



December 2015

## MCCARTHY QUARRY

# Environmental Compliance Approval Annual Report

**Submitted to:**

Cindy Hood  
Ontario Ministry of Environment and Climate Change  
Barrie District Office  
1203-54 Cedar Pointe Drive  
Barrie ON L4N 5R7

REPORT



**Report Number: 1407634**

**Distribution:**

1 Copy - Ontario Ministry of Environment Barrie  
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### APPENDIX A

Environmental Compliance Approval No. 4731-987KM8

### APPENDIX B

Permit To Take Water No. 7818-9QJNL4

### APPENDIX C

Water Quality Results



## 1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by QBJR/Coco Aggregates Inc. (Coco) to prepare the annual compliance report for the McCarthy Quarry located in the Township of Ramara, County of Simcoe (Figure 1), as a requirement of Environmental Compliance Approval (ECA) No. 4731-987KM8 issued on October 15, 2013. A copy of the ECA No. 4731-987KM8 is found in Appendix A.

The following report includes a summary of the requirements listed in Section 10(5) of the ECA for the period from November 1, 2014 to October 31, 2015. Included herein are a summary of:

- Effluent monitoring data including the water quality results and flow measurements;
- Any operation problems encountered;
- Maintenance work completed on any part of the sewage works;
- Effluent quality assurance or control measures undertaken; and,
- Calibration and maintenance carried out on the effluent monitoring equipment.

## 2.0 BACKGROUND

The McCarthy Quarry dewatering system consists of the collection of groundwater and surface water at the base of the quarry floor to a settling pond to the south of the active quarry area (Figure 1). Groundwater and precipitation that enters the quarry is collected in a sump at the base of the quarry floor. The sump is equipped with a 4-inch Grindex pump which is rated at 35 L/sec and is attached to a 4-inch discharge line. Water is pumped from the quarry floor up the quarry face to a 101 mm diameter pipeline that directs the water to the 14,000 m<sup>3</sup> settling pond. The water in the settling pond is equipped with a Hickenbottom control structure that discharges the water to the roadside ditch along Concession Road 1. The water flows eastward along the north side of Concession Road 1 to a municipal drain and eventually to the Talbot River, which discharges into Lake Simcoe.

The dewatering activities from the McCarthy Quarry are currently carried out under the existing Permit to Take Water (PTTW) No. 7818-9QJNL4 (Appendix B) issued on December 30, 2014. Under the current PTTW Coco is permitted to pump water from the quarry sump at a rate of 4,545 L/min.

## 3.0 EFFLUENT MONITORING

### 3.1 Effluent Monitoring Requirements

Effluent monitoring is required by the ECA at three locations, as shown on Figure 1:

- McCarthy Pond – the outfall of the settling pond;
- SW1 – the culvert along Concession Road 1 at the McCarthy property downstream of the McCarthy Pond discharge location; and,
- SW2 – 260 m north of the intersection of Concession Road 1 and Mara Eldon Boundary Road, representing upstream conditions.

### Condition 7(2)

Weekly effluent monitoring is required at the McCarthy Pond for Total Suspended Solids (TSS), Oil and Grease and Phenols (4AAP). These results are summarized in Table 1 and the monthly averages are summarized in Table 2.



The weekly effluent samples (Section 7(2)) were collected by staff at the McCarthy Quarry. The weekly quality samples were sent to Maxxam Analytics Laboratory for analysis; laboratory analysis results are included in Appendix C.

### Condition 7(3) and Condition 7(7)

Additional water quality sampling is required under Section 7(3) at a semi-annual frequency at all three locations, recognizing that, as of April 24, 2014 this monitoring was reduced from weekly sampling frequency to a semi-annual frequency following one year of quarry operation according to Section 7(7). The parameters required for semi-annual water quality monitoring at all three locations are listed in Table 3 of the ECA.

The semi-annual water quality samples (Section 7(3) and Section 7(7)) were collected by Golder. The semi-annual water quality samples were sent to Maxxam Analytics Laboratory for analysis. The laboratory analysis results are included in Appendix C.

### Condition 7(8)

An inline flow meter was installed in the discharge line of the sump pump in order to measure continuous flow rates. The flow rates are recorded and provided to Golder by staff at the McCarthy Quarry. These results are summarized in Table 7.

### Condition 8

Monthly lethality monitoring for Rainbow Trout and *Daphna magna* is also required and these results are summarized in Table 6.

The monthly lethality testing was carried out by Golder and sent to AquaTox Testing & Consulting Inc. until December 2014 after which analysis was completed by AGAT Laboratories Ltd. The laboratory analysis results are included in Appendix C.

## 4.0 EFFLUENT MONITORING RESULTS

### Condition 7(2)

Exceedances of the daily TSS limit of 30 mg/L occurred on three dates July 23, 2015, September 24, 2015 and October 8, 2015 (Table 1) where TSS concentration was 47, 42 and 100 mg/L, respectively. Based on field observations from Coco and Golder staff during October 2015, the concentration on October 8, 2015 is considered to be anomalous. The monthly TSS limit of 15 mg/L was also exceeded for the months of July and September 2015 (Table 2). No samples were taken in February 2015 as the water was frozen. These exceedances were reported via email to the Ministry of the Environment and Climate Change (MOECC) Barrie District Manager, Cindy Hood. No other exceedances occurred during this monitoring period. The pH, Oil and Grease, Phenols (4AAP) concentrations were all below the monthly concentration limits of the ECA.

The TSS exceedances observed at the site are most likely the result of the small quarry footprint. The quarry is in its initial stages and the area in which the work is being completed is relatively small. The dust that is generated from the quarry activities settles on the quarry floor which is then repeatedly disturbed by the quarry traffic. In addition to this the sump is located within this work area which does not allow the rock dust to settle out before it reaches the sump. As the quarry expands and working space increases the amount of dust entering the sump should decrease. With less dust entering the sump the TSS concentrations seen at the McCarthy Pond should also decrease.



The TSS exceedances at the McCarthy Pond were recorded between July and October 2015; however, during this time period, Golder staff observed the surface water of pond discharge to be clear. Coco and Golder staff noted the water levels throughout the summer and fall of 2015 were very low, making it difficult to take an accurate sample with the laboratory supplied 500 mL sample bottle. During extreme low flow conditions it is difficult to sample the discharge from the pond. The pond discharge is directed through the rip-rap to limit erosion during high flow conditions, but during low flow conditions water from the pond trickles through the rip-rap slowly and the only place to sample the water is near the confluence of the ditch and the pond outflow. The water level in the drainage ditch is so low that bottom sediment is disturbed entrained in the sample bottle resulting in high TSS concentrations.

Based on a preliminary review of the data beyond October 2015, all samples taken after November 12, 2015, when the water levels were higher, are well below the daily TSS limit of 30 mg/L. It is recommended that Golder staff retrain Coco staff members on sampling and re-evaluate the method of sampling at the McCarthy Pond should the elevated readings continue in the summer of 2016.

### Condition 7(3)

At the McCarthy Pond, all of the parameters tested are below the Provincial Water Quality Objectives (PWQO) with the exception of phosphorous on May 28, 2015 as well as aluminum and boron on both May 28, 2015 and October 22, 2015 (Table 3).

At SW1, all of the parameters tested are below the PWQO with the exception of iron on May 28, 2015 as well as phosphorus, aluminum and boron on both May 28, 2015 and October 22, 2015 (Table 4).

At SW2, all of the parameters tested are below the PWQO with the exception of phosphorous on May 28, 2015. SW2 was dry (Table 5). During the October semi-annual effluent monitoring, a sample was not able to be collected from SW2 because it was dry

Elevated phosphorous concentrations are observed upstream, on-site, and at downstream ditch locations. The presence of elevated phosphorus at all three locations indicates that the phosphorous is most likely the result of farming activities in the area. There are a number of cattle farms in the area which could be attributing to the high phosphorous concentrations at SW1, SW2, and the McCarthy Pond.

### Condition 8

The effluent was found to be non-lethal to Rainbow Trout and *Daphnia magna* between November 2014 and October 2015 (Table 6). For both *Daphnia magna* and Rainbow Trout there has been 0% mortality between November 2014 and October 2015, with the exception of 10% mortality of *Daphnia magna* in March 2015. In January and February 2015, no acute lethality sample could be taken as the pond was frozen.

## 5.0 MEASURED DISCHARGE FROM QUARRY SUMP

The rate and volume of discharge from the quarry is measured on-site by an inline flow meter in the discharge line from the quarry sump. The pump records are provided by McCarthy Quarry staff. The pump records for November 1, 2014 to October 31, 2015 are found in Table 7. The discharge rates were below the permitted rate of 4,545 L/min (76 L/sec).

Additionally, there has been no indication of erosion and/or flooding of the downstream ditches.



### 6.0 OPERATIONAL PROBLEMS AND CORRECTIVE ACTIONS TAKEN

No operational problems were encountered with the dewatering system during the monitoring period of November 2014 to October 2015. Additionally, no spills occurred during the November 2014 to October 2015 monitoring period.

### 7.0 MAINTENANCE OF SEWAGE WORKS

No upgrades or maintenance works were carried out on any part of the sewage works during the November 2014 to October 2015 monitoring period.

### 8.0 EFFLUENT QUALITY ASSURANCE OR CONTROL MEASURES

The shoreline of the settling pond was reseeded during this monitoring period in order to prevent erosion. No other effluent quality assurance or control measures were put in place during this monitoring period.

### 9.0 CALIBRATION AND MAINTENANCE OF THE EFFLUENT MONITORING EQUIPMENT

No calibration or maintenance of the effluent monitoring equipment was completed between November 2014 and October 2015.

### 10.0 SUMMARY

- Condition 7(2):
  - All of the weekly effluent monitoring samples from the McCarthy Pond were below the daily concentration limits with the exception of July 23, 2015, September 24, 2015 and October 8, 2015;
  - Based on field observations from Coco and Golder staff during October 2015, the concentration on October 8, 2015 is considered to be anomalous; and,
  - All of the monthly effluent concentrations for the McCarthy Pond were below the monthly concentration limits with the exception of July 2015 and September 2015.
- To reduce the TSS concentrations at the McCarthy Pond Coco has committed to preparing an operations plan to reduce the suspended solids entering the quarry sump. Condition 7(3):
  - At the McCarthy Pond, all parameters were below the PWQO with the exception of phosphorus on May 28, 2015. Additionally, aluminum and boron exceeded the PWQO on May 28, 2015 and October 22, 2015, respectively;
  - At SW1, all other parameters were below the PWQO with the exception of iron on May 28, 2015. Additionally, phosphorus, aluminum and boron exceeded the PWQO on May 28, 2015 and October 22, 2015, respectively; and,
  - At SW2 all parameters were below the PWQO with the exception of phosphorus on May 28, 2015.
- Condition 8:
  - The effluent has been non-lethal to Rainbow Trout and *Daphnia magna* throughout the monitoring period (November 2014 to October 2015), with the exception of 10% mortality of *Daphnia magna* in March 2015.



- Condition 7(8):
  - A continuous record of flow rates has been maintained throughout this monitoring period and all water takings were below the permitted rate of 4,545 L/min.
- It is recommended that Golder staff re-train Coco staff members on sampling and re-evaluate the method of sampling at the McCarthy Pond should the elevated TSS readings continue in the summer of 2016.



## Report Signature Page

**GOLDER ASSOCIATES LTD.**

Jamie Bonany, M.A.Sc.  
Project Scientist

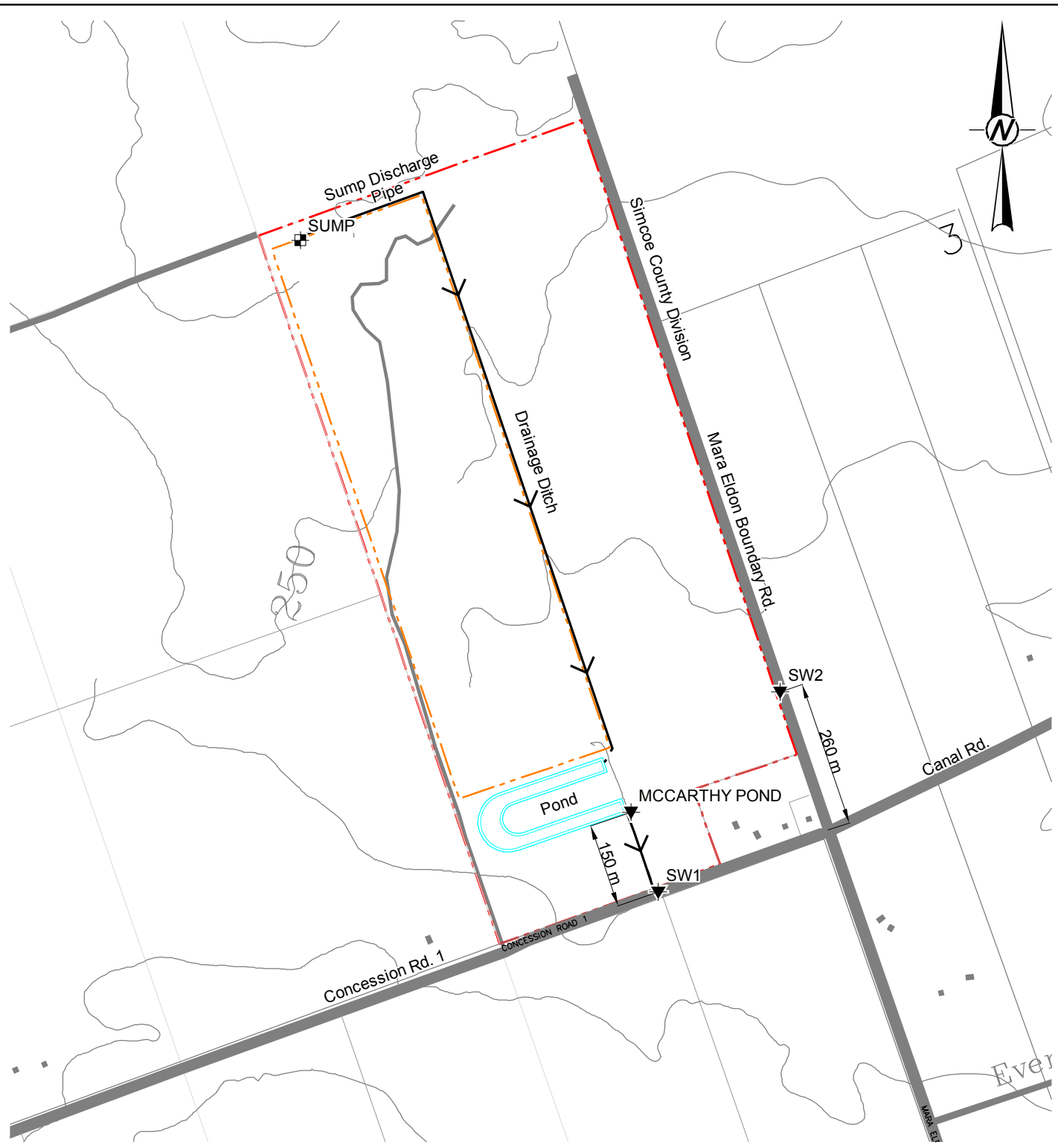
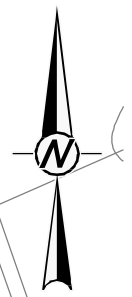
John Easton, M.Sc., P.Geo.  
Associate Senior Hydrogeologist

JEB/JAE/plc





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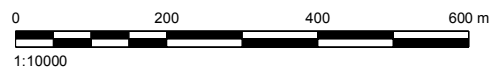
# FIGURES



**LEGEND**

	Approximate Property Boundary
	Approximate Licenced Boundary
	5 m Contour Line
	Surface Water Sampling Location

- REFERENCES AND NOTES**
1. Projection UTM NAD83 Zone 17
  2. Mapping based on ESRI Geography Network OBM Features and Bing Orthophotos



CLIENT  
COCO / QBJR AGGREGATES INC.

PROJECT  
STAN MCCARTHY QUARRY

TITLE  
**LOCATION MAP**

CONSULTANT	YYYY-MM-DD	2014-09-02
	PREPARED	STB
	DESIGN	
	REVIEW	
	APPROVED	



PROJECT No. 14-07634      SCALE AS SHOWN      Rev. AB      Figure 1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS/A 25 mm



# TABLES

**Table 1: Condition 7(2) McCarthy Pond Weekly Water Quality Results**

Sample ID	Unit	RDL	PWQO <sup>1</sup>	Daily Limit <sup>2</sup>	McCarthy Quarry													
					Pond													
Date					6-Nov-14	14-Nov-14	20-Nov-14	26-Nov-14	4-Dec-14	11-Dec-14	18-Dec-14	5-Jan-15	15-Jan-15	22-Jan-15	29-Jan-15	19-Mar-15	26-Mar-15	2-Apr-15
pH	pH	n/a		6.0-9.5	-	8.18	7.97	7.83	7.98	7.94	8.03	7.71	-	7.69	7.75	7.43	7.32	7.69
Total Suspended Solids	mg/L	1		30	4	15	2	5	4	8	3	2	2	2	10	<1	<1	1
Total Oil and Grease	mg/L	0.5	Note 3	30	2.7	<0.5	<0.5	1.9	<0.5	<0.5	<0.5	<0.5	1.8	2	1.8	<0.5	<0.5	<0.5
Phenols (4AAP)	mg/L	<0.0010		0.04	0.0032	0.0015	<0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	0.0017	<0.0010	<0.0010	0.0010	<0.0010	<0.0010

**Notes**

1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.
2. Daily Concentration Limit; bolded values denote exceedances in the Permit to Take Waters daily concentration limits.
3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discolouration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.
4. Results that are preceded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

**Table 1: Condition 7(2) McCarthy Pond Weekly Water Quality Results**

Sample ID	Unit	RDL	PWQO <sup>1</sup>	Daily Limit <sup>2</sup>	McCarthy Quarry													
					Pond													
Date					9-Apr-15	20-Apr-15	23-Apr-15	30-Apr-15	7-May-15	14-May-15	21-May-15	28-May-15	4-Jun-15	11-Jun-15	18-Jun-15	25-Jun-15	2-Jul-15	9-Jul-15
pH	pH	n/a		6.0-9.5	8.01	8.10	8.08	8.07	8.09	8.07	8.46	8.49	8.90	8.66	8.81	8.83	7.74	8.57
Total Suspended Solids	mg/L	1		30	9	16	9	7	3	2	2	10	5	5	6	6	5	5
Total Oil and Grease	mg/L	0.5	Note 3	30	<0.5	1.5	0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.8	1.7	<0.5	<0.5	<0.5	0.7
Phenols (4AAP)	mg/L	<0.0010		0.04	<0.0010	0.0022	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

**Notes**

1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.
2. Daily Concentration Limit; bolded values denote exceedances in the Permit to Take Waters daily concentration limits.
3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discolouration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.
4. Results that are preceded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

**Table 1: Condition 7(2) McCarthy Pond Weekly Water Quality Results**

Sample ID	Unit	RDL	PWQO <sup>1</sup>	Daily Limit <sup>2</sup>	McCarthy Quarry													
					Pond													
Date					16-Jul-15	23-Jul-15	6-Aug-15	13-Aug-15	27-Aug-15	3-Sep-15	10-Sep-15	17-Sep-15	24-Sep-15	1-Oct-15	8-Oct-15	15-Oct-15	22-Oct-15	29-Oct-15
pH	pH	n/a		6.0-9.5	8.25	8.07	8.12	8.12	8.39	8.24	8.43	8.45	8.27	7.98	7.72	7.96	8.12	8.18
Total Suspended Solids	mg/L	1		30	16	<b>47</b>	13	7	10	13	17	8	<b>42</b>	10	100 <sup>3</sup>	30	4	9
Total Oil and Grease	mg/L	0.5	Note 3	30	0.9	<0.5	0.8	1.6	2.2	1.4	<0.5	1.9	0.7	1.3	1.2	1.9	<0.5	0.9
Phenols (4AAP)	mg/L	<0.0010		0.04	<0.0010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

**Notes**

1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.
2. Daily Concentration Limit; bolded values denote exceedances in the Permit to Take Waters daily concentration limits.
3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.
4. Results that are preceded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

**Table 2: Condition 7(2) McCarthy Pond Monthly Water Quality Results**

Sample ID	Unit	RDL	PWQO <sup>1</sup>	Monthly Concentration Limit <sup>2</sup>	McCarthy Quarry											
					Pond											
Date					November	December	January	February	March	April	May	June	July	August	September	October
Total Suspended Solids	mg/L	1		15	6.5	5.0	4.0	-	<1	8.4	4.3	5.5	<b>18.3</b>	10.0	<b>20.0</b>	13.3
Total Oil and Grease	mg/L	0.5	Note 3	15	1.4	<0.5	1.5	-	<0.5	0.7	0.6	0.9	0.6	1.5	1.1	1.2
Phenols (4AAP)	mg/L	<0.0010		0.02	0.0017	<0.0010	0.0012	-	0.0010	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

**Notes**

1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.
2. Monthly Concentration Limit; bolded values denote exceedances in the Permit to Take Waters monthly concentration limits.
3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.
4. Results that are preceded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

Table 3: Condition 7(3) McCarthy Pond Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	PTTW Effluent Limits	McCarthy Quarry	
						Pond 28-May-15	Pond 22-Oct-15
<b>Field Measured Parameters</b>							
Conductivity	mS/cm					669	1341
pH	pH	n/a	6.5-8.5		6.0-9.5	7.74	8.58
Temperature	°C	n/a				23.9	10.94
<b>Calculated Parameters</b>							
Anion Sum	me/L	N/A				7.12	15.9
Cation Sum	me/L	N/A				7.66	14.8
Hardness (CaCO <sub>3</sub> )	mg/L	1.0				180	310
<b>Inorganics</b>							
Total Ammonia-N	mg/L	0.050				<0.050	0.078
Conductivity	umho/cm	1.0				760	1700
Total Dissolved Solids	mg/L	10				458	966
Fluoride (F <sup>-</sup> )	mg/L	0.10				0.49	0.66
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.68	0.67
Dissolved Organic Carbon	mg/L	0.20				5.8	5.6
pH	pH	N/A	6.5-8.5		6.0-9.5	8.20	8.03
Phenols-4AAP	mg/L	0.0010			0.04	<0.0010	<0.0010
Total Phosphorus	mg/L	0.002		0.02 <sup>5b</sup>		0.023	0.011
Total Suspended Solids	mg/L	10			30	26	<10
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	1				130	280
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	1.0				93	97
Dissolved Chloride (Cl)	mg/L	1				86	280
Nitrite (N)	mg/L	0.010				0.016	0.051
Nitrate (N)	mg/L	0.10				0.31	1.92
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.50	Note 3			<0.50	0.9
<b>Metals</b>							
Total Aluminum (Al)	ug/L	5		15-75 <sup>5a</sup>		120	76
Total Antimony (Sb)	ug/L	0.5		20		<0.50	<0.50
Dissolved Arsenic (As)	ug/L	1				<1.0	<1.0
Total Arsenic (As)	ug/L	1	100	5		<1.0	<1.0
Total Barium (Ba)	ug/L	2				24	49
Total Beryllium (Be)	ug/L	0.5	11-1100 <sup>5c</sup>			<0.50	<0.50
Total Bismuth (Bi)	ug/L	1				-	<1.0
Total Boron (B)	ug/L	10		200		420	850
Dissolved Cadmium (Cd)	ug/L	0.1				<0.10	<0.10
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<0.10	<0.10
Dissolved Calcium (Ca)	ug/L	200				38000	63000
Total Calcium (Ca)	ug/L	200				38000	67000
Dissolved Chromium (Cr)	ug/L	5				<5.0	<5.0
Total Chromium (Cr)	ug/L	5	1-89 <sup>5e</sup>			<5.0	<5.0
Total Cobalt (Co)	ug/L	0.5	0.9			<0.50	<0.50
Dissolved Copper (Cu)	ug/L	1				<1.0	<1.0
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		1.4	1.3
Dissolved Iron (Fe)	ug/L	100				<100	<100
Total Iron (Fe)	ug/L	100	300			140	<100
Dissolved Lead (Pb)	ug/L	0.5				<0.50	<0.50
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		<0.50	<0.50
Total Lithium (Li)	ug/L	5				-	130
Dissolved Magnesium (Mg)	ug/L	50				21000	36000
Total Magnesium (Mg)	ug/L	50				20000	38000
Dissolved Manganese (Mn)	ug/L	2				3.4	3.5
Total Manganese (Mn)	ug/L	2				22	3.2
Total Molybdenum (Mo)	ug/L	0.5		40		2.5	2.7
Dissolved Nickel (Ni)	ug/L	1				<1.0	<1.0
Total Nickel (Ni)	ug/L	1	25			2.3	<1.0
Dissolved Potassium (K)	ug/L	200				7400	13000
Total Potassium (K)	ug/L	200				7400	15000
Total Selenium (Se)	ug/L	2	100			<2.0	<2.0
Total Silicon (Si)	ug/L	50				390	480
Total Silver (Ag)	ug/L	0.1	0.1			<0.10	<0.10
Dissolved Sodium (Na)	ug/L	100				88000	190000
Total Sodium (Na)	ug/L	100				82000	200000
Total Strontium (Sr)	ug/L	1				1300	3100
Total Tellurium (Te)	ug/L	1				-	<1.0
Total Thallium (Tl)	ug/L	0.05		0.3		<0.050	<0.050
Total Thorium (Th)	ug/L	2				-	<2.0
Total Tin (Sn)	ug/L	1				-	<1.0
Total Titanium (Ti)	ug/L	5				8.5	<5.0
Total Tungsten (W)	ug/L	1		30		-	<1.0
Total Uranium	ug/L	0.5		5		-	0.75
Total Vanadium (V)	ug/L	0.5		6		0.54	<0.50
Dissolved Zinc (Zn)	ug/L	5				<5.0	<5.0
Total Zinc (Zn)	ug/L	5	30	20		<5.0	<5.0
Total Zirconium (Zr)	ug/L	1		4		-	<1.0
<p>1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>2. Interim Provincial Water Quality Objectives (Interim PWQO); <i>shaded cells and italics denote Interim PWQO exceedance</i>; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PQWO notes.</p> <p>3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p>						<p>5b. Phosphorus (Interim):</p> <p>- Current scientific evidence is insufficient to develop a firm Objective at this time.</p> <p>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies:</p> <p>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</p> <p>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</p> <p>(c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</p>	
<p>5a. Aluminum (Interim):</p> <p>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples.</p> <p>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p>						<p>5c. Beryllium: If Hardness &lt;75 mg/L (CaCO<sub>3</sub>), use 11 ug/L If Hardness &gt;75 mg/L (CaCO<sub>3</sub>), use 1100 ug/L</p> <p>5d. Cadmium (Interim): If Hardness 0-100 mg/L (CaCO<sub>3</sub>), then use 0.1 ug/L If Hardness &gt;100 mg/L (CaCO<sub>3</sub>), then use 0.5 ug/L</p> <p>5e. Chromium: 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p> <p>5f. Copper (Interim): If Hardness as CaCO<sub>3</sub> (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt;20, then use 5 ug/L</p> <p>5g. Lead: If Alkalinity as CaCO<sub>3</sub> (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is &gt; 80, use 25 ug/L</p> <p>5h. Lead (Interim): If Hardness as CaCO<sub>3</sub> (mg/L) is &lt; 30, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is 30 to 80, then use 3 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt; 80, then use 5 ug/L</p>	

Table 4: Condition 7(3) SW1 Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	PTTW Effluent Limits	McCarthy Quarry	
						SW1	SW1
Date						28-May-15	22-Oct-15
<b>Field Measured Parameters</b>							
Conductivity	mS/cm					696	1283
pH	pH	n/a	6.5-8.5		6.0-9.5	7.86	8.46
Temperature	°C	n/a				26.3	11.34
<b>Calculated Parameters</b>							
Anion Sum	me/L	N/A				6.88	15.0
Cation Sum	me/L	N/A				7.55	14.8
Hardness (CaCO3)	mg/L	1.0				260	340
<b>Inorganics</b>							
Total Ammonia-N	mg/L	0.050				0.080	0.077
Conductivity	umho/cm	1.0				700	1600
Total Dissolved Solids	mg/L	10				424	928
Fluoride (F-)	mg/L	0.10				0.30	0.59
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.76	0.69
Dissolved Organic Carbon	mg/L	0.20				8.1	6.9
pH	pH	N/A	6.5-8.5		6.0-9.5	8.03	8.03
Phenols-4AAP	mg/L	0.0010			0.04	<0.0010	<0.0010
Total Phosphorus	mg/L	0.002		0.02 <sup>5b</sup>		0.026	0.04
Total Suspended Solids	mg/L	10			30	27	14
Dissolved Sulphate (SO4)	mg/L	1				86	260
Alkalinity (Total as CaCO3)	mg/L	1.0				190	130
Dissolved Chloride (Cl)	mg/L	1				42	240
Nitrite (N)	mg/L	0.010				<0.010	0.041
Nitrate (N)	mg/L	0.10				<0.10	1.62
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.50	Note 3			<0.50	0.7
<b>Metals</b>							
Total Aluminum (Al)	ug/L	5		15-75 <sup>5a</sup>		1000	120
Total Antimony (Sb)	ug/L	0.5		20		<0.50	<0.50
Dissolved Arsenic (As)	ug/L	1				<1.0	<1.0
Total Arsenic (As)	ug/L	1	100	5		<1.0	<1.0
Total Barium (Ba)	ug/L	2				51	58
Total Beryllium (Be)	ug/L	0.5	11-1100 <sup>5c</sup>			<0.50	<0.50
Total Bismuth (Bi)	ug/L	1				<1.0	<1.0
Total Boron (B)	ug/L	10		200		270	770
Dissolved Cadmium (Cd)	ug/L	0.1				<0.10	<0.10
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<0.10	<0.10
Dissolved Calcium (Ca)	ug/L	200				79000	79000
Total Calcium (Ca)	ug/L	200				91000	81000
Dissolved Chromium (Cr)	ug/L	5				<5.0	<5.0
Total Chromium (Cr)	ug/L	5	1-89 <sup>5e</sup>			<5.0	<5.0
Total Cobalt (Co)	ug/L	0.5	0.9			0.81	<0.50
Dissolved Copper (Cu)	ug/L	1				<1.0	<1.0
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		1.7	1.5
Dissolved Iron (Fe)	ug/L	100				<100	140
Total Iron (Fe)	ug/L	100	300			1300	170
Dissolved Lead (Pb)	ug/L	0.5				<0.50	<0.50
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		<0.50	<0.50
Total Lithium (Li)	ug/L	5				-	100
Dissolved Magnesium (Mg)	ug/L	50				16000	35000
Total Magnesium (Mg)	ug/L	50				16000	35000
Dissolved Manganese (Mn)	ug/L	2				7.8	26
Total Manganese (Mn)	ug/L	2				220.0	24
Total Molybdenum (Mo)	ug/L	0.5		40		1.6	2.4
Dissolved Nickel (Ni)	ug/L	1				<1.0	1.7
Total Nickel (Ni)	ug/L	1	25			4.1	<1.0
Dissolved Potassium (K)	ug/L	200				5600	13000
Total Potassium (K)	ug/L	200				6000	13000
Total Selenium (Se)	ug/L	2	100			<2.0	<2.0
Total Silicon (Si)	ug/L	50				2500	790
Total Silver (Ag)	ug/L	0.1	0.1			<0.10	<0.10
Dissolved Sodium (Na)	ug/L	100				49000	180000
Total Sodium (Na)	ug/L	100				46000	180000
Total Strontium (Sr)	ug/L	1				980	2500
Total Tellurium (Te)	ug/L	1				-	<1.0
Total Thallium (Tl)	ug/L	0.05		0.3		<0.050	<0.050
Total Thorium (Th)	ug/L	2				-	<2.0
Total Tin (Sn)	ug/L	1				-	<1.0
Total Titanium (Ti)	ug/L	5				4.8	7.3
Total Tungsten (W)	ug/L	1		30		-	<1.0
Total Uranium	ug/L	0.5		5		-	0.93
Total Vanadium (V)	ug/L	0.5		6		2.4	<0.50
Dissolved Zinc (Zn)	ug/L	5				<5.0	<5.0
Total Zinc (Zn)	ug/L	5	30	20		5.2	<5.0
Total Zirconium (Zr)	ug/L	1		4		-	<1.0
<p>1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>2. Interim Provincial Water Quality Objectives (Interim PWQO); shaded cells and italics denote Interim PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p>						<p>5b. Phosphorus (Interim):</p> <ul style="list-style-type: none"> <li>- Current scientific evidence is insufficient to develop a firm Objective at this time.</li> <li>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies: <ul style="list-style-type: none"> <li>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</li> <li>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</li> <li>(c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</li> </ul> </li> </ul>	
<p>5a. Aluminum (Interim):</p> <ul style="list-style-type: none"> <li>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</li> <li>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</li> <li>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples.</li> <li>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</li> </ul>						<p>5c. Beryllium: If Hardness &lt;75 mg/L (CaCO3), use 11 ug/L If Hardness &gt;75 mg/L (CaCO3), use 1100 ug/L</p>	
<p>5d. Cadmium (Interim):</p> <ul style="list-style-type: none"> <li>If Hardness 0-100 mg/L (CaCO3), then use 0.1 ug/L</li> <li>If Hardness &gt;100 mg/L (CaCO3), then use 0.5 ug/L</li> </ul>						<p>5e. Chromium: 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p>	
<p>5f. Copper (Interim):</p> <ul style="list-style-type: none"> <li>If Hardness as CaCO3 (mg/L) is 0 - 20, then use 1 ug/L</li> <li>If Hardness as CaCO3 (mg/L) is &gt;20, then use 5 ug/L</li> </ul>						<p>5g. Lead: If Alkalinity as CaCO3 (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO3 (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO3 (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO3 (mg/L) is &gt; 80, use 25 ug/L</p>	
<p>5h. Lead (Interim):</p> <ul style="list-style-type: none"> <li>If Hardness as CaCO3 (mg/L) is &lt; 30, then use 1 ug/L</li> <li>If Hardness as CaCO3 (mg/L) is 30 to 80, then use 3 ug/L</li> <li>If Hardness as CaCO3 (mg/L) is &gt; 80, then use 5 ug/L</li> </ul>							

Table 5: Condition 7(3) SW2 Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	PTTW Effluent Limits	McCarthy Quarry
						SW2
Date						28-May-15
<b>Field Measured Parameters</b>						
Conductivity	mS/cm					607
pH	pH	n/a	6.5-8.5		6.0-9.5	7.65
Temperature	°C	n/a				17.4
<b>Calculated Parameters</b>						
Anion Sum	me/L	N/A				7.32
Cation Sum	me/L	N/A				7.84
Hardness (CaCO <sub>3</sub> )	mg/L	1.0				350
<b>Inorganics</b>						
Total Ammonia-N	mg/L	0.050				<0.050
Conductivity	umho/cm	1.0				680
Total Dissolved Solids	mg/L	10				436
Fluoride (F <sup>-</sup> )	mg/L	0.10				0.14
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.79
Dissolved Organic Carbon	mg/L	0.20				14
pH	pH	N/A	6.5-8.5		6.0-9.5	8.03
Phenols-4AAP	mg/L	0.0010			0.04	<0.0010
Total Phosphorus	mg/L	0.002		0.02 <sup>5b</sup>		0.063
Total Suspended Solids	mg/L	10			30	3
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	1				54
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	1.0				280
Dissolved Chloride (Cl)	mg/L	1				19
Nitrite (N)	mg/L	0.010				<0.010
Nitrate (N)	mg/L	0.10				<0.10
<b>Petroleum Hydrocarbons</b>						
Total Oil & Grease	mg/L	0.50	Note 3		30	<0.50
<b>Metals</b>						
Total Aluminum (Al)	ug/L	5		15-75 <sup>5a</sup>		31
Total Antimony (Sb)	ug/L	0.5		20		<0.50
Dissolved Arsenic (As)	ug/L	1				<1.0
Total Arsenic (As)	ug/L	1	100	5		<1.0
Total Barium (Ba)	ug/L	2				49
Total Beryllium (Be)	ug/L	0.5	11-1100 <sup>5c</sup>			<0.50
Total Boron (B)	ug/L	10		200		84
Dissolved Cadmium (Cd)	ug/L	0.1				<0.10
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<0.10
Dissolved Calcium (Ca)	ug/L	200				120000
Total Calcium (Ca)	ug/L	200				120000
Dissolved Chromium (Cr)	ug/L	5				<5.0
Total Chromium (Cr)	ug/L	5	1-89 <sup>5e</sup>			<5.0
Total Cobalt (Co)	ug/L	0.5	0.9			<0.50
Dissolved Copper (Cu)	ug/L	1				<1.0
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		<1.0
Dissolved Iron (Fe)	ug/L	100				<100
Total Iron (Fe)	ug/L	100	300			170
Dissolved Lead (Pb)	ug/L	0.5				<0.50
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		<0.50
Dissolved Magnesium (Mg)	ug/L	50				12000
Total Magnesium (Mg)	ug/L	50				11000
Dissolved Manganese (Mn)	ug/L	2				<2.0
Total Manganese (Mn)	ug/L	2				89.0
Total Molybdenum (Mo)	ug/L	0.5		40		0.5
Dissolved Nickel (Ni)	ug/L	1				<1.0
Total Nickel (Ni)	ug/L	1	25			5.2
Dissolved Potassium (K)	ug/L	200				4000
Total Potassium (K)	ug/L	200				4000
Total Selenium (Se)	ug/L	2	100			<2.0
Total Silicon (Si)	ug/L	50				1900
Total Silver (Ag)	ug/L	0.1	0.1			<0.10
Dissolved Sodium (Na)	ug/L	100				18000
Total Sodium (Na)	ug/L	100				17000
Total Strontium (Sr)	ug/L	1				490
Total Thallium (Tl)	ug/L	0.05		0.3		<0.050
Total Titanium (Ti)	ug/L	5				5.6
Total Vanadium (V)	ug/L	0.5		6		0.65
Dissolved Zinc (Zn)	ug/L	5				<5.0
Total Zinc (Zn)	ug/L	5	30	20		7.2
<p>1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>2. Interim Provincial Water Quality Objectives (Interim PWQO); shaded cells and italics denote Interim PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p>						
<p><i>5a. Aluminum (Interim):</i></p> <p>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples.</p> <p>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p>						
<p><i>5b. Phosphorus (Interim):</i></p> <p>- Current scientific evidence is insufficient to develop a firm Objective at this time.</p> <p>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies:</p> <p>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</p> <p>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</p> <p>(c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</p>						
<p><i>5c. Beryllium:</i> If Hardness &lt;75 mg/L (CaCO<sub>3</sub>), use 11 ug/L If Hardness &gt;75 mg/L (CaCO<sub>3</sub>), use 1100 ug/L</p>						
<p><i>5d. Cadmium (Interim):</i> If Hardness 0-100 mg/L (CaCO<sub>3</sub>), then use 0.1 ug/L If Hardness &gt;100 mg/L (CaCO<sub>3</sub>), then use 0.5 ug/L</p>						
<p><i>5e. Chromium:</i> 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p>						
<p><i>5f. Copper (Interim):</i> If Hardness as CaCO<sub>3</sub> (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt;20, then use 5 ug/L</p>						
<p><i>5g. Lead:</i> If Alkalinity as CaCO<sub>3</sub> (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is &gt; 80, use 25 ug/L</p>						
<p><i>5h. Lead (Interim):</i> If Hardness as CaCO<sub>3</sub> (mg/L) is &lt; 30, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is 30 to 80, then use 3 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt; 80, then use 5 ug/L</p>						

**Table 6: Lethality Monitoring at McCarthy Pond**

Sample ID	Unit	Mortality Limit	McCarthy Quarry									
			Pond									
Date			28-Nov-14	17-Dec-14	19-Mar-15	6-Apr-15	28-May-15	9-Jun-15	8-Jul-15	21-Aug-15	14-Sep-15	22-Oct-15
Rainbow Trout	% Mortality Rate*	<50%	0	0	0	0	0	0	0	0	0	0
Daphnia Magna	% Mortality Rate*	<50%	0	0	10	0	0	0	0	0	0	0

**Notes**

\* Test results represent acute lethality (100% effluent) of toxicants to Daphnia Magna and Rainbow Trout

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
3-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
4-Nov-14	7AM	12PM	18000	300	630,000	35	2,100
5-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
6-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
7-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
10-Nov-14	7AM	12PM	18000	300	630,000	35	2,100
11-Nov-14	7AM	12PM	18000	300	630,000	35	2,100
12-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
13-Nov-14	NO PUMP		0	0	-	-	-
14-Nov-14	NO PUMP		0	0	-	-	-
17-Nov-14	NO PUMP		0	0	-	-	-
18-Nov-14	6AM	3PM	32400	540	1,134,000	35	2,100
19-Nov-14	7AM	2PM	25200	420	882,000	35	2,100
20-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
21-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
24-Nov-14	6AM	3PM	32400	540	1,134,000	35	2,100
25-Nov-14	6AM	3PM	32400	540	1,134,000	35	2,100
26-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
27-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
28-Nov-14	9AM	12PM	10800	180	378,000	35	2,100
1-Dec-14	7AM	12PM	18000	300	630,000	35	2,100
2-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
3-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
4-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
5-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
8-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
9-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
10-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
11-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
12-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
15-Dec-14	6AM	12PM	21600	360	756,000	35	2,100
16-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
17-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
18-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
19-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
22-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
23-Dec-14	9AM	12PM	10800	180	378,000	35	2,100
24-Dec-14	NO PUMP		0	0	-	-	-
5-Jan-15	6AM	3PM	32400	540	1,134,000	35	2,100
6-Jan-15	6AM	3PM	32400	540	1,134,000	35	2,100

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
7-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
8-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
9-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
12-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
13-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
14-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
15-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
16-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
19-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
20-Jan-15	9AM	12PM	10800	180	378,000	35	2,100
21-Jan-15	NO PUMP		0	0	-	-	-
22-Jan-15	NO PUMP		0	0	-	-	-
23-Jan-15	NO PUMP		0	0	-	-	-
26-Jan-15	NO PUMP		0	0	-	-	-
27-Jan-15	NO PUMP		0	0	-	-	-
28-Jan-15	NO PUMP		0	0	-	-	-
29-Jan-15	NO PUMP		0	0	-	-	-
30-Jan-15	NO PUMP		0	0	-	-	-
2-Feb-15	6AM	3PM	32,400.00	540	1,134,000	35	2,100
3-Feb-15	NO PUMP		0	0	-	-	-
4-Feb-15	NO PUMP		0	0	-	-	-
5-Feb-15	NO PUMP		0	0	-	-	-
6-Feb-15	NO PUMP		0	0	-	-	-
9-Feb-15	6AM	3PM	32,400.00	540	1,134,000	35	2,100
10-Feb-15	NO PUMP		0	0	-	-	-
11-Feb-15	NO PUMP		0	0	-	-	-
12-Feb-15	NO PUMP		0	0	-	-	-
13-Feb-15	NO PUMP		0	0	-	-	-
17-Feb-15	6AM	3PM	32400	540	1,134,000	35	2,100
18-Feb-15	NO PUMP		0	0	-	-	-
19-Feb-15	NO PUMP		0	0	-	-	-
20-Feb-15	NO PUMP		0	0	-	-	-
23-Feb-15	6AM	3PM	32400	540	1,134,000	35	2,100
24-Feb-15	NO PUMP		0	0	-	-	-
25-Feb-15	NO PUMP		0	0	-	-	-
26-Feb-15	NO PUMP		0	0	-	-	-
27-Feb-15	NO PUMP		0	0	-	-	-
2-Mar-15	6AM	3PM	32400	540	1,134,000	35	2,100
3-Mar-15	NO PUMP		0	0	-	-	-
4-Mar-15	NO PUMP		0	0	-	-	-

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
5-Mar-15	NO PUMP		0	0	-	-	-
6-Mar-15	NO PUMP		0	0	-	-	-
9-Mar-15	NO PUMP		0	0	-	-	-
10-Mar-15	NO PUMP		0	0	-	-	-
11-Mar-15	NO PUMP		0	0	-	-	-
12-Mar-15	NO PUMP		0	0	-	-	-
13-Mar-15	NO PUMP		0	0	-	-	-
16-Mar-15	NO PUMP		0	0	-	-	-
17-Mar-15	NO PUMP		0	0	-	-	-
18-Mar-15	NO PUMP		0	0	-	-	-
19-Mar-15	NO PUMP		0	0	-	-	-
20-Mar-15	NO PUMP		0	0	-	-	-
23-Mar-15	NO PUMP		0	0	-	-	-
24-Mar-15	NO PUMP		0	0	-	-	-
25-Mar-15	NO PUMP		0	0	-	-	-
26-Mar-15	NO PUMP		0	0	-	-	-
27-Mar-15	NO PUMP		0	0	-	-	-
30-Mar-15	NO PUMP		0	0	-	-	-
31-Mar-15	NO PUMP		0	0	-	-	-
1-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
2-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
7-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
8-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
9-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
10-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
13-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
14-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
15-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
16-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
17-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
20-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
21-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
22-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
23-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
24-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
27-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
28-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
29-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
30-Apr-15	7AM	2PM	25200	420	882,000	35	2,100
1-May-15	7AM	2PM	25200	420	882,000	35	2,100

