	Determination of Sulphide in Water Instrument group: UV/Vis Spectrophotometer	Based on APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Toledo Balance	Based on APHA-2540
TKN Water Dig.	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion Instrument group: UV/Vis Spectrophotometer	Based on APHA 4500-N
TP Water	Determination of Total Phosphorus in Water Instrument group: UV/Vis Spectrophotometer	Based on APHA-4500
TSS - 500	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Toledo Balance	Based on APHA-2540
Sample Notes:	The results for Fe2+ analysis were obtained from the field notes provided by the client. 05/31/10 SG	

This report has been approved by:

Brad Halvorson, B. Sc.
Inorganic Section Head



TESTMARK Laboratories Ltd.

Committed to Quality and Service

WESA

Work Order: 104439

Sample Data:

Sample Name: SW-1

Date: 05/27/10

Matrix: Water

Lab #: 286464

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	80.7	mg/L	20100602.R1A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.3	mg/L	20100602.R5G
Nitrate (as N)	0.1	<0.1	mg/L	20100602.R5G
Nitrite (as N)	0.03	<0.03	mg/L	20100602.R5G
Phosphate	1	<1	mg/L	20100602.R5G
Sulfate	1	1.8	mg/L	20100602.R5G
Carbonate				
Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	80.3	mg/L	20100603.R94A
Carbonate	1	<1	mg/L	20100603.R94A
FE2FE3 Water				
Parameter	MDL	Result	Units	QAQCID
Iron (II)	1	<1	mg/L	20100601.R87A
Iron (III)	1	<1	mg/L	20100601.R87A
ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	25.5	ug/L	20100602.R13na3
Total Antimony	0.5	<0.5	ug/L	20100602.R13na3
Total Arsenic	1	<1	ug/L	20100602.R13na3
Total Barium	1	11.5	ug/L	20100602.R13na3
Total Beryllium	0.5	<0.5	ug/L	20100602.R13na3
Total Bismuth	1	<1	ug/L	20100602.R13na3
Total Boron	2	<2	ug/L	20100602.R13na3
Total Cadmium	0.1	<0.1	ug/L	20100602.R13na3
Total Calcium	50	20000	ug/L	20100602.R13na3
Total Cerium	1	<1	ug/L	20100602.R13na3
Total Cesium	1	<1	ug/L	20100602.R13na3
Total Chromium	0.8	<0.8	ug/L	20100602.R13na3
Total Cobalt	0.1	<0.1	ug/L	20100602.R13na3
Total Copper	1	<1	ug/L	20100602.R13na3
Total Europium	1	<1	ug/L	20100602.R13na3
Total Gallium	1	<1	ug/L	20100602.R13na3
Total Iron	20	91	ug/L	20100602.R13na3
Total Lanthanum	1	<1	ug/L	20100602.R13na3
Total Lead	1	<1	ug/L	20100602.R13na3
Total Lithium	5	<5	ug/L	20100602.R13na3
Total Magnesium	4	5440	ug/L	20100602.R13na3
Total Manganese	1	38.3	ug/L	20100602.R13na3
Total Mercury	0.1	<0.1	ug/L	20100602.R13na3
Total Molybdenum	1	<1	ug/L	20100602.R13na3

7 Margaret Street, Garson Ontario Canada, P3L 1E1

Phone: (705) 693-1121 Fax: (705) 693-1124 Web: www.testmark.ca



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WESA

Work Order: 104439

Sample Name: SW-1

Date: 05/27/10

Matrix: Water

Lab #: 286464

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Nickel	1	1.2	ug/L	20100602.R13na3
Total Niobium	1	<1	ug/L	20100602.R13na3
Total Potassium	100	820	ug/L	20100602.R13na3
Total Rubidium	1	1.3	ug/L	20100602.R13na3
Total Scandium	1	<1	ug/L	20100602.R13na3
Total Selenium	1	<1	ug/L	20100602.R13na3
Total Silicon	2	2010	ug/L	20100602.R13na3
Total Silver	0.1	<0.1	ug/L	20100602.R13na3
Total Sodium	100	1630	ug/L	20100602.R13na3
Total Strontium	1	32.5	ug/L	20100602.R13na3
Total Sulfur	800	2400	ug/L	20100602.R13na3
Total Thallium	0.1	<0.1	ug/L	20100602.R13na3
Total Thorium	1	<1	ug/L	20100602.R13na3
Total Tin	1	<1	ug/L	20100602.R13na3
Total Titanium	1	1.6	ug/L	20100602.R13na3
Total Tungsten	1	<1	ug/L	20100602.R13na3
Total Uranium	1	<1	ug/L	20100602.R13na3
Total Vanadium	1	<1	ug/L	20100602.R13na3
Total Yttrium	1	<1	ug/L	20100602.R13na3
Total Zinc	1	2	ug/L	20100602.R13na3
Total Zirconium	1	<1	ug/L	20100602.R13na3

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.72	pH	20100602.R2F

pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.28	pOH	20100603.R2D

Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H ₂ S)	0.021	<0.021	mg/L	20100601.R11A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	110	mg/L	20100602.R27E

TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	1	<1	mg/L	20100603.R58G

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20100601.R23.2C

TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.4	0.6	mg/L	20100602.R27B

7 Margaret Street, Garson Ontario Canada, P3L 1E1

Phone: (705) 693-1121 Fax: (705) 693-1124 Web: www.testmark.ca



TESTMARK Laboratories Ltd.

Committed to Quality and Service

WESA

Work Order: 104439

Sample Name: SW-3

Date: 05/27/10

Matrix: Water

Lab #: 286465

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	80.7	mg/L	20100602.R1A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.5	mg/L	20100602.R5G
Nitrate (as N)	0.1	<0.1	mg/L	20100602.R5G
Nitrite (as N)	0.03	<0.03	mg/L	20100602.R5G
Phosphate	1	<1	mg/L	20100602.R5G
Sulfate	1	2.2	mg/L	20100602.R5G
Carbonate				
Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	80.3	mg/L	20100603.R94A
Carbonate	1	<1	mg/L	20100603.R94A
FE2FE3 Water				
Parameter	MDL	Result	Units	QAQCID
Iron (II)	1	<1	mg/L	20100601.R87A
Iron (III)	1	<1	mg/L	20100601.R87A
ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	29.8	ug/L	20100602.R13na3
Total Antimony	0.5	<0.5	ug/L	20100602.R13na3
Total Arsenic	1	<1	ug/L	20100602.R13na3
Total Barium	1	12.1	ug/L	20100602.R13na3
Total Beryllium	0.5	<0.5	ug/L	20100602.R13na3
Total Bismuth	1	<1	ug/L	20100602.R13na3
Total Boron	2	<2	ug/L	20100602.R13na3
Total Cadmium	0.1	<0.1	ug/L	20100602.R13na3
Total Calcium	50	19400	ug/L	20100602.R13na3
Total Cerium	1	<1	ug/L	20100602.R13na3
Total Cesium	1	<1	ug/L	20100602.R13na3
Total Chromium	0.8	<0.8	ug/L	20100602.R13na3
Total Cobalt	0.1	<0.1	ug/L	20100602.R13na3
Total Copper	1	1.1	ug/L	20100602.R13na3
Total Europium	1	<1	ug/L	20100602.R13na3
Total Gallium	1	<1	ug/L	20100602.R13na3
Total Iron	20	85	ug/L	20100602.R13na3
Total Lanthanum	1	<1	ug/L	20100602.R13na3
Total Lead	1	<1	ug/L	20100602.R13na3
Total Lithium	5	<5	ug/L	20100602.R13na3
Total Magnesium	4	5820	ug/L	20100602.R13na3
Total Manganese	1	39.4	ug/L	20100602.R13na3
Total Mercury	0.1	<0.1	ug/L	20100602.R13na3
Total Molybdenum	1	<1	ug/L	20100602.R13na3
Total Nickel	1	1.5	ug/L	20100602.R13na3
Total Niobium	1	<1	ug/L	20100602.R13na3

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TESTMARK Laboratories Ltd.

