



REPORT

**Environmental Compliance Approval Quarterly
Monitoring Report (May to July 2023)**

McCarthy Quarry

Submitted to:

Chris Hyde

Ontario Ministry of Environment, Conservation and Parks
Barrie District Office
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Barrie, ON L4N 5R7

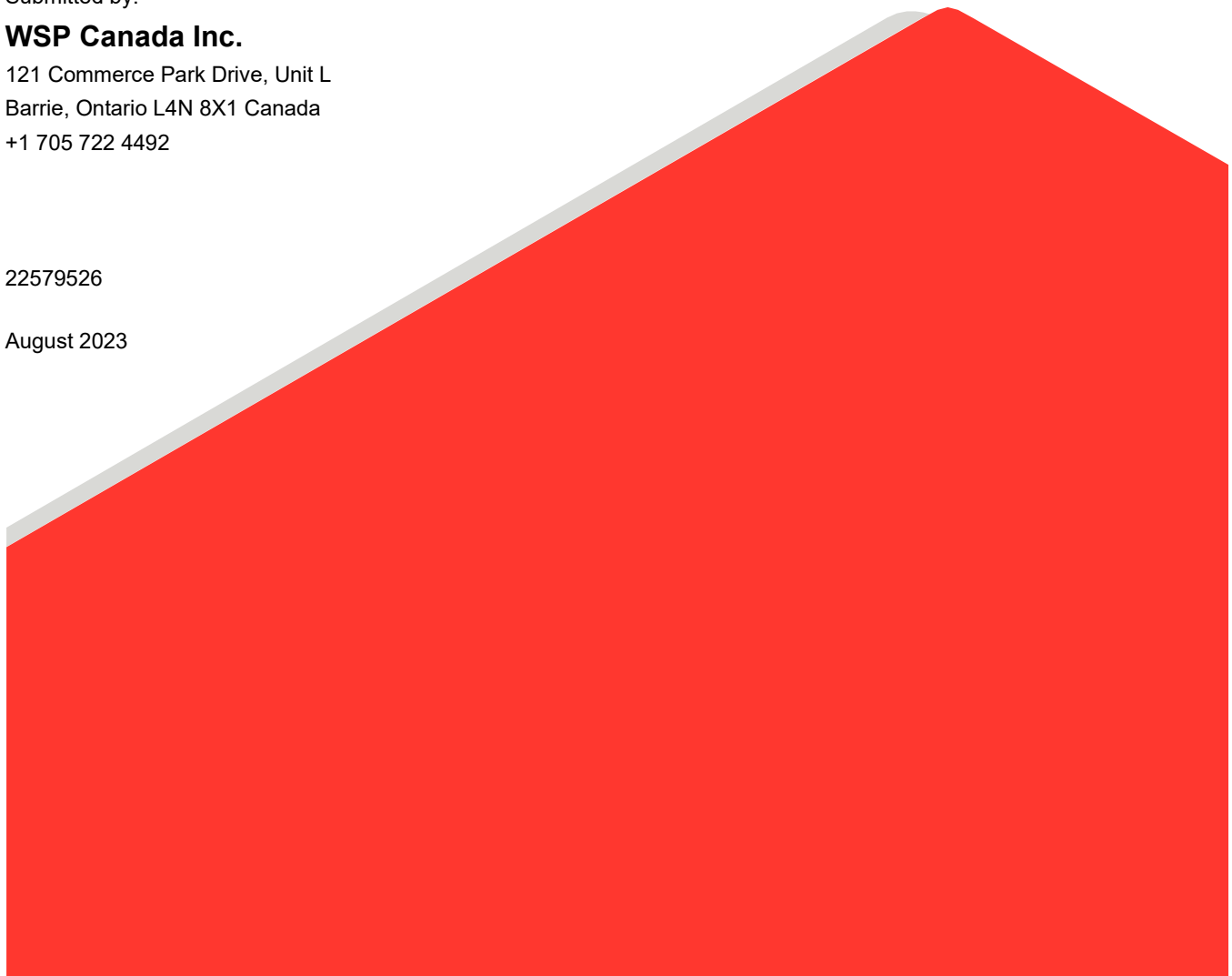
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Distribution List

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ECA No. 7737-BH6QEA

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1.0 INTRODUCTION

WSP Canada Inc. (WSP) was retained by QBJR Aggregates Inc./Green Infrastructure Partners Inc. (Green) to prepare a quarterly monitoring report for the McCarthy Quarry located in the Township of Ramara, County of Simcoe (Figure 1). The preparation of a quarterly monitoring report is a requirement of the Environmental Compliance Approval (ECA) No. 7737-BH6QEA (the 'ECA') issued on October 22, 2019. A copy of the ECA is provided in Appendix A. The following report is intended to fulfill the requirements of Section 8 (4) of the ECA and documents the results of the monitoring program activities described in Section 6 of the ECA for the period between May and July 2023.