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
4-May-15	7AM	2PM	25200	420	882,000	35	2,100
5-May-15	7AM	2PM	25200	420	882,000	35	2,100
6-May-15	7AM	2PM	25200	420	882,000	35	2,100
7-May-15	7AM	2PM	25200	420	882,000	35	2,100
8-May-15	7AM	2PM	25200	420	882,000	35	2,100
11-May-15	7AM	2PM	25200	420	882,000	35	2,100
12-May-15	7AM	2PM	25200	420	882,000	35	2,100
13-May-15	7AM	2PM	25200	420	882,000	35	2,100
14-May-15	7AM	2PM	25200	420	882,000	35	2,100
15-May-15	7AM	2PM	25200	420	882,000	35	2,100
19-May-15	8AM	2PM	25200	420	882,000	35	2,100
21-May-15	7AM	2PM	25200	420	882,000	35	2,100
22-May-15	7AM	2PM	25200	420	882,000	35	2,100
25-May-15	7AM	2PM	25200	420	882,000	35	2,100
26-May-15	7AM	2PM	25200	420	882,000	35	2,100
27-May-15	7AM	2PM	25200	420	882,000	35	2,100
28-May-15	7AM	2PM	25200	420	882,000	35	2,100
29-May-15	7AM	2PM	25200	420	882,000	35	2,100
1-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
2-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
3-Jun-15	7AM	2PM	25200	420	882,000	35	2,100
4-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
5-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
8-Jun-15	7AM	2PM	25200	420	882,000	35	2,100
9-Jun-15	7AM	1PM	21600	360	756,000	35	2,100
10-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
11-Jun-15	7AM	3PM	28800	480	1,008,000	35	2,100
12-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
15-Jun-15	7AM	2PM	25200	420	882,000	35	2,100
16-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
17-Jun-15	7AM	2PM	25200	420	882,000	35	2,100
18-Jun-15	8AM	4PM	28800	480	1,008,000	35	2,100
19-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
22-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
23-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
24-Jun-15	8AM	3PM	25200	420	882,000	35	2,100
25-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
26-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
29-Jun-15	8AM	2PM	21600	360	756,000	35	2,100
30-Jun-15	8AM	2PM	21600	360	756,000	35	2,100

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
1-Jul-15	7AM	2PM	28800	480	1,008,000	35	2,100
2-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
3-Jul-15	NO PUMP		0	0	-	-	-
4-Jul-15	NO PUMP		0	0	-	-	-
5-Jul-15	NO PUMP		0	0	-	-	-
6-Jul-15	7AM	3PM	28800	480	1,008,000	35	2,100
7-Jul-15	7AM	3PM	28800	480	1,008,000	35	2,100
8-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
9-Jul-15	7AM	3PM	28800	480	1,008,000	35	2,100
10-Jul-15	NO PUMP		0	0	-	-	-
11-Jul-15	NO PUMP		0	0	-	-	-
12-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
13-Jul-15	7AM	2PM	25200	420	882,000	35	2,100
14-Jul-15	8AM	1PM	18000	300	630,000	35	2,100
15-Jul-15	7AM	2PM	25200	420	882,000	35	2,100
16-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
17-Jul-15	8AM	1PM	18000	300	630,000	35	2,100
18-Jul-15	NO PUMP		0	0	-	-	-
19-Jul-15	NO PUMP		0	0	-	-	-
20-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
21-Jul-15	7AM	2PM	25200	420	882,000	35	2,100
22-Jul-15	7AM	3PM	28800	480	1,008,000	35	2,100
23-Jul-15	7AM	1PM	21600	360	756,000	35	2,100
24-Jul-15	8AM	3PM	25200	420	882,000	35	2,100
25-Jul-15	NO PUMP		0	0	-	-	-
26-Jul-15	NO PUMP		0	0	-	-	-
27-Jul-15	NO PUMP		0	0	-	-	-
28-Jul-15	NO PUMP		0	0	-	-	-
29-Jul-15	NO PUMP		0	0	-	-	-
30-Jul-15	NO PUMP		0	0	-	-	-
31-Jul-15	NO PUMP		0	0	-	-	-
1-Aug-15	NO PUMP		0	0	-	-	-
2-Aug-15	NO PUMP		0	0	-	-	-
3-Aug-15	NO PUMP		0	0	-	-	-
4-Aug-15	7AM	4PM	32400	540	1,134,000	35	2,100
5-Aug-15	7AM	4PM	32400	540	1,134,000	35	2,100
6-Aug-15	7AM	4PM	32400	540	1,134,000	35	2,100
7-Aug-15	7AM	4PM	32400	540	1,134,000	35	2,100
8-Aug-15	NO PUMP		0	0	-	-	-
9-Aug-15	NO PUMP		0	0	-	-	-

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
10-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
11-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
12-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
13-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
14-Aug-15	8AM	3PM	25200	420	882,000	35	2,100
15-Aug-15	NO PUMP		0	0	-	-	-
16-Aug-15	NO PUMP		0	0	-	-	-
17-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
18-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
19-Aug-15	7AM	2PM	25200	420	882,000	35	2,100
20-Aug-15	7AM	2PM	25200	420	882,000	35	2,100
21-Aug-15	7AM	2PM	25200	420	882,000	35	2,100
22-Aug-15	NO PUMP		0	0	-	-	-
23-Aug-15	NO PUMP		0	0	-	-	-
24-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
25-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
26-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
27-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
28-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
29-Aug-15	NO PUMP		0	0	-	-	-
30-Aug-15	NO PUMP		0	0	-	-	-
31-Aug-15	8AM	2PM	21600	360	756,000	35	2,100
1-Sep-15	7AM	2PM	25200	420	882,000	35	2,100
2-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
3-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
4-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
5-Sep-15	NO PUMP		0	0	-	-	-
6-Sep-15	NO PUMP		0	0	-	-	-
7-Sep-15	NO PUMP		0	0	-	-	-

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
8-Sep-15	7AM	3PM	28800	480	1,008,000	35	2,100
9-Sep-15	7AM	3PM	28800	480	1,008,000	35	2,100
10-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
11-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
12-Sep-15	NO PUMP		0	0	-	-	-
13-Sep-15	NO PUMP		0	0	-	-	-
14-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
15-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
16-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
17-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
18-Sep-15	8AM	2PM	21600	360	756,000	35	2,100
19-Sep-15	NO PUMP		0	0	-	-	-
20-Sep-15	NO PUMP		0	0	-	-	-
21-Sep-15	NO PUMP		0	0	-	-	-
22-Sep-15	NO PUMP		0	0	-	-	-
23-Sep-15	NO PUMP		0	0	-	-	-
24-Sep-15	NO PUMP		0	0	-	-	-
25-Sep-15	NO PUMP		0	0	-	-	-
26-Sep-15	NO PUMP		0	0	-	-	-
27-Sep-15	NO PUMP		0	0	-	-	-
28-Sep-15	NO PUMP		0	0	-	-	-
29-Sep-15	NO PUMP		0	0	-	-	-
30-Sep-15	NO PUMP		0	0	-	-	-
1-Oct-15	NO PUMP		0	0	-	-	-
2-Oct-15	NO PUMP		0	0	-	-	-
3-Oct-15	NO PUMP		0	0	-	-	-
4-Oct-15	NO PUMP		0	0	-	-	-
5-Oct-15	NO PUMP		0	0	-	-	-
6-Oct-15	NO PUMP		0	0	-	-	-
7-Oct-15	NO PUMP		0	0	-	-	-
8-Oct-15	NO PUMP		0	0	-	-	-
9-Oct-15	NO PUMP		0	0	-	-	-
10-Oct-15	NO PUMP		0	0	-	-	-
11-Oct-15	NO PUMP		0	0	-	-	-
12-Oct-15	NO PUMP		0	0	-	-	-
13-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
14-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
15-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100

Table 7: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,550,000</b>	<b>76</b>	<b>4,545</b>
16-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
17-Oct-15	NO PUMP		0	0	-	-	-
18-Oct-15	NO PUMP		0	0	-	-	-
19-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
20-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
21-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
22-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
23-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
24-Oct-15	NO PUMP		0	0	-	-	-
25-Oct-15	NO PUMP		0	0	-	-	-
26-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
27-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
28-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
29-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
30-Oct-15	7AM	4PM	32400	540	1,134,000	35	2,100
31-Oct-15	NO PUMP		0	0	-	-	-



# APPENDIX A

Environmental Compliance Approval No. 4731-987KM8



- AKossi  
- GA

Ministry of the Environment  
Ministère de l'Environnement

**AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER 4731-987KM8

Issue Date: October 15, 2013

QBJR Aggregates Inc.  
949 Wilson Ave  
Toronto, Ontario, M3K 1G2

Site Location: McCarthy Quarry  
Lot 1, Concession 1, Original Township of Mara  
Lot 1, Concession 1  
Ramara Township, County of Simcoe, L0K 1B0

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

a sewage works for the collection, transmission, treatment and disposal of quarry water effluent from an aggregate quarry consisting of the following:

- one (1) sump, measuring 20 metres long, 10 metres wide and 3 metres deep, located at the base of the quarry floor, equipped with two (2) submersible pumps each rated at 38 litres per second with a suction intake approximately one (1) metre above the bottom of the sump, discharging to a settling pond via a 203 millimetre diameter pipeline;
- one (1) horse-shoe shaped settling pond with an approximate volume of 14,000 cubic metres (at elevation 248.2 metres), with a Hickenbottom control structure equipped with a 150 millimetre diameter orifice plate, discharging to the roadside ditch along Concession Road 1 with ultimate discharge to the Talbot River via a private ditch;
- all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage works;

all in accordance with supporting documents listed in **Schedule A**.

*For the purpose of this environmental compliance approval, the following definitions apply:*

**"Approval"** means this entire document and any schedules attached to it, and the application;

"Director" means a person appointed by the Minister pursuant to section 5 of the *EPA* for the purposes of Part II.1 of the *EPA*;

"District Manager" means the District Manager of the Barrie District Office of the Ministry;

"EPA" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;

"Ministry" means the ministry of the government of Ontario responsible for the *EPA* and *OWRA* and includes all officials, employees or other persons acting on its behalf;

"Owner" means QBJR Aggregates Inc. and its successors and assignees;

"OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended;

"Quarterly" means all or part of a period of three consecutive months beginning on the first day of January, April, July or October;

"Semi-annually" means all or part of a period of six months beginning on the first day of January or July;

"Weekly" means a period of seven days, starting on Sunday and ending on Saturday; and

"Works" means the sewage works described in the Owner's application, this *Approval* and in the supporting documentation referred to herein, to the extent approved by this *Approval* .

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

## TERMS AND CONDITIONS

### 1. GENERAL CONDITION

(1) Except as otherwise provided by these Conditions, the *Owner* shall design, build, install, operate and maintain the *Works* in accordance with the description given in this *Approval* , the application for approval of the *Works* and the submitted supporting documents and plans and specifications as listed in this *Approval* .

(2) Where there is a conflict between a provision of any submitted document referred to in this *Approval* and the Conditions of this *Approval* , the Conditions in this *Approval* shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.

2. CHANGE OF OWNER

(1) The *Owner* shall notify the *District Manager* and the *Director* , in writing, of any of the following changes within seven (7) days of the change occurring:

(a) change of *Owner* or operating authority, or both;

(b) change of address of *Owner* or operating authority or address of new owner or operating authority;

(c) change of partners where the *Owner* or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Partnerships Registration Act* ;

(d) change of name of the corporation where the *Owner* or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1, 2 or 3 of O. Reg. 189, R.R.O. 1980, as amended from time to time), filed under the *Corporations Informations Act* shall be included in the notification to the *District Manager* ;

(2) In the event of any change in ownership of the *Works* , the *Owner* shall notify in writing the succeeding owner of the existence of this certificate, and a copy of such notice shall be forwarded to the *District Manager* .

(3) The *Owner* shall ensure that all communications made pursuant to this condition will refer to this Approval's number.

3. CHANGES IN PROCESSES OR PROCESS MATERIALS

The *Owner* shall give written notice to the *District Manager* of any plans to change the processes or process materials in the *Owner's* enterprise serviced by the *Works* where the change may significantly alter the quantity or quality of the influent to or effluent from the *Works* , and no such changes shall be made unless with the written concurrence or approval of the *District Manager* .

4. OPERATIONS MANUAL

(1) The *Owner* shall prepare an operations manual prior to the commencement of operation of the sewage *Works* , that includes, but not necessarily limited to, the following information:

(a) operating procedures for routine operation of the *Works* ;

(b) inspection programs, including frequency of inspection, for the *Works* and the methods or tests employed to detect when maintenance is necessary;

(c) repair and maintenance programs, including the frequency of repair and maintenance for the *Works* ;

(d) contingency plans and procedures for dealing with potential spill, bypasses and any other abnormal situations and for notifying the *District Manager* ; and

(e) complaint procedures for receiving and responding to public complaints.

(2) The *Owner* shall maintain the operations manual up to date through revisions undertaken from time to time and retain a copy at the location of the sewage works. Upon request, the *Owner* shall make the manual available for inspection and copying by Ministry personnel.

(3) A copy of the operations manual required by subsection (1) shall be provided to the *Director* no later than **three (3) months** prior to the commencement of operation of the sewage works.

#### 5. EFFLUENT LIMITS

(1) The *Owner* shall design, construct and operate the *Works* such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the *Works* .

<b>Effluent Parameter</b>	<b>Daily Concentration Limit (mg/L)</b>	<b>Monthly Average Concentration Limit (mg/L)</b>
Column 1	Column 2	Column 3
Total Suspended Solids	30	15
Oil and Grease	30	15
Phenolics (4AAP)	0.04	0.02

(2) pH of the effluent maintained between 6.0 to 9.5, inclusive, at all times.

(3) The *Owner* shall ensure that the quarry water effluent shall be non-lethal to rainbow trout and *Daphnia magna* at all times.

(4) For the purposes of determining compliance with and enforcing subsection (1), exceedance of a daily concentration is deemed to have occurred when any daily single grab sample, analyzed for a parameter named in Column 1 of Table 1, is greater than the corresponding daily concentration set in Column 2 of Table 1.

(5) For the purposes of determining compliance with and enforcing subsection (1), exceedance of a monthly average concentration is deemed to have occurred when the arithmetic mean concentration of all samples taken in a calendar month, analyzed for a parameter named in Column 1 of Table 1, is greater than the corresponding monthly average concentration set in Column 3 of Table 1.

(6) Non-compliance with respect to pH is deemed to have occurred when any single measurement is outside of the indicated range.

(7) For the purposes of determining compliance with and enforcing subsection (3), the effluent is deemed to be non-lethal if the test results, required pursuant to Condition 8, show mortality for no more than 50 percent of either test organism in each sample of undiluted effluent.

6. EFFLUENT - VISUAL OBSERVATIONS

Notwithstanding any other condition in this *Approval* the *Owner* shall ensure that the effluent from the *Works* is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam on the receiving waters.

7. EFFLUENT MONITORING AND RECORDING

The *Owner* shall, upon commencement of operation of the sewage works, carry out the following sampling from the final effluent control point ( i.e. the outfall of the settling pond which is approximately 150 metres north of Concession 1) at the commencement of effluent discharge and for the duration of the discharge period, as follows:

(1) All samples and measurements taken for the purposes of this *Approval* are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) Samples shall be collected and analyzed at the following sampling point, at the sampling frequencies and using the sample type specified for each parameter listed:

<b>Effluent Parameter</b>	<b>Frequency</b>	<b>Sample Type</b>
Total Suspended Solids	Weekly	Grab
Oil and Grease	Weekly	Grab
Phenolics (4AAP)	Weekly	Grab

(3) The *Owner* shall collect effluent samples at the following locations and analyze for the parameters listed in Table 3 at a frequency of once per week:

- (a) Outfall of settling pond approximately 150 metres north of Concession 1 (i.e. end of pipe discharge);
- (b) Box culvert on Eldon-Ramara Townline approximately 260 metres north of intersection of Ramara Concession 1 and Eldon-Ramara Townline (i.e. upgradient of end of pipe discharge);

- (c) 80 centimetre CSP located at Concession 1 Road on McCarthy property (i.e. downgradient of end of pipe discharge).

Table 3 - Effluent and Surface Water Monitoring	
Frequency	Weekly
Sample Type	Grab
Parameters	Total Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic, Oil and Grease, Phenolics (4AAP), Hardness (as CaCO <sub>3</sub> ), Alkalinity(as CaCO <sub>3</sub> ), Conductivity, pH, Fluoride, Chloride, Nitrate (N), Nitrite (N), Sulphate, Calcium, Magnesium, Sodium, Potassium, Ammonia (N), Dissolved Organic Carbon, Iron, Total Kjeldahl Nitrogen, Phosphorus (Total), Cadmium, Chromium, Manganese, Anion (Sum), Cation (Sum) and Total Dissolved Solids

- (4) There shall be at least **four days** between successive sampling.
- (5) The methods and protocols for sampling, analysis, and recording shall conform, in order of precedence, to the methods and protocols specified in the following:
- (a) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (August 1994), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
  - (b) the publication "Standard Methods for the Examination of Water and Wastewater" (17th edition) as amended from time to time by more recently published editions; and,
  - (c) in respect of any parameters not mentioned in (a) and (b), the written approval of the *District Manager* , shall be obtained prior to sampling.
- (6) The measurement frequencies specified in subsection (2) in respect of any parameter are minimum requirements which may, **after 48 months** of monitoring in accordance with this Condition, be modified by the *District Manager* in writing from time to time.
- (7) The measurement frequencies specified in subsection (3) in respect of any parameter shall be changed to semi-annually after one year of quarry operation.
- (8) A continuous flow measuring device shall be installed and maintained to measure the flowrate of the effluent from the sewage works, with an accuracy to within plus or minus 15 per cent of the actual flowrate for the entire design range of the flow measuring device and the *Owner* shall measure, record and calculate the flowrate for each effluent stream on each day of sampling.
- (9) The *Owner* shall retain for a minimum of **three (3) years** from the date of their creation, all records

and information related to or resulting from the monitoring activities required by this *Approval* .

8. LETHALITY MONITORING

(1) The *Owner* shall perform rainbow trout acute lethality test and *Daphnia magna* acute lethality test at least once a month on the quarry water effluent according to procedures published in Environment Canada publications entitled "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout", dated July 1990 and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna* ", dated July 1990 and as updated from time to time.

(2) The acute lethality tests shall be carried out on a grab sample as a single concentration test using 100 per cent quarry water effluent.

(3) A minimum of two samples shall be tested for either test animal per each discharge period.

9. RECEIVER INSPECTION

The *Owner* shall, at least once per year, undertake a visual inspection of the downstream ditches for evidence of erosion and/or flooding and shall report the observations in the annual report.

10. REPORTING

(1) One week prior to the start up of the operation of the *Works* , the *Owner* shall notify the *District Manager* (in writing) of the pending start up date.

(2) The *Owner* shall report to the *District Manager* or designate, any exceedance of any parameter specified in Condition 5 orally, forthwith, and in writing within seven (7) days of the exceedance.

(3) In addition to the obligations under Part X of the *Environmental Protection Act* , the *Owner* shall, within 10 working days of the occurrence of any spill, bypass or loss of any product, by product, intermediate product, oils, solvents, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the *District Manager* describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(4) The *Owner* shall submit quarterly reports of the information obtained under Conditions 7 and 8 within 30 days of the end of each quarter.

(5) The *Owner* shall prepare and submit a performance report to the *District Manager* on an annual basis within sixty (60) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the *Works* and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- (a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 5, including an overview of the success and adequacy of the sewage works;
- (b) a description of any operating problems encountered and corrective actions taken;
- (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the sewage works;
- (d) a summary of any effluent quality assurance or control measures undertaken in the reporting period; and
- (e) a summary of the calibration and maintenance carried out on all effluent monitoring equipment.

### Schedule A

#### Environmental Compliance Approval (ECA) supporting documents:

1. Application for Approval of Industrial Sewage Works submitted by Thomas S. McCarthy dated July 21, 2001 and revised January 25, 2002;
2. McCarthy Property - Certificate of Approval Application prepared by Dixon Hydrogeology Limited dated July 2001;
3. Revised Permit to Take Water - McCarthy Property prepared by Dixon Hydrogeology Limited dated April 11, 2002;
4. Letter and attachments dated January 25, 2002 from John Easton of Dixon Hydrogeology Limited to Mohamed Dhalla of the Ministry of the Environment;
5. Letter and attachments dated April 1, 2002 from Dave Hulme of Dave T. Hulme Enterprises Inc. to Stefanos Habtom of the Ministry of the Environment;
6. Letter dated April 10, 2002 from John Easton of Dixon Hydrogeology Limited to Stefanos Habtom of the Ministry of the Environment;
7. Environmental Review Amended Tribunal Decision: 02-214/02-217 and 03-188/03-189, dated May 25, 2006 - Trent Talbot River Property Owners Association, Marchand Lamarre and Jodi McIntosh v. Director, Ministry of the Environment; and
8. Notification of Change of Address/Ownership dated June 29, 2012, MOE Reference Number 3620-8VQPTZ acknowledging change in company address/ownership from Thomas S. McCarty, Rural Route No.1 Brechin, Ontario, L0K 1B0 to QBJR Aggregates Inc., 949 Wilson Ave., Toronto, Ontario, M3K 1G.

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the purposes of  
Part II.1 of the Environmental Protection Act  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 15th day of October, 2013



Edgardo Tovilla  
Director  
appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*



# APPENDIX B

Permit To Take Water No. 7818-9QJNL4

**PERMIT TO TAKE WATER**  
Ground Water  
NUMBER 7818-9QJNL4

*Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:*

QBJR Aggregates Inc.  
949 Wilson Ave  
Toronto, Ontario, M3K 1G2  
Canada

*For the water taking from:* Quarry Sump, McCarthy Quarry

*Located at:* Lot 1, Concession 1, Geographic Township of Mara  
Ramara, County of Simcoe

*For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:*

**DEFINITIONS**

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment and Climate Change.
- (d) "District Office" means the Barrie District Office.
- (e) "Permit" means this Permit to Take Water No. 7818-9QJNL4 including its Schedules, if any, issued in accordance with Section 34 of the OWRA.
- (f) "Permit Holder" means QBJR Aggregates Inc..
- (g) "OWRA " means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

## **TERMS AND CONDITIONS**

### **1. Compliance with Permit**

- 1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated October 7, 2014 and signed by Jenny Coco, and all Schedules included in this Permit.
- 1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.
- 1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.
- 1.4 This Permit is not transferable to another person.
- 1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.
- 1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.
- 1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

### **2. General Conditions and Interpretation**

#### **2.1 Inspections**

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

#### **2.2 Other Approvals**

The issuance of, and compliance with this Permit, does not:

- (a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act*, and the *Environmental Protection Act*, and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

**2.3 Information**

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

**2.4 Rights of Action**

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

**2.5 Severability**

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

**2.6 Conflicts**

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

**3. Water Takings Authorized by This Permit**

**3.1 Expiry**

This Permit expires on **December 31, 2019**. No water shall be taken under authority of this Permit after the expiry date.

**3.2 Amounts of Taking Permitted**

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

**Table A**

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Quarry Sump	Pond Connected	Pits and Quarries	Dewatering	4,545	24	6,544,800	150	17 650950 4933500
							<b>Total Taking:</b>	6,544,800	

3.3 There is an additional water taking limitation per year for Source 1 described as Quarry Sump within Table A. The maximum taking per year from the Quarry Sump is 196,500,000 litres.

**4. Monitoring**

4.1 The Permit Holder shall not lower the water in the quarry below an elevation of 232.0 metres above sea level.

4.2 The Permit Holder shall establish and maintain a weather station within 1 km of the McCarthy Quarry property that collects and records, at a minimum, the following climatic data on a daily basis:

- a) Precipitation (rain and/or snow); and
- b) Temperature (maximum and minimum).

4.3 The Permit Holder shall conduct daily water level monitoring with the use of pressure transducers and data loggers at:

- a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in Item 2 of Schedule A of this Permit, if granted permission by the property owner.
- b) The monitoring wells named OW4-1, OW4-2, OW5-1, OW6-1, OW6-2, OW9-1, OW9-2, and Bored Well (shown on Figure 2, in Item 2 of Schedule A of this Permit).
- c) The City of Kwartha Lakes monitoring well CKL-1, if granted permission by the property owner .

These pressure transducers and data loggers shall be inspected and downloaded at least every 6 months.

4.4 The Permit Holder shall conduct monthly water level monitoring with the use of a manual water level meter at:

- a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in Item 2 of Schedule A of this Permit, if granted permission by the property owner.
- b) The residential wells named DW1, DW2, and DW4, if granted permission by the property owner (shown on Figure 2, in Item 2 of Schedule A of this Permit).

- c) The monitoring wells named AM1b, AMx, TW1-1, OW4-1, OW4-2, OW5-1, OW5-2, OW5-3, OW6-1, OW6-2, OW6-3, OW7-1, OW7-2, OW7-3, OW8-1, OW8-2, OW8-3, OW9-1, OW9-2, and Bored Well (shown on Figure 2 in Item 2 of Schedule A of this Permit).
- d) The City of Kwartha Lakes monitoring wells CKL-1 and CKL-2, if granted permission by the property owner .

The Permit Holder may suspend monthly water level monitoring under Condition 4.4 for the months of January and/or February if no water is taken from the quarry on those months.

4.5 The Permit Holder shall, if granted permission by the property owner, measure and record static water levels in the residential wells named DW5, DW6, DW7, and DW8, as shown on Figure 2 in Item 2 of Schedule A of this Permit, at least once in every two (2) month period during which water is taken from the quarry. The Permit Holder may suspend monthly water level monitoring under Condition 4.5 for the months of January and/or February if no water is taken from the quarry on those months.

4.6 The Permit Holder shall, if granted permission by the property owner, on a semi-annual basis collect raw water samples from the residential wells named DW1, DW2, and the well identified in condition 4.3(a). Each sample shall be tested, at a minimum, for the parameters listed in Table 1 below:

Table 1: Water Quality Parameters for Residential Wells

pH	Sulphate	DOC	Copper
Alkalinity (CaCO3)	Magnesium	Colour	Iron
Bicarbonate	Calcium	Turbidity	Lead
Conductivity	Sodium	Aluminium	Manganese
Fluoride	Potassium	Arsenic	Selenium
Chloride	Ammonia (N)	Barium	Zinc
Nitrate	Phosphate	Boron	Hardness (CaCO3)
Nitrite	Phosphorus	Cadmium	TDS (iron sum calc.)
Chromium	Anion Sum	Ion Ratio	Langelier Index
Tannins	Cation Sum	% Difference	

The Permit Holder shall immediately report to the respective well owner, the Director, and District Office any sampling result that exceeds the Ontario Drinking Water Quality Standards as prescribed by O.Reg. 169/03, as amended.

- 4.7 The Permit Holder shall on a semi-annual basis conduct the groundwater quality monitoring from the on-site groundwater monitors listed in Table 2. Each sample shall be tested, at a minimum, for the parameters listed in Table 3.

Table 2: On-Site Groundwater Monitors for Water Quality Sampling

AM1b	OW4-I	OW5-III	OW8-I
AMx	OW4-II	OW6-II	OW8-II
TW1-1	OW5-I	OW7-I	OW9-I
Bored Well	OW5-II	OW7-II	OW9-II

Table 3: Water Quality Parameters for On-Site Groundwater Monitors

pH	Magnesium	Sulphate	Conductivity
Alkalinity	Calcium	Nitrate	DOC
Bicarbonate	Sodium	Nitrite	Colour
Fluoride	Potassium	Phosphate	TDS
Chloride	Ammonia	Phosphorus	Hardness

- 4.8 Monitoring well AMx is within the quarry extraction area and will be mined out as the quarry face advances to the south. The Permit Holder shall continue to monitor AMx as listed in Conditions 4.4 and 4.7 until such monitoring is either deemed unsafe or the monitoring is not possible due to damage to AMx. Once monitoring of AMx is not possible under Conditions 4.4 and/or 4.7, then a replacement monitoring well must be established along the western property boundary between the quarry face and OW4. This replacement well shall be monitored as per Conditions 4.4 and 4.7 instead of AMx.
- 4.9 The Permit Holder shall notify the Director, in writing, within 30 days if the groundwater level or groundwater quality monitoring of any well listed under conditions 4.3, 4.4, 4.5, 4.6, and 4.7 is not possible, including being denied access to a private well. In the event of damage or loss of any monitoring well, monitoring devices or related equipment, the Permit Holder shall be allowed 30 calendar days from the date of discovery of the occurrence to repair or replace equipment. If a well is too damaged to be repaired or monitored, or if the well is deemed unsafe to be monitored, then the Director will decide if a replacement well is required and will modify the appropriate monitoring conditions in a written letter to the Permit Holder.
- 4.10 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured or calculated amounts for water pumped per day for each day that water is taken under the authorization of this Permit.
- 4.11 The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request.
- 4.12 The Permit Holder shall provide to the Director an annual monitoring report no

later than March 1 each year during the life of this Permit. The annual monitoring report shall be prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:

- a) The review and assessment of all monitoring data required by this Permit.
- b) An up-date of the quarry operations and predicted quarrying and dewatering for the next twelve (12) months.
- c) An assessment of the groundwater trends using the on-site on off-site monitoring data. This analysis should state the actual impact area of quarry dewatering and determine the potential for off-site impacts. If any impacts are predicted then a detailed mitigation plan shall be included within this report.
- d) Analysis that includes amount of water pumped, precipitation data, and an estimate of how much groundwater was pumped versus surface water.
- e) Figures that include site maps with current quarry depths, groundwater contour maps, impact area of quarry dewatering, groundwater elevation graphs, and geological cross-sections.
- f) Any groundwater interference complaints.
- g) Description of all communication with the public.
- h) Conclusions and recommendations, if any, to improve the monitoring and reporting at the site.

An electronic copy of the data collected must also accompany the report.

4.13 The Permit Holder shall make available on a publicly-accessible site on the internet the water quality and quantity data that it is required to monitor and record under this Permit and O.Reg. 387/04, as amended, and a copy of every report that is required to be prepared under this Permit. For greater clarity, the Permit Holder shall not publish any personal information as defined by the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, as amended.

4.14 The Permit Holder shall maintain a Public Liaison Committee ("PLC") comprised of not more than seven (7) members that will meet at least once every four (4) months, unless the majority of the PLC decide that more or less frequent meetings are required. The PLC shall be comprised of: two (2) members appointed by the Permit Holder - one of whom shall act as Chairperson; one (1) member from each of the Township and the County, if they wish to have representatives; and three (3) members appointed by the public, if they wish to have representatives, who must be permanent residents within a 3 kilometre radius of the quarry property. The PLC shall serve in an advisory / community liaison role and shall have no powers to direct the Permit Holder or the Ministry.

4.15 Any request for an amendment or renewal of this Permit must be accompanied by a report prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:

- a) The review and assessment of all monitoring data required by this Permit.
- b) An up-date of the quarry operations and predicted quarrying and dewatering for the duration of the requested permit.
- c) An assessment of the groundwater trends using the on-site on off-site monitoring

data. This analysis should state the actual impact area of quarry dewatering and determine the potential for off-site impacts. If any impacts are predicted then a detailed mitigation plan shall be included within this report.

- d) Analysis that includes amount of water pumped, precipitation data, and an estimate of how much groundwater was pumped versus surface water.
- e) Figures that include site maps with current quarry depths, groundwater contour maps, impact area of quarry dewatering, groundwater elevation graphs, and geological cross-sections.
- f) Any groundwater interference complaints.
- g) Description of all communication with the public.
- h) Conclusions and recommendations, if any, to improve the monitoring and reporting at the site.

An electronic copy of the data collected must also accompany the report. Any application for renewal of this Permit must be submitted to the Ministry at least ninety (90) days prior to the expiry of this Permit.

- 4.16 The Permit Holder shall, as directed by the Ministry, participate in a cumulative impact assessment for the Carden Plain Area with other quarry operators who have been issued a permit to take water in this area.

## **5. Impacts of the Water Taking**

### **5.1 Notification**

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

### **5.2 For Groundwater Takings**

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

- 5.2.1 Where the water supply provided by the well known by MOE Water Well Record Number 5727662 is restored in accordance with Condition 5.2, the Permit Holder shall

restore the supply in a manner satisfactory to the Director, taking into account the residential needs, requirements and preferences of the persons serviced by the well.

- 5.3 Upon the receipt of a groundwater interference complaint, the Permit Holder shall:
- a) Implement the McCarthy Quarry Complaint Resolution Process as described in Item 3 of Schedule A of this Permit.
  - b) In addition, appropriate notification and actions must be taken as described in conditions 5.1 and 5.2 of this Permit. The provisions of conditions 5.1 and 5.2 shall take precedence over the provisions of condition 5.3(a) if there is a conflict.

**6. Director May Amend Permit**

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act*, Section 100 (4).

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, **Environmental Bill of Rights**, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

*This notice must be served upon:*

The Secretary  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto ON  
M5G 1E5  
Fax: (416) 314-4506  
Email:  
ERTTribunalsecretary@ontario.ca

AND

The Environmental Commissioner  
1075 Bay Street  
6th Floor, Suite 605  
Toronto, Ontario M5S 2W5

AND

The Director, Section 34,  
Ministry of the Environment and  
Climate Change  
8th Floor  
5775 Yonge St  
Toronto ON M2M 4J1  
Fax: (416) 325-6347

**Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:**

by telephone at (416) 314-4600

by fax at (416) 314-4506

by e-mail at [www.ert.gov.on.ca](http://www.ert.gov.on.ca)

*This instrument is subject to Section 38 of the **Environmental Bill of Rights** that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.*

This Permit cancels and replaces Permit Number 8271-8VQJGU, issued on 2012/07/11.

Dated at Toronto this 30th day of December, 2014.



Helen Zhang, P.Eng.  
Director, Section 34  
*Ontario Water Resources Act*, R.S.O. 1990

### **Schedule A**

This Schedule "A" forms part of Permit To Take Water 7818-9QJNL4, dated December 30, 2014.

1. Permit To Take Water Application, signed by Jenny Coco, October 7, 2014.
2. Permit To Take Water Application - Renewal Application for McCarthy Quarry, Township of Ramara. Golder Associates Ltd. October 2014.
3. McCarthy Quarry Complaint Resolution Process, Golder Associates Ltd. November 2014.
4. Further Changes to PTTW No. 8271-8VQJGU. Golder Associates Ltd. November 11, 2014.



# APPENDIX C

## Water Quality Results

Your Project #: 1407634  
Site#: 1407634  
Your C.O.C. #: 485991-04-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
121 Commerce Park Drive  
Unit L  
Barrie, ON  
L4N 8X1

**Report Date: 2014/11/05**  
Report #: R3212114  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4K5962**

**Received: 2014/11/03, 10:05**

Sample Matrix: Water  
# Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/11/05	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/11/05	2014/11/05	CAM SOP-00326	EPA 1664B m
Phenols (4AAP)	1	N/A	2014/11/05	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/11/05	2014/11/05	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/11/03	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Antonella Brasil, Senior Project Manager  
Email: ABrasil@maxxam.ca  
Phone# (905)817-5817

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B4K5962  
Report Date: 2014/11/05

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: AR

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YG8916		
<b>Sampling Date</b>		2014/10/30		
<b>COC Number</b>		485991-04-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	<1.6	1.6	3809054
<b>Inorganics</b>				
Phenols-4AAP	mg/L	0.0022	0.0010	3810806
Total Suspended Solids	mg/L	3	1	3809942
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	<1.6	1.6	3812030
Total Oil & Grease Mineral/Synthetic	mg/L	<1.6	1.6	3812032
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				

Maxxam Job #: B4K5962  
Report Date: 2014/11/05

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: AR

### GENERAL COMMENTS

Sample YG8916-01 : Oil & Grease Analysis: Due to limited amount of sample available for analysis, a smaller than usual portion of the sample was used. Detection limits were adjusted accordingly.

**Results relate only to the items tested.**

Maxxam Job #: B4K5962  
Report Date: 2014/11/05

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: AR

### QUALITY ASSURANCE REPORT

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	Units	QC Limits
3809942	SUP	QC Standard	Total Suspended Solids	2014/11/03		98	%	85 - 115
3809942	SUP	Method Blank	Total Suspended Solids	2014/11/03	<1		mg/L	
3809942	SUP	RPD	Total Suspended Solids	2014/11/03	NC		%	25
3810806	BMO	Matrix Spike	Phenols-4AAP	2014/11/05		95	%	80 - 120
3810806	BMO	Spiked Blank	Phenols-4AAP	2014/11/05		102	%	85 - 115
3810806	BMO	Method Blank	Phenols-4AAP	2014/11/05	<0.0010		mg/L	
3810806	BMO	RPD	Phenols-4AAP	2014/11/05	NC		%	20
3812030	FA	Spiked Blank	Total Oil & Grease	2014/11/05		99	%	85 - 115
3812030	FA	RPD	Total Oil & Grease	2014/11/05	5.7		%	25
3812030	FA	Method Blank	Total Oil & Grease	2014/11/05	<0.50		mg/L	
3812032	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2014/11/05		94	%	85 - 115
3812032	FA	RPD	Total Oil & Grease Mineral/Synthetic	2014/11/05	2.6		%	25
3812032	FA	Method Blank	Total Oil & Grease Mineral/Synthetic	2014/11/05	<0.50		mg/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A 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.

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).

Maxxam Job #: B4K5962  
Report Date: 2014/11/05

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: AR

### VALIDATION SIGNATURE PAGE

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



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Brad Newman, Scientific Specialist

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 1407634  
Site#: 1407634  
Your C.O.C. #: 485991-05-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
121 Commerce Park Drive  
Unit L  
Barrie, ON  
L4N 8X1

**Report Date: 2014/11/12**  
Report #: R3219538  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4L0703**

**Received: 2014/11/07, 09:45**

Sample Matrix: Water  
# Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/11/11	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/11/11	2014/11/11	CAM SOP-00326	EPA 1664B m
Phenols (4AAP)	1	N/A	2014/11/12	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/11/11	2014/11/11	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/11/10	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Antonella Brasil, Senior Project Manager  
Email: ABrasil@maxxam.ca  
Phone# (905)817-5817

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B4L0703  
Report Date: 2014/11/12

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: JC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YJ3011		
<b>Sampling Date</b>		2014/11/06 10:00		
<b>COC Number</b>		485991-05-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	2.7	1.6	3815246
<b>Inorganics</b>				
Phenols-4AAP	mg/L	0.0032	0.0010	3817547
Total Suspended Solids	mg/L	4	1	3817051
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	2.7	1.6	3818941
Total Oil & Grease Mineral/Synthetic	mg/L	<1.6	1.6	3818947
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: B4L0703  
Report Date: 2014/11/12

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: JC

### GENERAL COMMENTS

Sample YJ3011-01 : O&G/TPH Analysis: Due to limited amount of sample available for analysis, a smaller than usual portion of the sample was used. Detection limits were adjusted accordingly.

**Results relate only to the items tested.**

Maxxam Job #: B4L0703  
Report Date: 2014/11/12

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: JC

### QUALITY ASSURANCE REPORT

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	Units	QC Limits
3817051	RAY	QC Standard	Total Suspended Solids	2014/11/10		100	%	85 - 115
3817051	RAY	Method Blank	Total Suspended Solids	2014/11/10	<1		mg/L	
3817051	RAY	RPD	Total Suspended Solids	2014/11/10	1.8		%	25
3817547	BMO	Matrix Spike	Phenols-4AAP	2014/11/12		98	%	80 - 120
3817547	BMO	Spiked Blank	Phenols-4AAP	2014/11/12		100	%	85 - 115
3817547	BMO	Method Blank	Phenols-4AAP	2014/11/12	<0.0010		mg/L	
3817547	BMO	RPD	Phenols-4AAP	2014/11/12	3.1		%	20
3818941	FA	Spiked Blank	Total Oil & Grease	2014/11/11		98	%	85 - 115
3818941	FA	RPD	Total Oil & Grease	2014/11/11	2.3		%	25
3818941	FA	Method Blank	Total Oil & Grease	2014/11/11	<0.50		mg/L	
3818947	FA	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2014/11/11		94	%	85 - 115
3818947	FA	RPD	Total Oil & Grease Mineral/Synthetic	2014/11/11	3.2		%	25
3818947	FA	Method Blank	Total Oil & Grease Mineral/Synthetic	2014/11/11	<0.50		mg/L	

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A 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.

Maxxam Job #: B4L0703  
Report Date: 2014/11/12

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: JC

### VALIDATION SIGNATURE PAGE

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


\_\_\_\_\_  
Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 1407634  
 Site#: 1407634  
 Your C.O.C. #: 489200-01-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2014/11/21**  
 Report #: R3229152  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4L6543**

**Received: 2014/11/17, 09:15**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/11/18	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/11/18	2014/11/18	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2014/11/18	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2014/11/19	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/11/18	2014/11/18	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/11/18	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B4L6543  
Report Date: 2014/11/21

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YM2876		
<b>Sampling Date</b>		2014/11/14 10:30		
<b>COC Number</b>		489200-01-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	<0.50	0.50	3825972
<b>Inorganics</b>				
pH	pH	8.18	N/A	3827418
Phenols-4AAP	mg/L	0.0015	0.0010	3827802
Total Suspended Solids	mg/L	15	1	3827766
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	<0.50	0.50	3828423
Total Oil & Grease Mineral/Synthetic	mg/L	<0.50	0.50	3828431
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				

Maxxam Job #: B4L6543  
Report Date: 2014/11/21

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: SG

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Maxxam Job #: B4L6543  
Report Date: 2014/11/21

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: SG

**QUALITY ASSURANCE REPORT**

QA/QC				Date				
Batch	Init	QC Type	Parameter	Analyzed	Value	Recovery	Units	QC Limits
3827418	NYS	Spiked Blank	pH	2014/11/18		102	%	98 - 103
3827418	NYS	RPD	pH	2014/11/18	0.078		%	N/A
3827766	GKR	QC Standard	Total Suspended Solids	2014/11/18		100	%	85 - 115
3827766	GKR	Method Blank	Total Suspended Solids	2014/11/18	<1		mg/L	
3827766	GKR	RPD	Total Suspended Solids	2014/11/18	3.1		%	25
3827802	BMO	Matrix Spike	Phenols-4AAP	2014/11/19		NC	%	80 - 120
3827802	BMO	Spiked Blank	Phenols-4AAP	2014/11/19		98	%	85 - 115
3827802	BMO	Method Blank	Phenols-4AAP	2014/11/19	<0.0010		mg/L	
3827802	BMO	RPD	Phenols-4AAP	2014/11/19	12		%	20
3828423	AMJ	Spiked Blank	Total Oil & Grease	2014/11/18		94	%	85 - 115
3828423	AMJ	RPD	Total Oil & Grease	2014/11/18	3.6		%	25
3828423	AMJ	Method Blank	Total Oil & Grease	2014/11/18	<0.50		mg/L	
3828431	AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2014/11/18		92	%	85 - 115
3828431	AMJ	RPD	Total Oil & Grease Mineral/Synthetic	2014/11/18	2.7		%	25
3828431	AMJ	Method Blank	Total Oil & Grease Mineral/Synthetic	2014/11/18	<0.50		mg/L	

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.

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).

Maxxam Job #: B4L6543  
Report Date: 2014/11/21

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Your Project #: 1407634  
Site#: 1407634  
Your C.O.C. #: 489200-03-01

**Attention: Alicia Beynon**  
Golder Associates Ltd  
121 Commerce Park Drive  
Unit L  
Barrie, ON  
L4N 8X1

**Report Date: 2014/11/28**  
**Report #: R3237710**  
**Version: 1**

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4M0948**  
**Received: 2014/11/21, 10:00**

Sample Matrix: Water  
# Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Animal and Vegetable Oil & Grease	1	N/A	2014/11/25	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/11/25	2014/11/25	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2014/11/24	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2014/11/25	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/11/25	2014/11/25	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/11/23	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager  
Email: ABrasil@maxxam.ca  
Phone# (905) 817-5817

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total cover pages: 1

Maxxam Job #: B4M0948  
Report Date: 2014/11/28

Golder Associates Ltd  
Client Project #: 1407634

Sampler Initials: SG

**OIL & GREASE - A/V/M/T (WATER)**

Maxxam ID		YO4477		
Sampling Date		2014/11/20 10:10		
COC Number		489200-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3833611
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3835783
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3835788
ND = Not detected RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

Maxxam Job #: B4M0948  
Report Date: 2014/11/28

Golder Associates Ltd  
Client Project #: 1407634

Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		YO4477		
Sampling Date		2014/11/20 10:10		
COC Number		489200-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>

<b>Inorganics</b>				
pH	pH	7.97		3833950
Phenols-4AAP	mg/L	ND	0.0010	3835907
Total Suspended Solids	mg/L	2	1	3833965

ND = Not detected  
RDL = Reportable Detection Limit  
QC Batch = Quality Control Batch

Maxxam Job #: B4M0948  
Report Date: 2014/11/28

Golder Associates Ltd  
Client Project #: 1407634

Sampler Initials: SG

Package 1	4.3°C
-----------	-------

Each temperature is the average of up to three cooler temperatures taken at receipt

**GENERAL COMMENTS**

**Results relate only to the items tested.**

Golder Associates Ltd  
Attention: Alicia Beynon  
Client Project #: 1407634  
P.O. #:  
Site Location:

**Quality Assurance Report**  
Maxxam Job Number: MB4M0948

QA/QC Batch	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3833950 SAU	Spiked Blank	pH	2014/11/24		102	%	98 - 103
	RPD	pH	2014/11/24	0.1		%	N/A
3833965 SUP	QC Standard	Total Suspended Solids	2014/11/23		97	%	85 - 115
	Method Blank	Total Suspended Solids	2014/11/23	ND, RDL=1		mg/L	
	RPD	Total Suspended Solids	2014/11/23	6.6		%	25
3835783 AMJ	Spiked Blank	Total Oil & Grease	2014/11/25		97	%	85 - 115
	RPD	Total Oil & Grease	2014/11/25	0.8		%	25
	Method Blank	Total Oil & Grease	2014/11/25	ND, RDL=0.50		mg/L	
3835788 AMJ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2014/11/25		94	%	85 - 115
	RPD	Total Oil & Grease Mineral/Synthetic	2014/11/25	2.1		%	25
	Method Blank	Total Oil & Grease Mineral/Synthetic	2014/11/25	ND, RDL=0.50		mg/L	
3835907 LHA	Matrix Spike	Phenols-4AAP	2014/11/25		NC	%	80 - 120
	Spiked Blank	Phenols-4AAP	2014/11/25		98	%	85 - 115
	Method Blank	Phenols-4AAP	2014/11/25	ND, RDL=0.0010		mg/L	
	RPD	Phenols-4AAP	2014/11/25	3.2		%	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.