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WESA

Work Order: 104439

Sample Name: SW-3

Date: 05/27/10

Matrix: Water

Lab #: 286465

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Potassium	100	850	ug/L	20100602.R13na3
Total Rubidium	1	1.3	ug/L	20100602.R13na3
Total Scandium	1	<1	ug/L	20100602.R13na3
Total Selenium	1	<1	ug/L	20100602.R13na3
Total Silicon	2	1980	ug/L	20100602.R13na3
Total Silver	0.1	<0.1	ug/L	20100602.R13na3
Total Sodium	100	1660	ug/L	20100602.R13na3
Total Strontium	1	32.6	ug/L	20100602.R13na3
Total Sulfur	800	<800	ug/L	20100602.R13na3
Total Thallium	0.1	<0.1	ug/L	20100602.R13na3
Total Thorium	1	<1	ug/L	20100602.R13na3
Total Tin	1	<1	ug/L	20100602.R13na3
Total Titanium	1	1.4	ug/L	20100602.R13na3
Total Tungsten	1	<1	ug/L	20100602.R13na3
Total Uranium	1	<1	ug/L	20100602.R13na3
Total Vanadium	1	<1	ug/L	20100602.R13na3
Total Yttrium	1	<1	ug/L	20100602.R13na3
Total Zinc	1	14.6	ug/L	20100602.R13na3
Total Zirconium	1	<1	ug/L	20100602.R13na3
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.69	pH	20100602.R2F
pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.31	pOH	20100603.R2D
Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H2S)	0.021	<0.021	mg/L	20100601.R11A
TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	120	mg/L	20100602.R27E
TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	1	<1	mg/L	20100603.R58G
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.017	mg/L	20100601.R23.2C
TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.4	<0.4	mg/L	20100602.R27B



TESTMARK Laboratories Ltd.

Committed to Quality and Service

WESA

Work Order: 104439

Sample Name: SW-4

Date: 05/27/10

Matrix: Water

Lab #: 286466

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	80.5	mg/L	20100602.R1A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.6	mg/L	20100602.R5G
Nitrate (as N)	0.1	<0.1	mg/L	20100602.R5G
Nitrite (as N)	0.03	<0.03	mg/L	20100602.R5G
Phosphate	1	<1	mg/L	20100602.R5G
Sulfate	1	1.9	mg/L	20100602.R5G
Carbonate				
Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	80.1	mg/L	20100603.R94A
Carbonate	1	<1	mg/L	20100603.R94A
FE2FE3 Water				
Parameter	MDL	Result	Units	QAQCID
Iron (II)	1	<1	mg/L	20100601.R87A
Iron (III)	1	<1	mg/L	20100601.R87A
ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	21.5	ug/L	20100602.R13na3
Total Antimony	0.5	<0.5	ug/L	20100602.R13na3
Total Arsenic	1	<1	ug/L	20100602.R13na3
Total Barium	1	12	ug/L	20100602.R13na3
Total Beryllium	0.5	<0.5	ug/L	20100602.R13na3
Total Bismuth	1	<1	ug/L	20100602.R13na3
Total Boron	2	<2	ug/L	20100602.R13na3
Total Cadmium	0.1	<0.1	ug/L	20100602.R13na3
Total Calcium	50	19600	ug/L	20100602.R13na3
Total Cerium	1	<1	ug/L	20100602.R13na3
Total Cesium	1	<1	ug/L	20100602.R13na3
Total Chromium	0.8	<0.8	ug/L	20100602.R13na3
Total Cobalt	0.1	<0.1	ug/L	20100602.R13na3
Total Copper	1	<1	ug/L	20100602.R13na3
Total Europium	1	<1	ug/L	20100602.R13na3
Total Gallium	1	<1	ug/L	20100602.R13na3
Total Iron	20	90	ug/L	20100602.R13na3
Total Lanthanum	1	<1	ug/L	20100602.R13na3
Total Lead	1	<1	ug/L	20100602.R13na3
Total Lithium	5	<5	ug/L	20100602.R13na3
Total Magnesium	4	5610	ug/L	20100602.R13na3
Total Manganese	1	38	ug/L	20100602.R13na3
Total Mercury	0.1	<0.1	ug/L	20100602.R13na3
Total Molybdenum	1	<1	ug/L	20100602.R13na3
Total Nickel	1	1.4	ug/L	20100602.R13na3
Total Niobium	1	<1	ug/L	20100602.R13na3

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Committed to Quality and Service

WESA

Work Order: 104439

Sample Name: SW-4

Date: 05/27/10

Matrix: Water

Lab #: 286466

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Potassium	100	850	ug/L	20100602.R13na3
Total Rubidium	1	1.4	ug/L	20100602.R13na3
Total Scandium	1	<1	ug/L	20100602.R13na3
Total Selenium	1	<1	ug/L	20100602.R13na3
Total Silicon	2	1910	ug/L	20100602.R13na3
Total Silver	0.1	<0.1	ug/L	20100602.R13na3
Total Sodium	100	1580	ug/L	20100602.R13na3
Total Strontium	1	33.5	ug/L	20100602.R13na3
Total Sulfur	800	2200	ug/L	20100602.R13na3
Total Thallium	0.1	<0.1	ug/L	20100602.R13na3
Total Thorium	1	<1	ug/L	20100602.R13na3
Total Tin	1	<1	ug/L	20100602.R13na3
Total Titanium	1	1.5	ug/L	20100602.R13na3
Total Tungsten	1	<1	ug/L	20100602.R13na3
Total Uranium	1	<1	ug/L	20100602.R13na3
Total Vanadium	1	<1	ug/L	20100602.R13na3
Total Yttrium	1	<1	ug/L	20100602.R13na3
Total Zinc	1	2.5	ug/L	20100602.R13na3
Total Zirconium	1	<1	ug/L	20100602.R13na3
pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.72	pH	20100602.R2F
pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.28	pOH	20100603.R2D
Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H2S)	0.021	<0.021	mg/L	20100601.R11A
TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	120	mg/L	20100602.R27E
TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	1	<1	mg/L	20100603.R58G
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.012	mg/L	20100601.R23.2C
TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.4	<0.4	mg/L	20100602.R27B



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WESA

Work Order: 104439

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC Too numerous to count

ND Not detected



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Work Order: 104439

Quality Control Data:

ALKA

155 mg/L Control-Metro						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1.3	mg/L	175	156	145	20100602.R1A

Anions Water

Blank (IC-2)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Chloride	0.2	mg/L	0.5	<0.2	<0.2	20100602.R5G
Nitrate (as N)	0.1	mg/L	0.5	<0.1	<0.1	20100602.R5G
Nitrite (as N)	0.03	mg/L	0.5	<0.03	<0.03	20100602.R5G
Phosphate	1	mg/L	1	<1	<1	20100602.R5G
Sulfate	1	mg/L	1	<1	<1	20100602.R5G

Control (IC-2)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Chloride	0.2	mg/L	115	95.4	85	20100602.R5G
Nitrate (as N)	0.1	mg/L	57.5	47.3	40	20100602.R5G
Nitrite (as N)	0.03	mg/L	57.5	47.6	42.5	20100602.R5G
Phosphate	1	mg/L	130	86.3	70	20100602.R5G
Sulfate	1	mg/L	115	91.4	78	20100602.R5G

ICPMS Tot. Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Aluminum	1	ug/L	1	<1	<1	20100602.R13na3
Total Antimony	1	ug/L	1	<1	<1	20100602.R13na3
Total Arsenic	1	ug/L	1	<1	<1	20100602.R13na3
Total Barium	1	ug/L	1	<1	<1	20100602.R13na3
Total Beryllium	1	ug/L	1	<1	<1	20100602.R13na3
Total Bismuth	1	ug/L	1	<1	<1	20100602.R13na3
Total Boron	2	ug/L	2	<2	<2	20100602.R13na3
Total Cadmium	1	ug/L	1	<1	<1	20100602.R13na3
Total Cerium	1	ug/L	1	<1	<1	20100602.R13na3
Total Cesium	1	ug/L	1	<1	<1	20100602.R13na3
Total Chromium	1	ug/L	1	<1	<1	20100602.R13na3
Total Cobalt	1	ug/L	1	<1	<1	20100602.R13na3
Total Copper	1	ug/L	1	<1	<1	20100602.R13na3
Total Europium	1	ug/L	1	<1	<1	20100602.R13na3
Total Gallium	1	ug/L	1	<1	<1	20100602.R13na3
Total Iron	20	ug/L	20	<20	<20	20100602.R13na3
Total Lanthanum	1	ug/L	1	<1	<1	20100602.R13na3
Total Lead	1	ug/L	1	<1	<1	20100602.R13na3
Total Lithium	5	ug/L	5	<5	<5	20100602.R13na3
Total Magnesium	4	ug/L	4	<4	<4	20100602.R13na3
Total Manganese	1	ug/L	1	<1	<1	20100602.R13na3

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ICPMS Tot. Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Mercury	0.1	ug/L	0.1	<0.1	<0.1	20100602.R13na3
Total Molybdenum	1	ug/L	1	<1	<1	20100602.R13na3
Total Nickel	1	ug/L	1	<1	<1	20100602.R13na3
Total Niobium	1	ug/L	1	<1	<1	20100602.R13na3
Total Rubidium	1	ug/L	1	<1	<1	20100602.R13na3
Total Selenium	1	ug/L	1	<1	<1	20100602.R13na3
Total Silver	5	ug/L	5	<5	<5	20100602.R13na3
Total Strontium	1	ug/L	1	<1	<1	20100602.R13na3
Total Thallium	1	ug/L	1	<1	<1	20100602.R13na3
Total Thorium	1	ug/L	1	<1	<1	20100602.R13na3
Total Tin	1	ug/L	1	<1	<1	20100602.R13na3
Total Tungsten	1	ug/L	1	<1	<1	20100602.R13na3
Total Uranium	1	ug/L	1	<1	<1	20100602.R13na3
Total Vanadium	1	ug/L	1	<1	<1	20100602.R13na3
Total Yttrium	1	ug/L	1	<1	<1	20100602.R13na3
Total Zinc	1	ug/L	1	<1	<1	20100602.R13na3
Total Zirconium	1	ug/L	1	<1	<1	20100602.R13na3

Positive Control (1011)

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Aluminum	1	ug/L	600	502	400	20100602.R13na3
Total Arsenic	1	ug/L	120	96.9	80	20100602.R13na3
Total Barium	1	ug/L	120	102	80	20100602.R13na3
Total Beryllium	1	ug/L	125	102	75	20100602.R13na3
Total Boron	2	ug/L	110	110	90	20100602.R13na3
Total Cadmium	1	ug/L	120	96.9	80	20100602.R13na3
Total Calcium	50	ug/L	1200	950	800	20100602.R13na3
Total Chromium	1	ug/L	110	98	90	20100602.R13na3
Total Cobalt	1	ug/L	120	97.6	80	20100602.R13na3
Total Copper	1	ug/L	120	102	80	20100602.R13na3
Total Iron	20	ug/L	600	509	400	20100602.R13na3
Total Lead	1	ug/L	120	99.9	80	20100602.R13na3
Total Magnesium	4	ug/L	1200	1040	800	20100602.R13na3
Total Manganese	1	ug/L	120	97.6	80	20100602.R13na3
Total Molybdenum	1	ug/L	120	105	80	20100602.R13na3
Total Nickel	1	ug/L	120	104	80	20100602.R13na3
Total Selenium	1	ug/L	120	101	80	20100602.R13na3
Total Thallium	1	ug/L	120	103	80	20100602.R13na3
Total Vanadium	1	ug/L	120	95.8	80	20100602.R13na3
Total Zinc	1	ug/L	120	95.1	80	20100602.R13na3

pHWATER

pH 7 Metrohm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.2	7.14	6.8	20100602.R2F

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06/04/10

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WESA

Work Order: 104439

Sulphide Water

0.5 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Sulphide (as H ₂ S)	0.05	mg/L	0.6	0.546	0.4	20100601.R11A

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	240	210	160	20100602.R27E

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	50	<25	<25	20100602.R27E

TKN Water Dig.

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	1	mg/L	<1	<1	<1	20100603.R58G

Control Sample						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	1	mg/L	30	27.3	20	20100603.R58G

TP Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20100601.R23.2C

Control (0.05 mg/L)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.06	0.0489	0.04	20100601.R23.2C

TSS - 500

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	<6	<6	<6	20100602.R27B

Control Standard						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	230	171	150	20100602.R27B

UCL Upper Control Limit

LCL Lower Control Limit

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Email: ssm@testmark.ca

 Client: **WESA**

 Address: **273 Elm Street**
Sudbury, ON P3C 1V5

 Contact: **Shawna Davy**

Phone: (705) 525-6075 Fax: (705) 525-6072

Testmark Quote

NORG 2965

Client P.O. #

SB8931-03

Client Project #

DWS/SDWS #

sdavy@wesa.ca

O.Reg 318/319 Only:

Public Health Unit: Phone: Fax:

REPORTING FORMAT				TURN AROUND TIME (TAT)*		NUMBER OF CONTAINERS	ANALYSIS REQUESTED									LABORATORY USE ONLY				
				<input type="checkbox"/> 1 Day	<input type="checkbox"/> 2 Days															
				<input type="checkbox"/> 3 Days	<input type="checkbox"/> Standard															
				SPECIFIC DATE: <i>FR130</i>																
QC DATA REPORTED																				
<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No																		
SAMPLE DISPOSAL																				
<input type="checkbox"/> Hold <input checked="" type="checkbox"/> Dispose <input type="checkbox"/> Return																				
SAMPLING				SAMPLE DESCRIPTION (This Will Appear On The Report)																
DATE	TIME	TYPE	MATRIX	TSS	TDS	pH	pOH	Alk	ICPMS-T	Fe+3	Sulphide	TKN	TP	Bicarbonate	Carbonate	Field Fe+2	RESIDUAL CHLORINE (IF APPLICABLE)	TEMP	LAB ID	BOTTLE TYPE
21/07/10	1010	G	SW															68	295677	20.4M.
21/07/10	1535	G	SW															208	295678	
21/07/10	1535	G	SW															209	295679	
<i>NORG</i>																				

LEGEND **TYPE: G=Grab, C=Composite O.REG. 170 / O.REG. 318/319 / O.REG. 243: R=Raw, E=Entry / Treated, D=Distribution, P=Plumbing**
 Matrix: **A=Air, B=Biota, F=Fish, GW=Groundwater, O=Oil, P=Paint, S=Soil, SD=Sediment, SL=Sludge, SW=Water, W=Water DW=Drinking Water** Page: _____ of _____.

REGULATION	<input type="checkbox"/> O.Reg. 153: Record of Site Condition Table (<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6) Column <input type="checkbox"/> O.Reg. 170 <input type="checkbox"/> O.Reg 318/319 <input type="checkbox"/> O.Reg. 243 <input type="checkbox"/> ODWS <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> MISA <input type="checkbox"/> O.Reg. 558 <input type="checkbox"/> C of A <input type="checkbox"/> Other: _____						COMMENTS: SENT										
Sampled By (Signature)	<i>M</i>		Date	<i>21 July 2010</i>		Time	<i>1535</i>		Shipped By				<i>Purd</i>		Shipping Reference 10907058220		
Received By (Signature)			Date			Time			Relinquished to Testmark By (Signature)						Date	Time	
Received By (Signature)			Date			Time			Received at Testmark By				<i>JJ</i>		Date	Time	

V2008-2
07/03/10.



TESTMARK Laboratories Ltd.

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Analytical Report

Client:	Shawna Davy	Work Order Number:	108192
Company:	WESA	Date Order Received:	07/23/10
Address:	273 Elm Street Sudbury, ON, P3C 1V5	Regulation:	Information not provided
Phone:	(705) 525-6075	PO #:	
Fax:	(705) 525-6077	Project #:	SB8931-03
Email:	sdavy@wesa.ca		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Type	Comments	Date Collected	Time Collected
SW3	295672	Water	Grab		07/21/10	15:35
SW4	295673	Water	Grab		07/21/10	15:35
SW1	295674	Water	Grab		07/21/10	10:10

The following instrumentation and reference methods were used for your sample(s)

Method Name	Description	Reference
Chlorophyll A	Determination of Chlorophyll A in water Instrument group: PhillipsUV/VIS Spectrophotometer	Based on APHA10200-H

This report has been approved by:

Brad Halvorson, B. Sc.
Inorganic Section Head



TESTMARK Laboratories Ltd.

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WESA

Work Order: 108192

Sample Data:

Sample Name: SW3

Date: 07/21/10

Matrix: Water

Lab #: 295672

Chlorophyll A				
Parameter	MDL	Result	Units	QAQCID
Chlorophyll A	0.5	3.8	ug/L	20100729.R73A

Sample Name: SW4

Date: 07/21/10

Matrix: Water

Lab #: 295673

Chlorophyll A				
Parameter	MDL	Result	Units	QAQCID
Chlorophyll A	0.5	4.1	ug/L	20100729.R73A

Sample Name: SW1

Date: 07/21/10

Matrix: Water

Lab #: 295674

Chlorophyll A				
Parameter	MDL	Result	Units	QAQCID
Chlorophyll A	0.5	7.72	ug/L	20100729.R73A

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC Too numerous to count

ND Not detected



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Analytical Report

Client:	Shawna Davy	Work Order Number:	108194
Company:	WESA	Date Order Received:	07/23/10
Address:	273 Elm Street Sudbury, ON, P3C 1V5	Regulation:	PWQO
Phone:	(705) 525-6075	PO #:	
Fax:	(705) 525-6077	Project #:	SB8931-03
Email:	sdavy@wesa.ca		
Notes:	Field Fe 2+ : 295677: 0.12 , 295678 : 0.08 , 295679 : 0.08		

Analyses were performed on the following samples submitted with your order.

The results relate only to the items tested.

Sample Name	Lab #	Matrix	Type	Comments	Date Collected	Time Collected
SW-1	295677	Water	Grab		07/21/10	10:10
SW-3	295678	Water	Grab		07/21/10	15:35
SW-4	295679	Water	Grab		07/21/10	15:35



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Work Order: 108194

The following instrumentation and reference methods were used for your sample(s)

Method Name	Description	Reference
ALKA	Determination of Alkalinity Instrument group: Metrohm Analyzer	Based on APHA-2320
Anions Water	Determination of Anions by Ion Chromatography Instrument group: Dionex IC	Based on SW846-9056
Carbonate	Determination of Carbonate and Bi-Carbonate Instrument group: Calculation	Based on APHA-2330
FE2FE3 Water	Determination of Fe2+ and Fe3+ Instrument group: UV/Vis Spectrophotometer	Based on APHA 3500
ICPMS Tot. Water	Determination of Total Metals in Water by ICP/MS with Digestion Instrument group: Perkin Elmer ICPMS	Based on SW846-6020
pHWATER	Determination of water pH by ion selective electrode Instrument group: Metrohm Analyzer	Based on APHA-4500
pOH	Calculation of pOH in water Instrument group: Calculation	Based on APHA-4500
Sulphide Water	Determination of Sulphide in Water Instrument group: UV/Vis Spectrophotometer	Based on APHA-4500
TDS	Determination of Total Dissolved Solids in water by gravimetry Instrument group: Mettler Toledo Balance	Based on APHA-2540
TKN Water Dig.	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion Instrument group: UV/Vis Spectrophotometer	Based on APHA 4500-N
TP Water	Determination of Total Phosphorus in Water Instrument group: UV/Vis Spectrophotometer	Based on APHA-4500
TSS - 500	Determination of Total Suspended Solids in water by gravimetry Instrument group: Mettler Toledo Balance	Based on APHA-2540

This report has been approved by:

Brad Halvorson, B. Sc.
Inorganic Section Head



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Committed to Quality and Service

WESA

Work Order: 108194

Sample Data:

Sample Name: SW-1

Date: 07/21/10

Matrix: Water

Lab #: 295677

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	80.2	mg/L	20100727.R1A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20100726.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20100726.R5B
Nitrite (as N)	0.03	<0.03	mg/L	20100726.R5B
Phosphate	1	<1	mg/L	20100726.R5B
Sulfate	1	1.9	mg/L	20100726.R5B
Carbonate				
Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	79.6	mg/L	20100728.R94A
Carbonate	1	<1	mg/L	20100728.R94A
FE2FE3 Water				
Parameter	MDL	Result	Units	QAQCID
Iron (III)	1	<1	mg/L	20100726.R87A
ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	5.7	ug/L	20100729.R13na5
Total Antimony	0.5	<0.5	ug/L	20100729.R13na5
Total Arsenic	1	<1	ug/L	20100729.R13na5
Total Barium	1	11.5	ug/L	20100729.R13na5
Total Beryllium	0.5	<0.5	ug/L	20100729.R13na5
Total Bismuth	1	<1	ug/L	20100729.R13na5
Total Boron	2	<2	ug/L	20100729.R13na5
Total Cadmium	0.1	<0.1	ug/L	20100729.R13na5
Total Calcium	50	24600	ug/L	20100729.R13na5
Total Cerium	1	<1	ug/L	20100729.R13na5
Total Cesium	1	<1	ug/L	20100729.R13na5
Total Chromium	0.8	<0.8	ug/L	20100729.R13na5
Total Cobalt	0.1	<0.1	ug/L	20100729.R13na5
Total Copper	1	1.2	ug/L	20100729.R13na5
Total Europium	1	<1	ug/L	20100729.R13na5
Total Gallium	1	<1	ug/L	20100729.R13na5
Total Iron	20	82	ug/L	20100729.R13na5
Total Lanthanum	1	<1	ug/L	20100729.R13na5
Total Lead	1	<1	ug/L	20100729.R13na5
Total Lithium	5	<5	ug/L	20100729.R13na5
Total Magnesium	4	5440	ug/L	20100729.R13na5
Total Manganese	1	27.1	ug/L	20100729.R13na5
Total Mercury	0.1	<0.1	ug/L	20100729.R13na5
Total Molybdenum	1	<1	ug/L	20100729.R13na5
Total Nickel	1	<1	ug/L	20100729.R13na5

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WESA

Work Order: 108194

Sample Name: SW-1

Date: 07/21/10

Matrix: Water

Lab #: 295677

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Niobium	1	<1	ug/L	20100729.R13na5
Total Potassium	100	300	ug/L	20100729.R13na5
Total Rubidium	1	1.3	ug/L	20100729.R13na5
Total Scandium	1	<1	ug/L	20100729.R13na5
Total Selenium	1	<1	ug/L	20100729.R13na5
Total Silicon	2	1710	ug/L	20100729.R13na5
Total Silver	0.1	<0.1	ug/L	20100729.R13na5
Total Sodium	100	1430	ug/L	20100729.R13na5
Total Strontium	1	40.8	ug/L	20100729.R13na5
Total Sulfur	800	800	ug/L	20100729.R13na5
Total Tellurium	1	<1	ug/L	20100729.R13na5
Total Thallium	0.1	<0.1	ug/L	20100729.R13na5
Total Thorium	1	<1	ug/L	20100729.R13na5
Total Tin	1	<1	ug/L	20100729.R13na5
Total Titanium	1	<1	ug/L	20100729.R13na5
Total Tungsten	1	<1	ug/L	20100729.R13na5
Total Uranium	1	<1	ug/L	20100729.R13na5
Total Vanadium	1	<1	ug/L	20100729.R13na5
Total Yttrium	1	<1	ug/L	20100729.R13na5
Total Zinc	1	<1	ug/L	20100729.R13na5
Total Zirconium	1	<1	ug/L	20100729.R13na5

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.88	pH	20100727.R2A

pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.12	pOH	20100728.R2D

Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H ₂ S)	0.021	<0.021	mg/L	20100726.R11A
Sulphide (as H ₂ S) (Dup)	0.021	<0.021	mg/L	20100726.R11A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	210	mg/L	20100726.R27D

TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.1	<0.1	mg/L	20100727.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.0071	mg/L	20100726.R23.2B



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WESA

Work Order: 108194

Sample Name: SW-1

Date: 07/21/10

Matrix: Water

Lab #: 295677

TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.43	0.65	mg/L	20100726.R27C

Sample Name: SW-3

Date: 07/21/10

Matrix: Water

Lab #: 295678

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	80.8	mg/L	20100727.R1A

Anions Water

Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	1.1	mg/L	20100726.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20100726.R5B
Nitrite (as N)	0.03	<0.03	mg/L	20100726.R5B
Phosphate	1	<1	mg/L	20100726.R5B
Sulfate	1	1.7	mg/L	20100726.R5B

Carbonate

Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	80.1	mg/L	20100728.R94A
Carbonate	1	<1	mg/L	20100728.R94A

FE2FE3 Water

Parameter	MDL	Result	Units	QAQCID
Iron (III)	1	<1	mg/L	20100726.R87A

ICPMS Tot. Water

Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	7.9	ug/L	20100729.R13na5
Total Antimony	0.5	<0.5	ug/L	20100729.R13na5
Total Arsenic	1	<1	ug/L	20100729.R13na5
Total Barium	1	13.7	ug/L	20100729.R13na5
Total Beryllium	0.5	<0.5	ug/L	20100729.R13na5
Total Bismuth	1	<1	ug/L	20100729.R13na5
Total Boron	2	<2	ug/L	20100729.R13na5
Total Cadmium	0.1	<0.1	ug/L	20100729.R13na5
Total Calcium	50	24800	ug/L	20100729.R13na5
Total Cerium	1	<1	ug/L	20100729.R13na5
Total Cesium	1	<1	ug/L	20100729.R13na5
Total Chromium	0.8	<0.8	ug/L	20100729.R13na5
Total Cobalt	0.1	<0.1	ug/L	20100729.R13na5
Total Copper	1	1.4	ug/L	20100729.R13na5
Total Europium	1	<1	ug/L	20100729.R13na5
Total Gallium	1	<1	ug/L	20100729.R13na5
Total Iron	20	75	ug/L	20100729.R13na5
Total Lanthanum	1	<1	ug/L	20100729.R13na5
Total Lead	1	<1	ug/L	20100729.R13na5
Total Lithium	5	<5	ug/L	20100729.R13na5
Total Magnesium	4	5820	ug/L	20100729.R13na5

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07/30/10

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Work Order: 108194

Sample Name: SW-3

Date: 07/21/10

Matrix: Water

Lab #: 295678

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Manganese	1	26.3	ug/L	20100729.R13na5
Total Mercury	0.1	<0.1	ug/L	20100729.R13na5
Total Molybdenum	1	<1	ug/L	20100729.R13na5
Total Nickel	1	<1	ug/L	20100729.R13na5
Total Niobium	1	<1	ug/L	20100729.R13na5
Total Potassium	100	310	ug/L	20100729.R13na5
Total Rubidium	1	1.4	ug/L	20100729.R13na5
Total Scandium	1	<1	ug/L	20100729.R13na5
Total Selenium	1	<1	ug/L	20100729.R13na5
Total Silicon	2	1720	ug/L	20100729.R13na5
Total Silver	0.1	<0.1	ug/L	20100729.R13na5
Total Sodium	100	1420	ug/L	20100729.R13na5
Total Strontium	1	42	ug/L	20100729.R13na5
Total Sulfur	800	2000	ug/L	20100729.R13na5
Total Tellurium	1	<1	ug/L	20100729.R13na5
Total Thallium	0.1	<0.1	ug/L	20100729.R13na5
Total Thorium	1	<1	ug/L	20100729.R13na5
Total Tin	1	<1	ug/L	20100729.R13na5
Total Titanium	1	1.5	ug/L	20100729.R13na5
Total Tungsten	1	<1	ug/L	20100729.R13na5
Total Uranium	1	<1	ug/L	20100729.R13na5
Total Vanadium	1	<1	ug/L	20100729.R13na5
Total Yttrium	1	<1	ug/L	20100729.R13na5
Total Zinc	1	8.8	ug/L	20100729.R13na5
Total Zirconium	1	<1	ug/L	20100729.R13na5