2.0 BACKGROUND

The dewatering activities at the McCarthy Quarry in 2023 are regulated under Permit to Take Water (PTTW) No. 1603-BKTPQH, issued on January 31, 2020 and expiring on January 31, 2025. Under PTTW No. 1603-BKTPQH QBJR/Green is permitted to pump water from the quarry sump at a maximum rate of 4,545 L/min (76 L/sec). The quarry discharge monitoring plan and effluent quality limits are established in the ECA.

The McCarthy Quarry dewatering system includes a sump located in the northwest corner of the quarry floor which collects groundwater and surface water (hereafter referred to as "quarry discharge") accumulating at the base of the quarry. The sump is equipped with a pump which is rated for a maximum discharge rate of up to 2,100 L/min (35 L/sec) and is attached to a discharge line. On April 11, 2023, McCarthy staff replaced the pump with a rental from Sunbelt following issues with the previous pump. This pump is rated for a maximum discharge rate of up to 1417 L/min (24 L/sec) and is attached to the discharge line. Water is pumped from the quarry floor up the quarry face via the discharge line to a pipeline that directs the water to a 14,000 m³ settling pond (Figure 1). QBJR/Green finalized set-up of a new sump location in March 2022 and started utilized this new sump location for pumping in April 2022. The initial sump location was creating operational issues as QBJR/Green was not able to properly dewater the southern portion of the quarry. In addition, the previous set up was very inefficient due to the length of piping required from the sump to the horse-shoe shaped settling pond. The new sump location is shown on the attached Figure 1; QBJR/Green has also adjusted the discharge piping that runs from the pump to the horse-shoe shaped settling pond. No changes were made to the discharge pond. The settling pond is equipped with a Hickenbottom control structure via which the water discharges 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 discharges to the Talbot River approximately 1.1 km downstream of the Quarry, which eventually discharges into Lake Simcoe.

3.0 QUARRY DISCHARGE MONITORING PLAN

The technical requirements of the quarry discharge monitoring plan are listed in Section 4 (Effluent [quality] Limits), Section 5 (Effluent – Visual Observations), and Section 6 (Monitoring and Recording) of the ECA. The monitoring requirements consist of:

- Weekly monitoring of the effluent quality (Total Suspended Solids [TSS], oil and grease, phenolics [4AAP] and pH) at the outfall of the settling pond (labelled as McCarthy Pond on Figure 1); and
- Semi-annual monitoring of effluent quality at three locations: 1) the McCarthy Pond outfall; 2) the culvert along Concession Road 1 at the McCarthy property (SW1 on Figure 1); and 3) 260 m north of the intersection of Concession Road 1 and the Mara Eldon Boundary Road (SW2 on Figure 1). The parameters

required for semi-annual water quality monitoring (as listed in Table 3 of the ECA) include TSS, copper, lead, nickel, zinc, arsenic, oil and grease, phenolics (4AAP), hardness (as CaCO₃), alkalinity(as CaCO₃), conductivity, pH, fluoride, chloride, nitrate (as N), nitrite (as N), sulphate, calcium, magnesium, sodium, potassium, ammonia (as N), dissolved organic carbon, iron, total Kjeldahl nitrogen, phosphorus (total), cadmium, chromium, manganese, anions (sum), cations (sum) and total dissolved solids.

The weekly quarry discharge quality sampling was conducted by McCarthy staff directly from the discharge outfall. The weekly water quality samples were sent to Bureau Veritas Laboratories of Mississauga, Ontario for analysis. These weekly water quality results are compared to the daily concentration limits of the ECA (Table 1). A monthly average is calculated from the weekly water quality results and compared to the monthly concentration limits of the ECA (Table 2).

A weekly water quality sample was collected from the McCarthy Pond location during the weeks of May 1st and May 15th, as well as the week of June 26th. No other weekly samples were collected through the end of the monitoring period as there was limited or no discharge reported by McCarthy staff.

