February 2015

MCCARTHY QUARRY

Environmental Compliance Approval Quarterly Monitoring Report (November to February)

Submitted to:
Ontario Ministry of the Environment
Attention: Cindy Hood
Barrie District Office
1203-54 Cedar Pointe Drive
Barrie, ON L4N 5R7

REPORT

Report Number: 1407634

Distribution:

1 Copy - Ministry of the Environment Barrie District Office
1 Copy - Coco Aggregates Inc.
1 Copy - Golder Associates Ltd.

Golder Associates

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1.0 INTRODUCTION

Golder Associates Ltd. (Golder) was retained by QBJR/Coco Aggregates Inc. (Coco) to prepare a quarterly compliance report for the McCarthy Quarry located in the Township of Ramara, County of Simcoe (Figure 1). The following report addresses the requirements described in Conditions 5, 7 and 8 of the 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 quarterly compliance report presents effluent monitoring results for the period between November 1, 2014 and February 1, 2015. Included herein are a brief background, summary and discussion of the sampling results and data collected on-Site during each sampling event.

2.0 BACKGROUND

The McCarthy Quarry dewatering system consists of the collection of groundwater and surface water at the base of the quarry floor in a quarry sump which is pumped to a settling pond, at grade, to the south of the active quarry area (Figure 1). The sump is equipped with a 4-inch Grindex pump, rated at 35 L/sec and is attached to a 4-inch (101 mm) diameter discharge line. Water is pumped from the quarry floor up the quarry face through the 4-inch (101 mm) diameter pipe to the 14,000 m^3 settling pond. The settling pond is equipped with a Hickenbottom control structure and discharges 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 ECA No. 4731-987KM8 issued on October 15, 2013. Under the current ECA, Coco is permitted to pump water from the quarry sump at a rate of 4,545 L/min (76 L/sec).

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.

Weekly effluent monitoring is required per Section 7(2) for Total Suspended Solids (TSS), Oil and Grease, Phenolics (4AAP) and pH at the McCarthy Pond. 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. Monthly acute lethality is also required at the McCarthy Pond under Section 8.

As per Section 7(8) an inline flow meter is 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 McCarthy Quarry.

The weekly effluent samples (Section 7(2)) were collected by Golder until October 1, 2014 when staff at the McCarthy Quarry began conducting the sampling. The semi-annual water quality samples (Section 7(3) and Section 7(7)) were collected by Golder. Both the weekly and semi-annual water quality samples were sent to Maxxam Analytics Laboratory for analysis. Additionally, the monthly lethality samples were collected by Golder and sent to AquaTox Testing & Consulting Inc.

During both the January and February monthly Site visits, the McCarthy Pond was frozen and there was no discharge, therefore lethality samples were not collected.

4.0 EFFLUENT MONITORING RESULTS

Results of the weekly effluent monitoring are presented in Table 1; the monthly averages for the effluent monitoring at presented in Table 2; and the acute lethality results are presented in Table 3. All laboratory certificates of analysis for the November 2014 to February 2015 monitoring period are included in Appendix B.

No exceedances occurred during this monitoring period. The pH, Oil and Grease and Phenolics (4AAP) concentrations were all below the daily and monthly concentration limits of the ECA.

The effluent was found to be non-lethal to rainbow trout and Daphnia magna between November and December, 2014 (Table 3). As previously mentioned, the McCarthy Pond discharge was frozen during the January 2015 Site visit therefore, lethality sampling was not conducted. The lethality sampling will continue as soon as the pond thaws in the spring.

The pump records for November 2014 to February 2015 are found in Table 4. The discharge rate between November 2014 and February 2015 was below the permitted rate of 4,545 L/min (76 L/sec).

5.0 SUMMARY

All effluent monitoring samples were below the daily and monthly concentration limits of the ECA No. 4731-987KM8 and the water taking volumes were below the permitted rate of 4,545 L/min (76 L/sec).

Report Signature Page

GOLDER ASSOCIATES LTD.