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).

## Validation Signature Page

**Maxxam Job #: B4M0948**

---

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

\_\_\_\_\_  
Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

=====  
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.

<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #12323 Golder Associates Ltd		Company Name:		Quotation #: B40279		Maxxam Job #:	
Attention: Central Accounting ALICIA BEYNON		Attention: Alicia Beynon		P.O. #:		Bottle Order #:	
Address: 121 Commerce Park Drive Unit L		Address:		Project: 1407634		489200	
Barrie ON L4N 8X1				Project Name:		COC #:	
Tel: (705) 722-4492 Fax: (705) 722-3786		Tel: (705) 722-4492 x Fax:		Site #:		Project Manager:	
Email: AccountsPayable_Maxxam@golder.com		Email: Alicia_Beynon@golder.com		Sampled By:		Antonella Brasil	

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

<b>Regulation 153 (2011)</b>		<b>Other Regulations</b>		<b>Special Instructions</b>
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality _____
<input type="checkbox"/> Table _____			<input checked="" type="checkbox"/> PW00	
			<input type="checkbox"/> Other _____	

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										
Field Filtered (please circle):	Metals / Hg / Cr / VI	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AAP)	PH					

**Turnaround Time (TAT) Required:**  
Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
(will be applied if Rush TAT is not specified):   
Standard TAT = 5-7 Working days for most tests.  
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_   
Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle):	Metals / Hg / Cr / VI	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AAP)	PH	# of Bottles	Comments
		NOV20/14	10:10	SW	NA	X	X	X	X		4	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

21-Nov-14 10:00  
Antonella Brasil  
B4M0948  
JT3 ENV-698

<b>* RELINQUISHED BY: (Signature/Print)</b>		<b>Date: (YY/MM/DD)</b>	<b>Time</b>	<b>RECEIVED BY: (Signature/Print)</b>		<b>Date: (YY/MM/DD)</b>	<b>Time</b>	<b># jars used and not submitted</b>	<b>Laboratory Use Only</b>				
[Signature]		NOV20/14		[Signature]		20/11/21	10:00		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
STAN GROZELLEC		NOV20/14								4/5/14	Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
											Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Your C.O.C. #: 489200-02-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2014/12/03**  
 Report #: R3244361  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4M5834**  
**Received: 2014/11/28, 09:50**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/12/03	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/12/03	2014/12/03	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2014/11/30	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2014/12/01	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/12/03	2014/12/03	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/11/30	CAM SOP-00428	SM 22 2540D m

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.  
 (1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
 Hongmei Zhao (Grace), Project Manager  
 Email: GZhao@maxxam.ca  
 Phone# (905)817-5752

=====  
 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 Job #: B4M5834  
Report Date: 2014/12/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: A.B

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YQ7694		
<b>Sampling Date</b>		2014/11/26 11:00		
<b>COC Number</b>		489200-02-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.9	0.50	3840802
<b>Inorganics</b>				
pH	pH	7.83	N/A	3842449
Phenols-4AAP	mg/L	0.0012	0.0010	3842239
Total Suspended Solids	mg/L	5	2	3842534
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.9	0.50	3845775
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3845776
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B4M5834  
Report Date: 2014/12/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: A.B

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C
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**Results relate only to the items tested.**

Maxxam Job #: B4M5834  
Report Date: 2014/12/03

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: A.B

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3842239	Phenols-4AAP	2014/12/01	96	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3842449	pH	2014/11/30			102	98 - 103			0.79	N/A		
3842534	Total Suspended Solids	2014/11/30					ND,RDL=1	mg/L	NC	25	97	85 - 115
3845775	Total Oil & Grease	2014/12/03			101	85 - 115	ND, RDL=0.50	mg/L	3.0	25		
3845776	Total Oil & Grease Mineral/Synthetic	2014/12/03			93	85 - 115	ND, RDL=0.50	mg/L	2.7	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.

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).

Maxxam Job #: B4M5834  
Report Date: 2014/12/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: A.B

### VALIDATION SIGNATURE PAGE

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

*Eva P.*  


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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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28-Nov-14 09:50

Antonella Brasil

B4M5834

MAF ENV-877

Page of

Only:

Bottle Order #:

489200

Project Manager:

Antonella Brasil

**INVOICE TO:**  
 Company Name: #12323 Golder Associates Ltd  
 Attention: Central Accounting  
 Address: 121 Commerce Park Drive Unit L  
 Barrie ON L4N 8X1  
 Tel: (705) 722-4492 Fax: (705) 722-3786  
 Email: AccountsPayable\_Maxxam@golder.com

**REPORT TO:**  
 Company Name:  
 Attention: Alicia Beynon  
 Address:  
 Tel: (705) 722-4492 x Fax:  
 Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**  
 Quotation #: B40279  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #:  
 Sampled By:

C#489200-02-01

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Agri/Other <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Coarse <input type="checkbox"/> Fw RSC <input type="checkbox"/> CCME <input type="checkbox"/> Reg 558 <input type="checkbox"/> MISA <input checked="" type="checkbox"/> PWOO <input type="checkbox"/> Other	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw Municipality

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AAP)	PH	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)														
1		NOV 26/14	11:00	SW	N/A	X	X	X	X															
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

* RELINQUISHED BY: (Signature/Print) STAN G. PROZELLE	Date: (YY/MM/DD) NOV 26/14	Time 11:00	RECEIVED BY: (Signature/Print) Chantal Gagnier/CHANTEL GAGNIER	Date: (YY/MM/DD) 2014/11/28	Time 09:50	# jars used and not submitted	Laboratory Use Only				
	NOV 26/14						Time Sensitive	Temperature (°C) on Receipt 6/2/5	Custody Seal	Yes	No
									Present		✓
									Intact		

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 489200-07-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2014/12/17**  
 Report #: R3259917  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B4N5665**  
**Received: 2014/12/12, 10:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/12/15	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/12/15	2014/12/15	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2014/12/15	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2014/12/15	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/12/15	2014/12/15	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/12/13	CAM SOP-00428	SM 22 2540D m

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.  
 (1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
 Antonella Brasil, Senior Project Manager  
 Email: ABrasil@maxxam.ca  
 Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B4N5665  
Report Date: 2014/12/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YV4554		
<b>Sampling Date</b>				
<b>COC Number</b>		489200-07-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3857663
<b>Inorganics</b>				
pH	pH	7.94	N/A	3859969
Phenols-4AAP	mg/L	ND	0.0010	3859294
Total Suspended Solids	mg/L	8	1	3858678
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3860108
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3860267
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				
ND = Not detected				
N/A = Not Applicable				

Maxxam Job #: B4N5665  
Report Date: 2014/12/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.3°C
-----------	-------

**Results relate only to the items tested.**

Maxxam Job #: B4N5665  
Report Date: 2014/12/17

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3858678	Total Suspended Solids	2014/12/13					ND,RDL=1	mg/L	NC	25	96	85 - 115
3859294	Phenols-4AAP	2014/12/15	97	80 - 120	96	85 - 115	ND, RDL=0.0010	mg/L	6.9	20		
3859969	pH	2014/12/15			102	98 - 103			0.13	N/A		
3860108	Total Oil & Grease	2014/12/15			94	85 - 115	ND, RDL=0.50	mg/L	1.8	25		
3860267	Total Oil & Grease Mineral/Synthetic	2014/12/15			93	85 - 115	ND, RDL=0.50	mg/L	1.6	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.

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).

Maxxam Job #: B4N5665  
Report Date: 2014/12/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

12-Dec-14 10:00

Antonella Brasil



B4N5665

FW

ENV-755

Page of

Use Only:

Bottle Order #:



485200

Project Manager:

Antonella Brasil

**INVOICE TO:**

Company Name: #12323 Golder Associates Ltd  
Attention: Central Accounting  
Address: 121 Commerce Park Drive Unit L  
Barrie ON L4N 8X1  
Tel: (705) 722-4492 Fax: (705) 722-3786  
Email: AccountsPayable\_Maxxam@golder.com

**REPORT TO:**

Company Name:  
Attention: Alicia Beynon  
Address:  
Tel: (705) 722-4492 x Fax:  
Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**

Quotation #: B40279  
P.O. #:  
Project: 1407634  
Project Name:  
Site #:  
Sampled By:



C#485200-07-01

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Coarse <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> CCME <input type="checkbox"/> Reg 558 <input type="checkbox"/> MISA <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> Other	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> Municipality

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / V	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (MAAP)	PH
1				SW	N/A	K	X	X	X
2									
3									
4									
5									
6									
7									
8									
9									
10									

**Turnaround Time (TAT) Required:**  
Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
(will be applied if Rush TAT is not specified):  
Standard TAT = 5-7 Working days for most tests.  
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

# of Bottles	Comments
4	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
STAN GROZICKI	DEC 11/14	11:50	MUSROT NDR	2014/12/12	10:00			8/7/7	Present		
	DEC 11/14	11:50							Intact		

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 489200-05-01

**Attention: Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2014/12/31**  
 Report #: R3275442  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B401742**  
**Received: 2014/12/22, 09:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2014/12/30	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2014/12/29	2014/12/30	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2014/12/24	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2014/12/29	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2014/12/29	2014/12/30	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2014/12/24	CAM SOP-00428	SM 22 2540D m

\* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.  
 (1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
 Antonella Brasil, Senior Project Manager  
 Email: ABrasil@maxxam.ca  
 Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B401742  
Report Date: 2014/12/31

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		YY4277		
<b>Sampling Date</b>				
<b>COC Number</b>		489200-05-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3868423
<b>Inorganics</b>				
pH	pH	8.03	N/A	3870324
Phenols-4AAP	mg/L	ND	0.0010	3869935
Total Suspended Solids	mg/L	3	1	3869868
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3872329
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3872333
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B4O1742  
Report Date: 2014/12/31

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B4O1742  
Report Date: 2014/12/31

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3869868	Total Suspended Solids	2014/12/24					ND,RDL=1	mg/L	NC	25	99	85 - 115
3869935	Phenols-4AAP	2014/12/29	98	80 - 120	102	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3870324	pH	2014/12/24			102	98 - 103			0.19	N/A		
3872329	Total Oil & Grease	2014/12/30			101	85 - 115	ND, RDL=0.50	mg/L	5.4	25		
3872333	Total Oil & Grease Mineral/Synthetic	2014/12/30			97	85 - 115	ND, RDL=0.50	mg/L	4.2	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.

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).

Maxxam Job #: B4O1742  
Report Date: 2014/12/31

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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



---

Brad Newman, Scientific Specialist

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campbell Rd, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free 800-563-6254 Fax: (905) 817-5777 www.maxxam.ca

CHAIN OF CUSTODY RECORD

Page of

<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #12323 Golder Associates Ltd		Company Name: Alicia Beynon		Quotation #: B40279		Maxxam Job #:	
Attention: Central Accounting		Attention: Alicia Beynon		P.O. #:		Bottle Order #:	
Address: 121 Commerce Park Drive Unit L		Address:		Project: 1407634		COC #:	
Barrie ON L4N 8X1		Tel: (705) 722-4492 x Fax: (705) 722-3786		Project Name:		Project Manager:	
Tel: (705) 722-4492		Tel: (705) 722-4492 x Fax: (705) 722-3786		Site #:		Antonella Brasil	
Email: AccountsPayable_Maxxam@golder.com		Email: Alicia_Beynon@golder.com		Sampled By:		C#489200-05-01	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required:						
Regulation 153 (2011)		Other Regulations		Special Instructions												Regular (Standard) TAT:				
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw		Field Filtered (please circle):														
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw		Metals / Hg / Cr / VI														
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality:		Oil & Grease - A/V/M/T														
<input type="checkbox"/> Table			<input checked="" type="checkbox"/> PWOO			Low Level Total Suspended Solids														
			<input type="checkbox"/> Other			Phosphorus (AAAP)														
Include Criteria on Certificate of Analysis (Y/N)?																				
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix																
1				SW	N/A	X	X	X	X											4
2																				
3																				
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5																				
6																				
7																				
8																				
9																				
10																				

22-Dec-14 09:00  
 Antonella Brasil  
  
 B401742  
 AKP ENV-832

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
STAN GROZELLE		DEC 18/14	11:30	ANTONELLA BRASIL		2014/12/22	09:00		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
		DEC 18/14	11:30			2014/12/22	09:00			4/4/4	Present	✓	
											Intact	✓	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 497410-03-01

**Attention: Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/01/14**  
 Report #: R3302661  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B503749**

**Received: 2015/01/09, 09:05**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/01/12	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/01/12	2015/01/12	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/01/10	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2015/01/12	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/01/12	2015/01/12	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/01/11	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B503749  
Report Date: 2015/01/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ZC2067		
<b>Sampling Date</b>		2015/01/05		
<b>COC Number</b>		497410-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3881281
<b>Inorganics</b>				
pH	pH	7.71	N/A	3882416
Phenols-4AAP	mg/L	ND	0.0010	3882431
Total Suspended Solids	mg/L	2	1	3882488
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3882839
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3882840
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B503749  
Report Date: 2015/01/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	0.3°C
-----------	-------

**Results relate only to the items tested.**

Maxxam Job #: B503749  
Report Date: 2015/01/14

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3882416	pH	2015/01/10			102	98 - 103			0.56	N/A		
3882431	Phenols-4AAP	2015/01/12	98	80 - 120	103	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3882488	Total Suspended Solids	2015/01/11					ND,RDL=1	mg/L	NC	25	97	85 - 115
3882839	Total Oil & Grease	2015/01/12			97	85 - 115	ND, RDL=0.50	mg/L	1.3	25		
3882840	Total Oil & Grease Mineral/Synthetic	2015/01/12			94	85 - 115	ND, RDL=0.50	mg/L	2.6	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.



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).

Maxxam Job #: B503749  
Report Date: 2015/01/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

Ewa Pranjić, M.Sc., C.Chem, Scientific Specialist

---

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 COCO PAVING INC	Company Name: #17930 Golder Associates Ltd	Quotation #: B47292	Maxxam Job #:	Bottle Order #:	497410		
Attention: Anthony Rossi/Dave Sanders	Attention: Alicia Beynon	P.O. #:	COC #:		Project Manager:		
Address: 949 Wilson Ave Toronto ON M3K 1G2	Address: 121 Commerce Park Drive Unit L Barrie ON L4N 8X1	Project: 1407634	COC #:		Antoniella Brasil		
Tel: (416) 570-7052 x	Tel: (705) 722-4492	Project Name: MCCARTHY	COC #:		Antoniella Brasil		
Email: ARossi@cocogroup.com; DSanders@cocogroup.com	Email: Alicia_Beynon@golder.com	Site #: MCCARTHY	COC #:		Antoniella Brasil		
		Sampled By:	COC #:		Antoniella Brasil		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required: Please provide advance notice for rush projects											
Regulation 153 (2011)		Other Regulations		Special Instructions		Field Filtered (please circle): Metals / Hg / Cr / V	Low Level Total Suspended Solids	Phenols (4AAP)	Oil & Grease - AAM/MT											Regular (Standard) TAT: <i>(will be applied if Rush TAT is not specified)</i>	<input checked="" type="checkbox"/>				
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw																					
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw																					
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality _____																					
<input type="checkbox"/> Table _____			<input checked="" type="checkbox"/> PWQO																						
Include Criteria on Certificate of Analysis (Y/N)?																									
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix																					
1			SW	SW			X	X	X	X															4
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09-Jan-15 09:05  
 Antonella Brasil  
 B503749  
 JT3 ENV-578

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
JASON COCIBLANCO		Jan 8/15	11:30	DR DEEPTHI SHAJI		2015/01/09	09:05		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
<i>[Signature]</i>		Jan 8/15	11:30							0/10c	Present	<input checked="" type="checkbox"/>	
											Intact	<input checked="" type="checkbox"/>	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam. Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 497410-01-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/01/21**  
 Report #: R3308740  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B508311**

**Received: 2015/01/16, 09:40**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/01/20	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/01/20	2015/01/20	CAM SOP-00326	EPA 1664B m
Phenols (4AAP)	1	N/A	2015/01/20	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/01/20	2015/01/20	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/01/19	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
 Antonella Brasil, Senior Project Manager  
 Email: ABrasil@maxxam.ca  
 Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B508311  
Report Date: 2015/01/21

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		ZE3476	ZE3476		
Sampling Date					
COC Number		497410-01-01	497410-01-01		
	Units	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	1.8		0.50	3888682
<b>Inorganics</b>					
Phenols-4AAP	mg/L	0.0017		0.0010	3890785
Total Suspended Solids	mg/L	2	2	1	3890062
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	1.8		0.50	3891443
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	3891455
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B508311  
Report Date: 2015/01/21

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C
-----------	-------

pH analysis could not be conducted due to insufficient volume.

**Results relate only to the items tested.**

Maxxam Job #: B508311  
Report Date: 2015/01/21

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3890062	Total Suspended Solids	2015/01/19					ND,RDL=1	mg/L	NC	25	100	85 - 115
3890785	Phenols-4AAP	2015/01/20	98	80 - 120	103	85 - 115	ND, RDL=0.0010	mg/L	2.7	20		
3891443	Total Oil & Grease	2015/01/20	91	75 - 125	97	85 - 115	ND, RDL=0.50	mg/L	3.1	25		
3891455	Total Oil & Grease Mineral/Synthetic	2015/01/20			94	85 - 115	ND, RDL=0.50	mg/L	2.1	25		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A 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.

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).

Maxxam Job #: B508311  
Report Date: 2015/01/21

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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



Brad Newman, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
 8740 Campopello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

16-Jan-15 09:40

Antonella Brasil

Page 1 of 1

**INVOICE TO:**

Company Name: #26238 COCO PAVING INC  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name: #17930 Golder Associates Ltd  
 Attention: Alicia Beynon  
 Address: 121 Commerce Park Drive Unit L  
 Barrie ON L4N 8X1  
 Tel: (705) 722-4492  
 Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: MCCARTHY  
 Sampled By:

B508311  
 FW ENV-796

C#497410-01-01

**Use Only:**

Bottle Order #: 497410  
 Project Manager: Antonella Brasil

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

**Regulation 153 (2011)**

Table 1  Res/Park  Medium/Fine  
 Table 2  Ind/Comm  Coarse  
 Table 3  Agr/Other  For RSC  
 Table

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
 Reg 55B  Storm Sewer Bylaw  
 MISA  Municipality \_\_\_\_\_  
 PWQO   
 Other \_\_\_\_\_

**Special Instructions**

**Include Criteria on Certificate of Analysis (Y/N)?**

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix
1	Pond		S/W	
2	Pond			
3	Pond			
4	Pond			
5	Pond			
6	Pond			
7				
8				
9				
10				

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Field Filtered (please circle): Metals / Hg / Cr / VI	Low Level Total Suspended Solids	Phenols (4AAP)	Oil & Grease - AV/MT																
N/A	X	X	X	X															

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified).  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

# of Bottles	Comments
4	

* RELINQUISHED BY: (Signature/Print) JASOU COEBUR L		Date: (YY/MM/DD) Jan 15/15	Time 11:30am	RECEIVED BY: (Signature/Print) MACHEL DELFIN		Date: (YY/MM/DD) 2015/01/16	Time 09:40	# jars used and not submitted	Laboratory Use Only			
								Time Sensitive	Temperature (°C) on Receipt 4/4/16	Custody Seal	Yes	No
										Present		
										Intact		

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C ) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 498937-01-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/01/28**  
 Report #: R3315525  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B513666**

**Received: 2015/01/23, 09:19**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/01/27	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/01/27	2015/01/27	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/01/24	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2015/01/27	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/01/27	2015/01/27	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/01/25	CAM SOP-00428	SM 22 2540D m

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B513666  
Report Date: 2015/01/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ZG9081		
<b>Sampling Date</b>				
<b>COC Number</b>		498937-01-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	2.0	0.50	3896270
<b>Inorganics</b>				
pH	pH	7.69	N/A	3897430
Phenols-4AAP	mg/L	ND	0.0010	3897357
Total Suspended Solids	mg/L	2	1	3897648
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	2.0	0.50	3899275
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3899278
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B513666  
Report Date: 2015/01/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B513666  
Report Date: 2015/01/28

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3897357	Phenols-4AAP	2015/01/27	97	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3897430	pH	2015/01/24			102	98 - 103			0.082	N/A		
3897648	Total Suspended Solids	2015/01/25					ND,RDL=1	mg/L	NC	25	98	85 - 115
3899275	Total Oil & Grease	2015/01/27	94	75 - 125	94	85 - 115	ND, RDL=0.50	mg/L	0.93	25		
3899278	Total Oil & Grease Mineral/Synthetic	2015/01/27			97	85 - 115	ND, RDL=0.50	mg/L	3.2	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.

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).

Maxxam Job #: B513666  
Report Date: 2015/01/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

### VALIDATION SIGNATURE PAGE

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



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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

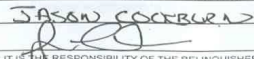
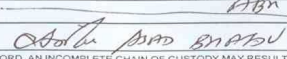
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<b>INVOICE TO:</b> Company Name: #26238 COCO PAVING INC Attention: Anthony Rossi/Dave Sanders Address: 949 Wilson Ave Toronto ON M3K 1G2 Tel: (416) 570-7052 x Email: ARossi@cocogroup.com; DSanders@cocogroup.com		<b>REPORT TO:</b> Company Name: #17930 Golder Associates Ltd Attention: Alicia Beynon Address: 121 Commerce Park Drive Unit L Barrie ON L4N 8X1 Tel: (705) 722-4492 Email: Alicia_Beynon@golder.com		<b>PROJECT INFORMATION:</b> Quotation #: B47292 P.O. #: 1407634 Project Name: MCCARTHY Site #: Sampled By:		<b>Laboratory Use Only:</b> Maxxam Job #: Bottle Order #: COC #: Project Manager: Hongmei Zhao (Grace)	
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MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY				ANALYSIS REQUESTED (PLEASE BE SPECIFIC)								Turnaround Time (TAT) Required:				
Regulation 153 (2011)			Other Regulations		Special Instructions		Field Filtered (please circle):	Metals / Hg / Cr VI	D/E Coarse - A/W/M/T	Low Level Total Suspended Solids	Phenols (4AAP)	Regular (Standard) TAT:		Job Specific Rush TAT (if applies to entire submission)		
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw								(will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests.		Date Required: _____ Time Required: _____		
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw								Please provide advance notice for rush projects		Rush Confirmation Number: _____ (call lab for #)		
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agr/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality: _____								Job Specific Rush TAT (if applies to entire submission)		# of Bottles: _____ Comments: _____		
<input type="checkbox"/> Table _____			<input checked="" type="checkbox"/> PWGO	<input type="checkbox"/> Other _____								(call lab for #)		# of Bottles: _____ Comments: _____		
Include Criteria on Certificate of Analysis (Y/N)?				Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix								
1		POND					SW	N/A	X	X	X	X			4	
2																
3																
4																
5																
6																
7																
8																
9																
10																

23-Jan-15 09:19  
 Hongmei Zhao (Grace)  
  
 B513666  
 JT3 ENV-586

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Laboratory Use Only		
		Jan 22/15	11:25			2015/01/23	09119			4/13	Custody Seal	Yes	No
		Jan 22/15	11:28								Present	<input checked="" type="checkbox"/>	
											Intact	<input checked="" type="checkbox"/>	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 498937-07-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/02/09**  
 Report #: R3325962  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B518759**

**Received: 2015/02/02, 09:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/02/05	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/02/05	2015/02/05	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/02/03	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2015/02/04	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/02/05	2015/02/05	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/02/04	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B518759  
Report Date: 2015/02/09

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ZJ5919		
<b>Sampling Date</b>				
<b>COC Number</b>		498937-07-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.8	0.50	3905507
<b>Inorganics</b>				
pH	pH	7.75	N/A	3906716
Phenols-4AAP	mg/L	0.0012	0.0010	3908007
Total Suspended Solids	mg/L	10	2	3907787
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.8	0.50	3909057
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3909059
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B518759  
Report Date: 2015/02/09

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	-1.3°C
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Samples received with icicles and analyses conducted with client's consent.

**Results relate only to the items tested.**

Maxxam Job #: B518759  
Report Date: 2015/02/09

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3906716	pH	2015/02/03			101	98 - 103			1.2	N/A		
3907787	Total Suspended Solids	2015/02/04					ND,RDL=1	mg/L	NC	25	97	85 - 115
3908007	Phenols-4AAP	2015/02/04	NC	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	3.5	20		
3909057	Total Oil & Grease	2015/02/05	94	75 - 125	101	85 - 115	ND, RDL=0.50	mg/L	2.5	25		
3909059	Total Oil & Grease Mineral/Synthetic	2015/02/05			97	85 - 115	ND, RDL=0.50	mg/L	4.2	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.

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).

Maxxam Job #: B518759  
Report Date: 2015/02/09

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: JC

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

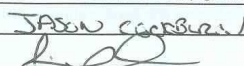
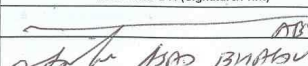

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 COCO PAVING INC		Company Name: #17930 Golder Associates Ltd		Quotation #: B47292		Maxxam Job #:	
Attention: Anthony Rossi/Dave Sanders		Attention: Alicia Beynon		P.O. #: 1407634		Bottle Order #:	
Address: 949 Wilson Ave		Address: 121 Commerce Park Drive Unit L		Project: MCCARTHY		COC #:	
Toronto ON M3K 1G2		Barrie ON L4N 8X1		Site #: MCCARTHY		Project Manager:	
Tel: (416) 570-7052 x Fax:		Tel: (705) 722-4492 Fax:		Sampled By:		C#498937-07-01	
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Alicia_Beynon@golder.com				Hongmei Zhao (Grace)	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)*										Turnaround Time (TAT) Required: Please provide advance notice for rush projects																																																																																																																																																																																																																		
Regulation 153 (2011)			Other Regulations			Special Instructions			Field Filtered (please circle): Metals / Hg / Cr / V										Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.																																																																																																																																																																																																														
<input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table _____			<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA   Municipality _____ <input checked="" type="checkbox"/> PWOO <input type="checkbox"/> Other _____						Oil & Grease - AV/MT Low Level Total Suspended Solids Phosphorus (AsAP)										Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)																																																																																																																																																																																																														
Include Criteria on Certificate of Analysis (Y/N)?															# of Bottles		Comments																																																																																																																																																																																																																
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Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / V	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phosphorus (AsAP)																																																																																																																																																																																																																									
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* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
 JASON COOPER		Jan 29/15	11:30	 ALICIA BEYNON		Jan 29/15	09:00		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
		Jan 29/15	11:00	 JASON COOPER		Jan 29/15	09:00			-2/-1/-1	Present		✓
											Intact		✓

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 494821-03-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/03/27**  
 Report #: R3374209  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B549119**

**Received: 2015/03/20, 09:35**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/03/26	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/03/26	2015/03/26	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/03/24	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2015/03/26	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/03/26	2015/03/26	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/03/25	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B549119  
Report Date: 2015/03/27

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ZY2251		
<b>Sampling Date</b>				
<b>COC Number</b>		494821-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3954784
<b>Inorganics</b>				
pH	pH	7.43	N/A	3957541
Phenols-4AAP	mg/L	0.0010	0.0010	3957545
Total Suspended Solids	mg/L	ND	1	3955334
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3961085
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3961096
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B549119  
Report Date: 2015/03/27

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B549119  
Report Date: 2015/03/27

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3955334	Total Suspended Solids	2015/03/25					ND,RDL=1	mg/L	NC	25	98	85 - 115
3957541	pH	2015/03/24			102	98 - 103			0.12	N/A		
3957545	Phenols-4AAP	2015/03/26	NC	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	10	20		
3961085	Total Oil & Grease	2015/03/19			98	85 - 115	ND, RDL=0.50	mg/L	3.1	25		
3961096	Total Oil & Grease Mineral/Synthetic	2015/03/26			95	85 - 115	ND, RDL=0.50	mg/L	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.

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).

Maxxam Job #: B549119  
Report Date: 2015/03/27

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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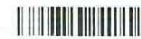
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

20-Mar-15 09:35

Antonella Brasil



B549119

FW

ENV-767

Page of

Use Only:

Bottle Order #:



494821

Project Manager:

Antonella Brasil

**INVOICE TO:**

Company Name: #12323 Golder Associates Ltd  
Attention: Central Accounting  
Address: 121 Commerce Park Drive Unit L  
Barrie ON L4N 8X1  
Tel: (705) 722-4492 Fax: (705) 722-3786  
Email: AccountsPayable\_Maxxam@golder.com

**REPORT TO:**

Company Name:  
Attention: Alicia Beynon  
Address:  
Tel: (705) 722-4492 x Fax:  
Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**

Quotation #: B40279  
P.O. #:  
Project: 1407634  
Project Name:  
Site #:  
Sampled By:



C#494821-03-01

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Agri/Other <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Coarse <input type="checkbox"/> For RSC <input type="checkbox"/> CCME <input type="checkbox"/> Reg 558 <input type="checkbox"/> MISA <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> Other	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw Municipality

Include Criteria on Certificate of Analysis (Y/N)?

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Field Filtered (please circle): Metals / Hg / Cr / V / I	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AAP)										
N/A	X	X	X	X									

**Turnaround Time (TAT) Required:**  
Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
(will be applied if Rush TAT is not specified):  
Standard TAT = 5-7 Working days for most tests.  
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Regular (Standard) TAT

**Job Specific Rush TAT (if applies to entire submission)**  
Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix
1				SW
2				
3				
4				
5				
6				
7				
8				
9				
10				

# of Bottles	Comments
4	

* RELINQUISHED BY: (Signature/Print) STAN GROSZELLE		Date: (YY/MM/DD) 19/03/15	Time 11:00	RECEIVED BY: (Signature/Print) RACHEL DEVLIN		Date: (YY/MM/DD) 20/03/15	Time 09:35	# jars used and not submitted	Laboratory Use Only	Custody Seal	Yes	No
STAN GROSZELLE		19/03/15	11:00	RACHEL DEVLIN		20/03/15	09:35		Time Sensitive	Temperature (°C) on Receipt 5/3/3	Present	
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.										SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM		White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 498937-03-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/04/02**  
 Report #: R3380091  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B554207**

**Received: 2015/03/27, 10:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/04/02	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/04/02	2015/04/02	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/03/28	CAM SOP-00413	SM 4500H+ B
Phenols (4AAP)	1	N/A	2015/03/30	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/04/02	2015/04/02	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/03/29	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B554207  
Report Date: 2015/04/02

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		AAH138	AAH138		
Sampling Date					
COC Number		498937-03-01	498937-03-01		
	Units	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	ND		0.50	3962652
<b>Inorganics</b>					
pH	pH	7.32		N/A	3964456
Phenols-4AAP	mg/L	ND	ND	0.0010	3964846
Total Suspended Solids	mg/L	ND		1	3964534
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	ND		0.50	3969556
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	3969567
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B554207  
Report Date: 2015/04/02

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B554207  
Report Date: 2015/04/02

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3964456	pH	2015/03/28			102	98 - 103			0.14	N/A		
3964534	Total Suspended Solids	2015/03/29					ND,RDL=1	mg/L	NC	25	96	85 - 115
3964846	Phenols-4AAP	2015/03/30	95	80 - 120	96	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3969556	Total Oil & Grease	2015/04/02	87	75 - 125	95	85 - 115	ND, RDL=0.50	mg/L	NC	25		
3969567	Total Oil & Grease Mineral/Synthetic	2015/04/02			94	85 - 115	ND, RDL=0.50	mg/L	2.2	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.

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).

Maxxam Job #: B554207  
Report Date: 2015/04/02

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 COCO PAVING INC		Company Name: #17930 Golder Associates Ltd		Quotation #: B47292		Maxxam Job #:	
Attention: Anthony Rossi/Dave Sanders		Attention: Alicia Beynon		P.O. #:		Bottle Order #:	
Address: 949 Wilson Ave		Address: 121 Commerce Park Drive Unit L		Project: 1407634		COC #: 499937	
Toronto ON M3K 1G2		Barrie ON L4N 8X1		Project Name: MCCARTHY		Project Manager: Hongmei Zhao (Grace)	
Tel: (416) 570-7052 x Fax:		Tel: (705) 722-4492 Fax:		Site #:		C#498937-03-01	
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Alicia_Beynon@golder.com		Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY						ANALYSIS REQUESTED (PLEASE BE SPECIFIC)								Turnaround Time (TAT) Required: Please provide advance notice for rush projects				
Regulation 153 (2011)		Other Regulations		Special Instructions		Field Filtered (please circle): Metals / Hg / Cr / V	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (AAP)	PH							Regular (Standard) TAT: <i>(will be applied if Rush TAT is not specified):</i> Standard TAT = 5-7 Working days for most tests. <i>Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are &gt; 5 days - contact your Project Manager for details.</i>	
<input type="checkbox"/> Table 1	<input type="checkbox"/> Rest/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw													Date Required: _____ Time Required: _____	
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw		Rush Confirmation Number: _____ (call lab for #)												
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality _____														
<input type="checkbox"/> Table _____			<input checked="" type="checkbox"/> PWOO	Other _____														
Include Criteria on Certificate of Analysis (Y/N)?																		
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix												# of Bottles	Comments	
1				SW	NA	X	X	X	X							4		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

27-Mar-15 10:00  
 Hongmei Zhao (Grace)  
 B554207  
 JT3 ENV-710

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
STAN GROZELLE		MAR 26/15	11:00	ASH: DRA SIKKONIA		MAR 26/15	10:00		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
[Signature]		MAR 26/15	11:00	[Signature]		MAR 26/15	11:00			3/3/3	Present	✓	
											Intact	✓	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL, (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 498937-06-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/04/13**  
 Report #: R3388193  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B559124**

**Received: 2015/04/06, 09:45**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/04/10	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/04/10	2015/04/10	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/04/07	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/04/09	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/04/10	2015/04/10	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/04/07	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B559124  
Report Date: 2015/04/13

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ABE143		
<b>Sampling Date</b>				
<b>COC Number</b>		498937-06-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3971821
<b>Inorganics</b>				
pH	pH	7.69	N/A	3972800
Phenols-4AAP	mg/L	ND	0.0010	3973164
Total Suspended Solids	mg/L	1	1	3973000
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3978052
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3978104
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B559124  
Report Date: 2015/04/13

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B559124  
Report Date: 2015/04/13

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3972800	pH	2015/04/07			102	98 - 103			0.27	N/A		
3973000	Total Suspended Solids	2015/04/07					ND,RDL=1	mg/L	NC	25	98	85 - 115
3973164	Phenols-4AAP	2015/04/09	NC	80 - 120	100	85 - 115	ND, RDL=0.0010	mg/L	2.0	20		
3978052	Total Oil & Grease	2015/04/10			98	85 - 115	ND, RDL=0.50	mg/L	3.4	25		
3978104	Total Oil & Grease Mineral/Synthetic	2015/04/10			96	85 - 115	ND, RDL=0.50	mg/L	2.1	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.

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).

Maxxam Job #: B559124  
Report Date: 2015/04/13

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

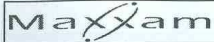
*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-Free:800-563-6266 Fax:(905) 817-5777 www.maxxam.ca

CHAIN OF CUSTODY RECORD

Page of

<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 COCO PAVING INC	Company Name: #17930 Golder Associates Ltd	Quotation #: B47292	Maxxam Job #:		Bottle Order #:		
Attention: Anthony Rossi/Dave Sanders	Attention: Alicia Beynon	P.O. #: 1407634			498937		
Address: 949 Wilson Ave	Address: 121 Commerce Park Drive Unit L	Project: MCCARTHY	COC #:		Project Manager:		
Toronto ON M3K 1G2	Barrie ON L4N 8X1	Site #: (705) 722-4492	C#498937-06-01		Hongmei Zhao (Grace)		
Tel: (416) 570-7052 x Fax:	Tel: (705) 722-4492 Fax:	Sampled By:					
Email: ARossi@cocogroup.com; DSanders@cocogroup.com	Email: Alicia_Beynon@golder.com						

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)					Turnaround Time (TAT) Required: Please provide advance notice for rush projects	
Regulation 153 (2011)		Other Regulations		Special Instructions	Field Filtered (please circle): Metals / Hg / Cr / V	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AP)	PH	Regular (Standard) TAT: <small>(will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are &gt; 5 days - contact your Project Manager for details.</small>	
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw						<input checked="" type="checkbox"/> Regular (Standard) TAT	
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw	<small>(will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests.</small>						
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality	<small>Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are &gt; 5 days - contact your Project Manager for details.</small>						
<input type="checkbox"/> Table			<input checked="" type="checkbox"/> PWQO		<b>Job Specific Rush TAT (if applies to entire submission)</b>						
Include Criteria on Certificate of Analysis (Y/N)?										Date Required: _____ Time Required: _____	
			<input type="checkbox"/> Other							Rush Confirmation Number: _____ (call lab for #)	
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix						# of Bottles	Comments
				SW	NA	X	X	X	X	4	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

06-Apr-15 09:45  
Hongmei Zhao (Grace)  
B559124  
HP6 ENV-596

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Stan Grozelle		04/07/15	11:30	Alicia Patce	201504106	09:45		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
									6/6/5	Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
										Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 494821-07-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/04/16**  
 Report #: R3391905  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B563327**

**Received: 2015/04/10, 08:25**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/04/16	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/04/15	2015/04/16	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/04/15	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/04/13	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/04/15	2015/04/16	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/04/12	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B563327  
Report Date: 2015/04/16

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ABX679		
<b>Sampling Date</b>				
<b>COC Number</b>		494821-07-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3977728
<b>Inorganics</b>				
pH	pH	8.01	N/A	3981817
Phenols-4AAP	mg/L	ND	0.0010	3979083
Total Suspended Solids	mg/L	9	1	3979159
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	3982802
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3982832
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B563327  
Report Date: 2015/04/16

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B563327  
Report Date: 2015/04/16

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3979083	Phenols-4AAP	2015/04/13	95	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3979159	Total Suspended Solids	2015/04/12					ND,RDL=1	mg/L	NC	25	99	85 - 115
3981817	pH	2015/04/15			102	98 - 103			0.21	N/A		
3982802	Total Oil & Grease	2015/04/16			98	85 - 115	ND, RDL=0.50	mg/L	3.0	25		
3982832	Total Oil & Grease Mineral/Synthetic	2015/04/16			94	85 - 115	ND, RDL=0.50	mg/L	3.7	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.

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).

Maxxam Job #: B563327  
Report Date: 2015/04/16

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

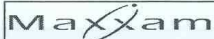
  


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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #12323 Golder Associates Ltd		Company Name:		Quotation #: B40279		Maxxam Job #:	
Attention: Central Accounting		Attention: Alicia Beynon		P.O. #:		Bottle Order #:	
Address: 121 Commerce Park Drive Unit L		Address:		Project: 1407634		494821	
Barrie ON L4N 8X1				Project Name:		COC #:	
Tel: (705) 722-4492 Fax: (705) 722-3786		Tel: (705) 722-4492 x Fax:		Site #:		Project Manager:	
Email: AccountsPayable_Maxxam@golder.com		Email: Alicia_Beynon@golder.com		Sampled By:		Antonella Brasil	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

<input type="checkbox"/> Regulation 153 (2011) <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table _____		<b>Other Regulations</b> <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA Municipality _____ <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> Other _____		<b>Special Instructions</b>	
--	--	--	--	-----------------------------	--

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / V	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (MAXP)										
1				sw	NA	X	X	X	X									
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (TAT) Required:  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):   
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

10-Apr-15 08:25  
 Antonella Brasil  
  
 B563327  
 HP6 ENV-653

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
<i>Stana Grozelce</i>		04/10/15	11:30	<i>Antonella Brasil</i>		04/10/15	08:25		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
STANA GROZELCE		04/09/15	11:30							71/17	Present	<input checked="" type="checkbox"/>	
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.								SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM				White: Maxxam	Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 498937-04-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/04/28**  
 Report #: R3407319  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B571184**

**Received: 2015/04/21, 11:10**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/04/25	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/04/25	2015/04/25	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/04/24	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/04/23	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/04/25	2015/04/25	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/04/22	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B571184  
Report Date: 2015/04/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ADJ007		
<b>Sampling Date</b>				
<b>COC Number</b>		498937-04-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.5	0.50	3992020
<b>Inorganics</b>				
pH	pH	8.10	N/A	3994605
Phenols-4AAP	mg/L	0.0022	0.0010	3992868
Total Suspended Solids	mg/L	16	1	3992563
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.5	0.50	3997349
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	3997364
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B571184  
Report Date: 2015/04/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.0°C
-----------	-------

**Results relate only to the items tested.**

Maxxam Job #: B571184  
Report Date: 2015/04/28

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3992563	Total Suspended Solids	2015/04/22					ND,RDL=1	mg/L	NC	25	97	85 - 115
3992868	Phenols-4AAP	2015/04/23	98	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
3994605	pH	2015/04/24			102	98 - 103			0.086	N/A		
3997349	Total Oil & Grease	2015/04/25			98	85 - 115	ND, RDL=0.50	mg/L	0.51	25		
3997364	Total Oil & Grease Mineral/Synthetic	2015/04/25			94	85 - 115	ND, RDL=0.50	mg/L	1.1	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.

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).

Maxxam Job #: B571184  
Report Date: 2015/04/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

21-Apr-15 11:10

Hongmei Zhao (Grace)



B571184

ABH ENV-762



C#498937-04-01

Page of

Only:

Bottle Order #:



498937

Project Manager:

Hongmei Zhao (Grace)

Company Name: #26238 COCO PAVING INC  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x Fax:  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

REPORT TO:  
 Company Name: #17930 Golder Associates Ltd  
 Attention: Alicia Beynon  
 Address: 121 Commerce Park Drive Unit L  
 Barrie ON L4N 8X1  
 Tel: (705) 722-4492 Fax:  
 Email: Alicia\_Beynon@golder.com

PROJECT INFORMATION:  
 Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: MCCARTHY  
 Sampled By:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Agri/Other <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Coarse <input type="checkbox"/> For RSC <input type="checkbox"/> CCME <input type="checkbox"/> Reg 558 <input type="checkbox"/> MISA <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> Other	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw Municipality

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / V /	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (AAP)									
1				SW	N/A	X	X	X	X								
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (TAT) Required:  
 Please provide advance notice for rush projects

Regular (Standard) TAT:   
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

* RELINQUISHED BY: (Signature/Print) STAYL GROZIEC	Date: (YY/MM/DD) 04/20/15	Time 11:00	RECEIVED BY: (Signature/Print) RACHEL DEVLIN	Date: (YY/MM/DD) 2015/04/21	Time 11:10	# jars used and not submitted	Laboratory Use Only				
							Time Sensitive	Temperature (°C) on Receipt 8/7/6	Custody Seal	Yes	No
									Present		
									Intact		

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: na

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/05/04**  
 Report #: R3413515  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B574659**

**Received: 2015/04/24, 10:30**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/05/03	CAM SOP-00326	SM 5520 B
Total Oil and Grease	1	2015/05/02	2015/05/03	CAM SOP-00326	EPA 1664B m
pH	1	N/A	2015/04/29	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/04/29	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/05/02	2015/05/03	CAM SOP-00326	SM 22 5520F m
Low Level Total Suspended Solids	1	N/A	2015/04/29	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B574659  
Report Date: 2015/05/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ADZ476		
<b>Sampling Date</b>				
<b>COC Number</b>		na		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.50	0.50	3998434
<b>Inorganics</b>				
pH	pH	8.08	N/A	4000716
Phenols-4AAP	mg/L	ND	0.0010	4000050
Total Suspended Solids	mg/L	9	1	3998974
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.50	0.50	4007535
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4007540
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B574659  
Report Date: 2015/05/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B574659  
Report Date: 2015/05/04

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
3998974	Total Suspended Solids	2015/04/29					ND,RDL=1	mg/L	18	25	97	85 - 115
4000050	Phenols-4AAP	2015/04/29	95	80 - 120	96	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4000716	pH	2015/04/29			102	98 - 103			0.62	N/A		
4007535	Total Oil & Grease	2015/05/03			100	85 - 115	ND, RDL=0.50	mg/L	0.75	25		
4007540	Total Oil & Grease Mineral/Synthetic	2015/05/03			95	85 - 115	ND, RDL=0.50	mg/L	1.1	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.