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.91	pH	20100727.R2A

pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.09	pOH	20100728.R2D

Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H ₂ S)	0.021	<0.021	mg/L	20100726.R11A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	140	mg/L	20100726.R27D

TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.1	0.12	mg/L	20100727.R58A

TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.01	mg/L	20100726.R23.2B

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WESA

Work Order: 108194

Sample Name: SW-3

Date: 07/21/10

Matrix: Water

Lab #: 295678

TP Water				
Parameter	MDL	Result	Units	QAQCID
TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.8	0.8	mg/L	20100726.R27C
Total Suspended Solids (Dup)	0.8	<0.8	mg/L	20100726.R27C

Sample Name: SW-4

Date: 07/21/10

Matrix: Water

Lab #: 295679

ALKA				
Parameter	MDL	Result	Units	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1	81.2	mg/L	20100727.R1A
Anions Water				
Parameter	MDL	Result	Units	QAQCID
Chloride	0.2	0.95	mg/L	20100726.R5B
Nitrate (as N)	0.1	<0.1	mg/L	20100726.R5B
Nitrite (as N)	0.03	<0.03	mg/L	20100726.R5B
Phosphate	1	<1	mg/L	20100726.R5B
Sulfate	1	1.7	mg/L	20100726.R5B

Carbonate				
Parameter	MDL	Result	Units	QAQCID
Bi-Carbonate	1	80.5	mg/L	20100728.R94A
Carbonate	1	<1	mg/L	20100728.R94A

FE2FE3 Water				
Parameter	MDL	Result	Units	QAQCID
Iron (III)	1	<1	mg/L	20100726.R87A

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Aluminum	1	12.2	ug/L	20100729.R13na5
Total Antimony	0.5	<0.5	ug/L	20100729.R13na5
Total Arsenic	1	<1	ug/L	20100729.R13na5
Total Barium	1	12.3	ug/L	20100729.R13na5
Total Beryllium	0.5	<0.5	ug/L	20100729.R13na5
Total Bismuth	1	<1	ug/L	20100729.R13na5
Total Boron	2	<2	ug/L	20100729.R13na5
Total Cadmium	0.1	<0.1	ug/L	20100729.R13na5
Total Calcium	50	23600	ug/L	20100729.R13na5
Total Cerium	1	<1	ug/L	20100729.R13na5
Total Cesium	1	<1	ug/L	20100729.R13na5
Total Chromium	0.8	<0.8	ug/L	20100729.R13na5
Total Cobalt	0.1	<0.1	ug/L	20100729.R13na5
Total Copper	1	1.1	ug/L	20100729.R13na5
Total Europium	1	<1	ug/L	20100729.R13na5
Total Gallium	1	<1	ug/L	20100729.R13na5
Total Iron	20	81	ug/L	20100729.R13na5
Total Lanthanum	1	<1	ug/L	20100729.R13na5

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Work Order: 108194

Sample Name: SW-4

Date: 07/21/10

Matrix: Water

Lab #: 295679

ICPMS Tot. Water				
Parameter	MDL	Result	Units	QAQCID
Total Lead	1	<1	ug/L	20100729.R13na5
Total Lithium	5	<5	ug/L	20100729.R13na5
Total Magnesium	4	5390	ug/L	20100729.R13na5
Total Manganese	1	24.3	ug/L	20100729.R13na5
Total Mercury	0.1	<0.1	ug/L	20100729.R13na5
Total Molybdenum	1	<1	ug/L	20100729.R13na5
Total Nickel	1	1.5	ug/L	20100729.R13na5
Total Niobium	1	<1	ug/L	20100729.R13na5
Total Potassium	100	300	ug/L	20100729.R13na5
Total Rubidium	1	1.4	ug/L	20100729.R13na5
Total Scandium	1	<1	ug/L	20100729.R13na5
Total Selenium	1	<1	ug/L	20100729.R13na5
Total Silicon	2	1700	ug/L	20100729.R13na5
Total Silver	0.1	<0.1	ug/L	20100729.R13na5
Total Sodium	100	1300	ug/L	20100729.R13na5
Total Strontium	1	41.9	ug/L	20100729.R13na5
Total Sulfur	800	960	ug/L	20100729.R13na5
Total Tellurium	1	<1	ug/L	20100729.R13na5
Total Thallium	0.1	<0.1	ug/L	20100729.R13na5
Total Thorium	1	<1	ug/L	20100729.R13na5
Total Tin	1	<1	ug/L	20100729.R13na5
Total Titanium	1	<1	ug/L	20100729.R13na5
Total Tungsten	1	<1	ug/L	20100729.R13na5
Total Uranium	1	<1	ug/L	20100729.R13na5
Total Vanadium	1	<1	ug/L	20100729.R13na5
Total Yttrium	1	<1	ug/L	20100729.R13na5
Total Zinc	10	219	ug/L	20100729.R13na5
Total Zirconium	1	<1	ug/L	20100729.R13na5

pHWATER				
Parameter	MDL	Result	Units	QAQCID
pH	N/A	7.92	pH	20100727.R2A

pOH				
Parameter	MDL	Result	Units	QAQCID
pOH	N/A	6.08	pOH	20100728.R2D

Sulphide Water				
Parameter	MDL	Result	Units	QAQCID
Sulphide (as H ₂ S)	0.021	<0.021	mg/L	20100726.R11A

TDS				
Parameter	MDL	Result	Units	QAQCID
Total Dissolved Solids	25	180	mg/L	20100726.R27E
Total Dissolved Solids (Dup)	25	190	mg/L	20100726.R27E



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WESA

Work Order: 108194

Sample Name: SW-4

Date: 07/21/10

Matrix: Water

Lab #: 295679

TKN Water Dig.				
Parameter	MDL	Result	Units	QAQCID
Total Kjeldahl Nitrogen	0.1	0.15	mg/L	20100727.R58A
TP Water				
Parameter	MDL	Result	Units	QAQCID
Total Phosphorus (as P)	0.002	0.0072	mg/L	20100726.R23.2B
TSS - 500				
Parameter	MDL	Result	Units	QAQCID
Total Suspended Solids	0.4	0.8	mg/L	20100726.R27C

MDL Method detection limit or minimum reporting limit.

% Rec Surrogate compounds are added to the sample in some cases and the recovery is reported as a percent recovered.

QAQCID This is a unique reference to the quality control data set used to generate the reported value.