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Geoscientist in Training

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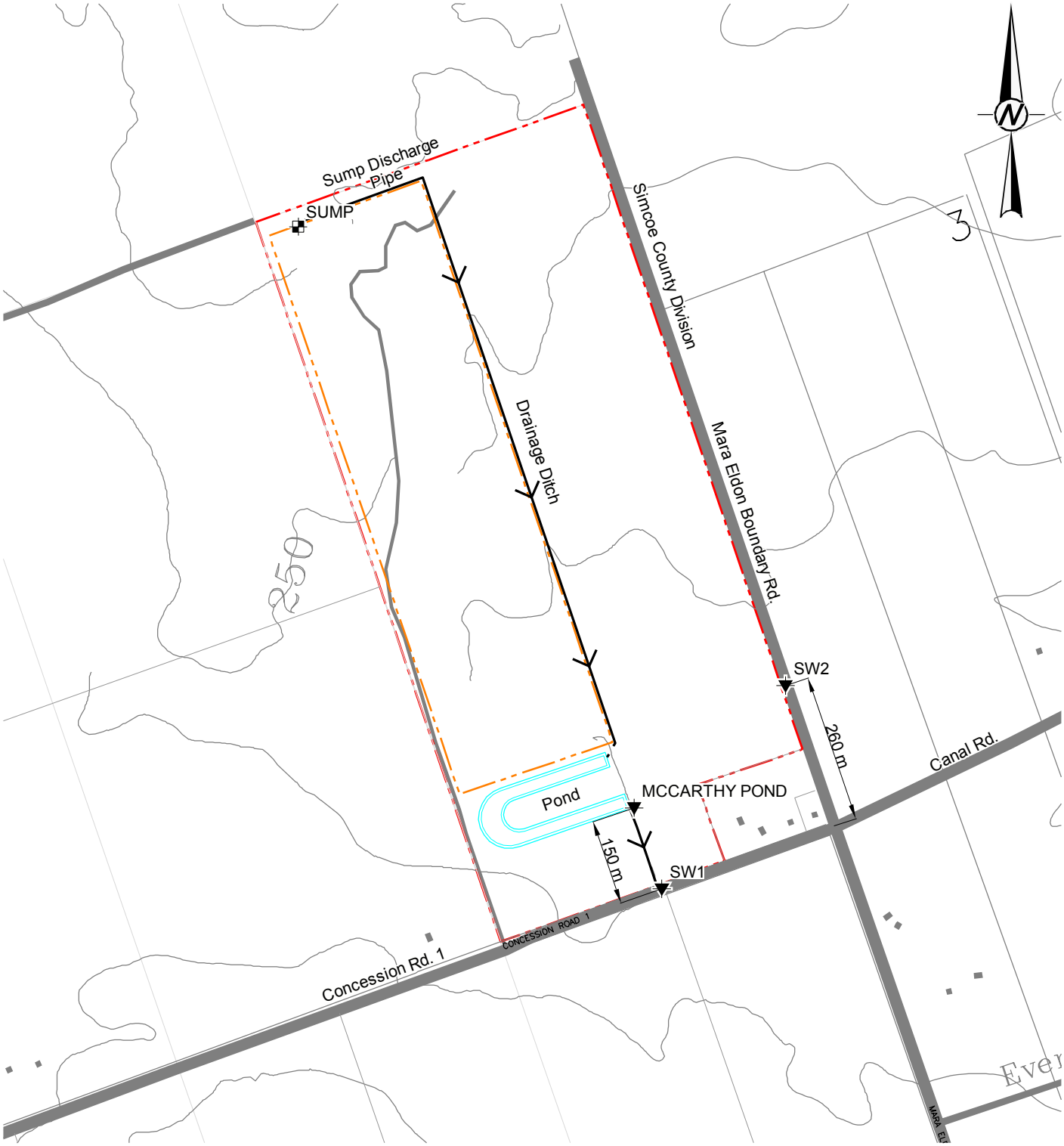
Associate Senior Hydrogeologist

AK/JAE/plc

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

0 200 400 600 m

1:10000

CLIENT
COCO / QBJR AGGREGATES INC.