4.0 MONITORING RESULTS

All laboratory certificates of analysis for the May to July 2023 monitoring period for the weekly monitoring and semi-annual events are provided in Appendix B. Results of the quarry discharge sample analyses are summarized below:

- The TSS, pH, Oil and Grease and Phenol (4AAP) concentrations were all below the daily concentration limits of the ECA (Table 1);
- The TSS, Oil and Grease and Phenol (4AAP) concentrations were all below all below the monthly concentration limits of the ECA (Table 2); and
- The semi-annual surface water sampling results were below the PWQO (Table 3) with the exception of an exceedance of Total Iron at SW1; and
- The daily discharge rate between May to July 2023 was below the permitted rate of 4,545 L/min (76 L/sec) (Table 4).

5.0 CLOSURE

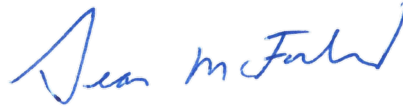
We trust this report meets your current requirements. Should you have any questions please do not hesitate to contact the undersigned.

Signature Page

WSP Canada Inc.



Colin Imrie, G.I.T.
Geo-Environmental Consultant



Sean McFarland, Ph.D., P.Geol.
Senior Hydrogeologist, Senior Principal/Fellow

CSI/SM/lb

Tables

Table 1: McCarthy Pond Weekly Water Quality Results (May to July 2023)

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO ¹	Daily Concentration Limit ²	McCarthy Quarry		
					Pond		
Date					01-May-23	15-May-23	26-Jun-23
pH	pH	n/a		6.0-9.5	7.64	7.44	7.52
Total Suspended Solids	mg/L	1		30	6	2	3
Total Oil and Grease	mg/L	0.5	Note 3	30	<0.50	<0.50	1.4
Phenols (4AAP)	mg/L	<0.0010		0.04	<0.0010	<0.0010	<0.0010

Notes

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

Table 2: McCarthy Pond Monthly Water Quality Results (May to July 2023)

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO ¹	Monthly Concentration Limit ²	McCarthy Quarry		
					Pond		
Date					May	June	July
Total Suspended Solids	mg/L	1		15	4.0	3	-
Total Oil and Grease	mg/L	0.5	Note 3	15	<0.50	1.4	-
Phenols (4AAP)	mg/L	<0.0010		0.02	<0.0010	<0.0010	-