Data reported for organic analysis in soil samples are corrected for moisture content

Matrix If the matrix is a leachate, the sample was extracted according to regulation 558.

INT Interferences

TNTC Too numerous to count

ND Not detected



TESTMARK Laboratories Ltd.

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WESA

Work Order: 108194

Quality Control Data:

ALKA

155 mg/L Control-Metro						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
M-Alkalinity as CaCO ₃ (pH 4.5)	1.3	mg/L	175	150	145	20100727.R1A

Anions Water

Blank (IC-2)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Chloride	0.2	mg/L	0.5	<0.2	<0.2	20100726.R5B
Nitrate (as N)	0.1	mg/L	0.5	<0.1	<0.1	20100726.R5B
Nitrite (as N)	0.03	mg/L	0.5	<0.03	<0.03	20100726.R5B
Phosphate	1	mg/L	1	<1	<1	20100726.R5B
Sulfate	1	mg/L	1	<1	<1	20100726.R5B

Control (IC-2)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Chloride	0.2	mg/L	115	97.7	85	20100726.R5B
Nitrate (as N)	0.1	mg/L	57.5	50.5	40	20100726.R5B
Nitrite (as N)	0.03	mg/L	57.5	47.6	42.5	20100726.R5B
Phosphate	1	mg/L	130	103	70	20100726.R5B
Sulfate	1	mg/L	115	99.7	78	20100726.R5B

ICPMS Tot. Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Aluminum	1	ug/L	1	<1	<1	20100729.R13na5
Total Antimony	1	ug/L	1	<1	<1	20100729.R13na5
Total Arsenic	1	ug/L	1	<1	<1	20100729.R13na5
Total Barium	1	ug/L	1	<1	<1	20100729.R13na5
Total Beryllium	1	ug/L	1	<1	<1	20100729.R13na5
Total Bismuth	1	ug/L	1	<1	<1	20100729.R13na5
Total Boron	2	ug/L	2	<2	<2	20100729.R13na5
Total Cadmium	1	ug/L	1	<1	<1	20100729.R13na5
Total Cerium	1	ug/L	1	<1	<1	20100729.R13na5
Total Cesium	1	ug/L	1	<1	<1	20100729.R13na5
Total Chromium	1	ug/L	1	<1	<1	20100729.R13na5
Total Cobalt	1	ug/L	1	<1	<1	20100729.R13na5
Total Copper	1	ug/L	1	<1	<1	20100729.R13na5
Total Europium	1	ug/L	1	<1	<1	20100729.R13na5
Total Gallium	1	ug/L	1	<1	<1	20100729.R13na5
Total Iron	20	ug/L	20	<20	<20	20100729.R13na5
Total Lanthanum	1	ug/L	1	<1	<1	20100729.R13na5
Total Lead	1	ug/L	1	<1	<1	20100729.R13na5
Total Lithium	5	ug/L	5	<5	<5	20100729.R13na5
Total Magnesium	4	ug/L	4	<4	<4	20100729.R13na5
Total Manganese	1	ug/L	1	<1	<1	20100729.R13na5

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ICPMS Tot. Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Mercury	0.1	ug/L	0.1	<0.1	<0.1	20100729.R13na5
Total Molybdenum	1	ug/L	1	<1	<1	20100729.R13na5
Total Nickel	1	ug/L	1	<1	<1	20100729.R13na5
Total Niobium	1	ug/L	1	<1	<1	20100729.R13na5
Total Rubidium	1	ug/L	1	<1	<1	20100729.R13na5
Total Selenium	1	ug/L	1	<1	<1	20100729.R13na5
Total Silver	5	ug/L	5	<5	<5	20100729.R13na5
Total Sodium	100	ug/L	300	<100	<100	20100729.R13na5
Total Strontium	1	ug/L	1	<1	<1	20100729.R13na5
Total Thallium	1	ug/L	1	<1	<1	20100729.R13na5
Total Thorium	1	ug/L	1	<1	<1	20100729.R13na5
Total Tin	1	ug/L	1	<1	<1	20100729.R13na5
Total Tungsten	1	ug/L	1	<1	<1	20100729.R13na5
Total Uranium	1	ug/L	1	<1	<1	20100729.R13na5
Total Vanadium	1	ug/L	1	<1	<1	20100729.R13na5
Total Yttrium	1	ug/L	1	<1	<1	20100729.R13na5
Total Zinc	1	ug/L	1	<1	<1	20100729.R13na5
Total Zirconium	1	ug/L	1	<1	<1	20100729.R13na5

Positive Control (1011)

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Aluminum	1	ug/L	600	513	400	20100729.R13na5
Total Arsenic	1	ug/L	120	104	80	20100729.R13na5
Total Barium	1	ug/L	120	97.3	80	20100729.R13na5
Total Beryllium	1	ug/L	125	106	75	20100729.R13na5
Total Boron	2	ug/L	110	106	90	20100729.R13na5
Total Cadmium	1	ug/L	120	105	80	20100729.R13na5
Total Calcium	50	ug/L	1200	1030	800	20100729.R13na5
Total Chromium	1	ug/L	110	110	90	20100729.R13na5
Total Cobalt	1	ug/L	120	105	80	20100729.R13na5
Total Copper	1	ug/L	120	107	80	20100729.R13na5
Total Iron	20	ug/L	600	555	400	20100729.R13na5
Total Lead	1	ug/L	120	98.7	80	20100729.R13na5
Total Magnesium	4	ug/L	1200	1080	800	20100729.R13na5
Total Manganese	1	ug/L	120	106	80	20100729.R13na5
Total Molybdenum	1	ug/L	120	106	80	20100729.R13na5
Total Nickel	1	ug/L	120	105	80	20100729.R13na5
Total Selenium	1	ug/L	120	103	80	20100729.R13na5
Total Sodium	100	ug/L	22000	20800	18000	20100729.R13na5
Total Thallium	1	ug/L	120	94.7	80	20100729.R13na5
Total Vanadium	1	ug/L	120	109	80	20100729.R13na5
Total Zinc	1	ug/L	120	92.6	80	20100729.R13na5

pHWATER

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pH 7 Metrohm						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
pH	N/A	pH	7.2	7.03	6.8	20100727.R2A

Sulphide Water

0.5 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Sulphide (as H ₂ S)	0.05	mg/L	0.6	0.544	0.4	20100726.R11A

TDS

200 mg/L Control						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	240	210	160	20100726.R27D
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	240	220	160	20100726.R27E

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	50	<25	<25	20100726.R27D
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Dissolved Solids	25	mg/L	50	50	<25	20100726.R27E

TKN Water Dig.

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.5	mg/L	<0.5	<0.5	<0.5	20100727.R58A
Control Sample						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Kjeldahl Nitrogen	0.5	mg/L	30	20.2	20	20100727.R58A

TP Water

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.005	<0.002	<0.002	20100726.R23.2B
Control (0.05 mg/L)						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Phosphorus (as P)	0.002	mg/L	0.06	0.052	0.04	20100726.R23.2B

TSS - 500

Blank						
Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	<6	<6	<6	20100726.R27C



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TSS - 500

Control Standard

Parameter	MDL	Units	UCL	Result	LCL	QAQCID
Total Suspended Solids	6	mg/L	230	206	150	20100726.R27C

UCL Upper Control Limit

LCL Lower Control Limit



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CLIENT REGULATION REPORT*

* Please note that the terms "Regulation Report" and "Reg. Value" in the context of this report may refer to regulatory limits, regulatory guidelines, standards or objectives, or client-specific operational limits or guidelines from sources such as a site-specific Certificate of Approval, as selected by the client on the Chain of Custody. Highlighted results indicate a measured value that exceeds the reported Reg. Value.