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).

Maxxam Job #: B574659  
Report Date: 2015/05/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

*Ewa Pranjic*



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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist


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GOLDER (PROJECT: 1407L34)

Internal Sample Receipt Form

	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Bottles						
1	POND	-	-	Liq	4						
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
Received by (Signature & Print):		Date	Time	Cooler ID #	Temperature	Custody seal Present		Custody Seal Intact		Ice Present	
						YES	NO	YES	NO	YES	NO
 RACHEL DEVLIN		2015/04/24	10:30		7/8/8	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

24-Apr-15 10:30  
Antonella Brasil  
B574659  
JT3 ENV-585

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 18204

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/05/11**  
 Report #: R3424615  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B579730**

**Received: 2015/05/01, 10:05**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/05/08	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/05/08	2015/05/08	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/05/04	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/05/06	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/05/08	2015/05/08	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/05/06	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B579730  
Report Date: 2015/05/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: AK

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AEY357		
<b>Sampling Date</b>		2015/04/30		
<b>COC Number</b>		18204		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4007011
<b>Inorganics</b>				
pH	pH	8.07	N/A	4008825
Phenols-4AAP	mg/L	ND	0.0010	4008581
Total Suspended Solids	mg/L	7	1	4008146
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4015922
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4015932
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B579730  
Report Date: 2015/05/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: AK

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.3°C
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**Results relate only to the items tested.**

Maxxam Job #: B579730  
Report Date: 2015/05/11

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: AK

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4008146	Total Suspended Solids	2015/05/06					ND,RDL=1	mg/L	18	25	98	85 - 115
4008581	Phenols-4AAP	2015/05/06	104	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4008825	pH	2015/05/04			102	98 - 103			2.5	N/A		
4015922	Total Oil & Grease	2015/05/08	94	75 - 125	98	85 - 115	ND, RDL=0.50	mg/L	2.8	25		
4015932	Total Oil & Grease Mineral/Synthetic	2015/05/08			97	85 - 115	ND, RDL=0.50	mg/L	4.2	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.

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).

Maxxam Job #: B579730  
Report Date: 2015/05/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: AK

### VALIDATION SIGNATURE PAGE

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


*Cristina Carriere*

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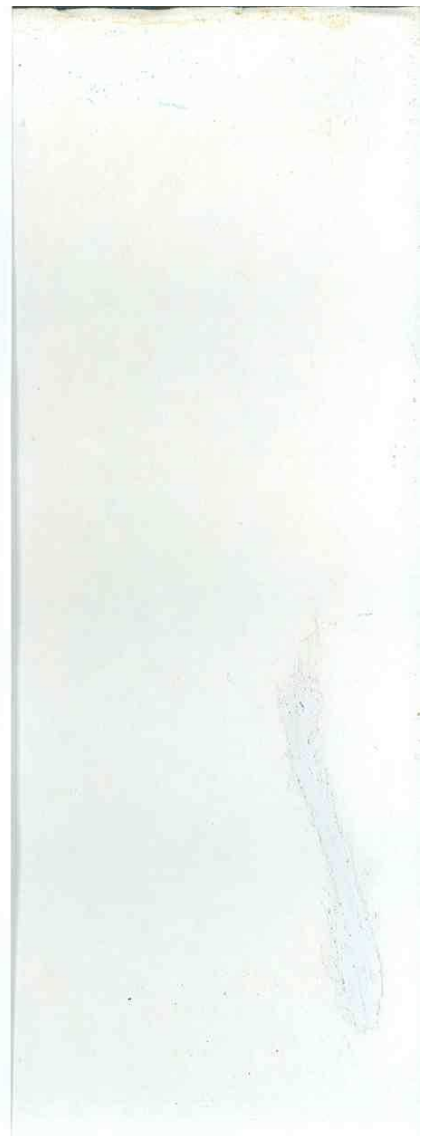
Cristina Carriere, Scientific Services

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Internal Sample Receipt Form											
Sample Identification		Date Sampled	Time Sampled	Matrix	# of Bottles						
1	NO ID	NA	NA	W	4						
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
Received by (Signature & Print):		Date	Time	Cooler ID #	Temperature	Custody seal Present		Custody Seal Intact		Ice Present	
						YES	NO	YES	NO	YES	NO
 RACHEL DENIN		2015/05/01	10:05		15/15/16	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

1-May-15 10:05  
Antonella Brasil  
B579730  
RDV ENV-933



**Maxxam**

6740 Campobello Road, Mississauga, ON L5N 2L8  
 Phone: 905-817-5700 Fax: 905-817-5779 Toll Free: (800) 563-6266

**CHAIN OF CUSTODY RECORD**

18204 Page \_\_\_ of \_\_\_

INVOICE INFORMATION			REPORT INFORMATION (if differs from invoice)			PROJECT INFORMATION			MAXXAM JOB NUMBER																																																																																																																																																																																																																																																																																																																		
Company Name: #26238 CCo Paving Inc.			Company Name: #17930 Golder Associates Ltd			Quotation #: B47292			MAXXAM JOB NUMBER																																																																																																																																																																																																																																																																																																																		
Contact Name: Anthony Rossi / Dave Sanders			Contact Name: Alicia Kimberley			P.O. #:			CHAIN OF CUSTODY #																																																																																																																																																																																																																																																																																																																		
Address: 949 Wilson Ave Toronto ON M3K 1G2			Address: 121 Commerce Park Dr, Unit 101 Barnes ON L4N 8X8			Project #: 1407634			00																																																																																																																																																																																																																																																																																																																		
Phone: 416-570-7051			Phone: 705-722-4492 Fax: 705-722-3786			Site Location: McCarthy																																																																																																																																																																																																																																																																																																																					
Email: A.Rossi@ccoogroup.com; D.Sanders@ccoogroup.com			Email: Alicia.Kimberley@golder.com			Sampled By:																																																																																																																																																																																																																																																																																																																					
<p><b>***Note: For MDE Regulated Drinking Water samples, please use the Drinking Water CoC.***</b></p> <table border="1"> <thead> <tr> <th colspan="4">Regulation 153 (2011)</th> <th colspan="4">Other Regulations</th> <th colspan="4">ANALYSIS REQUESTED (Please be specific)</th> <th colspan="4">TURNAROUND TIME (TAT) REQUIRED</th> </tr> <tr> <td colspan="12">PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.</td> </tr> </thead> <tbody> <tr> <td>Table 1</td> <td>Res/Park</td> <td>Med/Fine</td> <td>CCME</td> <td colspan="4">Sanitary Sewer Bylaw</td> <td colspan="4">Regular (Standard) TAT:</td> </tr> <tr> <td>Table 2</td> <td>Ind/Comm</td> <td>Coarse</td> <td>Reg. 558</td> <td colspan="4">Storm Sewer Bylaw</td> <td colspan="4">(5-7 working days for most tests) <input checked="" type="checkbox"/></td> </tr> <tr> <td>Table 3</td> <td>Agri/Other</td> <td>For RSC</td> <td>MISA</td> <td colspan="4">Municipality:</td> <td colspan="4">Rush TAT:</td> </tr> <tr> <td>Table</td> <td></td> <td>Yes</td> <td>PWOO</td> <td colspan="4"></td> <td colspan="4">***Samples must be received by 3pm to guarantee your TAT***</td> </tr> <tr> <td></td> <td></td> <td>No</td> <td>Other (specify):</td> <td colspan="4"></td> <td colspan="4">Rush Confirmation #: PN</td> </tr> <tr> <td colspan="12"> <p><b>Include Criteria on Certificate of Analysis (Y/N)?</b></p> <p>SAMPLES MUST BE KEPT COOL (&lt;10 C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.</p> <table border="1"> <thead> <tr> <th>Sample Identification</th> <th>Date Sampled</th> <th>Time Sampled</th> <th>Matrix (SW, SW, Soil, etc.)</th> <th>MDE Regulated Drinking Water? (Y/N)</th> <th>Metals Field Filtered? (Y/N)</th> <th>Oil/Grease AN/MT</th> <th>Low Level TSS</th> <th>Phosphorus (4AAD)</th> <th>PH</th> <th># of Cont.</th> <th>COMMENTS / TAT COMMENTS</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Pom</td> <td></td> <td>SW</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>4</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="6">*RELINQUISHED BY (Signature/Print)</td> <td colspan="6">RECEIVED BY: (Signature/Print)</td> <td colspan="6">#JARS USED AND NOT SUBMITTED</td> </tr> <tr> <td colspan="6">Date (YYYY/MM/DD)</td> <td colspan="6">Date (YYYY/MM/DD)</td> <td colspan="6">Laboratory Use Only</td> </tr> <tr> <td colspan="6">Time:</td> <td colspan="6">Time:</td> <td colspan="6">Custody Seal Yes No Temperature (°C) on Receipt</td> </tr> <tr> <td colspan="6"></td> <td colspan="6"></td> <td colspan="6">Present Intact</td> </tr> </tbody> </table>												Regulation 153 (2011)				Other Regulations				ANALYSIS REQUESTED (Please be specific)				TURNAROUND TIME (TAT) REQUIRED				PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS.												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**\*MANDATORY SECTIONS IN GREY MUST BE FILLED OUT. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.**  
 COC-104 (06/12) - BW-ENG. Maxxam Analytics International Corporation © Maxxam Analytics White: Maxxam Yellow: Mail Pink: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 494821-05-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/05/15**  
 Report #: R3430659  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B585642**

**Received: 2015/05/08, 14:12**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/05/14	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/05/13	2015/05/14	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/05/13	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/05/14	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/05/13	2015/05/14	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/05/13	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B585642  
Report Date: 2015/05/15

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AFZ527		
<b>Sampling Date</b>				
<b>COC Number</b>		494821-05-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4016996
<b>Inorganics</b>				
pH	pH	8.09	N/A	4020049
Phenols-4AAP	mg/L	ND	0.0010	4020311
Total Suspended Solids	mg/L	3	1	4020369
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4022121
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4022155
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B585642  
Report Date: 2015/05/15

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	9.7°C
-----------	-------

**Results relate only to the items tested.**

Maxxam Job #: B585642  
Report Date: 2015/05/15

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4020049	pH	2015/05/13			102	98 - 103			0.58	N/A		
4020311	Phenols-4AAP	2015/05/14	101	80 - 120	92	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4020369	Total Suspended Solids	2015/05/13					ND,RDL=1	mg/L	NC	25	97	85 - 115
4022121	Total Oil & Grease	2015/05/14	99	75 - 125	99	85 - 115	ND, RDL=0.50	mg/L	NC	25		
4022155	Total Oil & Grease Mineral/Synthetic	2015/05/14	93	75 - 125	93	85 - 115	ND, RDL=ND	mg/L	1.6	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.

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).

Maxxam Job #: B585642  
Report Date: 2015/05/15

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

08-May-15 14:12  
 Antonella Brasil  
 B585642  
 AS9 ENV-961  
 C#494821-05-01  
 Page of  
 Bottle Order #: 494821  
 Project Manager: Antonella Brasil

**INVOICE TO:**  
 Company Name: #12323 Golder Associates Ltd  
 Attention: Central Accounting  
 Address: 121 Commerce Park Drive Unit L, Barrie ON L4N 8X1  
 Tel: (705) 722-4492 Fax: (705) 722-3786  
 Email: AccountsPayable\_Maxxam@golder.com

**REPORT TO:**  
 Company Name: Alicia Beynon  
 Attention: Alicia Beynon  
 Address: (705) 722-4492 x  
 Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**  
 Quotation #: B40279  
 P.O. #: 1407634  
 Project Name:  
 Site #:  
 Sampled By:

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

**Regulation 153 (2011)**  
 Table 1  Res/Park  Medium/Fine  
 Table 2  Ind/Comm  Coarse  
 Table 3  Agri/Other  For RSC  
 Table

**Other Regulations**  
 CCME  Sanitary Sewer Bylaw  
 Reg 558  Storm Sewer Bylaw  
 MISA Municipality  
 PWGO  
 Other

**Special Instructions**

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Turnaround Time (TAT) Required:  
 Regular (Standard) TAT:   
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.  
 Job Specific Rush TAT (if applies to entire submission)  
 Date Required: Time Required:  
 Rush Confirmation Number: (call lab for #)

* Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle) Metals / Hg / Cr / VI	Oil & Grease - AWWMT*	Low Level Total Suspended Solids	Phenols (AAP)	PH	# of Bottles	Comments
				SW	NA	+	+	+	+	4	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

\* RELINQUISHED BY: (Signature/Print) *STAN GROZMICE* Date: (YY/MM/DD) 05/15/15 Time 1:00  
 RECEIVED BY: (Signature/Print) *RACHEL DEVLIN* Date: (YY/MM/DD) 2015/05/15 Time 09:33  
 # Jars used and not submitted: \_\_\_\_\_  
 Laboratory Use Only: Time Sensitive \_\_\_\_\_ Temperature (°C) on Receipt 10/10/9  
 Custody Seal: Present  Intact   
 Yes  No

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 497410-02-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/05/28**  
 Report #: R3443774  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B596432**

**Received: 2015/05/22, 10:20**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/05/27	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/05/26	2015/05/27	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/05/26	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/05/27	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/05/26	2015/05/27	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/05/26	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B596432  
Report Date: 2015/05/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AHZ581		
<b>Sampling Date</b>		2015/05/21 11:30		
<b>COC Number</b>		497410-02-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4034322
<b>Inorganics</b>				
pH	pH	8.46	N/A	4036385
Phenols-4AAP	mg/L	ND	0.0010	4035816
Total Suspended Solids	mg/L	2	1	4035724
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4037691
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4037722
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B596432  
Report Date: 2015/05/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B596432  
Report Date: 2015/05/28

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4035724	Total Suspended Solids	2015/05/26					ND,RDL=1	mg/L	NC	25	95	85 - 115
4035816	Phenols-4AAP	2015/05/27	NC	80 - 120	100	85 - 115	0.0010, RDL=0.0010	mg/L	1.5	20		
4036385	pH	2015/05/26			101	98 - 103			0.20	N/A		
4037691	Total Oil & Grease	2015/05/27	103	75 - 125	96	85 - 115	ND, RDL=0.50	mg/L	NC	25		
4037722	Total Oil & Grease Mineral/Synthetic	2015/05/27			91	85 - 115	ND, RDL=0.50	mg/L	3.3	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.

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).

Maxxam Job #: B596432  
Report Date: 2015/05/28

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 497410-07-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/05/25**  
 Report #: R3440503  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B591687**

**Received: 2015/05/15, 09:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/05/25	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/05/22	2015/05/25	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/05/17	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/05/21	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/05/22	2015/05/25	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/05/20	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B591687  
Report Date: 2015/05/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AHC504		
<b>Sampling Date</b>				
<b>COC Number</b>		497410-07-01		
	<b>Units</b>	<b>Pond</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4026140
<b>Inorganics</b>				
pH	pH	8.07	N/A	4026858
Phenols-4AAP	mg/L	ND	0.0010	4026743
Total Suspended Solids	mg/L	2	1	4029652
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4033357
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4033371
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B591687  
Report Date: 2015/05/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B591687  
Report Date: 2015/05/25

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4026743	Phenols-4AAP	2015/05/21	95	80 - 120	96	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4026858	pH	2015/05/17			102	98 - 103			0.073	N/A		
4029652	Total Suspended Solids	2015/05/20					ND,RDL=1	mg/L	12	25	98	85 - 115
4033357	Total Oil & Grease	2015/05/25			97	85 - 115	ND, RDL=0.50	mg/L	2.3	25		
4033371	Total Oil & Grease Mineral/Synthetic	2015/05/25			95	85 - 115	ND, RDL=0.50	mg/L	2.1	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.



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).

Maxxam Job #: B591687  
Report Date: 2015/05/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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

Ewa Pranjić, M.Sc., C.Chem, Scientific Specialist

---

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

15-May-15 09:00

Page of

**INVOICE TO:**

Company Name: #26238 COCO PAVING INC  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x Fax:  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name: #17930 Golder Associates Ltd  
 Attention: Alicia Beynon  
 Address: 121 Commerce Park Drive Unit L  
 Barrie ON L4N 8X1  
 Tel: (705) 722-4492 Fax:  
 Email: Alicia\_Beynon@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #: 1407634  
 Project: MCCARTHY  
 Project Name:  
 Site #: ENV-822  
 Sampled By:

Antonella Brasil  
 B501687  
 MAF ENV-822  
 C#457410-07-01

**Only:**

Bottle Order #: 497410  
 Project Manager: Antonella Brasil

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

**Regulation 153 (2011)**

Table 1  Res/Park  Medium/Fine  
 Table 2  Ind/Comm  Coarse  
 Table 3  Agri/Other  For RSC  
 Table

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
 Reg 558  Storm Sewer Bylaw  
 MISA Municipality  
 PWQO  
 Other

**Special Instructions**

Include Criteria on Certificate of Analysis (Y/N)?

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Field Filtered (please circle): Metals / Hg / Cr / V	Low Level Total Suspended Solids	Phenols (AAP)	Oil & Grease - AV/MT																
N/A	+	+	+	+															

**Turnaround Time (TAT) Required:**

Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**

Date Required: Time Required:   
 Rush Confirmation Number: (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	# of Bottles	Comments
1				SW	4	
2						
3						
4						
5						
6						
7						
8						
9						
10						

**\* RELINQUISHED BY: (Signature/Print)** Date: (YY/MM/DD) Time RECEIVED BY: (Signature/Print) Date: (YY/MM/DD) Time

STAN GORZELCE 05/14/15 9:00  
 [Signature] 05/14/15 [Signature] Julian Tomh 2015/05/15 9:00

# Jars used and not submitted: Time Sensitive: Temperature (°C) on Receipt: 7/11/16

**Laboratory Use Only**

Custody Seal	Yes	No
Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 511949-01-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/06/03**  
 Report #: R3451946  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5A1542**

**Received: 2015/05/29, 11:45**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/06/01	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/06/01	2015/06/01	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/06/03	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/06/02	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/06/01	2015/06/01	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/06/03	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B5A1542  
Report Date: 2015/06/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		AIZ130	AIZ130		
Sampling Date		2015/05/28 11:00	2015/05/28 11:00		
COC Number		511949-01-01	511949-01-01		
	Units	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	0.90		0.50	4042907
<b>Inorganics</b>					
pH	pH	8.49		N/A	4047874
Phenols-4AAP	mg/L	ND		0.0010	4046785
Total Suspended Solids	mg/L	10	10	1	4046804
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	0.90		0.50	4045802
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4045809
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B5A1542  
Report Date: 2015/06/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
-----------	--------

**Results relate only to the items tested.**

Maxxam Job #: B5A1542  
Report Date: 2015/06/03

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4045802	Total Oil & Grease	2015/06/01			93	85 - 115	ND, RDL=0.50	mg/L	4.5	25		
4045809	Total Oil & Grease Mineral/Synthetic	2015/06/01			95	85 - 115	ND, RDL=0.50	mg/L	2.7	25		
4046785	Phenols-4AAP	2015/06/02	96	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4046804	Total Suspended Solids	2015/06/03					ND,RDL=1	mg/L	2.0	25	96	85 - 115
4047874	pH	2015/06/03			102	98 - 103			0.10	N/A		

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.

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).

Maxxam Job #: B5A1542  
Report Date: 2015/06/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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


---

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

---

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Use Only:</b>	
Company Name: #26238 Coco Paving Inc		Company Name: Alicia Kimberly		Quotation #: B47292		Bottle Order #:	
Attention: Anthony Rossi/Dave Sanders		Attention: Alicia Kimberly		P.O. #:		Barcode: 511949	
Address: 949 Wilson Ave		Address:		Project: 1407634		Project Manager:	
Toronto ON M3K 1G2				Project Name: McCarthy		Antonella Brasil	
Tel: (416) 570-7052 x		Tel: (705) 722-4492 x		Site #:		Barcode: C#511949-01-01	
Fax: _____		Fax: _____		Sampled By:			
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Alicia_Kimberley@golder.com					

Antonella Brasil  
 B5A1542  
 FW ENV-680

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

<b>Regulation 153 (2011)</b>		<b>Other Regulations</b>		<b>Special Instructions</b>
<input type="checkbox"/> Table 1	<input type="checkbox"/> Rest/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality _____
<input type="checkbox"/> Table _____			<input checked="" type="checkbox"/> PWQO	
			<input type="checkbox"/> Other _____	

**Include Criteria on Certificate of Analysis (Y/N)?**

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix
511949	POND	MAY 28/15	11:00	SW
" "	POND			SW
" "	POND			SW
" "	POND			SW

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)									
Field Filtered (please circle): Metals / Hg / Cr / V / I	Oil & Grease - AV/MT	pH	Phenols (AAAP)	Low Level Total Suspended Solids					
NA	X	X	X	X					

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.

*Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.*

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

<b>RELINQUISHED BY: (Signature/Print)</b> Stan Grozelle	<b>Date: (YY/MM/DD)</b> MAY 28/15	<b>Time</b> 11:09	<b>RECEIVED BY: (Signature/Print)</b> RACHEL DEWIN	<b>Date: (YY/MM/DD)</b> 2015/05/29	<b>Time</b> 11:45	<b># jars used and not submitted</b>	<b>Laboratory Use Only</b>				
							Time Sensitive	Temperature (°C) on Receipt MELTED ICE 11/10/16	Custody Seal	Yes	No
									Present		
									Intact		

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 511949-03-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/06/11**  
 Report #: R3462352  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5A7293**  
**Received: 2015/06/05, 10:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/06/10	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/06/10	2015/06/10	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/06/06	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/06/10	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/06/10	2015/06/10	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/06/08	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5A7293  
Report Date: 2015/06/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AKA215		
<b>Sampling Date</b>		2015/06/04 11:00		
<b>COC Number</b>		511949-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.80	0.50	4053199
<b>Inorganics</b>				
pH	pH	8.90	N/A	4055275
Phenols-4AAP	mg/L	ND	0.0010	4055599
Total Suspended Solids	mg/L	5	1	4055235
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.80	0.50	4058917
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4058920
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5A7293  
Report Date: 2015/06/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	14.3°C
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**Results relate only to the items tested.**

Maxxam Job #: B5A7293  
Report Date: 2015/06/11

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4055235	Total Suspended Solids	2015/06/08					ND,RDL=1	mg/L	4.8	25	98	85 - 115
4055275	pH	2015/06/06			102	98 - 103			0.14	N/A		
4055599	Phenols-4AAP	2015/06/10	98	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4058917	Total Oil & Grease	2015/06/10			97	85 - 115	ND, RDL=0.50	mg/L	1.0	25		
4058920	Total Oil & Grease Mineral/Synthetic	2015/06/10			94	85 - 115	ND, RDL=0.50	mg/L	3.2	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.



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).

Maxxam Job #: B5A7293  
Report Date: 2015/06/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SC

### VALIDATION SIGNATURE PAGE

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

---

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 517466-02-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/06/18**  
 Report #: R3469862  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5B2869**

**Received: 2015/06/12, 09:26**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/06/17	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/06/17	2015/06/17	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/06/15	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/06/15	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/06/17	2015/06/17	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/06/13	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5B2869  
Report Date: 2015/06/18

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AKZ833		
<b>Sampling Date</b>		2015/06/11 11:00		
<b>COC Number</b>		517466-02-01		
	<b>Units</b>	<b>517466 POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.7	0.50	4063306
<b>Inorganics</b>				
pH	pH	8.66	N/A	4064885
Phenols-4AAP	mg/L	ND	0.0010	4065090
Total Suspended Solids	mg/L	5	1	4065068
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.7	0.50	4069592
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4069596
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5B2869  
Report Date: 2015/06/18

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	19.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B5B2869  
Report Date: 2015/06/18

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4064885	pH	2015/06/15			102	98 - 103			0.71	N/A		
4065068	Total Suspended Solids	2015/06/13					ND,RDL=1	mg/L	3.2	25	96	85 - 115
4065090	Phenols-4AAP	2015/06/15	97	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4069592	Total Oil & Grease	2015/06/17			98	85 - 115	ND, RDL=0.50	mg/L	1.5	25		
4069596	Total Oil & Grease Mineral/Synthetic	2015/06/17			94	85 - 115	ND, RDL=0.50	mg/L	2.1	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.



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).

Maxxam Job #: B5B2869  
Report Date: 2015/06/18

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

### VALIDATION SIGNATURE PAGE

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

---

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

---

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12-Jun-15 09:26

Antonella Brasil



B5B2869

ASR/AL ENV-891

Page of

Only:

Bottle Order #:



517466

Project Manager:

Antonella Brasil

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x Fax:  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
 Attention: Alicia Kimberly  
 Address:  
 Tel: (705) 722-4492 x Fax:  
 Email: Alicia\_Kimberley@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: McCarthy  
 Sampled By:



C#517466-02-01

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

**Regulation 153 (2011)**

Table 1  Res/Park  Medium/Fine  
 Table 2  Ind/Comm  Coarse  
 Table 3  Agri/Other  For RSC  
 Table

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
 Reg 558  Storm Sewer Bylaw  
 MISA Municipality  
 PWQO  
 Other

**Special Instructions**

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / V	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										# of Bottles	Comments	
						Oil & Grease - AV/MT	pH	Phenols (4AAP)	Low Level Total Suspended Solids	pH								
517466	POND	June 11/15	11:00am	SW	N/A	X	X	X	X	X							5	
517466	POND	"	"	SW														
517466	POND	"	"	SW														
517466	POND	"	"	SW														
517466	POND	"	"	SW														

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):   
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Teresa Cronk		June 11/15	11:00am	Alex Vahdati		2015/06/12	09:26		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
Teresa Cronk										20/19/20	Present	✓	
											Intact	✓	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM White: Maxxam Yellow: Client

PLEASE SAMPLE REGARDLESS OF TEMPERATURE OF WATER. No Ice

Your Project #: 1407634  
 Site#: McCarthy  
 Site Location: MCCARTHY  
 Your C.O.C. #: 517466-03-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/06/25**  
 Report #: R3494101  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5B9060**

**Received: 2015/06/19, 10:15**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/06/24	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/06/23	2015/06/24	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/06/23	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/06/25	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/06/23	2015/06/24	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/06/22	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B5B9060  
Report Date: 2015/06/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		AMD645	AMD645		
Sampling Date		2015/06/18 13:18	2015/06/18 13:18		
COC Number		517466-03-01	517466-03-01		
	Units	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	ND		0.50	4074751
<b>Inorganics</b>					
pH	pH	8.81		N/A	4076829
Phenols-4AAP	mg/L	ND		0.0010	4075217
Total Suspended Solids	mg/L	6	5	1	4075728
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	ND		0.50	4078053
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4078055
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B5B9060  
Report Date: 2015/06/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	17.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B5B9060  
Report Date: 2015/06/25

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4075217	Phenols-4AAP	2015/06/25	96	80 - 120	94	85 - 115	ND, RDL=0.0010	mg/L	4.9	20		
4075728	Total Suspended Solids	2015/06/22					ND,RDL=1	mg/L	7.1	25	98	85 - 115
4076829	pH	2015/06/23			102	98 - 103			0.35	N/A		
4078053	Total Oil & Grease	2015/06/24			97	85 - 115	ND, RDL=0.50	mg/L	0.52	25		
4078055	Total Oil & Grease Mineral/Synthetic	2015/06/24			93	85 - 115	ND, RDL=0.50	mg/L	0.54	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.

Maxxam Job #: B5B9060  
Report Date: 2015/06/25

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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


*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

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<b>INVOICE TO:</b> Company Name: #26238 Coco Paving Inc Attention: Anthony Rossi/Dave Sanders Address: 949 Wilson Ave Toronto ON M3K 1G2 Tel: (416) 570-7052 x Fax Email: ARossi@cocogroup.com; DSanders@cocogroup.com		<b>REPORT TO:</b> Company Name: Attention: Alicia Kimberly Address: Tel: (705) 722-4492 x Fax Email: Alicia_Kimberley@golder.com		<b>PROJECT INFORMATION:</b> Quotation #: B47292 P.O. #: 1407634 Project: Project Name: McCarthy Site #: McCarthy Sampled By:		<b>Laboratory Use Only:</b> Maxxam Job #: Bottle Order #: 517466 COC #:  Project Manager: Antonella Brasil C#517466-03-01	
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**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

<b>Regulation 153 (2011)</b> <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table		<b>Other Regulations</b> <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Municipality <input checked="" type="checkbox"/> PWQO <input type="checkbox"/> Other		<b>Special Instructions</b>
--	--	---	--	-----------------------------

Include Criteria on Certificate of Analysis (Y/N)?

Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MIT	pH	Phenols (AAP)	Low Level Total Suspended Solids	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)
N/A	X	X	X	X	H P

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MIT	pH	Phenols (AAP)	Low Level Total Suspended Solids	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	# of Bottles	Comments
517466	POND	June 18/15	1:18pm	S.W	N/A	X	X	X	X	H P	5	
517466	POND	"	"	"								
517466	POND	"	"	"								
517466	POND	"	"	"								
517466	POND	"	"	"								

19-Jun-15 10:15  
 Antonella Brasil  
  
 B5B9060  
 HGL ENV-1086

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only	
Teresa Cronk		June 18/15	1:18pm	ZANEERA NASIR	2015/06/19	10:15		Time Sensitive	Temperature (°C) on Receipt
Teresa Cronk		June 18/15	1:18pm						18/17/18
								Custody Seal	Yes No
								Present	✓
								Intact	✓

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam; Yellow: Client

Melted ice

Your Project #: 1407634  
 Site#: McCarthy  
 Your C.O.C. #: 511949-02-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/07/03**  
 Report #: R3537616  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5C4457**  
**Received: 2015/06/26, 09:27**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/07/03	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/07/02	2015/07/03	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/06/28	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/06/29	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/07/02	2015/07/03	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/06/29	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5C4457  
Report Date: 2015/07/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: TC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ANG205		
<b>Sampling Date</b>		2015/06/25 14:00		
<b>COC Number</b>		511949-02-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4082981
<b>Inorganics</b>				
pH	pH	8.83	N/A	4084727
Phenols-4AAP	mg/L	ND	0.0010	4084961
Total Suspended Solids	mg/L	6	1	4085001
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4089573
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4089580
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B5C4457  
Report Date: 2015/07/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: TC

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.3°C
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**Results relate only to the items tested.**

Maxxam Job #: B5C4457  
Report Date: 2015/07/03

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: TC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4084727	pH	2015/06/28			101	98 - 103			0.12	N/A		
4084961	Phenols-4AAP	2015/06/29	92	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4085001	Total Suspended Solids	2015/06/29					ND,RDL=1	mg/L	NC	25	98	85 - 115
4089573	Total Oil & Grease	2015/07/03	94	75 - 125	94	85 - 115	ND, RDL=0.50	mg/L	0.54	25		
4089580	Total Oil & Grease Mineral/Synthetic	2015/07/03	93	75 - 125	95	85 - 115	ND, RDL=0.50	mg/L	0.53	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.

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).

Maxxam Job #: B5C4457  
Report Date: 2015/07/03

Golder Associates Ltd  
Client Project #: 1407634  
Sampler Initials: TC

### VALIDATION SIGNATURE PAGE

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



---

Brad Newman, Scientific Specialist

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

26-Jun-15 09:27

Antonella Brasil  
 BSC4457

Page of  
 Only:  
 Bottle Order #:  
 511949  
 Project Manager:  
 Antonella Brasil

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x Fax  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
 Attention: Alicia Kimberley  
 Address:  
 Tel: (705) 722-4492 x Fax  
 Email: Alicia\_Kimberley@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: McCarthy  
 Sampled By:

AS9 ENV-1082  
 C#511949-02-01

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

**Regulation 153 (2011)**

Table 1:  Res/Park  Medium/Fine  
 Table 2:  Ind/Comm  Coarse  
 Table 3:  Agri/Other  For RSC  
 Table: \_\_\_\_\_

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
 Reg 558  Storm Sewer Bylaw  
 MISA Municipality \_\_\_\_\_  
 PWQO  
 Other \_\_\_\_\_

**Special Instructions**

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Field Filtered (please circle):  
 Metals / Hg / Cr / VI  
 Oil & Grease - AV/MT  
 pH  
 Phenols (40AP)  
 Low Level Total Suspended Solids  
 PH  
 PH

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	pH	Phenols (40AP)	Low Level Total Suspended Solids	PH	PH
511949	POND	June 25/15	200 pm SW		N/A	X					
511949	POND						X	X			
511949	POND							X			
511949	POND								X		
511949	POND									X	

# of Bottles	Comments
5	

* RELINQUISHED BY: (Signature/Print) Teresa Cronk		Date: (YY/MM/DD) June 25/15	Time 200 pm	RECEIVED BY: (Signature/Print) Alex Vardate	Date: (YY/MM/DD) 2015/06/26	Time 09:27	# Jars used and not submitted	Laboratory Use Only		
Time Sensitive	Temperature (°C) on Receipt 15, 16, 15	Custody Seal Present	Yes	No						
		Custody Seal Intact	Yes	No						

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

on ice

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 517466-05-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/07/10**  
 Report #: R3569578  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5C9337**

**Received: 2015/07/03, 10:17**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/07/10	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/07/09	2015/07/10	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/07/08	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/07/08	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/07/09	2015/07/10	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/07/07	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5C9337  
Report Date: 2015/07/10

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		AOF433	AOF433		
Sampling Date		2015/07/02 15:00	2015/07/02 15:00		
COC Number		517466-05-01	517466-05-01		
	Units	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	ND		0.50	4090444
<b>Inorganics</b>					
pH	pH	7.74		N/A	4095323
Phenols-4AAP	mg/L	ND		0.0010	4094917
Total Suspended Solids	mg/L	5	5	1	4094181
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	ND		0.50	4098799
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4098815
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B5C9337  
Report Date: 2015/07/10

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	19.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B5C9337  
Report Date: 2015/07/10

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4094181	Total Suspended Solids	2015/07/07					ND,RDL=1	mg/L	NC	25	97	85 - 115
4094917	Phenols-4AAP	2015/07/08	100	80 - 120	104	85 - 115	ND, RDL=0.0010	mg/L	5.0	20		
4095323	pH	2015/07/08			101	98 - 103			0.69	N/A		
4098799	Total Oil & Grease	2015/07/10	98	75 - 125	96	85 - 115	ND, RDL=0.50	mg/L	NC	25		
4098815	Total Oil & Grease Mineral/Synthetic	2015/07/10			94	85 - 115	ND, RDL=0.50	mg/L	0.53	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.

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).

Maxxam Job #: B5C9337  
Report Date: 2015/07/10

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY

### VALIDATION SIGNATURE PAGE

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



---

Brad Newman, Scientific Specialist

---

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

3-Jul-15 10:17

Antonella Brasil



B5C9337

RDV

ENV-849

Page of

Bottle Order #:



517466

Project Manager:

Antonella Brasil

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
 Attention: Alicia Kimberley  
 Address:  
 Tel: (705) 722-4492 x  
 Email: Alicia\_Kimberley@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: McCarthy  
 Sampled By:



CS17466-05-01

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Agri/Other <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Coarse <input type="checkbox"/> For RSC <input type="checkbox"/> CCME <input type="checkbox"/> Reg 558 <input type="checkbox"/> MISA <input type="checkbox"/> PWOO <input type="checkbox"/> Other	<input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Storm Sewer Bylaw Municipality: _____

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	pH	Phenols (4AAP)	Low Level Total Suspended Solids									
1	317466 Pond	July 15 3:00pm	SW	N/A	X	X	X	X	X									
2	Pond																	
3	Pond																	
4	Pond																	
5	Pond																	
6																		
7																		
8																		
9																		
10																		

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

* RELINQUISHED BY: (Signature/Print) Steve Cronk	Date: (YY/MM/DD) July 15 2015	Time 3:00pm	RECEIVED BY: (Signature/Print) Alex Vahdati	Date: (YY/MM/DD) July 15 2015	Time 10:17	# jars used and not submitted	Laboratory Use Only
							Time Sensitive Temperature (°C) on Receipt: 20, 19, 20, no ice Custody Seal: Present Intact: Yes

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM White: Maxxam Yellow: Client

NO ICE

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 520617-03-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/07/17**  
 Report #: R3577292  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5D4673**  
**Received: 2015/07/10, 09:25**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/07/16	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/07/16	2015/07/16	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/07/13	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/07/14	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/07/16	2015/07/16	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/07/13	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====  
 Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5D4673  
Report Date: 2015/07/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		APG732		
<b>Sampling Date</b>		2015/07/09 14:00		
<b>COC Number</b>		520617-03-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.70	0.50	4100115
<b>Inorganics</b>				
pH	pH	8.57	N/A	4101545
Phenols-4AAP	mg/L	ND	0.0010	4103074
Total Suspended Solids	mg/L	5	1	4102036
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.70	0.50	4107676
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4107681
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5D4673  
Report Date: 2015/07/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B5D4673  
Report Date: 2015/07/17

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4101545	pH	2015/07/13			102	98 - 103			0.21	N/A		
4102036	Total Suspended Solids	2015/07/13					ND,RDL=1	mg/L	11	25	98	85 - 115
4103074	Phenols-4AAP	2015/07/14	95	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4107676	Total Oil & Grease	2015/07/16			98	85 - 115	ND, RDL=0.50	mg/L	2.9	25		
4107681	Total Oil & Grease Mineral/Synthetic	2015/07/16			95	85 - 115	ND, RDL=0.50	mg/L	1.6	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.

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).

Maxxam Job #: B5D4673  
Report Date: 2015/07/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

---

Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campobello Road, Mississauga, Ontario Canada L5N2L8 Tel: (905) 817-5700 Toll-Free 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

10-Jul-15 09:25

Stephen McMillan



B5D4673

FW

ENV-878



C#520617-03-01

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
 Attention: Dawn Hoyle  
 Address:  
 Tel:  
 Email: Dawn\_Hoyle@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #: 1407634  
 Project Name:  
 Site #: Teresa Crank  
 Sampled By:

Page of  
**Only:**  
 Bottle Order #: 520617  
 Project Manager: Stephen McMillan

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

**Regulation 153 (2011)**

Table 1  Res/Park  Medium/Fine\*  
 Table 2  Ind/Comm  Coarse  
 Table 3  Agri/Other  For RSC  
 Table

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
 Reg 558  Storm Sewer Bylaw  
 MISA Municipality \_\_\_\_\_  
 PWOO  
 Other \_\_\_\_\_

**Special Instructions**

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Field Filtered (please circle): Metals / Hg / Cr / VI	Low Level Total Suspended Solids	Oil & Grease - AV/MT	Phenols (4AAP)	pH														
N/A	X	X	X	X	X													

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

# of Bottles: \_\_\_\_\_ Comments: \_\_\_\_\_

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix
520617	POND	July 9/15	2:00pm	SW

\* RELINQUISHED BY: (Signature/Print) Teresa Crank Date: (YY/MM/DD) July 9/15 Time 2:00pm

RECEIVED BY: (Signature/Print) HARWIN CREWAL Date: (YY/MM/DD) 2015/07/10 Time 09:25

# jars used and not submitted \_\_\_\_\_

**Laboratory Use Only**

Time Sensitive \_\_\_\_\_ Temperature (°C) on Receipt 21/20/21

Custody Seal	Yes	No
Present	<u>Y</u>	
Intact	<u>Y</u>	

White: Maxxam Yellow: Client

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Please sample regardless of temperature we had no ice.

No ice

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 520617-01-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/07/23**  
 Report #: R3596695  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5E0334**

**Received: 2015/07/17, 10:05**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/07/23	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/07/23	2015/07/23	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/07/20	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/07/22	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/07/23	2015/07/23	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/07/19	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5E0334  
Report Date: 2015/07/23

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AQI420		
<b>Sampling Date</b>		2015/07/16 13:00		
<b>COC Number</b>		520617-01-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.90	0.50	4109436
<b>Inorganics</b>				
pH	pH	8.25	N/A	4111995
Phenols-4AAP	mg/L	ND	0.0010	4112365
Total Suspended Solids	mg/L	16	1	4111554
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.90	0.50	4116908
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4116909
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5E0334  
Report Date: 2015/07/23

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	22.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B5E0334  
Report Date: 2015/07/23

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4111554	Total Suspended Solids	2015/07/19					ND,RDL=1	mg/L	NC	25	98	85 - 115
4111995	pH	2015/07/20			102	98 - 103			0.48	N/A		
4112365	Phenols-4AAP	2015/07/22	91	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4116908	Total Oil & Grease	2015/07/23	92	75 - 125	97	85 - 115	ND, RDL=0.50	mg/L	NC	25		
4116909	Total Oil & Grease Mineral/Synthetic	2015/07/23	89	75 - 125	94	85 - 115	ND, RDL=0.50	mg/L	NC	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.

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).

Maxxam Job #: B5E0334  
Report Date: 2015/07/23

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: TC

### VALIDATION SIGNATURE PAGE

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



*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 Coco Paving Inc		Company Name: Dawn Hoyle		Quotation #: B47292		Maxxam Job #:	
Attention: Anthony Rossi/Dave Sanders		Attention: Dawn Hoyle		P.O. #: 1407634		 520617	
Address: 949 Wilson Ave Toronto ON M3K 1G2		Address:		Project Name:		COC #:	
Tel: (416) 570-7052 x		Tel:		Site #:		 C#520617-01-01	
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Dawn_Hoyle@golder.com		Sampled By: <u>Teresa Cronk</u>		Project Manager: Stephen McMillan	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY						ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required: Please provide advance notice for rush projects											
<b>Regulation 153 (2011)</b> <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fire <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table _____			<b>Other Regulations</b> <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Municipality _____ <input type="checkbox"/> PWQO <input type="checkbox"/> Other _____			<b>Special Instructions</b>			Field Filtered (please circle): Metals / Hg / Cr / V /	Low Level Total Suspended Solids	Oil & Grease - AV/MT	Phenols (AAP)	pH	pH											<b>Regular (Standard) TAT:</b> (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.		<input checked="" type="checkbox"/>
<b>Job Specific Rush TAT (if applies to entire submission)</b> Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)																											
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix																		# of Bottles	Comments				
520617	POND	July 16/15	100pm	SW	N/A	X	X	X	X	X																	
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											

17-Jul-15 10:05  
 Stephen McMillan  
  
 B5E0334  
 RGN ENV-848

<b>RELINQUISHED BY: (Signature/Print)</b>		<b>Date: (YY/MM/DD)</b>		<b>Time</b>		<b>RECEIVED BY: (Signature/Print)</b>		<b>Date: (YY/MM/DD)</b>		<b>Time</b>		<b># jars used and not submitted</b>		<b>Laboratory Use Only</b>							
<u>Teresa Cronk</u> <u>Teresa Cronk</u>		July 16/15		100pm		<u>Alex Kachub</u> <u>ALEX KACHUB</u>		2015.07.17		10:05				Time Sensitive		Temperature (°C) on Receipt 22, 22, 22 No ice		Custody Seal		Yes No	
																Present		✓			
																Intact		✓			

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 520617-04-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/07/30**  
 Report #: R3613360  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5E6184**

**Received: 2015/07/24, 10:35**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/07/30	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/07/30	2015/07/30	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/07/27	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/07/28	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/07/30	2015/07/30	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/07/26	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Stephen McMillan, Project Manager

Email: smcmillan@maxxam.ca

Phone# (905)817-5700 Ext:5735

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Maxxam Job #: B5E6184  
Report Date: 2015/07/30

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ARJ823		
<b>Sampling Date</b>		2015/07/23 12:00		
<b>COC Number</b>		520617-04-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	4119510
<b>Inorganics</b>				
pH	pH	8.07	N/A	4120973
Phenols-4AAP	mg/L	ND	0.0010	4121221
Total Suspended Solids	mg/L	47	1	4121332
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	ND	0.50	4127497
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4127519
RDL = Reportable Detection Limit QC Batch = Quality Control Batch ND = Not detected N/A = Not Applicable				

Maxxam Job #: B5E6184  
Report Date: 2015/07/30

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.7°C
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Samples received with temp>10 C but cooling media present.

**Results relate only to the items tested.**

Maxxam Job #: B5E6184  
Report Date: 2015/07/30

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4120973	pH	2015/07/27			102	98 - 103			0.022	N/A		
4121221	Phenols-4AAP	2015/07/28	98	80 - 120	102	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4121332	Total Suspended Solids	2015/07/26					ND,RDL=1	mg/L	3.6	25	95	85 - 115
4127497	Total Oil & Grease	2015/07/30			98	85 - 115	ND, RDL=0.50	mg/L	2.6	25		
4127519	Total Oil & Grease Mineral/Synthetic	2015/07/30			94	85 - 115	ND, RDL=0.50	mg/L	1.6	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.