PROJECT
STAN MCCARTHY QUARRY

TITLE
LOCATION MAP

CONSULTANT
Golder Associates

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

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

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TABLES

Table 1: McCarthy Pond Weekly Water Quality Results (November 2014 to February 2015)

	Unit	Reportable Detection Limit (RDL)	PWQO [1]	Daily Concentration Limit[2]	McCarthy Quarry									
Sample ID					Pond									
Date					06-Nov-14	14-Nov-14	20-Nov-14	26-Nov-14	04-Dec-14	12-Dec-14	22-Dec-14	05-Jan-15	16-Jan-15	23-Jan-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
Total Suspended Solids	mg/L	1		30	4	15	2	5	4	8	3	2	2	2
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
Phenols (4AAP)	mg/L	<0.0010		0.04	0.0032	0.0015	<0.0010	0.0012	<0.0010	<0.001	<0.001	<0.001	0.0017	<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 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 preceeded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

Table 2: McCarthy Pond Monthly Water Quality Results (November 2014 to February 2015)

	Unit	Reportable Detection Limit (RDL)	PWQO [1]	Monthly Concentration Limit[2]	McCarthy Quarry		
Sample ID					**Pond**		
Date					November	December	January
Total Suspended Solids	mg/L	1		15	6.5	5	2.0
Total Oil and Grease	mg/L	0.5	Note 3	15	2.3	<0.5	1.9
Phenols (4AAP)	mg/L	<0.0010		0.02	0.0020	<0.001	0.0017

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. Monthyl 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 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 preceeded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).

Table 3: Lethality Monitoring at McCarthy Pond

	Unit	Mortality Limit	McCarthy Quarry	
Sample ID			**Pond**	
Date			**28-Nov-14**	**17-Dec-14**
Daphnia Magna	% Mortality Rate*	<50%	0	0
Rainbow Trout	% Mortality Rate*	<50%	0	0

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

Table 4: 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)
ECA Permitted Rate					**6,550,000.00**	**4,545.00**	**76.00**
03-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
04-Nov-14	7am	12pm	18,000.00	300.00	630,000.00	35.00	2,100.00
05-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
06-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
07-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
10-Nov-14	7am	12pm	18,000.00	300.00	630,000.00	35.00	2,100.00
11-Nov-14	7am	12pm	18,000.00	300.00	630,000.00	35.00	2,100.00
12-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
13-Nov-14	No Pump		-	-	-	-	-
14-Nov-14	No Pump		-	-	-	-	-
17-Nov-14	No Pump		-	-	-	-	-
18-Nov-14	6am	3pm	32,400.00	540.00	1,134,000.00	35.00	2,100.00
19-Nov-14	7am	2pm	25,200.00	420.00	882,000.00	35.00	2,100.00
20-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
21-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
24-Nov-14	6am	3pm	32,400.00	540.00	1,134,000.00	35.00	2,100.00
25-Nov-14	6am	3pm	32,400.00	540.00	1,134,000.00	35.00	2,100.00
26-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
27-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
28-Nov-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
01-Dec-14	7am	12pm	18,000.00	300.00	630,000.00	35.00	2,100.00
02-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
03-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
04-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
05-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
08-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
09-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
10-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
11-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
12-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
15-Dec-14	6am	12pm	21,600.00	360.00	756,000.00	35.00	2,100.00
16-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
17-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
18-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
19-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
22-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
23-Dec-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
24-Dec-14	No Pump		-	-	-	-	-
05-Jan-15	6am	3pm	32,400.00	540.00	1,134,000.00	35.00	2,100.00
06-Jan-15	6am	3pm	32,400.00	540.00	1,134,000.00	35.00	2,100.00
07-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
08-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
09-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00

Table 4: 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)
ECA Permitted Rate					**6,550,000.00**	**4,545.00**	**76.00**
12-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
13-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
14-Jan-14	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
15-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
16-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
19-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
20-Jan-15	9am	12pm	10,800.00	180.00	378,000.00	35.00	2,100.00
21-Jan-15	No Pump		-	-	-	-	-
22-Jan-15	No Pump		-	-	-	-	-
23-Jan-15	No Pump		-	-	-	-	-
26-Jan-15	No Pump		-	-	-	-	-
27-Jan-15	No Pump		-	-	-	-	-
28-Jan-15	No Pump		-	-	-	-	-
29-Jan-15	No Pump		-	-	-	-	-
30-Jan-15	No Pump		-	-	-	-	-

APPENDIX A

ECA No. 4731-987KM8

- AKossi
- GQ.

Ontario

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* .