TESTMARK Laboratories Ltd. has included the criteria values set by the appropriate government agency as part of this report for purposes of reference only. These values may or may not accurately reflect the current values prescribed by government regulation and it is the Client's responsibility to compare the results reported herein with official government sources to ensure it meets the prescribed criteria. Should any discrepancies be discovered or should you have any questions or comments regarding the information in this report, please contact TESTMARK Laboratories Ltd. by phone or by email at reg.report@testmark.ca



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WESA

Work Order: 108194

Regulation: PWQO

Sample Name: SW-1

Lab #:295677

Parameter	Reg. Value	Result	RDL	MDL	Reg Units	Units
Total Aluminum	75	5.7	7.5	1	ug/L	ug/L
Total Antimony	20	<0.5	20	0.5	ug/L	ug/L
Total Arsenic	100	<1	100	1	ug/L	ug/L
Total Beryllium	11	<0.5	11	0.5	ug/L	ug/L
Total Boron	200	<2	200	2	ug/L	ug/L
Total Cadmium	0.2	<0.1	0.2	0.1	ug/L	ug/L
Total Chromium	1	<0.8	1	0.8	ug/L	ug/L
Total Cobalt	0.9	<0.1	0.1	0.1	ug/L	ug/L
Total Copper	5	1.2	1	1	ug/L	ug/L
Total Iron	300	82	300	20	ug/L	ug/L
Total Lead	1	<1	1	1	ug/L	ug/L
Total Molybdenum	40	<1	4	1	ug/L	ug/L
Total Nickel	25	<1	25	1	ug/L	ug/L
Total Selenium	100	<1	100	1	ug/L	ug/L
Total Silver	0.1	<0.1	0.1	0.1	ug/L	ug/L
Total Thallium	0.3	<0.1	0.3	0.1	ug/L	ug/L
Total Tungsten	30	<1	30	1	ug/L	ug/L
Total Uranium	5	<1	5	1	ug/L	ug/L
Total Vanadium	6	<1	2	1	ug/L	ug/L
Total Zinc	30	<1	30	1	ug/L	ug/L
Total Zirconium	4	<1	4	1	ug/L	ug/L

Regulation: PWQO

Sample Name: SW-3

Lab #:295678

Parameter	Reg. Value	Result	RDL	MDL	Reg Units	Units
Total Aluminum	75	7.9	7.5	1	ug/L	ug/L
Total Antimony	20	<0.5	20	0.5	ug/L	ug/L
Total Arsenic	100	<1	100	1	ug/L	ug/L
Total Beryllium	11	<0.5	11	0.5	ug/L	ug/L
Total Boron	200	<2	200	2	ug/L	ug/L
Total Cadmium	0.2	<0.1	0.2	0.1	ug/L	ug/L
Total Chromium	1	<0.8	1	0.8	ug/L	ug/L
Total Cobalt	0.9	<0.1	0.1	0.1	ug/L	ug/L
Total Copper	5	1.4	1	1	ug/L	ug/L
Total Iron	300	75	300	20	ug/L	ug/L
Total Lead	1	<1	1	1	ug/L	ug/L
Total Molybdenum	40	<1	4	1	ug/L	ug/L
Total Nickel	25	<1	25	1	ug/L	ug/L
Total Selenium	100	<1	100	1	ug/L	ug/L
Total Silver	0.1	<0.1	0.1	0.1	ug/L	ug/L
Total Thallium	0.3	<0.1	0.3	0.1	ug/L	ug/L
Total Tungsten	30	<1	30	1	ug/L	ug/L
Total Uranium	5	<1	5	1	ug/L	ug/L
Total Vanadium	6	<1	2	1	ug/L	ug/L
Total Zinc	30	8.8	30	1	ug/L	ug/L
Total Zirconium	4	<1	4	1	ug/L	ug/L

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WESA

Work Order: 108194

Regulation: PWQO

Sample Name: SW-4

Lab #:295679

Parameter	Reg. Value	Result	RDL	MDL	Reg Units	Units
Total Aluminum	75	12.2	7.5	1	ug/L	ug/L
Total Antimony	20	<0.5	20	0.5	ug/L	ug/L
Total Arsenic	100	<1	100	1	ug/L	ug/L
Total Beryllium	11	<0.5	11	0.5	ug/L	ug/L
Total Boron	200	<2	200	2	ug/L	ug/L
Total Cadmium	0.2	<0.1	0.2	0.1	ug/L	ug/L
Total Chromium	1	<0.8	1	0.8	ug/L	ug/L
Total Cobalt	0.9	<0.1	0.1	0.1	ug/L	ug/L
Total Copper	5	1.1	1	1	ug/L	ug/L
Total Iron	300	81	300	20	ug/L	ug/L
Total Lead	1	<1	1	1	ug/L	ug/L
Total Molybdenum	40	<1	4	1	ug/L	ug/L
Total Nickel	25	1.5	25	1	ug/L	ug/L
Total Selenium	100	<1	100	1	ug/L	ug/L
Total Silver	0.1	<0.1	0.1	0.1	ug/L	ug/L
Total Thallium	0.3	<0.1	0.3	0.1	ug/L	ug/L
Total Tungsten	30	<1	30	1	ug/L	ug/L
Total Uranium	5	<1	5	1	ug/L	ug/L
Total Vanadium	6	<1	2	1	ug/L	ug/L
Total Zinc	30	219	30	10	ug/L	ug/L
Total Zirconium	4	<1	4	1	ug/L	ug/L

Additional Table Information:

- O. Reg. 153/04 Table 1 Ground Water - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed
- O. Reg. 153/04 Table 2 Soil (any) - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed
- O. Reg. 153/04 Table 2 Ground Water - The Sum of F1 + F2 cannot exceed 1000 ug/L
- O. Reg. 153/04 Table 2 Ground Water - The Sum of F3+F4 cannot exceed 1000 ug/L
- O. Reg. 153/04 Table 3 Soil (any) - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed
- O. Reg. 153/04 Table 4 Soil (any) - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed
- O. Reg. 153/04 Table 4 Ground Water - The Sum of F1 + F2 cannot exceed 1000 ug/L
- O. Reg. 153/04 Table 4 Ground Water - The Sum of F3+F4 cannot exceed 1000 ug/L
- O. Reg. 153/04 Table 5 Soil (any) - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed
- O. Reg. 153/04 Table 6 - It is the sum of 1- and 2- methylnaphthalene which is the limit expressed

All O. Reg. 153/04 Tables - The limits presented for o-xylene, and m/p-xylene are the limits for Total Xylene. Accordingly, the regulation limit expressed in this report is for the Sum of these parameters.