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).

Maxxam Job #: B5E6184  
Report Date: 2015/07/30

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campobello Road, Mississauga, Ontario Canada L5N 2L6 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

CHAIN OF CUSTODY RECORD

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name: #26238 Coco Paving Inc		Company Name: Dawn Hoyle		Quotation #: B47292		Maxxam Job #:	
Attention: Anthony Rossi/Dave Sanders		Attention: Dawn Hoyle		P.O. #:		Bottle Order #:	
Address: 949 Wilson Ave		Address:		Project: 1407634		520617	
Toronto ON M3K 1G2				Project Name:		COC #:	
Tel: (416) 570-7052 x		Tel:		Site #:		Project Manager:	
Fax:		Fax:		Sampled By: Stan Grozette		Stephen McMillan	
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Dawn_Hoyle@golder.com				C#520617-04-01	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required:	
Regulation 153 (2011)			Other Regulations		Special Instructions										Please provide advance notice for rush projects	
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw											Regular (Standard) TAT:	
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw											Regular (Standard) TAT: (will be applied if Rush TAT is not specified):	
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	<input type="checkbox"/> Municipality											Standard TAT = 5-7 Working days for most tests.	
<input type="checkbox"/> Table			<input type="checkbox"/> PWQO	<input type="checkbox"/> Other											Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.	
Include Criteria on Certificate of Analysis (Y/N)?					Field Filtered (please circle):	Metals / Hg / Cr / VI	Low Level Total Suspended Solids	Oil & Grease - AV/MT	Phenols (4AAP)	pH	PH	Job Specific Rush TAT (if applies to entire submission)				
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix								Date Required:	Time Required:			
1	511941 POND	July 23/15	12pm	SW	N/A	X	X	X	X	X						
2																
3																
4																
5																
6																
7																
8																
9																
10																

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	# Jars used and not submitted	Laboratory Use Only				
Teresa Cronk		July 23/15	12pm	FATIMA SHAHID		2015/07/24	10:35		Time Sensitive	Temperature (°C) on Receipt:	Custody Seal	Yes	No
Teresa Cronk										15/16/16	Present	Y	
											Intact	Y	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

MELTED WARM ICE  
 FS 2015/07/24

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 511948-01-01

**Attention: Alicia Beynon**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/06/04**  
 Report #: R3452995  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5A1828**

**Received: 2015/05/29, 08:30**

Sample Matrix: Water  
 # Samples Received: 3

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Reference</b>
Alkalinity	3	N/A	2015/06/03	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2015/06/04	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	2	N/A	2015/06/02	CAM SOP-00463	EPA 325.2 m
Chloride by Automated Colourimetry	1	N/A	2015/06/03	CAM SOP-00463	EPA 325.2 m
Conductivity	3	N/A	2015/06/03	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2015/06/02	CAM SOP-00446	SM 22 5310 B m
Fluoride	3	2015/06/02	2015/06/03	CAM SOP-00449	SM 22 4500-F C m
Hardness (calculated as CaCO3)	3	N/A	2015/06/02	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals by ICPMS	3	2015/06/01	2015/06/02	CAM SOP-00447	EPA 6020A m
Total Metals Analysis by ICPMS	3	N/A	2015/06/03	CAM SOP-00447	EPA 6020A m
Ion Balance (% Difference)	3	N/A	2015/06/04		
Anion and Cation Sum	3	N/A	2015/06/04		
Total Ammonia-N	3	N/A	2015/06/03	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	3	N/A	2015/06/02	CAM SOP-00440	SM 22 4500-NO3I/NO2B
Total Oil and Grease	3	2015/06/01	2015/06/01	CAM SOP-00326	EPA1664B m,SM5520A m
pH	3	N/A	2015/06/03	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	3	N/A	2015/06/02	CAM SOP-00444	OMOE E3179 m
Sat. pH and Langelier Index (@ 20C)	3	N/A	2015/06/04		
Sat. pH and Langelier Index (@ 4C)	3	N/A	2015/06/04		
Sulphate by Automated Colourimetry	3	N/A	2015/06/02	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids	3	N/A	2015/06/02	CAM SOP-00428	SM 22 2540C m
Total Kjeldahl Nitrogen in Water	3	2015/06/02	2015/06/02	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric)	3	2015/06/02	2015/06/03	CAM SOP-00407	SM 4500 P B H m
Low Level Total Suspended Solids	3	N/A	2015/06/03	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Your Project #: 1407634  
Site#: 1407634  
Site Location: MCCARTHY  
Your C.O.C. #: 511948-01-01

**Attention:Alicia Beynon**

Golder Associates Ltd  
121 Commerce Park Drive  
Unit L  
Barrie, ON  
L4N 8X1

**Report Date: 2015/06/04**  
Report #: R3452995  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5A1828**  
**Received: 2015/05/29, 08:30**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Antonella Brasil, Senior Project Manager  
Email: ABrasil@maxxam.ca  
Phone# (905)817-5817

=====  
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**RESULTS OF ANALYSES OF WATER**

Maxxam ID			AJA532		AJA533		AJA534		
Sampling Date			2015/05/28 14:00		2015/05/28 13:13		2015/05/28 10:30		
COC Number			511948-01-01		511948-01-01		511948-01-01		
	Units	Criteria	POND	QC Batch	SW1	QC Batch	SW2	RDL	QC Batch

Calculated Parameters									
Anion Sum	me/L	-	7.12	4043235	6.88	4043235	7.32	N/A	4043235
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	92	4043953	190	4043953	280	1.0	4043953
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	1.4	4043953	1.9	4043953	2.8	1.0	4043953
Cation Sum	me/L	-	7.66	4043235	7.55	4043235	7.84	N/A	4043235
Hardness (CaCO3)	mg/L	-	180	4043955	260	4043955	350	1.0	4043955
Ion Balance (% Difference)	%	-	3.62	4043956	4.61	4043956	3.43	N/A	4043956
Langelier Index (@ 20C)	N/A	-	0.289	4043237	0.767	4043237	1.10		4043237
Langelier Index (@ 4C)	N/A	-	0.0410	4043238	0.518	4043238	0.856		4043238
Saturation pH (@ 20C)	N/A	-	7.91	4043237	7.26	4043237	6.92		4043237
Saturation pH (@ 4C)	N/A	-	8.16	4043238	7.51	4043238	7.17		4043238

Inorganics									
Total Ammonia-N	mg/L	-	<0.050	4047257	0.080	4047257	<0.050	0.050	4047257
Conductivity	umho/cm	-	760	4047821	700	4047821	680	1.0	4047821
Total Dissolved Solids	mg/L	-	458	4046416	424	4046416	436	10	4046416
Fluoride (F-)	mg/L	-	0.49	4047822	0.30	4047822	0.14	0.10	4047822
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.68	4047300	0.76	4047300	0.79	0.10	4047300
Dissolved Organic Carbon	mg/L	-	5.8	4047470	8.1	4047398	14	0.20	4047470
pH	pH	<b>6.5:8.5</b>	8.20	4047818	8.03	4047818	8.03	N/A	4047818
Phenols-4AAP	mg/L	<b>0.001</b>	<0.0010	4046785	<0.0010	4046785	<0.0010	0.0010	4046785
Total Phosphorus	mg/L	<b>0.01</b>	<b>0.023</b>	4047698	<b>0.026</b>	4047698	<b>0.063</b>	0.004	4047698
Total Suspended Solids	mg/L	-	26	4046804	27	4046804	3	1	4046804
Dissolved Sulphate (SO4)	mg/L	-	130	4046505	86	4046724	54	1	4046724
Alkalinity (Total as CaCO3)	mg/L	-	93	4047801	190	4047801	280	1.0	4047801
Dissolved Chloride (Cl)	mg/L	-	86	4046502	42	4046721	19	1	4046721
Nitrite (N)	mg/L	-	0.016	4046601	<0.010	4046697	<0.010	0.010	4046697
Nitrate (N)	mg/L	-	0.31	4046601	<0.10	4046697	<0.10	0.10	4046697

Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	-	<0.50	4045802	<0.50	4045802	<0.50	0.50	4045802

RDL = Reportable Detection Limit  
 QC Batch = Quality Control Batch  
 Criteria: ONTARIO PROVINCIAL WATER QUALITY OBJECTIVES  
 Ref. to MOEE Water Management document dated Feb.1999  
 N/A = Not Applicable

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID			AJA532	AJA533	AJA534		
Sampling Date			2015/05/28 14:00	2015/05/28 13:13	2015/05/28 10:30		
COC Number			511948-01-01	511948-01-01	511948-01-01		
	Units	Criteria	POND	SW1	SW2	RDL	QC Batch
<b>Metals</b>							
Total Aluminum (Al)	ug/L	-	120	1000	31	5.0	4049515
Total Antimony (Sb)	ug/L	<b>20</b>	<0.50	<0.50	<0.50	0.50	4049515
Dissolved Arsenic (As)	ug/L	<b>100</b>	<1.0	<1.0	<1.0	1.0	4046487
Total Arsenic (As)	ug/L	<b>100</b>	<1.0	<1.0	<1.0	1.0	4049515
Total Barium (Ba)	ug/L	-	24	51	49	2.0	4049515
Total Beryllium (Be)	ug/L	<b>11</b>	<0.50	<0.50	<0.50	0.50	4049515
Total Boron (B)	ug/L	<b>200</b>	<b>420</b>	<b>270</b>	84	10	4049515
Dissolved Cadmium (Cd)	ug/L	<b>0.2</b>	<0.10	<0.10	<0.10	0.10	4046487
Total Cadmium (Cd)	ug/L	<b>0.2</b>	<0.10	<0.10	<0.10	0.10	4049515
Dissolved Calcium (Ca)	ug/L	-	38000	79000	120000	200	4046487
Total Calcium (Ca)	ug/L	-	38000	91000	120000	200	4049515
Dissolved Chromium (Cr)	ug/L	-	<5.0	<5.0	<5.0	5.0	4046487
Total Chromium (Cr)	ug/L	-	<5.0	<5.0	<5.0	5.0	4049515
Total Cobalt (Co)	ug/L	<b>0.9</b>	<0.50	0.81	<0.50	0.50	4049515
Dissolved Copper (Cu)	ug/L	<b>5</b>	<1.0	<1.0	<1.0	1.0	4046487
Total Copper (Cu)	ug/L	<b>5</b>	1.4	1.7	<1.0	1.0	4049515
Dissolved Iron (Fe)	ug/L	<b>300</b>	<100	<100	<100	100	4046487
Total Iron (Fe)	ug/L	<b>300</b>	140	<b>1300</b>	170	100	4049515
Dissolved Lead (Pb)	ug/L	<b>5</b>	<0.50	<0.50	<0.50	0.50	4046487
Total Lead (Pb)	ug/L	<b>5</b>	<0.50	0.61	<0.50	0.50	4049515
Dissolved Magnesium (Mg)	ug/L	-	21000	16000	12000	50	4046487
Total Magnesium (Mg)	ug/L	-	20000	16000	11000	50	4049515
Dissolved Manganese (Mn)	ug/L	-	3.4	7.8	<2.0	2.0	4046487
Total Manganese (Mn)	ug/L	-	22	220	89	2.0	4049515
Total Molybdenum (Mo)	ug/L	<b>40</b>	2.5	1.6	0.52	0.50	4049515
Dissolved Nickel (Ni)	ug/L	<b>25</b>	<1.0	<1.0	<1.0	1.0	4046487
Total Nickel (Ni)	ug/L	<b>25</b>	2.3	4.1	5.2	1.0	4049515
Dissolved Potassium (K)	ug/L	-	7400	5600	4000	200	4046487
Total Potassium (K)	ug/L	-	7400	6000	4000	200	4049515
Total Silicon (Si)	ug/L	-	390	2500	1900	50	4049515
Total Selenium (Se)	ug/L	<b>100</b>	<2.0	<2.0	<2.0	2.0	4049515
Total Silver (Ag)	ug/L	<b>0.1</b>	<0.10	<0.10	<0.10	0.10	4049515
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: ONTARIO PROVINCIAL WATER QUALITY OBJECTIVES							
Ref. to MOEE Water Management document dated Feb.1999							

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID			AJA532	AJA533	AJA534		
Sampling Date			2015/05/28 14:00	2015/05/28 13:13	2015/05/28 10:30		
COC Number			511948-01-01	511948-01-01	511948-01-01		
	Units	Criteria	POND	SW1	SW2	RDL	QC Batch
Dissolved Sodium (Na)	ug/L	-	88000	49000	18000	100	4046487
Total Sodium (Na)	ug/L	-	82000	46000	17000	100	4049515
Total Strontium (Sr)	ug/L	-	1300	980	490	1.0	4049515
Total Thallium (Tl)	ug/L	<b>0.3</b>	<0.050	<0.050	<0.050	0.050	4049515
Total Titanium (Ti)	ug/L	-	8.5	48	5.6	5.0	4049515
Total Vanadium (V)	ug/L	<b>6</b>	0.54	2.4	0.65	0.50	4049515
Dissolved Zinc (Zn)	ug/L	<b>30</b>	<5.0	<5.0	<5.0	5.0	4046487
Total Zinc (Zn)	ug/L	<b>30</b>	<5.0	5.2	7.2	5.0	4049515
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: ONTARIO PROVINCIAL WATER QUALITY OBJECTIVES							
Ref. to MOEE Water Management document dated Feb.1999							

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

### TEST SUMMARY

**Maxxam ID:** AJA532  
**Sample ID:** POND  
**Matrix:** Water

**Collected:** 2015/05/28  
**Shipped:**  
**Received:** 2015/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4047801	N/A	2015/06/03	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4043953	N/A	2015/06/04	Automated Statchk
Chloride by Automated Colourimetry	KONE	4046502	N/A	2015/06/03	Deonarine Ramnarine
Conductivity	AT	4047821	N/A	2015/06/03	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4047470	N/A	2015/06/02	Elsamma Alex
Fluoride	ISE	4047822	2015/06/02	2015/06/03	Surinder Rai
Hardness (calculated as CaCO3)		4043955	N/A	2015/06/02	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	4046487	2015/06/01	2015/06/02	Prempal Bhatti
Total Metals Analysis by ICPMS	ICP/MS	4049515	N/A	2015/06/03	Arefa Dabhad
Ion Balance (% Difference)	CALC	4043956	N/A	2015/06/04	Automated Statchk
Anion and Cation Sum	CALC	4043235	N/A	2015/06/04	Automated Statchk
Total Ammonia-N	LACH/NH4	4047257	N/A	2015/06/03	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4046601	N/A	2015/06/02	Chandra Nandlal
Total Oil and Grease	BAL	4045802	2015/06/01	2015/06/01	Francis Afonso
pH	AT	4047818	N/A	2015/06/03	Surinder Rai
Phenols (4AAP)	TECH/PHEN	4046785	N/A	2015/06/02	Bramdeo Motiram
Sat. pH and Langelier Index (@ 20C)	CALC	4043237	N/A	2015/06/04	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4043238	N/A	2015/06/04	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4046505	N/A	2015/06/02	Deonarine Ramnarine
Total Dissolved Solids	BAL	4046416	N/A	2015/06/02	Alpa Patel
Total Kjeldahl Nitrogen in Water	SKAL	4047300	2015/06/02	2015/06/02	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	4047698	2015/06/02	2015/06/03	Viorica Rotaru
Low Level Total Suspended Solids	BAL	4046804	N/A	2015/06/03	Bansari Ray

**Maxxam ID:** AJA533  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2015/05/28  
**Shipped:**  
**Received:** 2015/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4047801	N/A	2015/06/03	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4043953	N/A	2015/06/04	Automated Statchk
Chloride by Automated Colourimetry	KONE	4046721	N/A	2015/06/02	Deonarine Ramnarine
Conductivity	AT	4047821	N/A	2015/06/03	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4047398	N/A	2015/06/02	Elsamma Alex
Fluoride	ISE	4047822	2015/06/02	2015/06/03	Surinder Rai
Hardness (calculated as CaCO3)		4043955	N/A	2015/06/02	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	4046487	2015/06/01	2015/06/02	Prempal Bhatti
Total Metals Analysis by ICPMS	ICP/MS	4049515	N/A	2015/06/03	Arefa Dabhad
Ion Balance (% Difference)	CALC	4043956	N/A	2015/06/04	Automated Statchk
Anion and Cation Sum	CALC	4043235	N/A	2015/06/04	Automated Statchk
Total Ammonia-N	LACH/NH4	4047257	N/A	2015/06/03	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4046697	N/A	2015/06/02	Chandra Nandlal
Total Oil and Grease	BAL	4045802	2015/06/01	2015/06/01	Francis Afonso
pH	AT	4047818	N/A	2015/06/03	Surinder Rai

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

### TEST SUMMARY

**Maxxam ID:** AJA533  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2015/05/28  
**Shipped:**  
**Received:** 2015/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	4046785	N/A	2015/06/02	Bramdeo Motiram
Sat. pH and Langelier Index (@ 20C)	CALC	4043237	N/A	2015/06/04	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4043238	N/A	2015/06/04	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4046724	N/A	2015/06/02	Deonarine Ramnarine
Total Dissolved Solids	BAL	4046416	N/A	2015/06/02	Alpa Patel
Total Kjeldahl Nitrogen in Water	SKAL	4047300	2015/06/02	2015/06/02	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	4047698	2015/06/02	2015/06/03	Viorica Rotaru
Low Level Total Suspended Solids	BAL	4046804	N/A	2015/06/03	Bansari Ray

**Maxxam ID:** AJA534  
**Sample ID:** SW2  
**Matrix:** Water

**Collected:** 2015/05/28  
**Shipped:**  
**Received:** 2015/05/29

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4047801	N/A	2015/06/03	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4043953	N/A	2015/06/04	Automated Statchk
Chloride by Automated Colourimetry	KONE	4046721	N/A	2015/06/02	Deonarine Ramnarine
Conductivity	AT	4047821	N/A	2015/06/03	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4047470	N/A	2015/06/02	Elsamma Alex
Fluoride	ISE	4047822	2015/06/02	2015/06/03	Surinder Rai
Hardness (calculated as CaCO3)		4043955	N/A	2015/06/02	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	4046487	2015/06/01	2015/06/02	Prempal Bhatti
Total Metals Analysis by ICPMS	ICP/MS	4049515	N/A	2015/06/03	Arefa Dabhad
Ion Balance (% Difference)	CALC	4043956	N/A	2015/06/04	Automated Statchk
Anion and Cation Sum	CALC	4043235	N/A	2015/06/04	Automated Statchk
Total Ammonia-N	LACH/NH4	4047257	N/A	2015/06/03	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4046697	N/A	2015/06/02	Chandra Nandlal
Total Oil and Grease	BAL	4045802	2015/06/01	2015/06/01	Francis Afonso
pH	AT	4047818	N/A	2015/06/03	Surinder Rai
Phenols (4AAP)	TECH/PHEN	4046785	N/A	2015/06/02	Bramdeo Motiram
Sat. pH and Langelier Index (@ 20C)	CALC	4043237	N/A	2015/06/04	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4043238	N/A	2015/06/04	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4046724	N/A	2015/06/02	Deonarine Ramnarine
Total Dissolved Solids	BAL	4046416	N/A	2015/06/02	Alpa Patel
Total Kjeldahl Nitrogen in Water	SKAL	4047300	2015/06/02	2015/06/02	Louise Harding
Total Phosphorus (Colourimetric)	LACH/P	4047698	2015/06/02	2015/06/03	Viorica Rotaru
Low Level Total Suspended Solids	BAL	4046804	N/A	2015/06/03	Bansari Ray

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

### GENERAL COMMENTS

Results relate only to the items tested.

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**QUALITY ASSURANCE REPORT**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
4045802	FA	Spiked Blank	Total Oil & Grease	2015/06/01		93	%	85 - 115
4045802	FA	RPD	Total Oil & Grease	2015/06/01	4.5		%	25
4045802	FA	Method Blank	Total Oil & Grease	2015/06/01	<0.50		mg/L	
4046416	ALP	QC Standard	Total Dissolved Solids	2015/06/02		100	%	90 - 110
4046416	ALP	Method Blank	Total Dissolved Solids	2015/06/02	<10		mg/L	
4046416	ALP	RPD	Total Dissolved Solids	2015/06/02	13		%	25
4046487	PBA	Matrix Spike	Dissolved Arsenic (As)	2015/06/02		104	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/02		104	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/02		NC	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/02		103	%	80 - 120
			Dissolved Copper (Cu)	2015/06/02		99	%	80 - 120
			Dissolved Iron (Fe)	2015/06/02		102	%	80 - 120
			Dissolved Lead (Pb)	2015/06/02		102	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/02		NC	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/02		NC	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/02		101	%	80 - 120
			Dissolved Potassium (K)	2015/06/02		NC	%	80 - 120
			Dissolved Sodium (Na)	2015/06/02		NC	%	80 - 120
			Dissolved Zinc (Zn)	2015/06/02		100	%	80 - 120
4046487	PBA	Spiked Blank	Dissolved Arsenic (As)	2015/06/02		102	%	80 - 120
			Dissolved Cadmium (Cd)	2015/06/02		108	%	80 - 120
			Dissolved Calcium (Ca)	2015/06/02		103	%	80 - 120
			Dissolved Chromium (Cr)	2015/06/02		104	%	80 - 120
			Dissolved Copper (Cu)	2015/06/02		103	%	80 - 120
			Dissolved Iron (Fe)	2015/06/02		104	%	80 - 120
			Dissolved Lead (Pb)	2015/06/02		105	%	80 - 120
			Dissolved Magnesium (Mg)	2015/06/02		101	%	80 - 120
			Dissolved Manganese (Mn)	2015/06/02		104	%	80 - 120
			Dissolved Nickel (Ni)	2015/06/02		106	%	80 - 120
			Dissolved Potassium (K)	2015/06/02		102	%	80 - 120
			Dissolved Sodium (Na)	2015/06/02		102	%	80 - 120
			Dissolved Zinc (Zn)	2015/06/02		101	%	80 - 120
4046487	PBA	Method Blank	Dissolved Arsenic (As)	2015/06/02	<1.0		ug/L	
			Dissolved Cadmium (Cd)	2015/06/02	<0.10		ug/L	
			Dissolved Calcium (Ca)	2015/06/02	<200		ug/L	
			Dissolved Chromium (Cr)	2015/06/02	<5.0		ug/L	
			Dissolved Copper (Cu)	2015/06/02	<1.0		ug/L	
			Dissolved Iron (Fe)	2015/06/02	<100		ug/L	
			Dissolved Lead (Pb)	2015/06/02	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2015/06/02	<50		ug/L	
			Dissolved Manganese (Mn)	2015/06/02	<2.0		ug/L	
			Dissolved Nickel (Ni)	2015/06/02	<1.0		ug/L	
			Dissolved Potassium (K)	2015/06/02	<200		ug/L	
			Dissolved Sodium (Na)	2015/06/02	<100		ug/L	
			Dissolved Zinc (Zn)	2015/06/02	<5.0		ug/L	
4046487	PBA	RPD	Dissolved Iron (Fe)	2015/06/02	NC		%	20
			Dissolved Lead (Pb)	2015/06/02	NC		%	20
			Dissolved Sodium (Na)	2015/06/02	7.6		%	20
4046502	DRM	Matrix Spike	Dissolved Chloride (Cl)	2015/06/03		NC	%	80 - 120
4046502	DRM	Spiked Blank	Dissolved Chloride (Cl)	2015/06/03		102	%	80 - 120
4046502	DRM	Method Blank	Dissolved Chloride (Cl)	2015/06/03	<1		mg/L	
4046502	DRM	RPD	Dissolved Chloride (Cl)	2015/06/03	0.35		%	20

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
4046505	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2015/06/02		NC	%	75 - 125
4046505	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2015/06/02		105	%	80 - 120
4046505	DRM	Method Blank	Dissolved Sulphate (SO4)	2015/06/02	<1		mg/L	
4046505	DRM	RPD	Dissolved Sulphate (SO4)	2015/06/02	0.27		%	20
4046601	C_N	Matrix Spike	Nitrite (N)	2015/06/02		95	%	80 - 120
			Nitrate (N)	2015/06/02		94	%	80 - 120
4046601	C_N	Spiked Blank	Nitrite (N)	2015/06/02		96	%	80 - 120
			Nitrate (N)	2015/06/02		99	%	80 - 120
4046601	C_N	Method Blank	Nitrite (N)	2015/06/02	<0.010		mg/L	
			Nitrate (N)	2015/06/02	<0.10		mg/L	
4046601	C_N	RPD	Nitrite (N)	2015/06/02	NC		%	25
			Nitrate (N)	2015/06/02	NC		%	25
4046697	C_N	Matrix Spike	Nitrite (N)	2015/06/02		98	%	80 - 120
			Nitrate (N)	2015/06/02		97	%	80 - 120
4046697	C_N	Spiked Blank	Nitrite (N)	2015/06/02		97	%	80 - 120
			Nitrate (N)	2015/06/02		98	%	80 - 120
4046697	C_N	Method Blank	Nitrite (N)	2015/06/02	<0.010		mg/L	
			Nitrate (N)	2015/06/02	<0.10		mg/L	
4046697	C_N	RPD	Nitrite (N)	2015/06/02	NC		%	25
			Nitrate (N)	2015/06/02	NC		%	25
4046721	DRM	Matrix Spike	Dissolved Chloride (Cl)	2015/06/02		NC	%	80 - 120
4046721	DRM	Spiked Blank	Dissolved Chloride (Cl)	2015/06/02		103	%	80 - 120
4046721	DRM	Method Blank	Dissolved Chloride (Cl)	2015/06/02	<1		mg/L	
4046721	DRM	RPD	Dissolved Chloride (Cl)	2015/06/02	0.93		%	20
4046724	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2015/06/02		NC	%	75 - 125
4046724	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2015/06/02		105	%	80 - 120
4046724	DRM	Method Blank	Dissolved Sulphate (SO4)	2015/06/02	<1		mg/L	
4046724	DRM	RPD	Dissolved Sulphate (SO4)	2015/06/02	1.1		%	20
4046785	BMO	Matrix Spike	Phenols-4AAP	2015/06/02		96	%	80 - 120
4046785	BMO	Spiked Blank	Phenols-4AAP	2015/06/02		97	%	85 - 115
4046785	BMO	Method Blank	Phenols-4AAP	2015/06/02	<0.0010		mg/L	
4046785	BMO	RPD	Phenols-4AAP	2015/06/02	NC		%	20
4046804	RAY	QC Standard	Total Suspended Solids	2015/06/03		96	%	85 - 115
4046804	RAY	Method Blank	Total Suspended Solids	2015/06/03	<1		mg/L	
4046804	RAY	RPD	Total Suspended Solids	2015/06/03	2.0		%	25
4047257	COP	Matrix Spike	Total Ammonia-N	2015/06/03		105	%	80 - 120
4047257	COP	Spiked Blank	Total Ammonia-N	2015/06/03		103	%	85 - 115
4047257	COP	Method Blank	Total Ammonia-N	2015/06/03	<0.050		mg/L	
4047257	COP	RPD	Total Ammonia-N	2015/06/03	0.97		%	20
4047300	LHA	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2015/06/02		98	%	80 - 120
4047300	LHA	QC Standard	Total Kjeldahl Nitrogen (TKN)	2015/06/02		98	%	80 - 120
4047300	LHA	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2015/06/02		99	%	80 - 120
4047300	LHA	Method Blank	Total Kjeldahl Nitrogen (TKN)	2015/06/02	<0.10		mg/L	
4047300	LHA	RPD	Total Kjeldahl Nitrogen (TKN)	2015/06/02	NC		%	20
4047398	EAX	Matrix Spike	Dissolved Organic Carbon	2015/06/02		91	%	80 - 120
4047398	EAX	Spiked Blank	Dissolved Organic Carbon	2015/06/02		101	%	80 - 120
4047398	EAX	Method Blank	Dissolved Organic Carbon	2015/06/02	<0.20		mg/L	
4047398	EAX	RPD	Dissolved Organic Carbon	2015/06/02	NC		%	20
4047470	EAX	Matrix Spike	Dissolved Organic Carbon	2015/06/02		97	%	80 - 120
4047470	EAX	Spiked Blank	Dissolved Organic Carbon	2015/06/02		99	%	80 - 120
4047470	EAX	Method Blank	Dissolved Organic Carbon	2015/06/02	<0.20		mg/L	
4047470	EAX	RPD	Dissolved Organic Carbon	2015/06/02	2.6		%	20

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
4047698	VRO	Matrix Spike	Total Phosphorus	2015/06/03		94	%	80 - 120
4047698	VRO	QC Standard	Total Phosphorus	2015/06/03		101	%	80 - 120
4047698	VRO	Spiked Blank	Total Phosphorus	2015/06/03		103	%	80 - 120
4047698	VRO	Method Blank	Total Phosphorus	2015/06/03	<0.004		mg/L	
4047698	VRO	RPD	Total Phosphorus	2015/06/03	NC		%	20
4047801	SAU	Spiked Blank	Alkalinity (Total as CaCO3)	2015/06/03		94	%	85 - 115
4047801	SAU	Method Blank	Alkalinity (Total as CaCO3)	2015/06/03	<1.0		mg/L	
4047801	SAU	RPD	Alkalinity (Total as CaCO3)	2015/06/03	0.35		%	25
4047818	SAU	Spiked Blank	pH	2015/06/03		101	%	98 - 103
4047818	SAU	RPD	pH	2015/06/03	0.29		%	N/A
4047821	SAU	Spiked Blank	Conductivity	2015/06/03		101	%	85 - 115
4047821	SAU	Method Blank	Conductivity	2015/06/03	<1.0		umho/c	
4047821	SAU	RPD	Conductivity	2015/06/03	0.46		%	25
4047822	SAU	Matrix Spike	Fluoride (F-)	2015/06/03		98	%	80 - 120
4047822	SAU	Spiked Blank	Fluoride (F-)	2015/06/03		100	%	80 - 120
4047822	SAU	Method Blank	Fluoride (F-)	2015/06/03	<0.10		mg/L	
4047822	SAU	RPD	Fluoride (F-)	2015/06/03	NC		%	20
4049515	ADA	Matrix Spike	Total Aluminum (Al)	2015/06/03		113	%	80 - 120
			Total Antimony (Sb)	2015/06/03		108	%	80 - 120
			Total Arsenic (As)	2015/06/03		106	%	80 - 120
			Total Barium (Ba)	2015/06/03		101	%	80 - 120
			Total Beryllium (Be)	2015/06/03		102	%	80 - 120
			Total Boron (B)	2015/06/03		103	%	80 - 120
			Total Cadmium (Cd)	2015/06/03		105	%	80 - 120
			Total Calcium (Ca)	2015/06/03		NC	%	80 - 120
			Total Chromium (Cr)	2015/06/03		103	%	80 - 120
			Total Cobalt (Co)	2015/06/03		103	%	80 - 120
			Total Copper (Cu)	2015/06/03		104	%	80 - 120
			Total Iron (Fe)	2015/06/03		105	%	80 - 120
			Total Lead (Pb)	2015/06/03		101	%	80 - 120
			Total Magnesium (Mg)	2015/06/03		101	%	80 - 120
			Total Manganese (Mn)	2015/06/03		102	%	80 - 120
			Total Molybdenum (Mo)	2015/06/03		106	%	80 - 120
			Total Nickel (Ni)	2015/06/03		104	%	80 - 120
			Total Potassium (K)	2015/06/03		104	%	80 - 120
			Total Silicon (Si)	2015/06/03		102	%	80 - 120
			Total Selenium (Se)	2015/06/03		110	%	80 - 120
			Total Silver (Ag)	2015/06/03		103	%	80 - 120
			Total Sodium (Na)	2015/06/03		NC	%	80 - 120
			Total Strontium (Sr)	2015/06/03		NC	%	80 - 120
			Total Thallium (Tl)	2015/06/03		100	%	80 - 120
			Total Titanium (Ti)	2015/06/03		101	%	80 - 120
			Total Vanadium (V)	2015/06/03		104	%	80 - 120
			Total Zinc (Zn)	2015/06/03		105	%	80 - 120
4049515	ADA	Spiked Blank	Total Aluminum (Al)	2015/06/03		109	%	80 - 120
			Total Antimony (Sb)	2015/06/03		107	%	80 - 120
			Total Arsenic (As)	2015/06/03		106	%	80 - 120
			Total Barium (Ba)	2015/06/03		101	%	80 - 120
			Total Beryllium (Be)	2015/06/03		102	%	80 - 120
			Total Boron (B)	2015/06/03		104	%	80 - 120
			Total Cadmium (Cd)	2015/06/03		106	%	80 - 120
			Total Calcium (Ca)	2015/06/03		106	%	80 - 120

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Total Chromium (Cr)	2015/06/03		103	%	80 - 120
			Total Cobalt (Co)	2015/06/03		103	%	80 - 120
			Total Copper (Cu)	2015/06/03		106	%	80 - 120
			Total Iron (Fe)	2015/06/03		105	%	80 - 120
			Total Lead (Pb)	2015/06/03		102	%	80 - 120
			Total Magnesium (Mg)	2015/06/03		105	%	80 - 120
			Total Manganese (Mn)	2015/06/03		103	%	80 - 120
			Total Molybdenum (Mo)	2015/06/03		106	%	80 - 120
			Total Nickel (Ni)	2015/06/03		103	%	80 - 120
			Total Potassium (K)	2015/06/03		105	%	80 - 120
			Total Silicon (Si)	2015/06/03		106	%	80 - 120
			Total Selenium (Se)	2015/06/03		115	%	80 - 120
			Total Silver (Ag)	2015/06/03		106	%	80 - 120
			Total Sodium (Na)	2015/06/03		103	%	80 - 120
			Total Strontium (Sr)	2015/06/03		104	%	80 - 120
			Total Thallium (Tl)	2015/06/03		101	%	80 - 120
			Total Titanium (Ti)	2015/06/03		104	%	80 - 120
			Total Vanadium (V)	2015/06/03		103	%	80 - 120
			Total Zinc (Zn)	2015/06/03		106	%	80 - 120
4049515	ADA	Method Blank	Total Aluminum (Al)	2015/06/03	<5.0		ug/L	
			Total Antimony (Sb)	2015/06/03	<0.50		ug/L	
			Total Arsenic (As)	2015/06/03	<1.0		ug/L	
			Total Barium (Ba)	2015/06/03	<2.0		ug/L	
			Total Beryllium (Be)	2015/06/03	<0.50		ug/L	
			Total Boron (B)	2015/06/03	<10		ug/L	
			Total Cadmium (Cd)	2015/06/03	<0.10		ug/L	
			Total Calcium (Ca)	2015/06/03	<200		ug/L	
			Total Chromium (Cr)	2015/06/03	<5.0		ug/L	
			Total Cobalt (Co)	2015/06/03	<0.50		ug/L	
			Total Copper (Cu)	2015/06/03	<1.0		ug/L	
			Total Iron (Fe)	2015/06/03	<100		ug/L	
			Total Lead (Pb)	2015/06/03	<0.50		ug/L	
			Total Magnesium (Mg)	2015/06/03	<50		ug/L	
			Total Manganese (Mn)	2015/06/03	<2.0		ug/L	
			Total Molybdenum (Mo)	2015/06/03	<0.50		ug/L	
			Total Nickel (Ni)	2015/06/03	<1.0		ug/L	
			Total Potassium (K)	2015/06/03	<200		ug/L	
			Total Silicon (Si)	2015/06/03	<50		ug/L	
			Total Selenium (Se)	2015/06/03	<2.0		ug/L	
			Total Silver (Ag)	2015/06/03	<0.10		ug/L	
			Total Sodium (Na)	2015/06/03	<100		ug/L	
			Total Strontium (Sr)	2015/06/03	<1.0		ug/L	
			Total Thallium (Tl)	2015/06/03	<0.050		ug/L	
			Total Titanium (Ti)	2015/06/03	<5.0		ug/L	
			Total Vanadium (V)	2015/06/03	<0.50		ug/L	
			Total Zinc (Zn)	2015/06/03	<5.0		ug/L	
4049515	ADA	RPD	Total Aluminum (Al)	2015/06/03	0.71		%	20
			Total Antimony (Sb)	2015/06/03	NC		%	20
			Total Arsenic (As)	2015/06/03	NC		%	20
			Total Barium (Ba)	2015/06/03	12		%	20
			Total Beryllium (Be)	2015/06/03	NC		%	20
			Total Boron (B)	2015/06/03	NC		%	20

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	Units	QC Limits
			Total Cadmium (Cd)	2015/06/03	NC		%	20
			Total Calcium (Ca)	2015/06/03	6.3		%	20
			Total Chromium (Cr)	2015/06/03	NC		%	20
			Total Cobalt (Co)	2015/06/03	NC		%	20
			Total Copper (Cu)	2015/06/03	NC		%	20
			Total Iron (Fe)	2015/06/03	NC		%	20
			Total Lead (Pb)	2015/06/03	NC		%	20
			Total Magnesium (Mg)	2015/06/03	7.5		%	20
			Total Manganese (Mn)	2015/06/03	NC		%	20
			Total Molybdenum (Mo)	2015/06/03	NC		%	20
			Total Nickel (Ni)	2015/06/03	NC		%	20
			Total Potassium (K)	2015/06/03	5.4		%	20
			Total Silicon (Si)	2015/06/03	NC		%	20
			Total Selenium (Se)	2015/06/03	NC		%	20
			Total Silver (Ag)	2015/06/03	NC		%	20
			Total Sodium (Na)	2015/06/03	8.0		%	20
			Total Strontium (Sr)	2015/06/03	9.4		%	20
			Total Thallium (Tl)	2015/06/03	NC		%	20
			Total Titanium (Ti)	2015/06/03	NC		%	20
			Total Vanadium (V)	2015/06/03	NC		%	20
			Total Zinc (Zn)	2015/06/03	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.

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).

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

### VALIDATION SIGNATURE PAGE

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


Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

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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.

Maxxam Job #: B5A1828  
Report Date: 2015/06/04

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DEH

**Exceedence Summary Table – Prov. Water Quality Obj.  
Result Exceedences**

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
POND	AJA532-07	Total Boron (B)	200	420	10	ug/L
POND	AJA532-04	Total Phosphorus	0.01	0.023	0.004	mg/L
SW1	AJA533-07	Total Boron (B)	200	270	10	ug/L
SW1	AJA533-07	Total Iron (Fe)	300	1300	100	ug/L
SW1	AJA533-04	Total Phosphorus	0.01	0.026	0.004	mg/L
SW2	AJA534-04	Total Phosphorus	0.01	0.063	0.004	mg/L

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 497410-04-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/08/14**  
 Report #: R3627866  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5F6616**  
**Received: 2015/08/07, 10:15**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/08/12	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/08/12	2015/08/12	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/08/09	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/08/11	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/08/12	2015/08/12	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/08/12	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B5F6616  
Report Date: 2015/08/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		ATM167		
<b>Sampling Date</b>		2015/08/06 13:30		
<b>COC Number</b>		497410-04-01		
	<b>Units</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.80	0.50	4138287
<b>Inorganics</b>				
pH	pH	8.12	N/A	4140180
Phenols-4AAP	mg/L	ND	0.0010	4139877
Total Suspended Solids	mg/L	13	2	4140181
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.80	0.50	4144445
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4144471
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5F6616  
Report Date: 2015/08/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.3°C
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**Results relate only to the items tested.**

Maxxam Job #: B5F6616  
Report Date: 2015/08/14

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
4139877	Phenols-4AAP	2015/08/11	99	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4140180	pH	2015/08/09			101	98 - 103			0.53	N/A		
4140181	Total Suspended Solids	2015/08/12					ND,RDL=1	mg/L	0	25	96	85 - 115
4144445	Total Oil & Grease	2015/08/12	89.25	75 - 125	98	85 - 115	ND, RDL=0.50	mg/L	0.76	25		
4144471	Total Oil & Grease Mineral/Synthetic	2015/08/12			97	85 - 115	ND, RDL=0.50	mg/L	3.2	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.


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).

Maxxam Job #: B5F6616  
Report Date: 2015/08/14

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

---

Ewa Pranjić, M.Sc., C.Chem, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

CHAIN OF CUSTODY RECORD

Page of

<b>INVOICE TO:</b> Company Name: #26238 COCO PAVING INC Attention: Anthony Rossi/Dave Sanders Address: 949 Wilson Ave Toronto ON M3K 1G2 Tel: (416) 570-7052 x Fax: Email: ARossi@cocogroup.com; DSanders@cocogroup.com		<b>REPORT TO:</b> Company Name: #17930 Golder Associates Ltd Attention: Alicia Beynon Address: 121 Commerce Park Drive Unit L Barrie ON L4N 8X1 Tel: (705) 722-4492 Fax: Email: Alicia_Beynon@golder.com		<b>PROJECT INFORMATION:</b> Quotation #: B47292 P.O. #: Project: 1407634 Project Name: MCCARTHY Site #: Sampled By: Stan Grozette		<b>Laboratory Use Only:</b> Maxxam Job #:  497410 CDC #:  C#497410-04-01 Project Manager: Antonella Brasil	
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MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)							Turnaround Time (TAT) Required: Please provide advance notice for rush projects		
Regulation 153 (2011)			Other Regulations		Special Instructions		Field Filtered (please circle): Metals / Hg / Cr / V	Low Level Total Suspended Solids	Phenols (4AAF)	Oil & Grease - AV/MT	P#	PH	Regular (Standard) TAT: <small>(will be applied if Rush TAT is not specified). Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are &gt; 5 days - contact your Project Manager for details.</small>	
Table 1	Res/Park	Medium/Fine	CCME	Sanitary Sewer Bylaw									Date Required:	Time Required:
Table 2	Ind/Comm	Coarse	Reg 55B	Storm Sewer Bylaw										
Table 3	Agri/Other	For RSC	MISA	Municipality										
Table			PWQO											
Include Criteria on Certificate of Analysis (Y/N)?													Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ (call lab for #)	
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix									# of Bottles	Comments
497410	POND	Aug 6/15	1:30 pm	SW	X	X	X	X	X					
2														
3														
4														
5														
6														
7														
8														
9														
10														

07-Aug-15 10:15  
 Antonella Brasil  
 B5F6616  
 HGR ENV-630

* RELINQUISHED BY: (Signature/Print) Teresa Cronk Teresa Cronk		Date: (YY/MM/DD) 15/08/06	Time 2:00 pm	RECEIVED BY: (Signature/Print) Alicia Beynon	Date: (YY/MM/DD) 20150807	Time 10:15	# jars used and not submitted	Laboratory Use Only		
Time Sensitive	Temperature (°C) on Receipt 20, 20, 21 no ice	Custody Seal	Yes	No						
		Intact	✓							

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: MCCARTHY  
 Your C.O.C. #: 498937-05-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/08/21**  
 Report #: R3635561  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5G2008**  
**Received: 2015/08/14, 09:30**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/08/20	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/08/19	2015/08/20	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/08/18	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/08/17	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/08/19	2015/08/20	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/08/17	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5G2008  
Report Date: 2015/08/21

Golder Associates Ltd  
Client Project #: 1407634

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AUN609		
<b>Sampling Date</b>		2015/08/13 13:30		
<b>COC Number</b>		498937-05-01		
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.80	0.50	4148340
<b>Inorganics</b>				
pH	pH	8.12	N/A	4150388
Phenols-4AAP	mg/L	ND	0.0010	4150057
Total Suspended Solids	mg/L	7	2	4150331
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.6	0.50	4155014
Total Oil & Grease Mineral/Synthetic	mg/L	0.80	0.50	4155018
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5G2008  
Report Date: 2015/08/21

Golder Associates Ltd  
Client Project #: 1407634

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	22.0°C
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**Results relate only to the items tested.**

Maxxam Job #: B5G2008  
Report Date: 2015/08/21

### QUALITY ASSURANCE REPORT

Golder Associates Ltd  
Client Project #: 1407634

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4150057	Phenols-4AAP	2015/08/17	NC	80 - 120	100	85 - 115	ND, RDL=0.0010	mg/L	8.7	20		
4150331	Total Suspended Solids	2015/08/17					ND,RDL=1	mg/L	NC	25	96	85 - 115
4150388	pH	2015/08/18			102	98 - 103			0.0045	N/A		
4155014	Total Oil & Grease	2015/08/20			95	85 - 115	ND, RDL=0.50	mg/L	1.0	25		
4155018	Total Oil & Grease Mineral/Synthetic	2015/08/20			96	85 - 115	ND, RDL=0.50	mg/L	0.52	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.

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).