Table 1 - Effluent Limits

Effluent Parameter	Daily Concentration Limit (mg/L)	Monthly Average Concentration Limit (mg/L)
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:

Table 2 - Effluent Monitoring - (End of Pipe Discharge Point)

Effluent Parameter	Frequency	Sample Type
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 CaCO3), Alkalinity(as CaCO3), 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**

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

Water Quality Data

AQUATOX
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

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 *Daphnia magna.* 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 (± 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: _____
Project Manager

AQUATOX

TOXICITY TEST REPORT

Daphnia magna

Work Order: 227069
Sample Number: 42202

	Hardness (mg/L as $CaCO_3$)	Hardness Adjustment	pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O_2 Sat. (%)*	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_2 Sat. (%)*	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: _____
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

TOXICITY TEST REPORT
Rainbow Trout

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 :	2014-12-03
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 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	Historical Mean LC50 :	3727 mg/L
LC50 (95% Confidence Limits) :	3755 mg/L (3340 - 4202)	Warning Limits (± 2SD) :	3280 - 4235 mg/L
Statistical Method :	Linear Regression (MLE)	Analyst(s) :	CN, FS, DK, MA

TEST FISH

Control Fish Sample Size :	10	Cumulative stock tank mortality:	0 % (prev. 7 days)
Mean Fish Weight (± 2 SD) :	0.50 ± 0.18 g	Mean Fish Fork Length (± 2 SD) :	38.7 ± 5.2 mm
Range of Weights :	0.29 - 0.59 g	Range of Fork Lengths (mm) :	32 - 41 mm
Fish Loading Rate :	0.2 g/L		

TEST CONDITIONS

Test Organism :	*Oncorhynchus mykiss*	Volume Tested (L) :	20
Sample Treatment :	None	Number of Replicates :	1
pH Adjustment :	None	Organisms Per Replicate :	10
Test Aeration :	Yes	Total Organisms Per Test Level :	10
Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Test Method Deviation(s) :	None

Date: 2014-12-10
yyyy-mm-dd

Approved by: J. Mudge
Project Manager

AQUATOX

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_2 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_2 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: E
Date: 2014-12-10

CHAIN OF CUSTODY RECORD

AQUATOX

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)

Client:	Golder Associates Ltd. 121 Commerce Park Drive, Unit L Barrie, ON L4N 8X1
Phone:	(705) 722-4492
Fax:	(705) 722-3786
Contact:	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	*Pseudokirchneriella subcapitata* Growth	Microtox	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2014-11-28		Pond	42202	9.0	✓		✓							✓		

For Lab Use Only

Received By:	AW
Date:	2014-12-02
Time:	0900
Storage Location:	
Storage Temp.(°C)	

Please list any special requests or instructions:

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

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 *Daphnia magna*. 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 (± 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: Shawn Tu
Project Manager

Work Order: 227182
Sample Number: 42362

	Hardness (mg/L as $CaCO_3$)	Hardness Adjustment	pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O_2 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_2 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

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 :	2014-12-18
Sampled By :	J. B.	Temp. on arrival :	10.0°C
Sample Description :	Clear, colourless, odourless.		

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	Historical Mean LC50 :	3727 mg/L
LC50 (95% Confidence Limits) :	3755 mg/L (3340 - 4202)	Warning Limits (± 2SD) :	3280 - 4235 mg/L
Statistical Method :	Linear Regression (MLE)	Analyst(s) :	CN, FS, DK, MA

TEST FISH

Control Fish Sample Size :	10	Cumulative stock tank mortality:	0 % (prev. 7 days)
Mean Fish Weight (± 2 SD) :	0.51 ± 0.19 g	Mean Fish Fork Length (± 2 SD) :	38.4 ± 4.0 mm
Range of Weights :	0.33 - 0.64 g	Range of Fork Lengths (mm) :	34 - 41 mm
Fish Loading Rate :	0.3 g/L		

TEST CONDITIONS

Test Organism :	*Oncorhynchus mykiss*	Volume Tested (L) :	17
Sample Treatment :	None	Number of Replicates :	1
pH Adjustment :	None	Organisms Per Replicate :	10
Test Aeration :	Yes	Total Organisms Per Test Level :	10
Pre-aeration/Aeration Rate :	6.5 ± 1 mL/min/L	Test Method Deviation(s) :	None