Notes

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

Table 3: McCarthy Semi-Annual Water Quality Monitoring Results

Sample ID Date	Unit	Reportable Detection Limit (RDL)	PWQO ¹	Interim PWQO ²	ECA Effluent Limits	McCarthy Quarry		
						Pond 23-May-23	SW1 23-May-23	SW2 23-May-23
Field Measured Parameters								
Conductivity	µS/cm					826	400	540
pH	n/a	n/a	6.5-8.5		6.0-9.5	8.15	7.96	7.65
Temperature	°C	n/a				18.4	17.0	19.2
Calculated Parameters								
Hardness (CaCO ₃)	mg/L	1.0				320	390	370
Inorganics								
Total Ammonia-N	mg/L	0.050				0.078	0.055	<0.050
Conductivity	ms/cm	0.001				0.98	0.93	0.690
Total Dissolved Solids	mg/L	10				570	540	335
Fluoride (F ⁻)	mg/L	0.10				0.47	0.24	<0.10
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.45	0.57	0.26
Dissolved Organic Carbon	mg/L	0.50				4.3	9.5	6.5
pH	pH	N/A	6.5-8.5		6.0-9.5	8.04	8.05	8.07
Phenols-4AAP	mg/L	0.0010	0.001		0.04	<0.0010	0.001	<0.0010
Total Phosphorus	mg/L	0.020		0.03 ^{5b}		<0.004	0.015	0.008
Total Suspended Solids	mg/L	10			30	<10	16	<10
Dissolved Sulphate (SO ₄)	mg/L	1				240	150	42
Alkalinity (Total as CaCO ₃)	mg/L	1.0				100	250	320
Dissolved Chloride (Cl)	mg/L	1				94	180	18
Nitrite (N)	mg/L	0.010				0.010	<0.010	<0.010
Nitrate (N)	mg/L	0.10				0.18	<0.10	<0.10
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	0.50	Note 3		30	<0.50	<0.50	<0.50
Metals								
Total Arsenic (As)	ug/L	1	100	5		<1.0	<1.0	<1.0
Total Cadmium (Cd)	ug/L	0.09	0.2	0.1-0.5 ^{5d}		<0.09	<0.09	<0.09
Dissolved Calcium (Ca)	mg/L	0.05				77	120	120
Total Calcium (Ca)	ug/L	200				83000	140000	120000
Total Chromium (Cr)	ug/L	5	1-89 ^{5e}			<5.0	<5.0	<5.0
Total Copper (Cu)	ug/L	0.9	5	1-5 ^{5f}		0.93	0.9	<0.9
Total Iron (Fe)	ug/L	100	300			130	390	100
Total Lead (Pb)	ug/L	0.5	5-25 ^{5g}	1-5 ^{5h}		<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	mg/L	0.05				31	21	16.0
Total Magnesium (Mg)	ug/L	50				33000	23000	11000
Total Manganese (Mn)	ug/L	2				68	69	17
Total Nickel (Ni)	ug/L	1	25			1.6	1.9	<1.0
Dissolved Potassium (K)	mg/L	1				11.0	6.0	1.0
Total Potassium (K)	ug/L	200				12000	5700	1100
Dissolved Sodium (Na)	mg/L	0.5				68	43	12.0
Total Sodium (Na)	ug/L	100				72000	43000	5500
Total Zinc (Zn)	ug/L	5	30	20		<5.0	<5.0	<5.0
<p>1. Provincial Water Quality Objectives (PWQO); shaded cells denote PWQO exceedance; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>2. Interim Provincial Water Quality Objectives (Interim PWQO); <i>shaded cells and italics denote Interim PWQO exceedance</i>; some PWQOs are dependent on other water quality parameters hence the range in guideline values, refer to PWQO notes.</p> <p>3. The PWQO for Oil and Grease indicates that oil or petrochemicals should not be present in concentrations that: can be detected as a visible film, sheen or discoloration on the surface, can be detected by odour, can cause tainting of edible organisms, can form detectable deposits on shorelines and bottom sediments. Total oil and grease result from Pond on May 9.</p> <p>4. Results that are preceded by "<" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p>						<p>5b. <i>Phosphorus (Interim):</i> - Current scientific evidence is insufficient to develop a firm Objective at this time. - Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies: (a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L; (b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value; (c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</p>		
<p>5a. <i>Aluminum (Interim):</i> - At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples. - At pH >5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs. - At pH >6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples. - If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p>						<p>5c. <i>Beryllium:</i> If Hardness <75 mg/L (CaCO₃), use 11 ug/L If Hardness >75 mg/L (CaCO₃), use 1100 ug/L</p> <p>5d. <i>Cadmium (Interim):</i> If Hardness 0-100 mg/L (CaCO₃), then use 0.1 ug/L If Hardness >100 mg/L (CaCO₃), then use 0.5 ug/L</p> <p>5e. <i>Chromium:</i> 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p> <p>5f. <i>Copper (Interim):</i> If Hardness as CaCO₃ (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO₃ (mg/L) is >20, then use 5 ug/L</p> <p>5g. <i>Lead:</i> If Alkalinity as CaCO₃ (mg/L) is < 20, use 5 ug/L If Alkalinity as CaCO₃ (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO₃ (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO₃ (mg/L) is > 80, use 25 ug/L</p> <p>5h. <i>Lead (Interim):</i> If Hardness as CaCO₃ (mg/L) is < 30, then use 1 ug/L If Hardness as CaCO₃ (mg/L) is 30 to 80, then use 3 ug/L If Hardness as CaCO₃ (mg/L) is > 80, then use 5 ug/L</p>		

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	76	4,545
1-May-23	NO PUMP		0	0	-	-	-
2-May-23	NO PUMP		0	0	-	-	-
3-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
4-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
5-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
6-May-23	NO PUMP		0	0	-	-	-
7-May-23	NO PUMP		0	0	-	-	-
8-May-23	NO PUMP		0	0	-	-	-
9-May-23	NO PUMP		0	0	-	-	-
10-May-23	NO PUMP		0	0	-	-	-
11-May-23	NO PUMP		0	0	-	-	-
12-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
13-May-23	NO PUMP		0	0	-	-	-
14-May-23	NO PUMP		0	0	-	-	-
15-May-23	NO PUMP		0	0	-	-	-
16-May-23	NO PUMP		0	0	-	-	-
17-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
18-May-23	NO PUMP		0	0	-	-	-
19-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
20-May-23	NO PUMP		0	0	-	-	-
21-May-23	NO PUMP		0	0	-	-	-
22-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
23-May-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
24-May-23	NO PUMP		0	0	-	-	-
25-May-23	NO PUMP		0	0	-	-	-
26-May-23	NO PUMP		0	0	-	-	-
27-May-23	NO PUMP		0	0	-	-	-
28-May-23	NO PUMP		0	0	-	-	-
29-May-23	NO PUMP		0	0	-	-	-
30-May-23	NO PUMP		0	0	-	-	-
31-May-23	NO PUMP		0	0	-	-	-
1-Jun-23	NO PUMP		0	0	-	-	-
2-Jun-23	NO PUMP		0	0	-	-	-
3-Jun-23	NO PUMP		0	0	-	-	-
4-Jun-23	NO PUMP		0	0	-	-	-
5-Jun-23	NO PUMP		0	0	-	-	-
6-Jun-23	NO PUMP		0	0	-	-	-
7-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
8-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
9-Jun-23	NO PUMP		0	0	-	-	-
10-Jun-23	NO PUMP		0	0	-	-	-
11-Jun-23	NO PUMP		0	0	-	-	-