Maxxam Job #: B5G2008  
Report Date: 2015/08/21

Golder Associates Ltd  
Client Project #: 1407634

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 517466-06-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/09/03**  
 Report #: R3650004  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5H3413**  
**Received: 2015/08/28, 10:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/09/02	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/09/02	2015/09/02	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/09/01	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/09/02	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/09/02	2015/09/02	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/09/01	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B5H3413  
Report Date: 2015/09/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DL

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AWS321	AWS321		
<b>Sampling Date</b>		2015/08/27 13:00	2015/08/27 13:00		
<b>COC Number</b>		517466-06-01	517466-06-01		
	<b>UNITS</b>	<b>517466 POND</b>	<b>517466 POND Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	2.2		0.50	4168414
<b>Inorganics</b>					
pH	pH	8.39		N/A	4171472
Phenols-4AAP	mg/L	ND		0.0010	4172099
Total Suspended Solids	mg/L	10	8	1	4171366
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	2.2		0.50	4174181
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4174182
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B5H3413  
Report Date: 2015/09/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DL

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	17.7°C
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**Results relate only to the items tested.**

Maxxam Job #: B5H3413  
Report Date: 2015/09/03

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DL

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4171366	Total Suspended Solids	2015/09/01					ND,RDL=1	mg/L	16	25	98	85 - 115
4171472	pH	2015/09/01			102	98 - 103			0.27	N/A		
4172099	Phenols-4AAP	2015/09/02	90	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4174181	Total Oil & Grease	2015/09/02	91	75 - 125	97	85 - 115	ND, RDL=0.50	mg/L	3.1	25		
4174182	Total Oil & Grease Mineral/Synthetic	2015/09/02			96	85 - 115	ND, RDL=0.50	mg/L	4.8	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.

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).

Maxxam Job #: B5H3413  
Report Date: 2015/09/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: DL

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

28-Aug-15 10:00

Antonella Brasil

Page of

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
 Attention: Alicia Kimberly  
 Address:  
 Tel: (705) 722-4492 x  
 Email: Alicia\_Kimberley@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name: FW ENV-659  
 Site #:  
 Sampled By: Daryl Landry



**Use Only:**

Bottle Order #:  
 Project Manager:  
 Antonella Brasil

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Table 2 <input type="checkbox"/> Table 3 <input type="checkbox"/> Table	<input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC	<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA <input type="checkbox"/> Municipality <input type="checkbox"/> PWQO <input type="checkbox"/> Other

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	pH	Phenols (AAP)	Low Level Total Suspended Solids	PH
N/A	X	X	X	X	X

**Turnaround Time (TAT) Required:**  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: Time Required:  
 Rush Confirmation Number: (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	pH	Phenols (AAP)	Low Level Total Suspended Solids	PH
517466	POND	Aug 27/15	100pm	SW	N/A	X	X	X	X	X

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# Jars used and not submitted	Laboratory Use Only
Teresa Cronk	15/08/27	200pm	MUSROT NAZ	2015/08/28	10:00		Time Sensitive Temperature (°C) on Receipt: 18/17/18 Custody Seal: Present <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Teresa Cronk	15/08/27	200pm					White: Maxxam Yellow: Client

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM.

NO ICE

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: McCarthy  
 Your C.O.C. #: 527064-04-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/09/11**  
 Report #: R3658728  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5H9034**  
**Received: 2015/09/04, 09:55**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/09/08	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/09/08	2015/09/08	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/09/08	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/09/10	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/09/08	2015/09/08	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/09/09	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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Maxxam Job #: B5H9034  
Report Date: 2015/09/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: DL

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AXV471		
<b>Sampling Date</b>		2015/09/03 13:30		
<b>COC Number</b>		527064-04-01		
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.4	0.50	4178142
<b>Inorganics</b>				
pH	pH	8.24	N/A	4180151
Phenols-4AAP	mg/L	ND	0.0010	4181017
Total Suspended Solids	mg/L	13	1	4180811
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.4	0.50	4180955
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4180964
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

Maxxam Job #: B5H9034  
Report Date: 2015/09/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: DL

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	24.3°C
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Sample containers received with temp>10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

Maxxam Job #: B5H9034  
Report Date: 2015/09/11

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: DL

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4180151	pH	2015/09/08			102	98 - 103			0.055	N/A		
4180811	Total Suspended Solids	2015/09/09					ND,RDL=1	mg/L	NC	25	99	85 - 115
4180955	Total Oil & Grease	2015/09/08			98	85 - 115	ND, RDL=0.50	mg/L	1.3	25		
4180964	Total Oil & Grease Mineral/Synthetic	2015/09/08			95	85 - 115	ND, RDL=0.50	mg/L	4.3	25		
4181017	Phenols-4AAP	2015/09/10	94	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	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.

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).

Maxxam Job #: B5H9034  
Report Date: 2015/09/11

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: DL

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free: (800) 563-6266 Fax: (905) 817-5777 www.maxxam.ca

CHAIN OF CUSTODY RECORD

Page      of     

INVOICE TO: <b>IMMEDIATE TEST</b>		REPORT TO:	PROJECT INFORMATION:	Laboratory Use Only:	
Company Name: #26238 Coco Paving Inc		Company Name: Dawn Hoyle	Quotation #: B47292	Maxxam Job #:	Bottle Order #:
Attention: Anthony Rossi/Dave Sanders		Attention: Dawn Hoyle	P.O. #:		
Address: 949 Wilson Ave		Address:	Project: 1407634		
Toronto ON M3K 1G2			Project Name:	COC #:	Project Manager:
Tel: (416) 570-7052 x      Fax:		Tel:      Fax:	Site #: McCarthy		
Email: ARossi@cocogroup.com; DSanders@cocogroup.com		Email: Dawn_Hoyle@golder.com	Sampled By: <b>DARRYL LANDEY</b>		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY						ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required: <small>Please provide advance notice for rush projects</small>																																																																																																																																																																																																																																					
Regulation 153 (2011)			Other Regulations			Special Instructions	Field Filtered (please circle): Metals / Hg / Cr-VI	Low Level Total Suspended Solids	Oil & Grease - AWWMT	Phenols (4AAP)	pH	PH							Regular (Standard) TAT: <small>(will be applied if Rush TAT is not specified)</small> Standard TAT = 5-7 Working days for most tests. <small>Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are &gt; 5 days - contact your Project Manager for details.</small>	Job Specific Rush TAT (if applies to entire submission) Date Required: _____ Time Required: _____ Rush Confirmation Number: _____ <small>(call lab for #)</small>																																																																																																																																																																																																																																	
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Sample Barcode Label</th> <th>Sample (Location) Identification</th> <th>Date Sampled</th> <th>Time Sampled</th> <th>Matrix</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th># of Bottles</th> <th>Comments</th> </tr> <tr> <td>1</td> <td>527064</td> <td>POND</td> <td>Sep 03/15 130pm</td> <td>s/w</td> <td>N/A</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td>2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>9</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>															Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix														# of Bottles	Comments	1	527064	POND	Sep 03/15 130pm	s/w	N/A	X	X	X	X	X											2																					3																					4																					5																					6																					7																					8																					9																					10															
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04-Sep-15 09:55  
 Hongmei Zhao (Grace)  
  
 B5H9034  
 HGR ENV-727

* RELINQUISHED BY: (Signature/Print)		Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only					
<i>Beverley Dupuis</i>		15/09/03	2:00pm	<i>JOIEPA UMAY</i>	15/09/01	9:55		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No	
<i>Beverley Dupuis</i>		15/09/03	2:00pm						24/24/25°C	Present	✓		
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.										SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM		White: Maxxam	Yellow: Client

no cooling media

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: McCarthy  
 Your C.O.C. #: 527064-06-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/09/17**  
 Report #: R3664460  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5I3436**

**Received: 2015/09/11, 11:00**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/09/15	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/09/15	2015/09/15	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/09/14	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/09/15	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/09/15	2015/09/15	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/09/16	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Job #: B513436  
Report Date: 2015/09/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: SG

**RESULTS OF ANALYSES OF WATER**

Maxxam ID		AYS307	AYS307		
Sampling Date		2015/09/10 13:00	2015/09/10 13:00		
COC Number		527064-06-01	527064-06-01		
	UNITS	Pond	Pond Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	ND		0.50	4186085
<b>Inorganics</b>					
pH	pH	8.43		N/A	4186959
Phenols-4AAP	mg/L	ND		0.0010	4186714
Total Suspended Solids	mg/L	17	13	1	4188257
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	ND		0.50	4190122
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4190130
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

Maxxam Job #: B513436  
Report Date: 2015/09/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: SG

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	22.0°C
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Samples received with temp of 22 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

Maxxam Job #: B513436  
Report Date: 2015/09/17

**QUALITY ASSURANCE REPORT**

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: SG

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4186714	Phenols-4AAP	2015/09/15	95	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4186959	pH	2015/09/14			102	98 - 103			1.8	N/A		
4188257	Total Suspended Solids	2015/09/16					ND,RDL=1	mg/L	23	25	96	85 - 115
4190122	Total Oil & Grease	2015/09/15	93	75 - 125	95	85 - 115	ND, RDL=0.50	mg/L	1.6	25		
4190130	Total Oil & Grease Mineral/Synthetic	2015/09/15	89	75 - 125	93	85 - 115	ND, RDL=0.50	mg/L	1.6	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.

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).

Maxxam Job #: B513436  
Report Date: 2015/09/17

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: McCarthy  
Sampler Initials: SG

### VALIDATION SIGNATURE PAGE

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

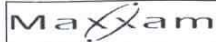


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Brad Newman, Scientific Specialist

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Maxxam Analytics International Corporation o/a Maxxam Analytics  
 67 Impobello Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 617-5700 Toll-Free (800) 563-8266 Fax: (905) 617-5777 www.maxxam.ca

11-Sep-15 11:00

Hongmei Zhao (Grace)



B513436

AVH ENV-875



C#527064-06-01

Page of

INVOICE TO:

REPORT TO:

PROJECT INFORMATION:

Company Name: #26238 Coco Paving Inc  
 Attention: Anthony Rossi/Dave Sanders  
 Address: 949 Wilson Ave  
 Toronto ON M3K 1G2  
 Tel: (416) 570-7052 x Fax:  
 Email: ARossi@cocogroup.com; DSanders@cocogroup.com

Company Name:  
 Attention: Dawn Hoyle  
 Address:  
 Tel:  
 Email: Dawn\_Hoyle@golder.com

Quotation #: B47292  
 P.O. #:  
 Project: 1407634  
 Project Name:  
 Site #: McCarthy  
 Sampled By: Stan Grozette

ly:  
 Bottle Order #:  
 527064  
 Project Manager:  
 Hongmei Zhao (Grace)

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

Regulation 153 (2011)	Other Regulations	Special Instructions
<input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Incl/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table	<input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA Municipality _____ <input type="checkbox"/> PWQO <input type="checkbox"/> Other _____	

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Low Level Total Suspended Solids	Oil & Grease - AV/MT	Phenols (4AAP)	pH	FI
527064	POND	Sept 10/15	1pm	SW	N/A	X	X	X	X	X

Turnaround Time (TAT) Required:  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified)  
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

# of Bottles: \_\_\_\_\_ Comments: \_\_\_\_\_

* RELINQUISHED BY: (Signature/Print) <b>Teresa Cronk</b> <b>Teresa Cronk</b>	Date: (YY/MM/DD) 15/09/10	Time 2:00pm	RECEIVED BY: (Signature/Print) ALKA RAJEE	Date: (YY/MM/DD) 2015/09/11	Time 11:00	# Jars used and not submitted	Laboratory Use Only	Custody Seal	Yes	No
							Time Sensitive	Present	<input checked="" type="checkbox"/>	<input type="checkbox"/>
							Temperature (°C) on Receipt 22/22/22	Intact	<input checked="" type="checkbox"/>	<input type="checkbox"/>

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 528878-02-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/09/23**  
 Report #: R3670395  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5I9462**  
**Received: 2015/09/18, 09:30**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/09/22	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/09/22	2015/09/22	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/09/19	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/09/21	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/09/22	2015/09/22	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/09/22	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		AZV611		
<b>Sampling Date</b>		2015/09/17 13:30		
<b>COC Number</b>		528878-02-01		
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.9	0.50	4195314
<b>Inorganics</b>				
pH	pH	8.45	N/A	4196900
Phenols-4AAP	mg/L	ND	0.0010	4197087
Total Suspended Solids	mg/L	8	1	4197547
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.9	0.50	4199191
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4199209
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	21.3°C
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Samples received with temp > 10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

**QUALITY ASSURANCE REPORT**

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4196900	pH	2015/09/19			101	98 - 103			0.55	N/A		
4197087	Phenols-4AAP	2015/09/21	100	80 - 120	100	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4197547	Total Suspended Solids	2015/09/22					ND,RDL=1	mg/L	NC	25	97	85 - 115
4199191	Total Oil & Grease	2015/09/22			95	85 - 115	ND, RDL=0.50	mg/L	4.4	25		
4199209	Total Oil & Grease Mineral/Synthetic	2015/09/22			93	85 - 115	ND, RDL=0.50	mg/L	2.1	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.

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).

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

<b>INVOICE TO:</b> Company Name: #26238 Coco Paving Inc Attention: Anthony Rossi/Dave Sanders Address: 949 Wilson Ave Toronto ON M3K 1G2 Tel: (416) 570-7052 x Email: ARossi@cocogroup.com, DSanders@cocogroup.com		<b>REPORT TO:</b> Company Name: Attention: Dawn Hoyle Address: Tel: Email: Dawn_Hoyle@golder.com		<b>PROJECT INFORMATION:</b> Quotation #: B47292 P.O. #: 1407634 Project: Project Name: McCarthy Site #: McCarthy Sampled By: Daryl Landry		<b>Laboratory Use Only:</b> Maxxam Job #: 528878 Bottle Order #: 528878 COC #: McCarthy Project Manager: Hongmei Zhao (Grace) Barcode: C#528878-02-01	
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**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

<b>Regulation 153 (2011)</b> <input type="checkbox"/> Table 1 <input type="checkbox"/> Res/Park <input type="checkbox"/> Medium/Fine <input type="checkbox"/> Table 2 <input type="checkbox"/> Ind/Comm <input type="checkbox"/> Coarse <input type="checkbox"/> Table 3 <input type="checkbox"/> Agri/Other <input type="checkbox"/> For RSC <input type="checkbox"/> Table		<b>Other Regulations</b> <input type="checkbox"/> CCME <input type="checkbox"/> Sanitary Sewer Bylaw <input type="checkbox"/> Reg 558 <input type="checkbox"/> Storm Sewer Bylaw <input type="checkbox"/> MISA Municipality: _____ <input type="checkbox"/> PWQO <input type="checkbox"/> Other: _____		<b>Special Instructions</b> _____	
--	--	---	--	--------------------------------------	--

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr / VI	Oil & Grease - AV/MT	pH	Phenols (AAP)	Low Level Total Suspended Solids										
528878	POND	Sept 17	130	SW		X	X	X	X										
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:  
 Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
 (will be applied if Rush TAT is not specified):   
 Standard TAT = 5-7 Working days for most tests.  
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

# of Bottles: \_\_\_\_\_  
 Comments: \_\_\_\_\_

18-Sep-15 09:30  
 Hongmei Zhao (Grace)  
 B519462  
 HGR ENV-311

RELINQUISHED BY: (Signature/Print) Teresa Cronk Teresa Cronk	Date: (YY/MM/DD) 15/09/17	Time 2:00pm	RECEIVED BY: (Signature/Print) Dawn Hoyle	Date: (YY/MM/DD) 2015/09/18	Time 09:30	# jars used and not submitted	<b>Laboratory Use Only</b> Time Sensitive Temperature (°C) on Receipt: 21/21/22 NO. 12			Custody Seal Present <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	------------------------------	----------------	--	--------------------------------	---------------	-------------------------------	---	--	--	---	--

IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 528878-03-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/10/01**  
 Report #: R3706340  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5J5122**  
**Received: 2015/09/25, 09:33**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/09/30	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/09/30	2015/09/30	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/09/29	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/09/29	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/09/30	2015/09/30	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/09/29	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		BAZ545		
<b>Sampling Date</b>		2015/09/24 14:00		
<b>COC Number</b>		528878-03-01		
	<b>UNITS</b>	<b>528878 POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.70	0.50	4204544
<b>Inorganics</b>				
pH	pH	8.27	N/A	4208148
Phenols-4AAP	mg/L	ND	0.0010	4207390
Total Suspended Solids	mg/L	42	1	4207501
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.70	0.50	4211240
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4211248
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	20.0°C
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Samples received with temp > 10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4207390	Phenols-4AAP	2015/09/29	97	80 - 120	98	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4207501	Total Suspended Solids	2015/09/29					ND,RDL=1	mg/L	NC	25	99	85 - 115
4208148	pH	2015/09/29			102	98 - 103			0.19	N/A		
4211240	Total Oil & Grease	2015/09/30	97	75 - 125	96	85 - 115	ND, RDL=0.50	mg/L	2.4	25		
4211248	Total Oil & Grease Mineral/Synthetic	2015/09/30	95	75 - 125	95	85 - 115	ND, RDL=0.50	mg/L	2.4	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.

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).

### VALIDATION SIGNATURE PAGE

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



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Brad Newman, Scientific Specialist

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Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 528878-04-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/10/08**  
 Report #: R3714477  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5K0274**  
**Received: 2015/10/02, 09:35**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/10/07	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/10/07	2015/10/07	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/10/04	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/10/05	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/10/07	2015/10/07	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/10/06	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

Maxxam ID		BCA233	BCA233		
Sampling Date		2015/10/01 14:00	2015/10/01 14:00		
COC Number		528878-04-01	528878-04-01		
	UNITS	POND	POND Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	1.3		0.50	4214587
<b>Inorganics</b>					
pH	pH	7.98		N/A	4216286
Phenols-4AAP	mg/L	ND		0.0010	4216058
Total Suspended Solids	mg/L	10	9	1	4218453
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	1.3		0.50	4220453
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4220469
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Samples received with temp > 10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4216058	Phenols-4AAP	2015/10/05	102	80 - 120	99	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4216286	pH	2015/10/04			102	98 - 103			0.022	N/A		
4218453	Total Suspended Solids	2015/10/06					ND,RDL=1	mg/L	11	25	96	85 - 115
4220453	Total Oil & Grease	2015/10/07	92	75 - 125	94	85 - 115	ND, RDL=0.50	mg/L	3.0	25		
4220469	Total Oil & Grease Mineral/Synthetic	2015/10/07	88	75 - 125	94	85 - 115	ND, RDL=0.50	mg/L	NC	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.

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).

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 528878-05-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/10/15**  
 Report #: R3721306  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5K6537**  
**Received: 2015/10/09, 10:20**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/10/14	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/10/14	2015/10/14	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/10/10	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/10/15	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/10/14	2015/10/14	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/10/14	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		BDH437		
<b>Sampling Date</b>		2015/10/08 12:45		
<b>COC Number</b>		528878-05-01		
	<b>UNITS</b>	<b>528878 POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.2	0.50	4224239
<b>Inorganics</b>				
pH	pH	7.72	N/A	4225983
Phenols-4AAP	mg/L	ND	0.0010	4225994
Total Suspended Solids	mg/L	100	1	4226720
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.2	0.50	4228676
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4228680
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	16.0°C
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Samples received with temp > 10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4225983	pH	2015/10/10			102	98 - 103			0.012	N/A		
4225994	Phenols-4AAP	2015/10/15	95	80 - 120	103	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4226720	Total Suspended Solids	2015/10/14					ND,RDL=1	mg/L	4.5	25	97	85 - 115
4228676	Total Oil & Grease	2015/10/14			96	85 - 115	ND, RDL=0.50	mg/L	1.0	25		
4228680	Total Oil & Grease Mineral/Synthetic	2015/10/14			96	85 - 115	ND, RDL=0.50	mg/L	1.0	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.

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).

### VALIDATION SIGNATURE PAGE

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


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Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

---

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Your Project #: 1407634  
 Site#: 1407634  
 Site Location: McCarthy  
 Your C.O.C. #: 527064-03-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/10/21**  
 Report #: R3727709  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5L0702**

**Received: 2015/10/16, 10:36**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/10/20	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/10/20	2015/10/20	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/10/17	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/10/20	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/10/20	2015/10/20	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/10/20	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		BEB288		
<b>Sampling Date</b>		2015/10/15 14:30		
<b>COC Number</b>		527064-03-01		
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	1.9	0.50	4232537
<b>Inorganics</b>				
pH	pH	7.96	N/A	4234278
Phenols-4AAP	mg/L	ND	0.0010	4235953
Total Suspended Solids	mg/L	30	1	4235224
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	1.9	0.50	4236508
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4236512
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.3°C
-----------	--------

Sample received with temp > 10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4234278	pH	2015/10/17			102	98 - 103			0.15	N/A		
4235224	Total Suspended Solids	2015/10/20					ND,RDL=1	mg/L	NC	25	100	85 - 115
4235953	Phenols-4AAP	2015/10/20	99	80 - 120	97	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4236508	Total Oil & Grease	2015/10/20			99	85 - 115	ND, RDL=0.50	mg/L	0.25	25		
4236512	Total Oil & Grease Mineral/Synthetic	2015/10/20			92	85 - 115	ND, RDL=0.50	mg/L	2.7	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.

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).

### VALIDATION SIGNATURE PAGE

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


---

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

---

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Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 533889-03-01

**Attention: Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/10/29**  
 Report #: R3738141  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5L6487**

**Received: 2015/10/23, 08:50**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date		Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/10/23	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/10/23	2015/10/23	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/10/24	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/10/26	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/10/23	2015/10/23	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/10/28	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		BFG290	BFG290		
<b>Sampling Date</b>		2015/10/15 14:30	2015/10/15 14:30		
<b>COC Number</b>		533889-03-01	533889-03-01		
	<b>UNITS</b>	<b>533889 POND</b>	<b>533889 POND Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	ND		0.50	4242429
<b>Inorganics</b>					
pH	pH	8.12		N/A	4244330
Phenols-4AAP	mg/L	ND		0.0010	4244252
Total Suspended Solids	mg/L	4	4	1	4244257
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	ND		0.50	4242748
Total Oil & Grease Mineral/Synthetic	mg/L	ND		0.50	4242757
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate ND = Not detected					

**GENERAL COMMENTS**

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	13.3°C
-----------	--------

Sample received with temp >10 C and anlyses conducted with client's consent.

**Results relate only to the items tested.**

**QUALITY ASSURANCE REPORT**

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4242748	Total Oil & Grease	2015/10/23			96	85 - 115	ND, RDL=0.50	mg/L	1.0	25		
4242757	Total Oil & Grease Mineral/Synthetic	2015/10/23			94	85 - 115	ND, RDL=0.50	mg/L	1.1	25		
4244252	Phenols-4AAP	2015/10/26	94	80 - 120	100	85 - 115	ND, RDL=0.0010	mg/L	NC	20		
4244257	Total Suspended Solids	2015/10/28					ND,RDL=1	mg/L	NC	25	97	85 - 115
4244330	pH	2015/10/26			102	98 - 103			0.51	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

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

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).

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

---

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics  
6740 Campbell Road, Mississauga, Ontario Canada L5N 2L8 Tel: (905) 817-5700 Toll-Free (800) 563-6256 Fax: (905) 817-5777 www.maxxam.ca

23-Oct-15 08:50

Hongmei Zhao (Grace)



B5L6487

MAF ENV-672

**INVOICE TO:**

Company Name: #26238 Coco Paving Inc  
Attention: Anthony Rossi/Dave Sanders  
Address: 949 Wilson Ave  
Toronto ON M3K 1G2  
Tel: (416) 570-7052 x Fax  
Email: ARossi@cocogroup.com; DSanders@cocogroup.com

**REPORT TO:**

Company Name:  
Attention: Dawn Hoyle  
Address:  
Tel: Fax  
Email: Dawn\_Hoyle@golder.com

**PROJECT INFORMATION:**

Quotation #: B47292  
P.O. #:  
Project: 1407634  
Project Name:  
Site #: McCarthy  
Sampled By: *Dave Sanders*



D#533889-03-01

Page of  
Only:  
Bottle Order #:  
533889  
Project Manager:  
Hongmei Zhao (Grace)

**MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY**

**Regulation 153 (2011)**

Table 1  Res/Park  Medium/Fine  
Table 2  Ind/Comm  Coarse  
Table 3  Agri/Other  For RSC  
Table

**Other Regulations**

CCME  Sanitary Sewer Bylaw  
Reg 558  Storm Sewer Bylaw  
MISA  Municipality  
PWQO   
Other

**Special Instructions**

Include Criteria on Certificate of Analysis (Y/N)?

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr-VI	Oil & Grease - AV/MT	pH	Phenols (4&AP)	Low Level Total Suspended Solids
533889	POND	10/15/15	230pm	SW	N/A	✓	✓	✓	✓

**ANALYSIS REQUESTED (PLEASE BE SPECIFIC)**

Analysis Requested	Requested

**Turnaround Time (TAT) Required:**  
Please provide advance notice for rush projects

**Regular (Standard) TAT:**  
(will be applied if Rush TAT is not specified)  
Standard TAT = 5-7 Working days for most tests.  
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

**Job Specific Rush TAT (if applies to entire submission)**  
Date Required: Time Required:  
Rush Confirmation Number: (call lab for #)

* RELINQUISHED BY: (Signature/Print) <i>T. Cronk</i>	Date: (YY/MM/DD) 10/15/15	Time 230	RECEIVED BY: (Signature/Print) <i>Alex Vahedi</i>	Date: (YY/MM/DD) 2015/10/23	Time 08:50	# jars used and not submitted	Laboratory Use Only				
							Time Sensitive	Temperature (°C) on Receipt 13, 14, 13 no ice	Custody Seal	Yes	No
									Present	✓	
									Intact	✓	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 533889-04-01

**Attention:Alicia Kimberley**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/11/06**  
 Report #: R3752865  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5M2730**  
**Received: 2015/10/30, 09:20**

Sample Matrix: Water  
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Reference
		Extracted	Analyzed		
Animal and Vegetable Oil & Grease	1	N/A	2015/10/31	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2015/10/31	2015/10/31	CAM SOP-00326	EPA1664B m,SM5520A m
pH	1	N/A	2015/10/31	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2015/11/05	CAM SOP-00444	OMOE E3179 m
TPH (Heavy Oil) (1)	1	2015/10/31	2015/10/31	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	N/A	2015/11/05	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

**Encryption Key**

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

Antonella Brasil, Senior Project Manager

Email: ABrasil@maxxam.ca

Phone# (905)817-5817

=====

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

**RESULTS OF ANALYSES OF WATER**

<b>Maxxam ID</b>		BGM150		
<b>Sampling Date</b>		2015/10/15 14:30		
<b>COC Number</b>		533889-04-01		
	<b>UNITS</b>	<b>533889 POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>				
Total Animal/Vegetable Oil and Grease	mg/L	0.90	0.50	4251872
<b>Inorganics</b>				
pH	pH	8.18	N/A	4253768
Phenols-4AAP	mg/L	ND	0.0010	4253879
Total Suspended Solids	mg/L	9	1	4253766
<b>Petroleum Hydrocarbons</b>				
Total Oil & Grease	mg/L	0.90	0.50	4253573
Total Oil & Grease Mineral/Synthetic	mg/L	ND	0.50	4253563
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable ND = Not detected				

### GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	13.0°C
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Samples received with temp >10 C and analyses conducted with client's consent.

**Results relate only to the items tested.**

**QUALITY ASSURANCE REPORT**

QC Batch	Parameter	Date	Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
4253563	Total Oil & Grease Mineral/Synthetic	2015/10/31			94	85 - 115	ND, RDL=0.50	mg/L	0.54	25		
4253573	Total Oil & Grease	2015/10/31	95	75 - 125	95	85 - 115	ND, RDL=0.50	mg/L	0.52	25		
4253766	Total Suspended Solids	2015/11/05					ND, RDL=1	mg/L	16	25	100	85 - 115
4253768	pH	2015/10/31			102	98 - 103			0.39	N/A		
4253879	Phenols-4AAP	2015/11/05	101	80 - 120	96	85 - 115	ND, RDL=0.0010	mg/L	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.

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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).

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Scientific Services

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<b>INVOICE TO:</b>		<b>REPORT TO:</b>		<b>PROJECT INFORMATION:</b>		<b>Laboratory Use Only:</b>	
Company Name: #26238 Coco Paving Inc	Attention: Anthony Rossi/Dave Sanders	Company Name: Dawn Hoyle	Attention: Dawn Hoyle	Quotation #: B47292	PO #: 1407634	Maxxam Job #:	Bottle Order #:
Address: 949 Wilson Ave Toronto ON M3K 1G2		Address:		Project Name: McCarthy	Site #: McCarthy	COC #:	Project Manager:
Tel: (416) 570-7052 x Fax:		Tel: Dawn_Hoyle@golder.com Fax:		Sampled By: <i>Daryl Landry</i>			Hongmei Zhao (Grace)
Email: ARossi@cocogroup.com, DSanders@cocogroup.com		Email: Dawn_Hoyle@golder.com				C#533889-04-01	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY					ANALYSIS REQUESTED (PLEASE BE SPECIFIC)										Turnaround Time (TAT) Required:			
Regulation 153 (2011)		Other Regulations		Special Instructions	Field Filtered (please circle):										Please provide advance notice for rush projects			
<input type="checkbox"/> Table 1	<input type="checkbox"/> Res/Park	<input type="checkbox"/> Medium/Fine	<input type="checkbox"/> CCME	<input type="checkbox"/> Sanitary Sewer Bylaw	Metals / Hg / Cr-VI	Oil & Grease -AV/MT	pH	Phenols (4AAP)	Low Level Total Suspended Solids								Regular (Standard) TAT:	
<input type="checkbox"/> Table 2	<input type="checkbox"/> Ind/Comm	<input type="checkbox"/> Coarse	<input type="checkbox"/> Reg 558	<input type="checkbox"/> Storm Sewer Bylaw														
<input type="checkbox"/> Table 3	<input type="checkbox"/> Agri/Other	<input type="checkbox"/> For RSC	<input type="checkbox"/> MISA	Municipality														
<input type="checkbox"/> Table			<input type="checkbox"/> PWQO															
<input type="checkbox"/> Table			<input type="checkbox"/> Other															
1	533889	POND	10/15/15	230pm SW	N/A	✓	✓	✓	✓	✓								
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Job Specific Rush TAT (if applies to entire submission)  
 Date Required: \_\_\_\_\_ Time Required: \_\_\_\_\_  
 Rush Confirmation Number: \_\_\_\_\_ (call lab for #)

30-Oct-15 09:20  
 Hongmei Zhao (Grace)  
  
 B5M2730  
 HGR ENV-800

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
<i>T. Cronk</i>	10/29/15	2:45pm	<i>Jill Mueser</i>	2015/10/30	09:20			13/13/13	Present	✓	
									Intact	✓	

\* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM. White: Maxxam Yellow: Client

*ND ice*

Your Project #: 1407634  
 Site#: 1407634  
 Site Location: MCCARTHY  
 Your C.O.C. #: 535098-01-01

**Attention: Dawn Hoyle**

Golder Associates Ltd  
 121 Commerce Park Drive  
 Unit L  
 Barrie, ON  
 L4N 8X1

**Report Date: 2015/11/03**  
 Report #: R3747679  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5L7569**

**Received: 2015/10/24, 09:52**

Sample Matrix: Water  
 # Samples Received: 2

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Reference</b>
Alkalinity	2	N/A	2015/10/27	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	2	N/A	2015/10/27	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2015/10/27	CAM SOP-00463	EPA 325.2 m
Chloride by Automated Colourimetry	1	N/A	2015/10/28	CAM SOP-00463	EPA 325.2 m
Conductivity	2	N/A	2015/10/27	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	2	N/A	2015/10/28	CAM SOP-00446	SM 22 5310 B m
Fluoride	2	2015/10/26	2015/10/27	CAM SOP-00449	SM 22 4500-F C m
Hardness (calculated as CaCO3)	2	N/A	2015/10/30	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	2	N/A	2015/10/30	CAM SOP-00447	EPA 6020A m
Total Metals Analysis by ICPMS	1	N/A	2015/10/29	CAM SOP-00447	EPA 6020A m
Total Metals Analysis by ICPMS	1	N/A	2015/10/30	CAM SOP-00447	EPA 6020A m
Ion Balance (% Difference)	2	N/A	2015/10/30		
Anion and Cation Sum	2	N/A	2015/10/30		
Total Ammonia-N	2	N/A	2015/10/30	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	2	N/A	2015/10/29	CAM SOP-00440	SM 22 4500-NO3I/NO2B
Total Oil and Grease	2	2015/10/28	2015/10/28	CAM SOP-00326	EPA1664B m, SM5520A m
pH	2	N/A	2015/10/27	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	2	N/A	2015/10/29	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Colourimetry	1	N/A	2015/10/27	CAM SOP-00464	EPA 375.4 m
Sulphate by Automated Colourimetry	1	N/A	2015/10/28	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids	2	N/A	2015/10/29	CAM SOP-00428	SM 22 2540C m
Total Kjeldahl Nitrogen in Water	2	2015/10/29	2015/11/02	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric)	2	2015/10/30	2015/10/30	CAM SOP-00407	SM 4500 P B H m
Total Suspended Solids	2	N/A	2015/10/28	CAM SOP-00428	SM 22 2540D m

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

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

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Your Project #: 1407634  
Site#: 1407634  
Site Location: MCCARTHY  
Your C.O.C. #: 535098-01-01

**Attention:Dawn Hoyle**

Golder Associates Ltd  
121 Commerce Park Drive  
Unit L  
Barrie, ON  
L4N 8X1

**Report Date: 2015/11/03**  
Report #: R3747679  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B5L7569**  
**Received: 2015/10/24, 09:52**

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.  
Stephen McMillan, Project Manager  
Email: smcmillan@maxxam.ca  
Phone# (905)817-5700 Ext:5735

=====  
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**RESULTS OF ANALYSES OF WATER**

Maxxam ID			BFL873			BFL874		
Sampling Date			2015/10/22 15:00			2015/10/22 14:45		
COC Number			535098-01-01			535098-01-01		
	UNITS	Criteria	POND	RDL	QC Batch	SW1	RDL	QC Batch
<b>Calculated Parameters</b>								
Anion Sum	me/L	-	15.9	N/A	4244110	15.0	N/A	4244110
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	96	1.0	4244109	130	1.0	4244109
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	<1.0	1.0	4244109	1.3	1.0	4244109
Cation Sum	me/L	-	14.8	N/A	4244110	14.8	N/A	4244110
Hardness (CaCO3)	mg/L	-	310	1.0	4244228	340	1.0	4244228
Ion Balance (% Difference)	%	-	3.53	N/A	4243883	0.890	N/A	4243883
<b>Inorganics</b>								
Total Ammonia-N	mg/L	-	0.078	0.050	4250625	0.077	0.050	4250625
Conductivity	umho/cm	-	1700	1.0	4245317	1600	1.0	4245317
Total Dissolved Solids	mg/L	-	966	10	4245249	928	10	4245249
Fluoride (F-)	mg/L	-	0.66	0.10	4245312	0.59	0.10	4245312
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.67	0.10	4250644	0.69	0.10	4250644
Dissolved Organic Carbon	mg/L	-	5.6	0.20	4245161	6.9	0.20	4245161
pH	pH	<b>6.5:8.5</b>	8.03	N/A	4245319	8.03	N/A	4245319
Phenols-4AAP	mg/L	<b>0.001</b>	<0.0010	0.0010	4245590	<0.0010	0.0010	4245590
Total Phosphorus	mg/L	<b>0.01</b>	<b>0.011</b>	0.004	4251676	<b>0.040</b>	0.004	4251676
Total Suspended Solids	mg/L	-	<10	10	4245238	14	10	4245238
Dissolved Sulphate (SO4)	mg/L	-	280	1.0	4245421	260	1.0	4245368
Alkalinity (Total as CaCO3)	mg/L	-	97	1.0	4245314	130	1.0	4245314
Dissolved Chloride (Cl)	mg/L	-	280	4.0	4245425	240	3.0	4245363
Nitrite (N)	mg/L	-	0.051	0.010	4245352	0.041	0.010	4245384
Nitrate (N)	mg/L	-	1.92	0.10	4245352	1.62	0.10	4245384
Nitrate + Nitrite (N)	mg/L	-	1.97	0.10	4245352	1.66	0.10	4245384
<b>Petroleum Hydrocarbons</b>								
Total Oil & Grease	mg/L	-	0.90	0.50	4247985	0.70	0.50	4247985
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Provincial Water Quality Objectives Ref. to MOEE Water Management document dated Feb.1999 N/A = Not Applicable								

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID			BFL873		BFL874		
Sampling Date			2015/10/22 15:00		2015/10/22 14:45		
COC Number			535098-01-01		535098-01-01		
	UNITS	Criteria	POND	QC Batch	SW1	RDL	QC Batch
<b>Metals</b>							
Total Aluminum (Al)	ug/L	-	76	4251900	120	5.0	4250071
Total Antimony (Sb)	ug/L	<b>20</b>	<0.50	4249882	<0.50	0.50	4250071
Dissolved Arsenic (As)	ug/L	<b>100</b>	<1.0	4249918	<1.0	1.0	4249918
Total Arsenic (As)	ug/L	<b>100</b>	<1.0	4249882	<1.0	1.0	4250071
Total Barium (Ba)	ug/L	-	49	4249882	58	2.0	4250071
Total Beryllium (Be)	ug/L	<b>11</b>	<0.50	4249882	<0.50	0.50	4250071
Total Bismuth (Bi)	ug/L	-	<1.0	4249882	<1.0	1.0	4250071
Total Boron (B)	ug/L	<b>200</b>	<b>850</b>	4249882	<b>770</b>	10	4250071
Dissolved Cadmium (Cd)	ug/L	<b>0.2</b>	<0.10	4249918	<0.10	0.10	4249918
Total Cadmium (Cd)	ug/L	<b>0.2</b>	<0.10	4249882	<0.10	0.10	4250071
Dissolved Calcium (Ca)	ug/L	-	63000	4249918	79000	200	4249918
Total Calcium (Ca)	ug/L	-	67000	4249882	81000	200	4250071
Dissolved Chromium (Cr)	ug/L	-	<5.0	4249918	<5.0	5.0	4249918
Total Chromium (Cr)	ug/L	-	<5.0	4249882	<5.0	5.0	4250071
Total Cobalt (Co)	ug/L	<b>0.9</b>	<0.50	4249882	<0.50	0.50	4250071
Dissolved Copper (Cu)	ug/L	<b>5</b>	<1.0	4249918	<1.0	1.0	4249918
Total Copper (Cu)	ug/L	<b>5</b>	1.3	4249882	1.5	1.0	4250071
Dissolved Iron (Fe)	ug/L	<b>300</b>	<100	4249918	140	100	4249918
Total Iron (Fe)	ug/L	<b>300</b>	<100	4249882	170	100	4250071
Dissolved Lead (Pb)	ug/L	<b>5</b>	<0.50	4249918	<0.50	0.50	4249918
Total Lead (Pb)	ug/L	<b>5</b>	<0.50	4249882	<0.50	0.50	4250071
Total Lithium (Li)	ug/L	-	130	4249882	100	5.0	4250071
Dissolved Magnesium (Mg)	ug/L	-	36000	4249918	35000	50	4249918
Total Magnesium (Mg)	ug/L	-	38000	4249882	35000	50	4250071
Dissolved Manganese (Mn)	ug/L	-	3.5	4249918	26	2.0	4249918
Total Manganese (Mn)	ug/L	-	3.2	4249882	24	2.0	4250071
Total Molybdenum (Mo)	ug/L	<b>40</b>	2.7	4249882	2.4	0.50	4250071
Dissolved Nickel (Ni)	ug/L	<b>25</b>	<1.0	4249918	1.7	1.0	4249918
Total Nickel (Ni)	ug/L	<b>25</b>	<1.0	4249882	<1.0	1.0	4250071
Total Phosphorus (P)	ug/L	<b>10</b>	<100	4249882	<100	100	4250071
Dissolved Potassium (K)	ug/L	-	13000	4249918	13000	200	4249918
Total Potassium (K)	ug/L	-	15000	4249882	13000	200	4250071
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							
Criteria: Ontario Provincial Water Quality Objectives							
Ref. to MOEE Water Management document dated Feb.1999							

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Maxxam ID			BFL873		BFL874		
Sampling Date			2015/10/22 15:00		2015/10/22 14:45		
COC Number			535098-01-01		535098-01-01		
	UNITS	Criteria	POND	QC Batch	SW1	RDL	QC Batch
Total Selenium (Se)	ug/L	<b>100</b>	<2.0	4249882	<2.0	2.0	4250071
Total Silicon (Si)	ug/L	-	480	4249882	790	50	4250071
Total Silver (Ag)	ug/L	<b>0.1</b>	<0.10	4249882	<0.10	0.10	4250071
Dissolved Sodium (Na)	ug/L	-	190000	4249918	180000	100	4249918
Total Sodium (Na)	ug/L	-	200000	4249882	180000	100	4250071
Total Strontium (Sr)	ug/L	-	3100	4249882	2500	1.0	4250071
Total Tellurium (Te)	ug/L	-	<1.0	4249882	<1.0	1.0	4250071
Total Thallium (Tl)	ug/L	<b>0.3</b>	<0.050	4249882	<0.050	0.050	4250071
Total Thorium (Th)	ug/L	-	<2.0	4249882	<2.0	2.0	4250071
Total Tin (Sn)	ug/L	-	<1.0	4249882	<1.0	1.0	4250071
Total Titanium (Ti)	ug/L	-	<5.0	4249882	7.3	5.0	4250071
Total Tungsten (W)	ug/L	<b>30</b>	<1.0	4249882	<1.0	1.0	4250071
Total Uranium (U)	ug/L	<b>5</b>	0.75	4249882	0.93	0.10	4250071
Total Vanadium (V)	ug/L	<b>6</b>	<0.50	4249882	<0.50	0.50	4250071
Dissolved Zinc (Zn)	ug/L	<b>30</b>	<5.0	4249918	<5.0	5.0	4249918
Total Zinc (Zn)	ug/L	<b>30</b>	<5.0	4249882	<5.0	5.0	4250071
Total Zirconium (Zr)	ug/L	<b>4</b>	<1.0	4249882	<1.0	1.0	4250071
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Provincial Water Quality Objectives Ref. to MOEE Water Management document dated Feb.1999							

### TEST SUMMARY

**Maxxam ID:** BFL873  
**Sample ID:** POND  
**Matrix:** Water

**Collected:** 2015/10/22  
**Shipped:**  
**Received:** 2015/10/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4245314	N/A	2015/10/27	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	4244109	N/A	2015/10/27	Automated Statchk
Chloride by Automated Colourimetry	KONE	4245425	N/A	2015/10/28	Deonarine Ramnarine
Conductivity	AT	4245317	N/A	2015/10/27	Yogesh Patel
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4245161	N/A	2015/10/28	Anastasia Hamanov
Fluoride	ISE	4245312	2015/10/26	2015/10/27	Yogesh Patel
Hardness (calculated as CaCO3)		4244228	N/A	2015/10/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4249918	N/A	2015/10/30	Prempal Bhatti
Total Metals Analysis by ICPMS	ICP/MS	4251900	N/A	2015/10/30	Cristina Petran
Ion Balance (% Difference)	CALC	4243883	N/A	2015/10/30	Automated Statchk
Anion and Cation Sum	CALC	4244110	N/A	2015/10/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4250625	N/A	2015/10/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4245352	N/A	2015/10/29	Chandra Nandlal
Total Oil and Grease	BAL	4247985	2015/10/28	2015/10/28	Francis Afonso
pH	AT	4245319	N/A	2015/10/27	Yogesh Patel
Phenols (4AAP)	TECH/PHEN	4245590	N/A	2015/10/29	Bramdeo Motiram
Sulphate by Automated Colourimetry	KONE	4245421	N/A	2015/10/28	Alina Dobreanu
Total Dissolved Solids	BAL	4245249	N/A	2015/10/29	Gurpreet Kaur
Total Kjeldahl Nitrogen in Water	SKAL	4250644	2015/10/29	2015/11/02	Rajni Tyagi
Total Phosphorus (Colourimetric)	LACH/P	4251676	2015/10/30	2015/10/30	Viorica Rotaru
Total Suspended Solids	BAL	4245238	N/A	2015/10/28	Bansari Ray

**Maxxam ID:** BFL874  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2015/10/22  
**Shipped:**  
**Received:** 2015/10/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4245314	N/A	2015/10/27	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	4244109	N/A	2015/10/27	Automated Statchk
Chloride by Automated Colourimetry	KONE	4245363	N/A	2015/10/27	Deonarine Ramnarine
Conductivity	AT	4245317	N/A	2015/10/27	Yogesh Patel
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4245161	N/A	2015/10/28	Anastasia Hamanov
Fluoride	ISE	4245312	2015/10/26	2015/10/27	Yogesh Patel
Hardness (calculated as CaCO3)		4244228	N/A	2015/10/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4249918	N/A	2015/10/30	Prempal Bhatti
Total Metals Analysis by ICPMS	ICP/MS	4250071	N/A	2015/10/30	Cristina Petran
Ion Balance (% Difference)	CALC	4243883	N/A	2015/10/30	Automated Statchk
Anion and Cation Sum	CALC	4244110	N/A	2015/10/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4250625	N/A	2015/10/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4245384	N/A	2015/10/29	Chandra Nandlal
Total Oil and Grease	BAL	4247985	2015/10/28	2015/10/28	Francis Afonso
pH	AT	4245319	N/A	2015/10/27	Yogesh Patel
Phenols (4AAP)	TECH/PHEN	4245590	N/A	2015/10/29	Bramdeo Motiram
Sulphate by Automated Colourimetry	KONE	4245368	N/A	2015/10/27	Deonarine Ramnarine

Maxxam Job #: B5L7569  
Report Date: 2015/11/03

Golder Associates Ltd  
Client Project #: 1407634  
Site Location: MCCARTHY  
Sampler Initials: AJM

### TEST SUMMARY

**Maxxam ID:** BFL874  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2015/10/22  
**Shipped:**  
**Received:** 2015/10/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids	BAL	4245249	N/A	2015/10/29	Gurpreet Kaur
Total Kjeldahl Nitrogen in Water	SKAL	4250644	2015/10/29	2015/11/02	Rajni Tyagi
Total Phosphorus (Colourimetric)	LACH/P	4251676	2015/10/30	2015/10/30	Viorica Rotaru
Total Suspended Solids	BAL	4245238	N/A	2015/10/28	Bansari Ray

### GENERAL COMMENTS

Sample BFL873, Total Metals Analysis by ICPMS: Test repeated.