Date: 2015-01-02
yyyy-mm-dd

Approved by: Shawn Wilson
Project Manager

AQUATOX

TOXICITY TEST REPORT
Rainbow Trout

Work Order: 227182
Sample Number: 42362

Total Pre-Aeration Time (h)		pH	D.O. (mg/L)	Cond. (µmhos/cm)	Temp. (°C)	O_2 Sat. (%)*
2:00	**Initial Water Chemistry:**	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_2 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.
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.
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.
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.
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

CHAIN OF CUSTODY RECORD

AQUATOX

AquaTox Work Order No: 227182

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):	Jamie Bonany
Signature:	
Affiliation:	Golder Associates Ltd.
Sample Storage (prior to shipping):	indoors
Custody Relinquished by:	Alicia Beynon
Date/Time Shipped:	17-Dec-2014

Client:	121 Commerce Park Drive, Unit L Barrie ON L4N 8X1
Phone:	(705) 722-3786
Fax:	(705) 722-4492
Contact:	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	*Pseudokirchneriella subcapitata* Growth	Microtox	Grab	Composite	# of Containers and Volume (eg. 2 x 1L, 3 x 10L, etc.)
2014-12-17	12:00	Pond	42362	10.0	✔		✔									Rec 1x2.5L plast DK

For Lab Use Only

Received By:	DK
Date:	2014-12-18
Time:	8:50
Storage Location:	
Storage Temp.(°C)	

Please list any special requests or instructions:

Standard COC with Microtox rev 2 2009 07 09 TC

Success Through Science®

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 Extracted	Date Analyzed	Laboratory Method	Reference
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

Maxxam ID		YG8916		
Sampling Date		2014/10/30		
COC Number		485991-04-01		
	Units	POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	<1.6	1.6	3809054
Inorganics				
Phenols-4AAP	mg/L	0.0022	0.0010	3810806
Total Suspended Solids	mg/L	3	1	3809942
Petroleum Hydrocarbons				
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

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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.

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

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

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date 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).

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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).

Brad Newman, Scientific Specialist

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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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		YJ3011		
Sampling Date		2014/11/06 10:00		
COC Number		485991-05-01		
	Units	POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	2.7	1.6	3815246
Inorganics				
Phenols-4AAP	mg/L	0.0032	0.0010	3817547
Total Suspended Solids	mg/L	4	1	3817051
Petroleum Hydrocarbons				
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

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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.

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

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

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date 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.

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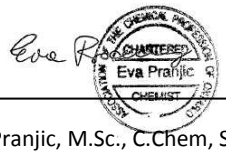
Maxxam Job #: B4L0703
Report Date: 2014/11/12

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
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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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		YM2876		
Sampling Date		2014/11/14 10:30		
COC Number		489200-01-01		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	<0.50	0.50	3825972
Inorganics				
pH	pH	8.18	N/A	3827418
Phenols-4AAP	mg/L	0.0015	0.0010	3827802
Total Suspended Solids	mg/L	15	1	3827766
Petroleum Hydrocarbons				
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

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

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

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

QUALITY ASSURANCE REPORT

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

Maxxam Job #: 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

Cristina Carriere, Scientific Services

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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

==========

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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		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3833611
Petroleum Hydrocarbons				
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 Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: 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		
	Units	**POND**	**RDL**	**QC Batch**
Inorganics				
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 Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: 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.

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

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

Quality Assurance Report

Maxxam Job Number: MB4M0948

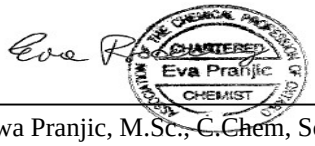
QA/QC Batch Num	Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	Recovery	Units	QC Limits
3833950	SAU	Spiked Blank	pH	2014/11/24		102	%	98 - 103
		RPD	pH	2014/11/24	0.1		%	N/A
3833965	SUP	QC Standard	Total Suspended Solids	2014/11/23		97	%	85 - 115
		Method Blank	Total Suspended Solids	2014/11/23	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

==========

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Maxxam IMMEDIATE TEST

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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