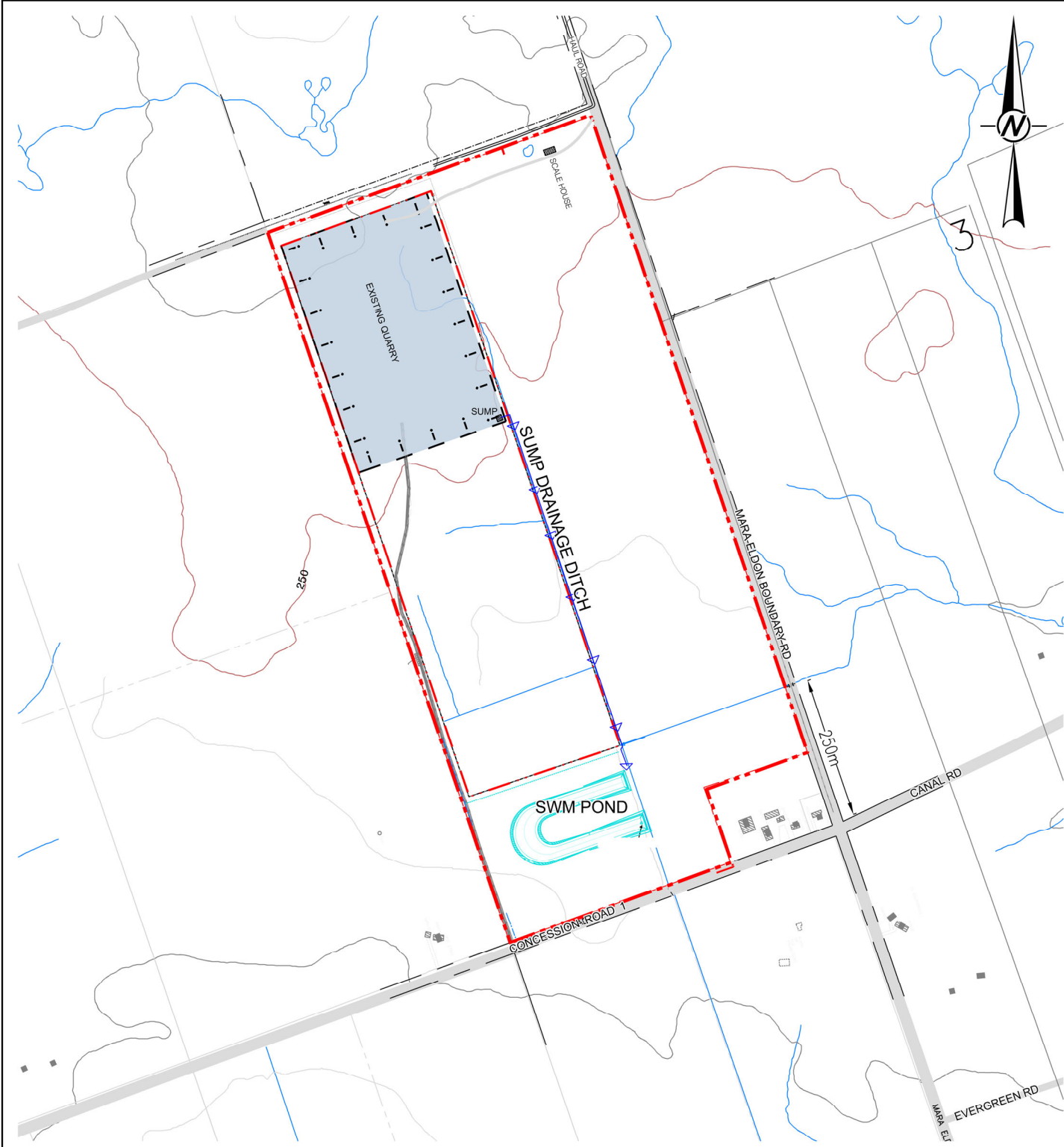
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Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					6,550,000	76	4,545
12-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
13-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
14-Jun-23	NO PUMP		0	0	-	-	-
15-Jun-23	NO PUMP		0	0	-	-	-
16-Jun-23	NO PUMP		0	0	-	-	-
17-Jun-23	NO PUMP		0	0	-	-	-
18-Jun-23	NO PUMP		0	0	-	-	-
19-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
20-Jun-23	NO PUMP		0	0	-	-	-
21-Jun-23	NO PUMP		0	0	-	-	-
22-Jun-23	NO PUMP		0	0	-	-	-
23-Jun-23	NO PUMP		0	0	-	-	-
24-Jun-23	NO PUMP		0	0	-	-	-
25-Jun-23	NO PUMP		0	0	-	-	-
26-Jun-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
27-Jun-23	NO PUMP		0	0	-	-	-
28-Jun-23	NO PUMP		0	0	-	-	-
29-Jun-23	NO PUMP		0	0	-	-	-
30-Jun-23	NO PUMP		0	0	-	-	-
1-Jul-23	NO PUMP		0	0	-	-	-
2-Jul-23	NO PUMP		0	0	-	-	-
3-Jul-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
4-Jul-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
5-Jul-23	NO PUMP		0	0	-	-	-
6-Jul-23	NO PUMP		0	0	-	-	-
7-Jul-23	NO PUMP		0	0	-	-	-
8-Jul-23	NO PUMP		0	0	-	-	-
9-Jul-23	NO PUMP		0	0	-	-	-
10-Jul-23	NO PUMP		0	0	-	-	-
11-Jul-23	NO PUMP		0	0	-	-	-
12-Jul-23	NO PUMP		0	0	-	-	-
13-Jul-23	NO PUMP		0	0	-	-	-
14-Jul-23	NO PUMP		0	0	-	-	-
15-Jul-23	NO PUMP		0	0	-	-	-
16-Jul-23	NO PUMP		0	0	-	-	-
17-Jul-23	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
18-Jul-23	NO PUMP		0	0	-	-	-
19-Jul-23	NO PUMP		0	0	-	-	-
20-Jul-23	NO PUMP		0	0	-	-	-
21-Jul-23	NO PUMP		0	0	-	-	-
22-Jul-23	NO PUMP		0	0	-	-	-
23-Jul-23	NO PUMP		0	0	-	-	-