**Results relate only to the items tested.**

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4245161	AHA	Matrix Spike	Dissolved Organic Carbon	2015/10/28		97	%	80 - 120
4245161	AHA	Spiked Blank	Dissolved Organic Carbon	2015/10/28		100	%	80 - 120
4245161	AHA	Method Blank	Dissolved Organic Carbon	2015/10/28	<0.20		mg/L	
4245161	AHA	RPD	Dissolved Organic Carbon	2015/10/28	2.1		%	20
4245238	RAY	QC Standard	Total Suspended Solids	2015/10/28		99	%	85 - 115
4245238	RAY	Method Blank	Total Suspended Solids	2015/10/28	<10		mg/L	
4245238	RAY	RPD	Total Suspended Solids	2015/10/28	NC		%	25
4245249	GKR	QC Standard	Total Dissolved Solids	2015/10/29		99	%	90 - 110
4245249	GKR	Method Blank	Total Dissolved Solids	2015/10/29	<10		mg/L	
4245249	GKR	RPD	Total Dissolved Solids	2015/10/29	1.9		%	25
4245312	YPA	Matrix Spike	Fluoride (F-)	2015/10/27		106	%	80 - 120
4245312	YPA	Spiked Blank	Fluoride (F-)	2015/10/27		104	%	80 - 120
4245312	YPA	Method Blank	Fluoride (F-)	2015/10/27	<0.10		mg/L	
4245312	YPA	RPD	Fluoride (F-)	2015/10/27	0.97		%	20
4245314	YPA	Spiked Blank	Alkalinity (Total as CaCO3)	2015/10/27		93	%	85 - 115
4245314	YPA	Method Blank	Alkalinity (Total as CaCO3)	2015/10/27	<1.0		mg/L	
4245314	YPA	RPD	Alkalinity (Total as CaCO3)	2015/10/27	1.5		%	25
4245317	YPA	Spiked Blank	Conductivity	2015/10/27		101	%	85 - 115
4245317	YPA	Method Blank	Conductivity	2015/10/27	<1.0		umho/c	
4245317	YPA	RPD	Conductivity	2015/10/27	0.18		%	25
4245319	YPA	Spiked Blank	pH	2015/10/27		101	%	98 - 103
4245319	YPA	RPD	pH	2015/10/27	0.22		%	N/A
4245352	C_N	Matrix Spike	Nitrite (N)	2015/10/29		109	%	80 - 120
			Nitrate (N)	2015/10/29		98	%	80 - 120
4245352	C_N	Spiked Blank	Nitrite (N)	2015/10/29		105	%	80 - 120
			Nitrate (N)	2015/10/29		96	%	80 - 120
4245352	C_N	Method Blank	Nitrite (N)	2015/10/29	<0.010		mg/L	
			Nitrate (N)	2015/10/29	<0.10		mg/L	
4245352	C_N	RPD	Nitrite (N)	2015/10/29	NC		%	25
			Nitrate (N)	2015/10/29	0.47		%	25
4245363	DRM	Matrix Spike	Dissolved Chloride (Cl)	2015/10/27		106	%	80 - 120
4245363	DRM	Spiked Blank	Dissolved Chloride (Cl)	2015/10/27		102	%	80 - 120
4245363	DRM	Method Blank	Dissolved Chloride (Cl)	2015/10/27	<1.0		mg/L	
4245363	DRM	RPD	Dissolved Chloride (Cl)	2015/10/27	NC		%	20
4245368	DRM	Matrix Spike	Dissolved Sulphate (SO4)	2015/10/27		108	%	75 - 125
4245368	DRM	Spiked Blank	Dissolved Sulphate (SO4)	2015/10/27		103	%	80 - 120
4245368	DRM	Method Blank	Dissolved Sulphate (SO4)	2015/10/27	<1.0		mg/L	
4245368	DRM	RPD	Dissolved Sulphate (SO4)	2015/10/27	NC		%	20
4245384	C_N	Matrix Spike	Nitrite (N)	2015/10/29		106	%	80 - 120
			Nitrate (N)	2015/10/29		99	%	80 - 120
4245384	C_N	Spiked Blank	Nitrite (N)	2015/10/29		105	%	80 - 120
			Nitrate (N)	2015/10/29		96	%	80 - 120
4245384	C_N	Method Blank	Nitrite (N)	2015/10/29	<0.010		mg/L	
			Nitrate (N)	2015/10/29	<0.10		mg/L	
4245384	C_N	RPD	Nitrite (N)	2015/10/29	NC		%	25
			Nitrate (N)	2015/10/29	NC		%	25
4245421	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2015/10/28		126 (1)	%	75 - 125
4245421	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2015/10/28		104	%	80 - 120
4245421	ADB	Method Blank	Dissolved Sulphate (SO4)	2015/10/28	<1.0		mg/L	
4245421	ADB	RPD	Dissolved Sulphate (SO4)	2015/10/28	NC		%	20
4245425	DRM	Matrix Spike	Dissolved Chloride (Cl)	2015/10/28		NC	%	80 - 120
4245425	DRM	Spiked Blank	Dissolved Chloride (Cl)	2015/10/28		101	%	80 - 120

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4245425	DRM	Method Blank	Dissolved Chloride (Cl)	2015/10/28	<1.0		mg/L	
4245425	DRM	RPD	Dissolved Chloride (Cl)	2015/10/28	0.11		%	20
4245590	BMO	Matrix Spike	Phenols-4AAP	2015/10/29		97	%	80 - 120
4245590	BMO	Spiked Blank	Phenols-4AAP	2015/10/29		101	%	85 - 115
4245590	BMO	Method Blank	Phenols-4AAP	2015/10/29	<0.0010		mg/L	
4245590	BMO	RPD	Phenols-4AAP	2015/10/29	NC		%	20
4247985	FA	Matrix Spike	Total Oil & Grease	2015/10/28		NC	%	75 - 125
4247985	FA	Spiked Blank	Total Oil & Grease	2015/10/28		100	%	85 - 115
4247985	FA	RPD	Total Oil & Grease	2015/10/28	3.8		%	25
			Total Oil & Grease	2015/10/28	1.5		%	25
4247985	FA	Method Blank	Total Oil & Grease	2015/10/28	<0.50		mg/L	
4249882	ADA	Matrix Spike	Total Antimony (Sb)	2015/10/29		97	%	80 - 120
			Total Arsenic (As)	2015/10/29		97	%	80 - 120
			Total Barium (Ba)	2015/10/29		96	%	80 - 120
			Total Beryllium (Be)	2015/10/29		100	%	80 - 120
			Total Bismuth (Bi)	2015/10/29		96	%	80 - 120
			Total Boron (B)	2015/10/29		92	%	80 - 120
			Total Cadmium (Cd)	2015/10/29		98	%	80 - 120
			Total Calcium (Ca)	2015/10/29		92	%	80 - 120
			Total Chromium (Cr)	2015/10/29		91	%	80 - 120
			Total Cobalt (Co)	2015/10/29		96	%	80 - 120
			Total Copper (Cu)	2015/10/29		96	%	80 - 120
			Total Iron (Fe)	2015/10/29		98	%	80 - 120
			Total Lead (Pb)	2015/10/29		96	%	80 - 120
			Total Lithium (Li)	2015/10/29		99	%	80 - 120
			Total Magnesium (Mg)	2015/10/29		98	%	80 - 120
			Total Manganese (Mn)	2015/10/29		96	%	80 - 120
			Total Molybdenum (Mo)	2015/10/29		90	%	80 - 120
			Total Nickel (Ni)	2015/10/29		96	%	80 - 120
			Total Phosphorus (P)	2015/10/29		101	%	80 - 120
			Total Potassium (K)	2015/10/29		98	%	80 - 120
			Total Selenium (Se)	2015/10/29		99	%	80 - 120
			Total Silicon (Si)	2015/10/29		96	%	80 - 120
			Total Silver (Ag)	2015/10/29		95	%	80 - 120
			Total Sodium (Na)	2015/10/29		94	%	80 - 120
			Total Strontium (Sr)	2015/10/29		98	%	80 - 120
			Total Tellurium (Te)	2015/10/29		96	%	80 - 120
			Total Thallium (Tl)	2015/10/29		98	%	80 - 120
			Total Thorium (Th)	2015/10/29		95	%	80 - 120
			Total Tin (Sn)	2015/10/29		94	%	80 - 120
			Total Titanium (Ti)	2015/10/29		95	%	80 - 120
			Total Tungsten (W)	2015/10/29		93	%	80 - 120
			Total Uranium (U)	2015/10/29		98	%	80 - 120
			Total Vanadium (V)	2015/10/29		92	%	80 - 120
			Total Zinc (Zn)	2015/10/29		96	%	80 - 120
			Total Zirconium (Zr)	2015/10/29		97	%	80 - 120
4249882	ADA	Spiked Blank	Total Antimony (Sb)	2015/10/29		101	%	80 - 120
			Total Arsenic (As)	2015/10/29		102	%	80 - 120
			Total Barium (Ba)	2015/10/29		105	%	80 - 120
			Total Beryllium (Be)	2015/10/29		103	%	80 - 120
			Total Bismuth (Bi)	2015/10/29		102	%	80 - 120
			Total Boron (B)	2015/10/29		94	%	80 - 120

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Cadmium (Cd)	2015/10/29		102	%	80 - 120
			Total Calcium (Ca)	2015/10/29		97	%	80 - 120
			Total Chromium (Cr)	2015/10/29		96	%	80 - 120
			Total Cobalt (Co)	2015/10/29		101	%	80 - 120
			Total Copper (Cu)	2015/10/29		101	%	80 - 120
			Total Iron (Fe)	2015/10/29		103	%	80 - 120
			Total Lead (Pb)	2015/10/29		101	%	80 - 120
			Total Lithium (Li)	2015/10/29		104	%	80 - 120
			Total Magnesium (Mg)	2015/10/29		104	%	80 - 120
			Total Manganese (Mn)	2015/10/29		100	%	80 - 120
			Total Molybdenum (Mo)	2015/10/29		95	%	80 - 120
			Total Nickel (Ni)	2015/10/29		101	%	80 - 120
			Total Phosphorus (P)	2015/10/29		94	%	80 - 120
			Total Potassium (K)	2015/10/29		100	%	80 - 120
			Total Selenium (Se)	2015/10/29		103	%	80 - 120
			Total Silicon (Si)	2015/10/29		97	%	80 - 120
			Total Silver (Ag)	2015/10/29		99	%	80 - 120
			Total Sodium (Na)	2015/10/29		99	%	80 - 120
			Total Strontium (Sr)	2015/10/29		101	%	80 - 120
			Total Tellurium (Te)	2015/10/29		104	%	80 - 120
			Total Thallium (Tl)	2015/10/29		104	%	80 - 120
			Total Thorium (Th)	2015/10/29		101	%	80 - 120
			Total Tin (Sn)	2015/10/29		100	%	80 - 120
			Total Titanium (Ti)	2015/10/29		97	%	80 - 120
			Total Tungsten (W)	2015/10/29		101	%	80 - 120
			Total Uranium (U)	2015/10/29		104	%	80 - 120
			Total Vanadium (V)	2015/10/29		97	%	80 - 120
			Total Zinc (Zn)	2015/10/29		103	%	80 - 120
			Total Zirconium (Zr)	2015/10/29		102	%	80 - 120
4249882	ADA	Method Blank	Total Antimony (Sb)	2015/10/29	<0.50		ug/L	
			Total Arsenic (As)	2015/10/29	<1.0		ug/L	
			Total Barium (Ba)	2015/10/29	<2.0		ug/L	
			Total Beryllium (Be)	2015/10/29	<0.50		ug/L	
			Total Bismuth (Bi)	2015/10/29	<1.0		ug/L	
			Total Boron (B)	2015/10/29	<10		ug/L	
			Total Cadmium (Cd)	2015/10/29	<0.10		ug/L	
			Total Calcium (Ca)	2015/10/29	<200		ug/L	
			Total Chromium (Cr)	2015/10/29	<5.0		ug/L	
			Total Cobalt (Co)	2015/10/29	<0.50		ug/L	
			Total Copper (Cu)	2015/10/29	<1.0		ug/L	
			Total Iron (Fe)	2015/10/29	<100		ug/L	
			Total Lead (Pb)	2015/10/29	<0.50		ug/L	
			Total Lithium (Li)	2015/10/29	<5.0		ug/L	
			Total Magnesium (Mg)	2015/10/29	<50		ug/L	
			Total Manganese (Mn)	2015/10/29	<2.0		ug/L	
			Total Molybdenum (Mo)	2015/10/29	<0.50		ug/L	
			Total Nickel (Ni)	2015/10/29	<1.0		ug/L	
			Total Phosphorus (P)	2015/10/29	<100		ug/L	
			Total Potassium (K)	2015/10/29	<200		ug/L	
			Total Selenium (Se)	2015/10/29	<2.0		ug/L	
			Total Silicon (Si)	2015/10/29	<50		ug/L	
			Total Silver (Ag)	2015/10/29	<0.10		ug/L	

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Sodium (Na)	2015/10/29	110, RDL=100		ug/L	
			Total Strontium (Sr)	2015/10/29	<1.0		ug/L	
			Total Tellurium (Te)	2015/10/29	<1.0		ug/L	
			Total Thallium (Tl)	2015/10/29	<0.050		ug/L	
			Total Thorium (Th)	2015/10/29	<2.0		ug/L	
			Total Tin (Sn)	2015/10/29	<1.0		ug/L	
			Total Titanium (Ti)	2015/10/29	<5.0		ug/L	
			Total Tungsten (W)	2015/10/29	<1.0		ug/L	
			Total Uranium (U)	2015/10/29	<0.10		ug/L	
			Total Vanadium (V)	2015/10/29	<0.50		ug/L	
			Total Zinc (Zn)	2015/10/29	<5.0		ug/L	
			Total Zirconium (Zr)	2015/10/29	<1.0		ug/L	
4249882	ADA	RPD	Total Antimony (Sb)	2015/10/29	NC		%	20
			Total Arsenic (As)	2015/10/29	NC		%	20
			Total Barium (Ba)	2015/10/29	1.6		%	20
			Total Boron (B)	2015/10/29	NC		%	20
			Total Cadmium (Cd)	2015/10/29	NC		%	20
			Total Calcium (Ca)	2015/10/29	2.1		%	20
			Total Chromium (Cr)	2015/10/29	NC		%	20
			Total Copper (Cu)	2015/10/29	NC		%	20
			Total Iron (Fe)	2015/10/29	NC		%	20
			Total Lead (Pb)	2015/10/29	NC		%	20
			Total Manganese (Mn)	2015/10/29	2.6		%	20
			Total Selenium (Se)	2015/10/29	NC		%	20
			Total Uranium (U)	2015/10/29	NC		%	20
			Total Zinc (Zn)	2015/10/29	NC		%	20
4249918	PBA	Matrix Spike	Dissolved Arsenic (As)	2015/10/30		99	%	80 - 120
			Dissolved Cadmium (Cd)	2015/10/30		97	%	80 - 120
			Dissolved Calcium (Ca)	2015/10/30		NC	%	80 - 120
			Dissolved Chromium (Cr)	2015/10/30		97	%	80 - 120
			Dissolved Copper (Cu)	2015/10/30		92	%	80 - 120
			Dissolved Iron (Fe)	2015/10/30		93	%	80 - 120
			Dissolved Lead (Pb)	2015/10/30		91	%	80 - 120
			Dissolved Magnesium (Mg)	2015/10/30		NC	%	80 - 120
			Dissolved Manganese (Mn)	2015/10/30		NC	%	80 - 120
			Dissolved Nickel (Ni)	2015/10/30		94	%	80 - 120
			Dissolved Potassium (K)	2015/10/30		NC	%	80 - 120
			Dissolved Sodium (Na)	2015/10/30		NC	%	80 - 120
			Dissolved Zinc (Zn)	2015/10/30		93	%	80 - 120
4249918	PBA	Spiked Blank	Dissolved Arsenic (As)	2015/10/30		96	%	80 - 120
			Dissolved Cadmium (Cd)	2015/10/30		94	%	80 - 120
			Dissolved Calcium (Ca)	2015/10/30		93	%	80 - 120
			Dissolved Chromium (Cr)	2015/10/30		97	%	80 - 120
			Dissolved Copper (Cu)	2015/10/30		95	%	80 - 120
			Dissolved Iron (Fe)	2015/10/30		98	%	80 - 120
			Dissolved Lead (Pb)	2015/10/30		94	%	80 - 120
			Dissolved Magnesium (Mg)	2015/10/30		95	%	80 - 120
			Dissolved Manganese (Mn)	2015/10/30		99	%	80 - 120
			Dissolved Nickel (Ni)	2015/10/30		98	%	80 - 120
			Dissolved Potassium (K)	2015/10/30		92	%	80 - 120
			Dissolved Sodium (Na)	2015/10/30		94	%	80 - 120

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits			
4249918	PBA	Method Blank	Dissolved Zinc (Zn)	2015/10/30		98	%	80 - 120			
			Dissolved Arsenic (As)	2015/10/30	<1.0		ug/L				
			Dissolved Cadmium (Cd)	2015/10/30	<0.10		ug/L				
			Dissolved Calcium (Ca)	2015/10/30	<200		ug/L				
			Dissolved Chromium (Cr)	2015/10/30	<5.0		ug/L				
			Dissolved Copper (Cu)	2015/10/30	<1.0		ug/L				
			Dissolved Iron (Fe)	2015/10/30	<100		ug/L				
			Dissolved Lead (Pb)	2015/10/30	<0.50		ug/L				
			Dissolved Magnesium (Mg)	2015/10/30	<50		ug/L				
			Dissolved Manganese (Mn)	2015/10/30	<2.0		ug/L				
			Dissolved Nickel (Ni)	2015/10/30	<1.0		ug/L				
			Dissolved Potassium (K)	2015/10/30	<200		ug/L				
			Dissolved Sodium (Na)	2015/10/30	<100		ug/L				
			Dissolved Zinc (Zn)	2015/10/30	<5.0		ug/L				
4249918	PBA	RPD	Dissolved Arsenic (As)	2015/10/30	0.18		%	20			
			Dissolved Cadmium (Cd)	2015/10/30	NC		%	20			
			Dissolved Calcium (Ca)	2015/10/30	1.6		%	20			
			Dissolved Chromium (Cr)	2015/10/30	NC		%	20			
			Dissolved Copper (Cu)	2015/10/30	NC		%	20			
			Dissolved Iron (Fe)	2015/10/30	2.8		%	20			
			Dissolved Lead (Pb)	2015/10/30	NC		%	20			
			Dissolved Magnesium (Mg)	2015/10/30	3.0		%	20			
			Dissolved Nickel (Ni)	2015/10/30	0.84		%	20			
			Dissolved Potassium (K)	2015/10/30	0.73		%	20			
			Dissolved Sodium (Na)	2015/10/30	3.9		%	20			
			Dissolved Zinc (Zn)	2015/10/30	NC		%	20			
			4250071	CPE	Matrix Spike	Total Aluminum (Al)	2015/10/30		99	%	80 - 120
						Total Antimony (Sb)	2015/10/30		103	%	80 - 120
Total Arsenic (As)	2015/10/30					100	%	80 - 120			
Total Barium (Ba)	2015/10/30					NC	%	80 - 120			
Total Beryllium (Be)	2015/10/30					98	%	80 - 120			
Total Bismuth (Bi)	2015/10/30					91	%	80 - 120			
Total Boron (B)	2015/10/30					94	%	80 - 120			
Total Cadmium (Cd)	2015/10/30					101	%	80 - 120			
Total Calcium (Ca)	2015/10/30					NC	%	80 - 120			
Total Chromium (Cr)	2015/10/30					96	%	80 - 120			
Total Cobalt (Co)	2015/10/30					100	%	80 - 120			
Total Copper (Cu)	2015/10/30					98	%	80 - 120			
Total Iron (Fe)	2015/10/30					96	%	80 - 120			
Total Lead (Pb)	2015/10/30					91	%	80 - 120			
Total Lithium (Li)	2015/10/30					97	%	80 - 120			
Total Magnesium (Mg)	2015/10/30					NC	%	80 - 120			
Total Manganese (Mn)	2015/10/30					95	%	80 - 120			
Total Molybdenum (Mo)	2015/10/30					102	%	80 - 120			
Total Nickel (Ni)	2015/10/30					100	%	80 - 120			
Total Phosphorus (P)	2015/10/30					102	%	80 - 120			
Total Potassium (K)	2015/10/30					NC	%	80 - 120			
Total Selenium (Se)	2015/10/30					98	%	80 - 120			
Total Silicon (Si)	2015/10/30					93	%	80 - 120			
Total Silver (Ag)	2015/10/30					97	%	80 - 120			
Total Sodium (Na)	2015/10/30					NC	%	80 - 120			
Total Strontium (Sr)	2015/10/30					NC	%	80 - 120			

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Tellurium (Te)	2015/10/30		100	%	80 - 120
			Total Thallium (Tl)	2015/10/30		92	%	80 - 120
			Total Thorium (Th)	2015/10/30		95	%	80 - 120
			Total Tin (Sn)	2015/10/30		100	%	80 - 120
			Total Titanium (Ti)	2015/10/30		92	%	80 - 120
			Total Tungsten (W)	2015/10/30		96	%	80 - 120
			Total Uranium (U)	2015/10/30		100	%	80 - 120
			Total Vanadium (V)	2015/10/30		98	%	80 - 120
			Total Zinc (Zn)	2015/10/30		93	%	80 - 120
			Total Zirconium (Zr)	2015/10/30		102	%	80 - 120
4250071	CPE	Spiked Blank	Total Aluminum (Al)	2015/10/30		93	%	80 - 120
			Total Antimony (Sb)	2015/10/30		97	%	80 - 120
			Total Arsenic (As)	2015/10/30		96	%	80 - 120
			Total Barium (Ba)	2015/10/30		96	%	80 - 120
			Total Beryllium (Be)	2015/10/30		96	%	80 - 120
			Total Bismuth (Bi)	2015/10/30		91	%	80 - 120
			Total Boron (B)	2015/10/30		94	%	80 - 120
			Total Cadmium (Cd)	2015/10/30		97	%	80 - 120
			Total Calcium (Ca)	2015/10/30		89	%	80 - 120
			Total Chromium (Cr)	2015/10/30		93	%	80 - 120
			Total Cobalt (Co)	2015/10/30		96	%	80 - 120
			Total Copper (Cu)	2015/10/30		95	%	80 - 120
			Total Iron (Fe)	2015/10/30		95	%	80 - 120
			Total Lead (Pb)	2015/10/30		90	%	80 - 120
			Total Lithium (Li)	2015/10/30		94	%	80 - 120
			Total Magnesium (Mg)	2015/10/30		95	%	80 - 120
			Total Manganese (Mn)	2015/10/30		95	%	80 - 120
			Total Molybdenum (Mo)	2015/10/30		96	%	80 - 120
			Total Nickel (Ni)	2015/10/30		97	%	80 - 120
			Total Phosphorus (P)	2015/10/30		92	%	80 - 120
			Total Potassium (K)	2015/10/30		93	%	80 - 120
			Total Selenium (Se)	2015/10/30		95	%	80 - 120
			Total Silicon (Si)	2015/10/30		87	%	80 - 120
			Total Silver (Ag)	2015/10/30		95	%	80 - 120
			Total Sodium (Na)	2015/10/30		93	%	80 - 120
			Total Strontium (Sr)	2015/10/30		95	%	80 - 120
			Total Tellurium (Te)	2015/10/30		99	%	80 - 120
			Total Thallium (Tl)	2015/10/30		92	%	80 - 120
			Total Thorium (Th)	2015/10/30		92	%	80 - 120
			Total Tin (Sn)	2015/10/30		95	%	80 - 120
			Total Titanium (Ti)	2015/10/30		88	%	80 - 120
			Total Tungsten (W)	2015/10/30		92	%	80 - 120
			Total Uranium (U)	2015/10/30		98	%	80 - 120
			Total Vanadium (V)	2015/10/30		94	%	80 - 120
			Total Zinc (Zn)	2015/10/30		97	%	80 - 120
			Total Zirconium (Zr)	2015/10/30		97	%	80 - 120
4250071	CPE	Method Blank	Total Aluminum (Al)	2015/10/30	<5.0		ug/L	
			Total Antimony (Sb)	2015/10/30	<0.50		ug/L	
			Total Arsenic (As)	2015/10/30	<1.0		ug/L	
			Total Barium (Ba)	2015/10/30	<2.0		ug/L	
			Total Beryllium (Be)	2015/10/30	<0.50		ug/L	
			Total Bismuth (Bi)	2015/10/30	<1.0		ug/L	

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Boron (B)	2015/10/30	<10		ug/L	
			Total Cadmium (Cd)	2015/10/30	<0.10		ug/L	
			Total Calcium (Ca)	2015/10/30	<200		ug/L	
			Total Chromium (Cr)	2015/10/30	<5.0		ug/L	
			Total Cobalt (Co)	2015/10/30	<0.50		ug/L	
			Total Copper (Cu)	2015/10/30	<1.0		ug/L	
			Total Iron (Fe)	2015/10/30	<100		ug/L	
			Total Lead (Pb)	2015/10/30	0.96,		ug/L	
					RDL=0.50			
			Total Lithium (Li)	2015/10/30	<5.0		ug/L	
			Total Magnesium (Mg)	2015/10/30	<50		ug/L	
			Total Manganese (Mn)	2015/10/30	<2.0		ug/L	
			Total Molybdenum (Mo)	2015/10/30	<0.50		ug/L	
			Total Nickel (Ni)	2015/10/30	<1.0		ug/L	
			Total Phosphorus (P)	2015/10/30	<100		ug/L	
			Total Potassium (K)	2015/10/30	<200		ug/L	
			Total Selenium (Se)	2015/10/30	<2.0		ug/L	
			Total Silicon (Si)	2015/10/30	<50		ug/L	
			Total Silver (Ag)	2015/10/30	<0.10		ug/L	
			Total Sodium (Na)	2015/10/30	<100		ug/L	
			Total Strontium (Sr)	2015/10/30	<1.0		ug/L	
			Total Tellurium (Te)	2015/10/30	<1.0		ug/L	
			Total Thallium (Tl)	2015/10/30	<0.050		ug/L	
			Total Thorium (Th)	2015/10/30	<2.0		ug/L	
			Total Tin (Sn)	2015/10/30	<1.0		ug/L	
			Total Titanium (Ti)	2015/10/30	<5.0		ug/L	
			Total Tungsten (W)	2015/10/30	<1.0		ug/L	
			Total Uranium (U)	2015/10/30	<0.10		ug/L	
			Total Vanadium (V)	2015/10/30	<0.50		ug/L	
			Total Zinc (Zn)	2015/10/30	<5.0		ug/L	
			Total Zirconium (Zr)	2015/10/30	<1.0		ug/L	
4250071	CPE	RPD	Total Antimony (Sb)	2015/10/30	NC		%	20
			Total Arsenic (As)	2015/10/30	NC		%	20
			Total Beryllium (Be)	2015/10/30	NC		%	20
			Total Boron (B)	2015/10/30	0.92		%	20
			Total Cadmium (Cd)	2015/10/30	NC		%	20
			Total Chromium (Cr)	2015/10/30	NC		%	20
			Total Cobalt (Co)	2015/10/30	NC		%	20
			Total Copper (Cu)	2015/10/30	NC		%	20
			Total Iron (Fe)	2015/10/30	0.44		%	20
			Total Lead (Pb)	2015/10/30	NC		%	20
			Total Molybdenum (Mo)	2015/10/30	NC		%	20
			Total Nickel (Ni)	2015/10/30	NC		%	20
			Total Selenium (Se)	2015/10/30	NC		%	20
			Total Silver (Ag)	2015/10/30	NC		%	20
			Total Thallium (Tl)	2015/10/30	NC		%	20
			Total Tungsten (W)	2015/10/30	NC		%	20
			Total Uranium (U)	2015/10/30	NC		%	20
			Total Vanadium (V)	2015/10/30	NC		%	20
			Total Zinc (Zn)	2015/10/30	2.4		%	20
			Total Zirconium (Zr)	2015/10/30	NC		%	20
4250625	COP	Matrix Spike	Total Ammonia-N	2015/10/30		NC	%	80 - 120

**QUALITY ASSURANCE REPORT(CONT'D)**

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
4250625	COP	Spiked Blank	Total Ammonia-N	2015/10/30		98	%	85 - 115
4250625	COP	Method Blank	Total Ammonia-N	2015/10/30	<0.050		mg/L	
4250625	COP	RPD	Total Ammonia-N	2015/10/30	1.3		%	20
4250644	RTY	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2015/11/02		NC	%	80 - 120
4250644	RTY	QC Standard	Total Kjeldahl Nitrogen (TKN)	2015/11/02		97	%	80 - 120
4250644	RTY	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2015/11/02		104	%	80 - 120
4250644	RTY	Method Blank	Total Kjeldahl Nitrogen (TKN)	2015/11/02	<0.10		mg/L	
4250644	RTY	RPD	Total Kjeldahl Nitrogen (TKN)	2015/11/02	0.041		%	20
4251676	VRO	Matrix Spike	Total Phosphorus	2015/10/30		94	%	80 - 120
4251676	VRO	QC Standard	Total Phosphorus	2015/10/30		106	%	80 - 120
4251676	VRO	Spiked Blank	Total Phosphorus	2015/10/30		98	%	80 - 120
4251676	VRO	Method Blank	Total Phosphorus	2015/10/30	<0.004		mg/L	
4251676	VRO	RPD	Total Phosphorus	2015/10/30	NC		%	20
4251900	CPE	Matrix Spike	Total Aluminum (Al)	2015/10/30		107	%	80 - 120
4251900	CPE	Spiked Blank	Total Aluminum (Al)	2015/10/30		100	%	80 - 120
4251900	CPE	Method Blank	Total Aluminum (Al)	2015/10/30	<5.0		ug/L	
4251900	CPE	RPD	Total Aluminum (Al)	2015/10/30	0.51		%	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.

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 or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

**VALIDATION SIGNATURE PAGE**

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



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Brad Newman, Scientific Specialist

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

**Exceedence Summary Table – Prov. Water Quality Obj.**

**Result Exceedences**

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
POND	BFL873-05	Total Boron (B)	200	850	10	ug/L
POND	BFL873-04	Total Phosphorus	0.01	0.011	0.004	mg/L
SW1	BFL874-05	Total Boron (B)	200	770	10	ug/L
SW1	BFL874-04	Total Phosphorus	0.01	0.040	0.004	mg/L

**Detection Limit Exceedences**

Sample ID	Maxxam ID	Parameter	Criteria	Result	DL	Units
POND	BFL873-05	Total Phosphorus (P)	10	<100	100	ug/L
SW1	BFL874-05	Total Phosphorus (P)	10	<100	100	ug/L

The exceedence summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.



AquaTox Testing & Consulting Inc.  
11B Nicholas Beaver Rd.  
RR 3  
Guelph ON N1H 6H9  
Tel: (519) 763-4412 Fax: (519) 763-4419

**TOXICITY TEST REPORT**  
*Daphnia magna*  
Page 1 of 2

Work Order : 227069  
Sample Number : 42202

### SAMPLE IDENTIFICATION

Company :	Golder Associates - Barrie	Time Collected :	Not given
Location :	Barrie ON	Date Collected :	2014-11-28
Substance :	Pond	Date Received :	2014-12-02
Sampling Method :	Grab	Date Tested :	2014-12-02
Sampled By :	A. Beynon	Temp. on arrival :	9.0 °C
Sample Description :	Clear, light green, odourless.		
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000).		

### 48-h TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested.

### SODIUM CHLORIDE REFERENCE TOXICANT DATA

Organism Batch :	Dm14-23		
Date Tested (yyyy/mm/dd) :	2014-11-25	Historical Mean LC50 :	6.2 g/L
LC50 (95% Confidence Limits) :	6.7 g/L (6.3 - 7.2)	Warning Limits ( $\pm$ 2SD) :	5.6 - 6.8 g/L
Statistical Method :	Spearman-Kärber	Analyst(s) :	EJS, AW

### *Daphnia magna* CULTURE HEALTH DATA

Time to First Brood :	9.2 days	Mean Young Per Brood :	29.1
Culture Mortality :	0% (previous 7 days)		

### TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Test Organisms / Replicate :	10
Test Aeration :	None	Total Organisms / Test Level :	30
Organism Batch :	Dm14-23	Organism Loading Rate :	15.0 mL/organism
		Test Method Deviation(s) :	None

Date: 2014-12-10  
yyyy-mm-dd

Approved by: [Signature]  
Project Manager



# TOXICITY TEST REPORT

*Daphnia magna*

Page 2 of 2

Work Order: 227069  
Sample Number: 42202

	Hardness (mg/L as CaCO <sub>3</sub> )	Hardness Adjustment	pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O <sub>2</sub> Sat. (%) <sup>*</sup>	Total Pre-Aeration Time (h) @ 30 mL/min/L
Initial Water Chemistry:	260	None	8.1	9.8	906	21.0	113	0:30

### 0 hours

Date & Time	2014-12-02	15:45						
Technician:	AW/EJS							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%) <sup>*</sup>	Hardness
100A	0	0	8.2	8.8	900	21.0	102	260
100B	0	0	8.2	8.8	900	21.0	102	260
100C	0	0	8.2	8.8	900	21.0	102	260
Control A	0	0	8.4	8.5	502	21.0	98	220
Control B	0	0	8.4	8.5	502	21.0	98	220
Control C	0	0	8.4	8.5	502	21.0	98	220

Notes:

### 24 hours

Date & Time	2014-12-03	15:45						
Technician:	SEC							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.		
100A	0	0	-	-	-	22.0		
100B	0	0	-	-	-	22.0		
100C	0	0	-	-	-	22.0		
Control A	0	0	-	-	-	22.0		
Control B	0	0	-	-	-	22.0		
Control C	0	0	-	-	-	22.0		

Notes:

### 48 hours

Date & Time	2014-12-04	15:45						
Technician:	EJS/AW							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.		
100A	0	0	8.4	8.5	897	22.0		
100B	0	0	8.4	8.7	907	22.0		
100C	0	0	8.4	8.7	908	22.0		
Control A	0	0	8.4	8.1	513	22.0		
Control B	0	0	8.5	8.6	512	22.0		
Control C	0	0	8.5	8.3	512	22.0		

Notes:

# of control organisms showing stress: 0  
*Daphnia* Batch #: Dm14-23

Number immobile does not include number of mortalities.

- = not measured

\* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: AW  
Date: 2014-12-09



AquaTox Testing & Consulting Inc.  
11B Nicholas Beaver Rd.  
RR 3  
Guelph ON N1H 6H9  
Tel: (519) 763-4412 Fax: (519) 763-4419

Work Order : 227069  
Sample Number : 42202

**SAMPLE IDENTIFICATION**

Company : Golder Associates - Barrie  
Location : Barrie ON  
Substance : Pond  
Sampling Method : Grab  
Sampled By : A. Beynon  
Sample Description : Clear, light green, odourless.  
Time Collected : Not given  
Date Collected : 2014-11-28  
Date Received : 2014-12-02  
Date Tested : 2014-12-03  
Temp. on arrival : 9.0°C  
Test Method : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.  
Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 amendments).

**96-h TEST RESULTS**

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested.

**POTASSIUM CHLORIDE REFERENCE TOXICANT DATA**

Organism Batch : T14-17  
Date Tested (yyyy-mm-dd) : 2014-12-04  
LC50 (95% Confidence Limits) : 3755 mg/L (3340 - 4202)  
Statistical Method : Linear Regression (MLE)  
Historical Mean LC50 : 3727 mg/L  
Warning Limits ( $\pm$  2SD) : 3280 - 4235 mg/L  
Analyst(s) : CN, FS, DK, MA

**TEST FISH**

Control Fish Sample Size : 10  
Mean Fish Weight ( $\pm$  2 SD) : 0.50  $\pm$  0.18 g  
Range of Weights : 0.29 - 0.59 g  
Fish Loading Rate : 0.2 g/L  
Cumulative stock tank mortality: 0 % (prev. 7 days)  
Mean Fish Fork Length ( $\pm$  2 SD) : 38.7  $\pm$  5.2 mm  
Range of Fork Lengths (mm) : 32 - 41 mm

**TEST CONDITIONS**

Test Organism : *Oncorhynchus mykiss*  
Sample Treatment : None  
pH Adjustment : None  
Test Aeration : Yes  
Pre-aeration/Aeration Rate : 6.5  $\pm$  1 mL/min/L  
Volume Tested (L) : 20  
Number of Replicates : 1  
Organisms Per Replicate : 10  
Total Organisms Per Test Level : 10  
Test Method Deviation(s) : None

Date: 2014-12-10  
yyyy-mm-dd

Approved by: J. Mudas  
Project Manager



**TOXICITY TEST REPORT**

**Rainbow Trout**

Work Order: 227069  
Sample Number: 42202

Total Pre-Aeration Time (h)		pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O <sub>2</sub> Sat. (%)*
0:30	Initial Water Chemistry:	8.0	9.0	863	14.0	-
	Chemistry after 30min air:	8.0	9.3	865	14.0	97

**0 hours**

Date & Time	2014-12-03	12:05					
Technician:	FS						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	8.0	9.3	865	14.0	97
Control	0	0	8.3	9.7	840	14.0	100

Notes:

**24 hours**

Date & Time	2014-12-04	12:05					
Technician:	FS						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	
100	0	0	-	-	-	15.0	
Control	0	0	-	-	-	15.0	

Notes:

**48 hours**

Date & Time	2014-12-05	12:05					
Technician:	SEC(FS)						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	
100	0	0	-	-	-	15.0	
Control	0	0	-	-	-	15.0	

Notes:

**72 hours**

Date & Time	2014-12-06	12:05					
Technician:	DK						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	
100	0	0	-	-	-	14.5	
Control	0	0	-	-	-	14.5	

Notes:

**96 hours**

Date & Time	2014-12-07	12:05					
Technician:	DK						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	
100	0	0	8.3	9.6	866	14.0	
Control	0	0	8.4	9.7	797	14.0	

Notes:

# of control organisms showing stress: 0  
Trout Batch #: T14-17

"-" = not measured

Number immobile does not include number of mortalities.

\* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: JE  
Date: 2014-12-10

# CHAIN OF CUSTODY RECORD



AquaTox Work Order No.  
227069

**Shipping Address:** AquaTox Testing & Consulting Inc.  
11B Nicholas Beaver Road, RR #3  
Guelph, Ontario Canada N1H 6H9

**Voice:** (519) 763-4412      **Fax:** (519) 763-4419

P.O. Number:	1407634
Field Sampler Name (print):	Alicia Beynon
Signature:	
Affiliation:	Golder Associates Ltd.
Sample Storage (prior to shipping):	Indoors
Custody Relinquished by:	Alicia Beynon
Date/Time Shipped:	Dec 1, 2014 (~3:00 pm)

<b>Client:</b>	Golder Associates Ltd. 121 Commerce Park Drive, Unit L Barrie, ON L4N 8X1
<b>Phone:</b>	(705) 722-4492
<b>Fax:</b>	(705) 722-3786
<b>Contact:</b>	Alicia Beynon (Alicia_Beynon@golder.com)

Sample Identification		Analyses Requested										Sample Method and Volume				
Date Collected (yyyy-mm-dd)	Time Collected (e.g. 14:30, 24 hr clock)	Sample Name	AquaTox Sample Number	Temp. on arrival	Rainbow Trout Single Concentration	Rainbow Trout LC50	Daphnia magna Single Concentration	Daphnia magna LC50	Fathead Minnow Survival & Growth	Ceriodaphnia dubia Survival & Reproduction	Lemna minor Growth	Pseudokirchnerella subcapitata Growth	Microtox	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2014-11-28		Pond	42202	9.0	✓		✓							✓		

<b>For Lab Use Only</b>	AW
Received By:	2014-12-02
Date:	0900
Time:	
Storage Location:	
Storage Temp (°C):	

Please list any special requests or instructions:

JMB



AquaTox Testing & Consulting Inc.  
11B Nicholas Beaver Rd.  
RR 3  
Guelph ON N1H 6H9  
Tel: (519) 763-4412 Fax: (519) 763-4419

## TOXICITY TEST REPORT

*Daphnia magna*

Page 1 of 2

Work Order : 227182  
Sample Number : 42362

### SAMPLE IDENTIFICATION

Company :	Golder Associates - Barrie	Time Collected :	12:00
Location :	Barrie ON	Date Collected :	2014-12-17
Substance :	Pond	Date Received :	2014-12-18
Sampling Method :	Grab	Date Tested :	2014-12-19
Sampled By :	J. B.	Temp. on arrival :	10.0° C
Sample Description :	Clear, colourless, odourless.		
Test Method :	Reference Method for Determining Acute Lethality of Effluents to <i>Daphnia magna</i> . Environment Canada EPS 1/RM/14 (Second Edition, December 2000).		

### 48-h TEST RESULTS

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested.

### SODIUM CHLORIDE REFERENCE TOXICANT DATA

Organism Batch :	Dm14-24		
Date Tested (yyyy/mm/dd) :	2014-12-09	Historical Mean LC50 :	6.2 g/L
LC50 (95% Confidence Limits) :	6.7 g/L (6.2 - 7.1)	Warning Limits ( $\pm$ 2SD) :	5.6 - 6.9 g/L
Statistical Method :	Linear Regression (MLE)	Analyst(s) :	EJS, SEC

### *Daphnia magna* CULTURE HEALTH DATA

Time to First Brood :	9.4 days	Mean Young Per Brood :	30.3
Culture Mortality :	0.4% (previous 7 days)		

### TEST CONDITIONS

Sample Treatment :	None	Number of Replicates :	3
pH Adjustment :	None	Test Organisms / Replicate :	10
Test Aeration :	None	Total Organisms / Test Level :	30
Organism Batch :	Dm14-24	Organism Loading Rate :	15.0 mL/organism
		Test Method Deviation(s) :	None

Date: 2015-01-02  
yyyy-mm-dd

Approved by:   
Project Manager



# TOXICITY TEST REPORT

*Daphnia magna*

Page 2 of 2

Work Order: 227182  
Sample Number: 42362

	Hardness (mg/L as CaCO <sub>3</sub> )	Hardness Adjustment	pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O <sub>2</sub> Sat. (%)*	Total Pre-Aeration Time (h) @ 30 mL/min/L
Initial Water Chemistry:	300	None	7.8	9.1	1033	21.0	107	0:30

### 0 hours

Date & Time	2014-12-19	11:25						
Technician:	DK/EJS							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*	Hardness
100A	0	0	7.9	8.6	1033	21.0	101	300
100B	0	0	7.9	8.6	1033	21.0	101	300
100C	0	0	7.9	8.6	1033	21.0	101	300
Control A	0	0	8.1	8.3	510	21.0	98	210
Control B	0	0	8.1	8.3	510	21.0	98	210
Control C	0	0	8.1	8.3	510	21.0	98	210

Notes:

### 24 hours

Date & Time	2014-12-20	11:25						
Technician:	NK							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.		
100A	0	0	-	-	-	22.0		
100B	0	0	-	-	-	22.0		
100C	0	0	-	-	-	22.0		
Control A	0	0	-	-	-	22.0		
Control B	0	0	-	-	-	22.0		
Control C	0	0	-	-	-	22.0		

Notes:

### 48 hours

Date & Time	2014-12-21	11:25						
Technician:	NK							
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.		
100A	0	0	8.2	8.4	1019	22.0		
100B	0	0	8.2	8.4	1019	22.0		
100C	0	0	8.3	8.4	1015	22.0		
Control A	0	0	8.5	8.4	518	22.0		
Control B	0	0	8.5	8.6	518	22.0		
Control C	0	0	8.5	8.5	519	22.0		

Notes:

# of control organisms showing stress: 0

*Daphnia* Batch #: Dm14-24

Number immobile does not include number of mortalities.