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#12323 Golder Associates Ltd	Company Name:		Quotation #:	B40279	Maxxam Job #:	Bottle Order #:
Attention:	~~Central Accounting~~ ALICIA BEYNON	Attention:	Alicia Beynon	P.O. #:			489200
Address:	121 Commerce Park Drive Unit L Barrie ON L4N 8X1	Address:		Project:	1407634	COC #:	Project Manager:
Tel:	(705) 722-4492 Fax: (705) 722-3786	Tel:	(705) 722-4492 x Fax:	Project Name:		C#489200-03-01	Antonella Brasil
Email:	AccountsPayable_Maxxam@golder.com	Email:	Alicia_Beynon@golder.com	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)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ Reg 558. ☐ Storm Sewer Bylaw	
☐ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality _____	
☐ Table ___	☒ PWQO	
	☐ Other _____	

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

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

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Oil & Grease - AV/MT	Low Level Total Suspended Solids	Phenols (4AAP)	P1Y						# of Bottles	Comments
1			NOV 20/14	10:10	SW	N/A	X	X	X	X						4	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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

* 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			
	1100 20/14		MUSSAT NBZ	2014/11/21	10:00		Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes / No
STAN GROZELLE	NOV 20/14							4/5/14	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

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

Your Project #: 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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		YQ7694		
Sampling Date		2014/11/26 11:00		
COC Number		489200-02-01		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	1.9	0.50	3840802
Inorganics				
pH	pH	7.83	N/A	3842449
Phenols-4AAP	mg/L	0.0012	0.0010	3842239
Total Suspended Solids	mg/L	5	2	3842534
Petroleum Hydrocarbons				
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

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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

Results relate only to the items tested.

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

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% 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).

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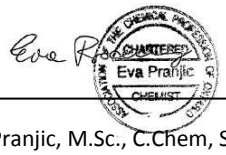
Maxxam Job #: B4M5834
Report Date: 2014/12/03

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).



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

IMMEDIATE TEST

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Oil & Grease - AV/M/T	Low Level Total Suspended Solids	Phenols (4AAP)	PH						# of Bottles	Comments
1			NOV26/14	11:00	SW	N/A	X	X	X	X						4	
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)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
STAN GROZELLE	NOV 26/14	11:00	Chantal Gagnon/CHANTAL GAGNON	2014/11/28	09:50	
	NOV 26/14					

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	6/2/5	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

Maxxam Analytics International Corporation o/a Maxxam Analytics

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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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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

Maxxam ID		YV4554		
Sampling Date				
COC Number		489200-07-01		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3857663
Inorganics				
pH	pH	7.94	N/A	3859969
Phenols-4AAP	mg/L	ND	0.0010	3859294
Total Suspended Solids	mg/L	8	1	3858678
Petroleum Hydrocarbons				
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

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

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% 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 Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: 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

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IMMEDIATE TEST

12-Dec-14 10:00
Antonella Brasil
B4N5665
FW ENV-755

Page of

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:

Use Only:
Bottle Order #: 489200
Project Manager: Antonella Brasil
C#489200-07-01

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

Regulation 153 (2011)
☐ 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)? ___

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

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
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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	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): Oil & Grease - AVI/MT	Low Level Total Suspended Solids	Phenols (4AAP)	PH						# of Bottles	Comments
1					SW	N/A	K	X	K	X						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	# jars used and not submitted
STAN GROZINGER	Dec 11/14	11:50	MISRAT NAZ	2014/12/12	10:00	
	Dec 11/14	11:50				

Laboratory Use Only
Time Sensitive
Temperature (°C) on Receipt: 8/7/7
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

Maxxam Analytics International Corporation o/a Maxxam Analytics

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 #: B4O1742
Received: 2014/12/22, 09:00

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
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 #: B4O1742
Report Date: 2014/12/31

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		YY4277		
Sampling Date				
COC Number		489200-05-01		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3868423
Inorganics				
pH	pH	8.03	N/A	3870324
Phenols-4AAP	mg/L	ND	0.0010	3869935
Total Suspended Solids	mg/L	3	1	3869868
Petroleum Hydrocarbons				
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

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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

Results relate only to the items tested.

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

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% 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).

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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

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-Free 800-563-6266 Fax (905) 817-5777 www.maxxam.ca

IMMEDIATE TAT

CHAIN OF CUSTODY RECORD

Page of

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

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

22-Dec-14 09:00
Antonella Brasil
B4O1742
AKP ENV-832

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

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

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

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
STAN GROZELLE	DEC 18/14	11:30				
	DEC 18/14	11:30	ABD BHATTAL	2014/12/22	09:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
✓	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

Maxxam Analytics International Corporation o/a Maxxam Analytics

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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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

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

RESULTS OF ANALYSES OF WATER

Maxxam ID		ZC2067		
Sampling Date		2015/01/05		
COC Number		497410-03-01		
	Units	POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	ND	0.50	3881281
Inorganics				
pH	pH	7.71	N/A	3882416
Phenols-4AAP	mg/L	ND	0.0010	3882431
Total Suspended Solids	mg/L	2	1	3882488
Petroleum Hydrocarbons				
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

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

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	**Parameter**	**Date**	**% 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).

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

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

DATE/DATE TEST

CHAIN OF CUSTODY RECORD

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. #:
Project: 1407634
Project Name:
Site #: MCCARTHY
Sampled By:

Laboratory Use Only:

Maxxam Job #: Bottle Order #: 497410
COC #: C#497410-03-01 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)

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	Low Level Total Suspended Solids	Phenols (4AAP)	Oil & Grease - A/V/MT	PH						# of Bottles	Comments
1				SW	SW	F/N/A	X	X	X	X						4	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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
JASON COCKBURN	Jan 8/15	11:30	DEEPTHI SHAJI	2015/01/09	09:05	
	Jan 8/15	11:30				

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	0 | 1 | 0 C	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

Maxxam Analytics International Corporation o/a Maxxam Analytics

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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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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
Calculated Parameters					
Total Animal/Vegetable Oil and Grease	mg/L	1.8		0.50	3888682
Inorganics					
Phenols-4AAP	mg/L	0.0017		0.0010	3890785
Total Suspended Solids	mg/L	2	2	1	3890062
Petroleum Hydrocarbons					
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

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

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	**Parameter**	**Date**	**% 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).

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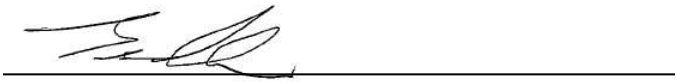
Maxxam Job #: B508311
Report Date: 2015/01/21

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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16-Jan-15 09:40
Antonella Brasil
B508311
FW ENV-796

Page 1 of 1

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

Lab Use Only: Bottle Order #: 497410
C#497410-01-01
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 558 [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ___
- [x] PWQO
- [ ] Other ___

Special Instructions

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

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

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

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	Low Level Total Suspended Solids	Phenols (4AAP)	Oil & Grease - HX/M/T	PH						# of Bottles	Comments
1		Pond			S/W	N/A	X	X	X	X						4	
2		Pond															
3		Pond															
4		Pond															
5		Pond															
6		Pond															
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
JASON GEERLOFS	Jan 15/15	11:30 am	RACHEL DEVLIN	2015/01/16	09:40	
	Jan 15/15	11:30 pm				

Laboratory Use Only
Time Sensitive
Temperature (°C) on Receipt: 4/4/6
Custody Seal: Present [ ] Yes [ ] No; 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

Maxxam Analytics International Corporation o/a Maxxam Analytics

Maxxam
A Bureau Veritas Group Company

Success Through Science®

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 Extracted	Date Analyzed	Laboratory Method	Reference
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

==========

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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

Maxxam ID		ZG9081		
Sampling Date				
COC Number		498937-01-01		
	Units	**POND**	**RDL**	**QC Batch**
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	2.0	0.50	3896270
Inorganics				
pH	pH	7.69	N/A	3897430
Phenols-4AAP	mg/L	ND	0.0010	3897357
Total Suspended Solids	mg/L	2	1	3897648
Petroleum Hydrocarbons				
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

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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

Results relate only to the items tested.

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

QUALITY ASSURANCE REPORT

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

			Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% 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).

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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).

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

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CHAIN OF CUSTODY RECORD

Page 1 of 1

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

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 - AVI/MT	Low Level Total Suspended Solids	Phenols (4AAP)	P-H	# of Bottles	Comments
1	SID#256595	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	Laboratory Use Only				
JASON COCKBURN	Jan 22/15	11:35	ATBN	2015/01/23			Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	Jan 22/15	11:30	ABRAD BRADU	2015/01/23	09:19			4/1/5	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

Maxxam Analytics International Corporation o/a Maxxam Analytics

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

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Golder Associates