- = not measured

\* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: SF

Date: 2014-12-30



AquaTox Testing & Consulting Inc.  
11B Nicholas Beaver Rd.  
RR 3  
Guelph ON N1H 6H9  
Tel: (519) 763-4412 Fax: (519) 763-4419

**TOXICITY TEST REPORT**  
**Rainbow Trout**  
Page 1 of 2

Work Order : 227182  
Sample Number : 42362

**SAMPLE IDENTIFICATION**

Company : Golder Associates - Barrie  
Location : Barrie ON  
Substance : Pond  
Sampling Method : Grab  
Sampled By : J. B.  
Sample Description : Clear, colourless, odourless.  
Time Collected : 12:00  
Date Collected : 2014-12-17  
Date Received : 2014-12-18  
Date Tested : 2014-12-18  
Temp. on arrival : 10.0°C  
Test Method : Reference Method for Determining Acute Lethality of Liquid Effluents to Rainbow Trout.  
Environment Canada, EPS 1/RM/13 (2nd Edition, December 2000, with May 2007 amendments).

**96-h TEST RESULTS**

Substance	Effect	Value
Control	Mean Immobility	0.0 %
	Mean Mortality	0.0 %
100%	Mean Immobility	0.0 %
	Mean Mortality	0.0 %

The results reported relate only to the sample tested.

**POTASSIUM CHLORIDE REFERENCE TOXICANT DATA**

Organism Batch : T14-17  
Date Tested (yyyy-mm-dd) : 2014-12-04  
LC50 (95% Confidence Limits) : 3755 mg/L (3340 - 4202)  
Statistical Method : Linear Regression (MLE)  
Historical Mean LC50 : 3727 mg/L  
Warning Limits ( $\pm$  2SD) : 3280 - 4235 mg/L  
Analyst(s) : CN, FS, DK, MA

**TEST FISH**

Control Fish Sample Size : 10  
Mean Fish Weight ( $\pm$  2 SD) : 0.51  $\pm$  0.19 g  
Range of Weights : 0.33 - 0.64 g  
Fish Loading Rate : 0.3 g/L  
Cumulative stock tank mortality: 0 % (prev. 7 days)  
Mean Fish Fork Length ( $\pm$  2 SD) : 38.4  $\pm$  4.0 mm  
Range of Fork Lengths (mm) : 34 - 41 mm

**TEST CONDITIONS**

Test Organism : *Oncorhynchus mykiss*  
Sample Treatment : None  
pH Adjustment : None  
Test Aeration : Yes  
Pre-aeration/Aeration Rate : 6.5  $\pm$  1 mL/min/L  
Volume Tested (L) : 17  
Number of Replicates : 1  
Organisms Per Replicate : 10  
Total Organisms Per Test Level : 10  
Test Method Deviation(s) : None

Date: 2015-01-02  
yyyy-mm-dd

Approved by: Shawn Wil  
Project Manager



**TOXICITY TEST REPORT**

**Rainbow Trout**

Page 2 of 2

Work Order: 227182  
Sample Number: 42362

Total Pre-Aeration Time (h)		pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O <sub>2</sub> Sat. (%)*
2:00	<b>Initial Water Chemistry:</b>	7.8	10.8	988	14.0	-
	Chemistry after 30min air:	7.8	10.4	989	14.0	106

**0 hours**

Date & Time	2014-12-18	15:35					
Technician:	CN						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	7.8	10.1	987	14.0	102
Control	0	0	8.0	9.8	840	14.0	100

Notes:

**24 hours**

Date & Time	2014-12-19	15:35					
Technician:	MA(FS)						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	-	-	-	15.0	
Control	0	0	-	-	-	15.0	

Notes:

**48 hours**

Date & Time	2014-12-20	15:35					
Technician:	TL						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	-	-	-	15.0	
Control	0	0	-	-	-	15.0	

Notes:

**72 hours**

Date & Time	2014-12-21	15:35					
Technician:	TL						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	-	-	-	15.0	
Control	0	0	-	-	-	15.0	

Notes:

**96 hours**

Date & Time	2014-12-22	15:35					
Technician:	DK						
Test Conc. (%)	Mortality	Immobility	pH	D.O.	Cond.	Temp.	O <sub>2</sub> Sat. (%)*
100	0	0	8.2	9.5	983	15.0	
Control	0	0	8.2	9.6	751	15.0	

Notes:

# of control organisms showing stress 0  
Trout Batch #: T14-17

"-" = not measured

Number immobile does not include number of mortalities.

\* adjusted for actual temp. & barometric pressure

Test Data Reviewed By: SF  
Date: 2014-12-30





Daniel Manickam  
AGAT Laboratories

Reference #: LH15-028 - 02  
Date Received: 03/19/15

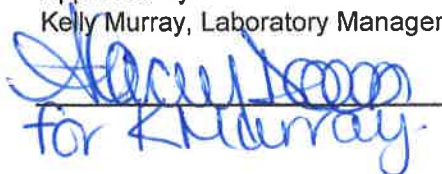
**TOXICITY TESTING RESULTS**

Report Date: 03/25/15

**Sample Information**

<u>Sample #</u>	<u>Sample Description</u>	<u>Date Collected</u>
LH15-028-02	6381735A	03/18/15

Approved By:  
Kelly Murray, Laboratory Manager



for K Murray.

Approval Date:



Inquires may be made to Kelly Murray.

Disposal of toxicity samples will occur within four weeks of reception unless alternate arrangements have been made.

ACCREDITED BY THE CANADIAN ASSOCIATION FOR LABORATORY  
ACCREDITATION (CALA), FOR THE SPECIFIC TESTS LISTED IN THE SCOPE OF ACCREDITATION.

ASI Group Ltd.  
250 Martindale Road, St. Catharines, Ontario L2R 6P9

**48 HOUR STATIC DAPHNIA MAGNA SINGLE CONCENTRATION TEST**  
**EPS 1/RM/14**

Project Number:	LH15-028	Sample Number:	02
Client:	AGAT Laboratories	Test Number:	D02
	Mississauga, ON	Sample Date/Time:	03/18/15//15:10 hrs
Sample Name/ID:	<b>6381735A</b>	Sample Technician:	Unknown
Sample Location:	Unknown	Test Date/Time:	03/19/15//15:20 hrs
Chain of Custody #:	16142	Technician:	K Monaghan
Sample Method:	Grab		

**RESULTS**

48 HOUR RESULT:	<b>6381735A:</b>	<b>Pass (0.0% mortality)</b>
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**QUALITY ASSURANCE INFORMATION**

REFERENCE TEST CONDITIONS

Test Organism:	<i>Daphnia magna</i>	Photoperiod:	16 hours light/8 hours dark
Brood Culture:	02/10,17,24/15	Dilution Water:	Dechlorinated Tap
Test Type:	Static	Organism Age:	<24 hours
Test Temperature:	20 +/- 2C	Stock Source:	In house cultures
Test Volume:	150 mL	Time to First Brood:	8 days
Loading Density:	15 mL/neonate	Average Brood Size:	50 neonates
Control Water Hardness:	153 mg/L	Ehippia Frequency:	0

REFERENCE TOXICANT DATA

Chemical Used:	Sodium Chloride	Historic Mean LC50:	5641 mg/L
Date of Test:	March 16, 2015	Warning Limits:	5165 - 6161 mg/L
48-hour LC50:	5621 mg/L		
95% Confidence Interval:	5371 - 5853 mg/L		

TEST PROTOCOL

Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*. Second Edition. Environment Canada. December 2000 and amendment in May 2007.

COMMENTS

The reference toxicant results show that test reproducibility and organism sensitivity are within acceptable limits. All data is scrutinized for errors daily during the test, at test termination and during the report Technical and Final Review stages. Instruments used to monitor parameters are calibrated daily and continuously maintained. No deviations from the protocol or operating procedure encountered during testing. Results from this test relate only to the sample collected.

QUALITY REVIEW

  
Technical Review

  
Final Review

48-HOUR STATIC SINGLE CONCENTRATION DAPHNIA MAGNA TEST (EPS 1/RM/14)

Project Number: LH15-028  
 Sample Number: 02  
 Test Number: 202  
 Chain of Custody #: 16142

Sample Date/Time: 03-18-15 / 1510  
 Sample Technician: —  
 Test Initiation Date/Time: 03/19/15 11:580  
 Technician: KM

INITIAL PARAMETERS (prior to testing)

Dissolved Oxygen (ppm): <u>9.5</u>	Physical State Upon Receipt: <u>liquid</u>
Initial pH: <u>7.39</u> <u>7.43</u>	Clarity: <u>transparent</u>
Temperature (C): <u>19.2</u>	Colour: <u>yellow</u>
Conductivity (uS/cm): <u>463</u>	Precipitate: <u>none</u>
Initial Hardness (mg/L CaCO <sub>3</sub> ): <u>187</u>	Odour: <u>none</u>
Adjusted pH (if appl):	Adjusted Hardness (if appl):
Adjustment Details:	Adjustment Details:
Additional Observations: <u>/</u>	

TEST CONDITIONS

Brood Culture: <u>03/10/15</u> <u>03/17, 19, 24, 26/15</u>	Preaeration Time: start <u>1441</u>
Time to First Brood: <u>8</u> days	end <u>1511</u>
Average Brood Size: <u>49</u> neonates	total <u>30</u> minutes
Number Exposed/Concentration: <u>3 x 10</u> neonates	Reason for Preaeration: <u>N/A</u>
% Mortality of Culture 7 Days Prior to Testing: <u>0.6%</u>	Preaeration Rate: <u>N/A</u>
Control Water Hardness: <u>136</u>	pH Adjustment: <u>no</u> / <u>yes</u>
Subsample of 25L pall for Testing: <u>yes</u> / <u>no</u>	Hardness Adjustment: <u>no</u> / <u>yes</u>
Test Replication (for QA/QC): <u>yes</u> / <u>no</u>	Test Solution Volume: <u>200 mL</u> / <u>150 mL</u>
	Loading Density: <u>20</u> / <u>15 mL</u>

TIME	PARAMETER	Concentration (%v/v)						PARAMETER TECH/TIME	QA/QC REVIEW
		CONTROL-A	CONTROL-B	CONTROL-C	100-A	100-B	100-C		
0 HOURS	Dissolved Oxygen (ppm)	9.1			9.1			1512 KM	84
	pH	8.14			8.02				
	Temperature (C)	20.0			19.7				
	Conductivity (uS/cm)	308			466				
	Immobility @ 30 minutes (10 exposed)	0	0	0	0	0	0		
24 HOURS	Temperature (C)	20.5						1038 KM	N
	# Immobile	0	0	0	0	0	0		
48 HOURS	Dissolved Oxygen (ppm)	8.7	8.7	8.7	8.6	8.6	8.6	1229 N	B
	pH	8.24	8.25	8.27	8.29	8.29	8.20		
	Temperature (C)	20.2	20.2	20.3	20.2	20.2	20.2		
	Conductivity (uS/cm)	303	302	303	466	469	470		
	# Immobile	0	0	0	0	0	0		
	# Dead (10 exposed)	0	0	0	0	0	0		
TOTAL NUMBER OF MORTALITIES PER VESSEL		0	0	0	0	0	0		
TOTAL MEAN % MORTALITY		0%			0%				

RESULTS  
 48-HOUR RESULT: PASS / FAIL ( 00 % Mortality)

Comments/Devlations:

Reporting temperature of conductivity values is solution temperature.

ASI Group Ltd.  
250 Martindale Road, St. Catharines, Ontario L2R 6P9

96 HOUR STATIC RAINBOW TROUT SINGLE CONCENTRATION TEST  
EPS 1/RM/13

Project Number:	LH15-028	Sample Number:	02
Client:	AGAT Laboratories	Test Number:	T02
	Mississauga, ON	Sample Date/Time:	03/18/15//15:10 hrs
Sample Name/ID:	6381735A	Sample Technician:	Unknown
Sample Location:	Unknown	Test Date/Time:	03/20/15//11:03 hrs
Chain of Custody #:	16142	Technician:	S Young
Sample Method:	Grab		

RESULTS

96 HOUR RESULT:	6381735A:	Pass (10.0% mortality)
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QUALITY ASSURANCE INFORMATION

REFERENCE TEST CONDITIONS

Test Organism:	Rainbow trout	Test Aeration Rate:	6.5 +/- 1 mL/min/L
Trout Batch Number:	15-02	Photoperiod:	16 hours light/8 hours dark
Test Type:	Static	Dilution Water:	Dechlorinated Tap
Test Temperature:	15+/-1C	Organism Age:	Fingerlings
Test Volume:	15 Litres	Stock Source:	Rainbow Springs Fish Hatchery
Test Solution Depth:	26 cm	Mean Weight:	0.51 +/- 0.11 g
Number of Organisms per Vessel:	10	Loading Density:	0.34 g/L

REFERENCE TOXICANT DATA

Chemical Used:	Sodium Chloride	Historic Mean LC50:	16275 mg/L
Date of Test:	March 2, 2015	Warning Limits:	13631 - 19432 mg/L
96-hour LC50:	17360 mg/L		
95% Confidence Interval:	15770 - 19190 mg/L		

TEST PROTOCOL

Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout. Second Edition.  
Environment Canada. December 2000 and amendment in May 2007.

COMMENTS

The reference toxicant results show that test reproducibility and organism sensitivity are within acceptable limits.  
All data is scrutinized for errors daily during the test, at test termination and during the report Technical and Final Review stages.  
Instruments used to monitor parameters are calibrated daily and continuously maintained.  
No deviations from the protocol or operating procedure encountered during testing.  
Results from this test relate only to the sample collected.

QUALITY REVIEW

  
Technical Review

  
Final Review

96-HOUR SINGLE CONCENTRATION RAINBOW TROUT TEST (EPS 1/RM/13)

Project Number: LH15-028  
 Sample Number: 02  
 Test Number: 702  
 Custody #: 16142

Sample Date/Time: 03-18-15 / 15:10  
 Sample Technician: \_\_\_\_\_  
 Test Initiation Date/Time: 03/18/15 // 1103  
 Testing Technician: 84

**INITIAL PARAMETERS (prior to testing)**

Physical state upon receipt: liquid transparent yellow  
 Dissolved Oxygen (ppm): 9.8  
 pH: 7.61  
 Temperature (C): 16.0  
 Conductivity (uS/cm): 400

pH Adjusted YES/NO: YES  
 Adjusted pH: \_\_\_\_\_  
 Adjustment details: \_\_\_\_\_

Precipitate: 0  
 Additional Observations: \_\_\_\_\_

**TEST CONDITIONS**

Test Solution Volume: 16 L  
 Test Solution Depth: 28 cm  
 Total# Exposed/Concentration: 10  
 Test Replicate (for QA/QC): YES/NO  
 pH adjustment: YES/NO

Preaeration Time: start 1022 end 1052  
 Preaeration & Test Aeration rate: 6.5 ± 1.0 ml/min/L  
 Aeration Check: \_\_\_\_\_ hrs: \_\_\_\_\_ mL/min/L  
 total 30 min \_\_\_\_\_ hrs: \_\_\_\_\_ mL/min/L  
 Reason Preaeration > 30min: N/A 100% Sat < DO  
 DO < 70% Sat

**PRE-TEST ORGANISM CONDITIONS**

Trout Batch #: 15-02 Stream#: LS4 % Mortality of Culture 7 Days Prior to Testing: 0.0 Previous Day Last Feeding Time: 1600

TIME	PARAMETER	Concentrations %			PARAMETER TECH/TIME	QA/QC REVIEW
		CONTROL	100	QA/QC REP. (if applic.)		
0 HOURS	Dissolved Oxygen (ppm)	10.2	9.8		1052 84	10
	pH	8.14	8.23			
	Temperature (C)	14.1	15.9			
	Conductivity (uS/cm)	243	379			
	# Immobile @30min (10 exposed)	0	0			
	Total # Dead	0	0			
24 HOURS	Dissolved Oxygen (ppm)	10.0	10.0		0906 84	16
	pH	8.20	8.21			
	Temperature (C)	14.8	14.3			
	Conductivity (uS/cm)	271	408			
	# Immobile	0	0			
	Total # Dead	0	0			
48 HOURS	Dissolved Oxygen (ppm)	10.0	10.0		0912 84	16
	pH	7.96	8.18			
	Temperature (C)	14.9	14.8			
	Conductivity (uS/cm)	275	426			
	# Immobile	0	0			
	Total # Dead	0	0			
72 HOURS	Dissolved Oxygen (ppm)	10.1	9.9		0945 84	80
	pH	8.24	8.50			
	Temperature (C)	15.4	15.1			
	Conductivity (uS/cm)	278	426			
	# Immobile	0	0			
	Total # Dead	0	0			
96 HOURS	Dissolved Oxygen (ppm)	10.1	10.3		1027 84	80
	pH	8.21	8.56			
	Temperature (C)	14.7	14.3			
	Conductivity (uS/cm)	277	409			
	# Immobile	0	0			
	Total # Dead	0	0			

**TOTAL % MORTALITY**  
 CONTROL: 10.0%      100: 10.0%

**CONTROL ORGANISM CONDITIONS**

	1	2	3	4	5	6	7	8	9	10
Length (mm)	42	46	38	37	43	44	47	39	47	—
Weight (g)	0.52	0.91	0.45	0.54	0.69	0.74	0.72	0.58	1.12	—
Sample Size:	9 <sup>83</sup> / 10		Mean Fork Length: 43 +/- 4 mm		Mean Weight: 0.71 +/- 0.19 g		Loading Density: 0.44 g/L			
	Fork Length: 37 - 47 mm		Min/Max: 37 - 47 mm		Weight: 0.52 - 1.12 g		Min/Max: 0.52 - 1.12 g			

**RESULTS**  
 96 Hour Results: PASS / FAIL      10.0 % MORTALITY

Comments/Deviations: Loading density calculation based on a sample size of 10 fish





CLIENT NAME: GOLDER ASSOCIATES LTD.  
121 COMMERCE PARK DRIVE, UNIT L  
BARRIE, ON L4N8X1  
(705) 722-4492

ATTENTION TO: Dawn Hoyle

PROJECT: 1407634

AGAT WORK ORDER: 15T960254

ECOTOX ANALYSIS REVIEWED BY: Virginie Bérubé, biologiste

DATE REPORTED: Apr 27, 2015

PAGES (INCLUDING COVER): 5

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15T960254

PROJECT: 1407634

5835 COOPERS AVENUE  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1Y2  
 TEL (905)712-5100  
 FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY: Dawn H

### Toxicity Daphnia magna - single concentration

DATE RECEIVED: 2015-04-07

DATE REPORTED:

SAMPLE DESCRIPTION: Pond  
 SAMPLE TYPE: Water  
 DATE SAMPLED: 4/6/2015  
 G / S RDL 6426344

Parameter	Unit	G / S	RDL
Mortality 100% v/v	% mortality-48h		0
Conclusion			PASS

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
 6426344 Refer to the annex for analysis details.

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15T960254

PROJECT: 1407634

5835 COOPERS AVENUE  
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 CANADA L4Z 1Y2  
 TEL (905)712-5100  
 FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY: Dawn H

### Toxicity Rainbow trout - single concentration

DATE RECEIVED: 2015-04-07

DATE REPORTED:

SAMPLE DESCRIPTION: Pond  
 SAMPLE TYPE: Water  
 DATE SAMPLED: 4/6/2015  
 G / S RDL 6426344

Parameter	Unit	G / S	RDL	6426344
Mortality 100% v/v	% mortality-96h			0
Conclusion				PASS

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
 6426344 Refer to the annex for analysis details.

Certified By:



## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 15T960254

PROJECT: 1407634

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY: Dawn H

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
ECOTOX Analysis			
Mortality 100% v/v			NA
Conclusion			NA
Mortality 100% v/v			NA
Conclusion			NA



**48H *Daphnia magna* SINGLE CONCENTRATION TEST**

**Sample Informations**

Sample Lab Number	6594366
Sample ID	POND
Type of sample	SURFACE WATER
Sample point	McCARTHY
Collection method	ND
Collection date/time	2015-05-28 / 02:00 PM
Collected by	DEH JEB
Sample received (date and time)	2015-05-29 / 10:20 AM
Condition upon reception	TEMPERATURE: 9,7°C
Sample storage	4°C/DARKNESS TILL USED FOR THE ANALYSIS

**Initial parameters prior to testing**

Sample appearance:	COLORLESS/CLEAR/SOME PARTICLES/WEAK ODOUR
Temperature (°C):	19,5
pH:	8,4
Conductivity (µS/cm):	672
Dissolved oxygen (mg/L):	8,9
Pre aeration time (minutes)	0
Pre aeration rate (ml/min/L)	NA
Sample hardness (mg/L CaCO <sub>3</sub> ):	176
Sample adjusted hardness (mg/L CaCO <sub>3</sub> ):	NA
Sample pre-treatment:	NONE

**Test conditions**

Organism (age):	<i>Daphnia magna</i> (< 24hours)
Analysis method:	SPE 1/RM/11, 1990, mod.05/1996; SPE 1/RM/14, 2000
Method modification:	NONE
Mortality of culture 7 days prior to testing:	<1%
Time to first brood:	9
Average brood size:	26
Test solution volume (ml):	300
Number exposed/concentration:	30 (10 ORGANISMS/VESSEL)
Loading density (ml/organism):	30
Photoperiod (light intensity):	16hours light/8hours dark (400-800lux)
Dilution water:	Dechlorinated tap water, adjusted hardness
Control water hardness (mg/L CaCO <sub>3</sub> ):	167

**48H *Daphnia magna* SINGLE CONCENTRATION TEST**

**Analysis details**

Test initiation date/time (T0h) June 2, 2015 / 11:20 AM  
 Test ending date/time (T48h) June 4, 2015 / 11:20 AM  
 Technician(s): MP

Sample concentration (% v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)	Number exposed	Immobility (48h)		Mortality (48h)	
	0h	48h	0h	48h	0h	48h	0h	0h	Nombre	%	Nombre	%
0 (CTRL)	20,2	20,3	8,3	8,2	8,3	8,8	388	10	0	0	0	0
0 (CTRL)	20,2	20,4	8,3	8,3	8,3	8,8	388	10	0	0	0	0
0 (CTRL)	20,2	19,9	8,3	8,3	8,3	8,9	388	10	0	0	0	0
100	19,7	20,0	8,4	8,3	9,1	9,0	675	10	0	0	0	0
100	19,7	19,7	8,4	8,3	9,1	8,9	675	10	0	0	0	0
100	19,7	20,5	8,4	8,3	9,1	8,9	675	10	0	0	0	0

Additional Observations:

**Reference toxicant data**

Reference toxicant: Potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>)

Date of test: 2015-06-02

48h-LC50 (mg/L Cr): 0,200

95% Lower confidence limit (mg/L Cr): 0,128

95% Upper confidence limit (mg/L Cr): 0,249

Historic geometric mean LC50 (mg/L Cr): 0,221

-2S Warning limit (mg/L Cr): 0,146

+2S Warning limit (mg/L Cr): 0,335

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Sample Information

Sample Lab Number:	6594366
Sample ID:	POND
Type of Sample:	SURFACE WATER
Sample point:	McCARTHY
Collection method:	ND
Collection date/time	2015-05-28 / 02:00 PM
Collected by:	PEH JEB
Sample received (date/time):	2015-05-29 / 10:20 AM
Condition upon reception:	TEMPERATURE: 9,7°C
Sample storage:	4°C/DARKNESS TILL USED FOR THE ANALYSIS

Initial parameters prior to testing

Sample appearance:	GREENISH/CLEAR/SOME PARTICLES/WEAK ODOUR
Temperature (°C):	14,7
pH:	8,5
Conductivity (µS/cm)	675
Dissolved oxygen (mg/L):	9,5
Pre aeration time (minutes):	30
Pre aeration rate (ml/min/L):	6,5 ± 1
Sample pre-treatment	NONE

Test Conditions

Organisms:	Rainbow Trout ( <i>Oncorhynchus mykiss</i> )		
Provenance:	Pisciculture des Arpents verts		
Acclimatation time:	> 2 WEEKS		
Trout Batch No:	APV180515		
Mortality 7 days prior to testing:	0,0%		
Control mean weight (g):	0,30		
± standard deviation:	0,09		
Control mean fork length (mm):	34,1	Min: 30,4	Max: 39,0
± standard deviation:	3,3		
Number exposed/concentration:	10		
Test solution volume (L):	12		
Test solution depth (cm):	21,5		
Loading density (g/L):	0,25		
Dilution water:	Dechlorinated tap water		
Photoperiod:	16 hours light / 8 hours dark		
Analysis method:	SPE 1/RM/9, 1990, mod.1996,2007; SPE 1/RM/13, 2000 mod.05/2007		
Method modification:	NONE		

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Analysis Details

Test initiation date/time (T0h) June 2, 2015 / 11:50 AM  
 Test ending date/time (T96h) June 6, 2015 / 11:50 AM  
 Technician(s): DB DS

Physicochemical Parameters

Sample concentration (%v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)
	0h	96hours	0h	96hours	0h	96hours	0h
0 (CTRL)	14,7	15,8	8,1	8,1	10,0	9,7	306
100	14,9	15,8	8,4	8,1	10,0	9,5	767

Test Results (96 hours)

Sample concentration (%v/v)	Number exposed	Immobile or stressed		Dead	
		Number	%	Number	%
0 (CTRL)	10	0	0	0	0
100	10	0	0	0	0

Reference Toxicant Data

Reference toxicant: Zinc Sulfate (ZnSO <sub>4</sub> -7H <sub>2</sub> O)
Date of test: 2015-05-31
96h-LC50 (mg/L Zn): 0,320
95% Lower confidence limit (mg/L Zn): 0,237
95% Upper confidence limit (mg/L Zn): 0,427
Historic geometric mean LC50 (mg/L Zn): 0,535
-2S Warning limit (mg/L Zn): 0,280
+2S Warning limit (mg/L Zn): 1,024

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Daily Observations

Sample concentration (%v/v)	24 hours		48 hours		72 hours		96 hours	
	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead
0 (CTRL)	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

Additional Observations

48H *Daphnia magna* SINGLE CONCENTRATION TEST

Sample Informations

Sample Lab Number	6635277
Sample ID	POND
Type of sample	SURFACE WATER
Sample point	McCARTHY (BRECHIN)
Collection method	ND
Collection date/time	2015-06-09 / 12:00 PM
Collected by	DEH
Sample received (date and time)	2015-06-10 / 10:30 AM
Condition upon reception	TEMPERATURE: 9,7°C
Sample storage	ANALYSIS STARTED UPON SAMPLE ARRIVAL AT THE ECOTOXICOLOGY LABORATORY (MTL)

Initial parameters prior to testing

Sample appearance:	COLORLESS/CLEAR/WEAK ODOUR
Temperature (°C):	22,0
pH:	8,8
Conductivity (µS/cm):	914
Dissolved oxygen (mg/L):	8,5
Pre aeration time (minutes)	0
Pre aeration rate (ml/min/L)	NA
Sample hardness (mg/L CaCO <sub>3</sub> ):	160
Sample adjusted hardness (mg/L CaCO <sub>3</sub> ):	NA
Sample pre-treatment:	NONE

Test conditions

Organism (age):	<i>Daphnia magna</i> (< 24hours)
Analysis method:	SPE 1/RM/11, 1990, mod.05/1996; SPE 1/RM/14, 2000
Method modification:	NONE
Mortality of culture 7 days prior to testing:	<1%
Time to first brood:	9
Average brood size:	26
Test solution volume (ml):	300
Number exposed/concentration:	30 (10 ORGANISMS/VESSEL)
Loading density (ml/organism):	30
Photoperiod (light intensity):	16hours light/8hours dark (400-800lux)
Dilution water:	Dechlorinated tap water, adjusted hardness
Control water hardness (mg/L CaCO <sub>3</sub> ):	173

ANNEX

48H *Daphnia magna* SINGLE CONCENTRATION TEST

Analysis details

Test initiation date/time (T0h) June 11, 2015 / 2:30 PM  
 Test ending date/time (T48h) June 13, 2015 / 2:30 PM  
 Technician(s): DS

Sample concentration (% v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)	Number exposed	Immobility (48h)		Mortality (48h)	
	0h	48h	0h	48h	0h	48h	0h		Nombre	%	Nombre	%
0 (CTRL)	20,9	21,1	8,4	8,3	8,8	9,5	511	10	0	0	0	0
0 (CTRL)	20,9	21,2	8,4	8,3	8,8	9,5	511	10	0	0	0	0
0 (CTRL)	20,9	21,1	8,4	8,3	8,8	9,1	511	10	0	0	0	0
100	22,0	21,3	8,8	8,3	8,5	9,0	914	10	0	0	0	0
100	22,0	21,2	8,8	8,3	8,5	9,0	914	10	0	0	0	0
100	22,0	21,2	8,8	8,3	8,5	9,0	914	10	0	0	0	0

Additional Observations:

Reference toxicant data

Reference toxicant: Potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>)

Date of test: 2015-06-10

48h-LC50 (mg/L Cr): 0,213

95% Lower confidence limit (mg/L Cr): 0,164

95% Upper confidence limit (mg/L Cr): 0,260

Historic geometric mean LC50 (mg/L Cr): 0,221

-2S Warning limit (mg/L Cr): 0,146

+2S Warning limit (mg/L Cr): 0,335

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Sample Information

Sample Lab Number:	6635277		
Sample ID:	POND		
Type of Sample:	SURFACE WATER		
Sample point:	McCARTHY (BRECHIN)		
Collection method:	ND		
Collection date/time	2015-06-09	/	12:00 PM
Collected by:	DEH		
Sample received (date/time):	2015-06-10	/	10:30
Condition upon reception:	TEMPERATURE: 9:°C		
Sample storage:	4°C/DARKNESS TILL USED FOR THE ANALYSIS		

Initial parameters prior to testing

Sample appearance:	YELLOWISH/SLIGHTLY TURBID/SOME SMALL PARTICLES/STRONG ODOUR		
Temperature (°C):	14,9		
pH:	8,8		
Conductivity (µS/cm)	797		
Dissolved oxygen (mg/L):	8,8		
Pre aeration time (minutes):	30		
Pre aeration rate (ml/min/L):	6,5 ± 1		
Sample pre-treatment	NONE		

Test Conditions

Organisms:	<b>Rainbow Trout (<i>Oncorhynchus mykiss</i>)</b>		
Provenance:	Pisciculture des Arpents verts		
Acclimatation time:	> 2 WEEKS		
Trout Batch No:	APV250515		
Mortality 7 days prior to testing:	0,0%		
Control mean weight (g):	0,58		
± standard deviation:	0,14		
Control mean fork length (mm):	41,6	Min: 35,7	Max: 45,7
± standard deviation:	3,4		
Number exposed/concentration:	10		
Test solution volume (L):	14,4		
Test solution depth (cm):	26		
Loading density (g/L):	0,40		
Dilution water:	Dechlorinated tap water		
Photoperiod:	16 hours light / 8 hours dark		
Analysis method:	SPE 1/RM/9, 1990, mod.1996,2007; SPE 1/RM/13, 2000 mod.05/2007		
Method modification:	NONE		

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Analysis Details

Test initiation date/time (T0h) June 12, 2015 / 12:35 PM  
 Test ending date/time (T96h) June 16, 2015 / 12:35 PM  
 Technician(s): MC DS

Physicochemical Parameters

Sample concentration (%v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)
	0h	96hours	0h	96hours	0h	96hours	0h
0 (CTRL)	15,0	15,2	8,2	8,1	9,8	9,4	339
100	14,6	15,5	8,8	8,1	9,7	9,2	792

Test Results (96 hours)

Sample concentration (%v/v)	Number exposed	Immobile or stressed		Dead	
		Number	%	Number	%
0 (CTRL)	10	0	0	0	0
100	10	0	0	0	0

Reference Toxicant Data

Reference toxicant: Zinc Sulfate (ZnSO <sub>4</sub> -7H <sub>2</sub> O)
Date of test: 2015-06-08
96h-LC50 (mg/L Zn): 0,333
95% Lower confidence limit (mg/L Zn): 0,258
95% Upper confidence limit (mg/L Zn): 0,435
Historic geometric mean LC50 (mg/L Zn): 0,517
-2S Warning limit (mg/L Zn): 0,266
+2S Warning limit (mg/L Zn): 1,006

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Daily Observations

Sample concentration (%v/v)	24 hours		48 hours		72 hours		96 hours	
	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead
0 (CTRL)	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

Additional Observations

**48H *Daphnia magna* SINGLE CONCENTRATION TEST**

**Sample Informations**

Sample Lab Number	6720679
Sample ID	POND
Type of sample	SURFACE WATER
Sample point	MCCARTHY
Collection method	ND
Collection date/time	2015-07-08 / 12:00 PM
Collected by	DAWN HOYLE
Sample received (date and time)	2015-07-09 / 09:35 AM
Condition upon reception	TEMPERATURE: 7,2°C
Sample storage	ANALYSIS STARTED UPON SAMPLE ARRIVAL AT THE ECOTOXICOLOGY LABORATORY (MTL)

**Initial parameters prior to testing**

Sample appearance:	COLORLESS/CLEAR/A LOT OF FLAKY PARTICLES/ORGANIC DEBRIS
Temperature (°C):	19,9
pH:	8,9
Conductivity (µS/cm):	445
Dissolved oxygen (mg/L):	8,3
Pre aeration time (minutes)	0
Pre aeration rate (ml/min/L)	NA
Sample hardness (mg/L CaCO <sub>3</sub> ):	188
Sample adjusted hardness (mg/L CaCO <sub>3</sub> ):	NA
Sample pre-treatment:	NONE

**Test conditions**

Organism (age):	<i>Daphnia magna</i> (< 24hours)
Analysis method:	SPE 1/RM/11, 1990, mod.05/1996; SPE 1/RM/14, 2000
Method modification:	NONE
Mortality of culture 7 days prior to testing:	<1%
Time to first brood:	9
Average brood size:	26
Test solution volume (ml):	200
Number exposed/concentration:	30 (10 ORGANISMS/VESSEL)
Loading density (ml/organism):	20
Photoperiod (light intensity):	16hours light/8hours dark (400-800lux)
Dilution water:	Dechlorinated tap water, adjusted hardness
Control water hardness (mg/L CaCO <sub>3</sub> ):	175

**48H *Daphnia magna* SINGLE CONCENTRATION TEST**

**Analysis details**

Test initiation date/time (T0h) July 10, 2015 / 2:40 PM  
 Test ending date/time (T48h) July 12, 2015 / 2:40 PM  
 Technician(s): SBR MC

Sample concentration (% v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)	Number exposed	Immobility (48h)		Mortality (48h)	
	0h	48h	0h	48h	0h	48h	0h	0h	Nombre	%	Nombre	%
0 (CTRL)	21,3	20,6	8,4	8,6	8,1	8,8	383	10	0	0	0	0
0 (CTRL)	21,3	20,4	8,4	8,6	8,1	8,8	383	10	0	0	0	0
0 (CTRL)	21,3	20,8	8,4	8,6	8,1	8,8	383	10	0	0	0	0
100	20,8	20,7	8,8	8,5	8,3	8,8	725	10	0	0	0	0
100	20,8	20,3	8,8	8,5	8,3	8,7	725	10	0	0	0	0
100	20,8	20,3	8,8	8,5	8,3	8,8	725	10	0	0	0	0

Additional Observations:

**Reference toxicant data**

Reference toxicant: Potassium dichromate (K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>)

Date of test: 2015-07-06

48h-LC50 (mg/L Cr): 0,303

95% Lower confidence limit (mg/L Cr): 0,266

95% Upper confidence limit (mg/L Cr): 0,336

Historic geometric mean LC50 (mg/L Cr): 0,219

-2S Warning limit (mg/L Cr): 0,140

+2S Warning limit (mg/L Cr): 0,341

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Sample Information

Sample Lab Number:	6720679
Sample ID:	POND
Type of Sample:	SURFACE WATER
Sample point:	MCCARTHY
Collection method:	ND
Collection date/time	2015-07-08 / 12:00 PM
Collected by:	DAWN HOYLE
Sample received (date/time):	2015-07-09 / 09:35 AM
Condition upon reception:	TEMPERATURE: 7,2°C
Sample storage:	ANALYSIS STARTED UPON SAMPLE ARRIVAL AT THE ECOTOXICOLOGY LABORATORY (MTL)

Initial parameters prior to testing

Sample appearance:	YELLOW/CLEAR/SOME COARSE PARTICLES
Temperature (°C):	15,4
pH:	8,9
Conductivity (µS/cm)	781
Dissolved oxygen (mg/L):	8,7
Pre aeration time (minutes):	30
Pre aeration rate (ml/min/L):	6,5 ± 1
Sample pre-treatment	NONE

Test Conditions

Organisms:	Rainbow Trout ( <i>Oncorhynchus mykiss</i> )		
Provenance:	Pisciculture des Arpents verts		
Acclimatation time:	> 2 WEEKS		
Trout Batch No:	APV220615		
Mortality 7 days prior to testing:	0,1%		
Control mean weight (g):	0,56		
± standard deviation:	0,10		
Control mean fork length (mm):	41,9	Min: 38,5	Max: 44,8
± standard deviation:	2,2		
Number exposed/concentration:	10		
Test solution volume (L):	14,4		
Test solution depth (cm):	26		
Loading density (g/L):	0,39		
Dilution water:	Dechlorinated tap water		
Photoperiod:	16 hours light / 8 hours dark		
Analysis method:	SPE 1/RM/9, 1990, mod.1996,2007; SPE 1/RM/13, 2000 mod.05/2007		
Method modification:	NONE		

96H SINGLE CONCENTRATION Rainbow Trout TEST

Analysis Details

Test initiation date/time (T0h) July 10, 2015 / 3:40 PM  
 Test ending date/time (T96h) July 14, 2015 / 3:50 PM  
 Technician(s): CLH AC

Physicochemical Parameters

Sample concentration (%v/v)	Temperature (°C)		pH		Dissolved oxygen (mg/L)		Conductivity (µS/cm)
	0h	96hours	0h	96hours	0h	96hours	0h
0 (CTRL)	16,0	15,2	8,4	8,2	9,7	9,4	326
100	14,4	14,9	8,8	8,1	9,4	9,5	789

Test Results (96 hours)

Sample concentration (%v/v)	Number exposed	Immobile or stressed		Dead	
		Number	%	Number	%
0 (CTRL)	10	0	0	0	0
100	10	0	0	0	0

Reference Toxicant Data

Reference toxicant: Zinc Sulfate (ZnSO <sub>4</sub> -7H <sub>2</sub> O)
Date of test: 2015-07-05
96h-LC50 (mg/L Zn): 0,262
95% Lower confidence limit (mg/L Zn): 0,216
95% Upper confidence limit (mg/L Zn): 0,317
Historic geometric mean LC50 (mg/L Zn): 0,503
-2S Warning limit (mg/L Zn): 0,241
+2S Warning limit (mg/L Zn): 1,052

ANNEX

96H SINGLE CONCENTRATION Rainbow Trout TEST

Daily Observations

Sample concentration (%v/v)	24 hours		48 hours		72 hours		96 hours	
	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead	# immobile or stressed	# dead
0 (CTRL)	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0

Additional Observations

CLIENT NAME: GOLDER ASSOCIATES LTD.  
121 COMMERCE PARK DRIVE, UNIT L  
BARRIE, ON L4N8X1  
(705) 722-4492

ATTENTION TO: Dawn Hoyle

PROJECT: 1407634

AGAT WORK ORDER: 15T010769

ECOTOX ANALYSIS REVIEWED BY: Virginie Bérubé, biologiste

DATE REPORTED: Sep 04, 2015

PAGES (INCLUDING COVER): 5

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15T010769

PROJECT: 1407634

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

### Daphnia magna toxicity - single concentration

DATE RECEIVED: 2015-08-24

DATE REPORTED: 2015-09-04

SAMPLE DESCRIPTION: Pond  
SAMPLE TYPE: Water  
DATE SAMPLED: 8/21/2015  
G / S RDL 6892557

Parameter	Unit	G / S	RDL	6892557
Mortality 100% v/v	% mortality-48h			0
Conclusion				NON LETHAL

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
6892557 Refer to the annex for analysis details.

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15T010769

PROJECT: 1407634

5835 COOPERS AVENUE  
MISSISSAUGA, ONTARIO  
CANADA L4Z 1Y2  
TEL (905)712-5100  
FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

### Rainbow trout toxicity - single concentration

DATE RECEIVED: 2015-08-24

DATE REPORTED: 2015-09-04

SAMPLE DESCRIPTION: Pond  
SAMPLE TYPE: Water  
DATE SAMPLED: 8/21/2015  
G / S RDL 6892557

Parameter	Unit	G / S	RDL	6892557
Mortality 100% v/v	% mortality-96h			0
Conclusion				NON LETHAL

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
6892557 Refer to the annex for analysis details.

Certified By:



## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 15T010769

PROJECT: 1407634

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
ECOTOX Analysis			
Mortality 100% v/v			NA
Conclusion			NA





CLIENT NAME: GOLDER ASSOCIATES LTD.  
121 COMMERCE PARK DRIVE, UNIT L  
BARRIE, ON L4N8X1  
(705) 722-4492

ATTENTION TO: Dawn Hoyle

PROJECT: 1407634

AGAT WORK ORDER: 15T018963

ECOTOX ANALYSIS REVIEWED BY: Virginie Bérubé, biologiste

DATE REPORTED: Sep 25, 2015

PAGES (INCLUDING COVER): 5

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (514) 337-1000

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15T018963

PROJECT: 1407634

9770 ROUTE TRANSCANADIENNE  
ST. LAURENT, QUEBEC  
CANADA H4S 1V9  
TEL (514)337-1000  
FAX (514)333-3046  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:DH

### Daphnia magna toxicity - single concentration

DATE RECEIVED: 2015-09-15

DATE REPORTED: 2015-09-25

SAMPLE DESCRIPTION: POND

SAMPLE TYPE: Water

DATE SAMPLED: 9/14/2015

Parameter	Unit	G / S	RDL	6968796
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Mortality 100% v/v	% mortality-48h			0
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Conclusion	NON LETHAL			
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Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

6968796 Refer to the annex for analysis details.

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15T018963

PROJECT: 1407634

9770 ROUTE TRANSCANADIENNE  
ST. LAURENT, QUEBEC  
CANADA H4S 1V9  
TEL (514)337-1000  
FAX (514)333-3046  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:DH

### Rainbow trout toxicity - single concentration

DATE RECEIVED: 2015-09-15

DATE REPORTED: 2015-09-25

SAMPLE DESCRIPTION: POND  
SAMPLE TYPE: Water  
DATE SAMPLED: 9/14/2015  
G / S RDL 6968796

Parameter	Unit	G / S	RDL	6968796
Mortality 100% v/v	% mortality-96h			0
Conclusion				NON LETHAL

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
6968796 Refer to the annex for analysis details.

Certified By:



## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 15T018963

PROJECT: 1407634

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:DH

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
ECOTOX Analysis			
Mortality 100% v/v			NA
Conclusion			NA





CLIENT NAME: GOLDER ASSOCIATES LTD.  
121 COMMERCE PARK DRIVE, UNIT L  
BARRIE, ON L4N8X1  
(705) 722-4492

ATTENTION TO: Dawn Hoyle

PROJECT: 1407634

AGAT WORK ORDER: 15T034501

ECOTOX ANALYSIS REVIEWED BY: Virginie Bérubé, biologiste

DATE REPORTED: Nov 12, 2015

PAGES (INCLUDING COVER): 5

VERSION\*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

\*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.



## Certificate of Analysis

AGAT WORK ORDER: 15T034501

PROJECT: 1407634

5835 COOPERS AVENUE  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1Y2  
 TEL (905)712-5100  
 FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

### Daphnia magna toxicity - single concentration

DATE RECEIVED: 2015-10-26

DATE REPORTED: 2015-11-12

SAMPLE DESCRIPTION: POND  
 SAMPLE TYPE: Water  
 DATE SAMPLED: 10/22/2015

Parameter	Unit	G / S	RDL	7123060
Mortality 100% v/v	% mortality-48h			0
Conclusion				NON LETHAL

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
 7123060 Refer to the annex for analysis details.

Certified By:



## Certificate of Analysis

AGAT WORK ORDER: 15T034501

PROJECT: 1407634

5835 COOPERS AVENUE  
 MISSISSAUGA, ONTARIO  
 CANADA L4Z 1Y2  
 TEL (905)712-5100  
 FAX (905)712-5122  
<http://www.agatlabs.com>

CLIENT NAME: GOLDER ASSOCIATES LTD.

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

Rainbow trout toxicity - single concentration					
DATE RECEIVED: 2015-10-26			DATE REPORTED: 2015-11-12		
SAMPLE DESCRIPTION:		POND			
SAMPLE TYPE:		Water			
DATE SAMPLED:		10/22/2015			
Parameter	Unit	G / S	RDL	7123060	
Mortality 100% v/v	% mortality-96h			0	
Conclusion		NON LETHAL			

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard  
 7123060 Refer to the annex for analysis details.

Certified By:



## Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD.

AGAT WORK ORDER: 15T034501

PROJECT: 1407634

ATTENTION TO: Dawn Hoyle

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
ECOTOX Analysis			
Mortality 100% v/v			NA
Conclusion			NA



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Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

[solutions@golder.com](mailto:solutions@golder.com)  
[www.golder.com](http://www.golder.com)

**Golder Associates Ltd.**  
**121 Commerce Park Drive, Unit L**  
**Barrie, Ontario, L4N 8X1**  
**Canada**  
**T: +1 (705) 722 4492**