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	76	4,545
24-Jul-23	NO PUMP		0	0	-	-	-
25-Jul-23	NO PUMP		0	0	-	-	-
26-Jul-23	NO PUMP		0	0	-	-	-
27-Jul-23	NO PUMP		0	0	-	-	-
28-Jul-23	7:00 AM	2:00 PM	25200	420	595,140	24	1,417
29-Jul-23	NO PUMP		0	0	-	-	-
30-Jul-23	NO PUMP		0	0	-	-	-
31-Jul-23	NO PUMP		0	0	-	-	-

Figures



LEGEND

- - - Approximate Property Boundary
- - - Approximate Licenced Boundary
- 5 m Contour Line
- i i i Approximate Extent of Quarry

REFERENCES AND NOTES

1. Projection UTM NAD83 Zone 17
2. Mapping based on ESRI Geography Network OBM Features and Bing Orthophotos
3. ECA Location SW2 is Historically (Former) SW1b



CLIENT
GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

PROJECT
STAN MCCARTHY QUARRY

TITLE
LOCATION MAP

CONSULTANT
WSP YYY-YY-MM-DD 2023-05-30

PREPARED JPR

DESIGN

REVIEW CI

APPROVED

PROJECT No. CONTROL
22579526

Rev.

FIGURE
1

APPENDIX A

ECA No. 7737-BH6QEA

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 7737-BH6QEA
Issue Date: October 22, 2019

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

Site Location: McCarthy Quarry
Lot 1, Concession 1,
Original Township of Mara
Township of Ramara
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:

sewage works for the collection, transmission, treatment and disposal of stormwater and groundwater collecting within the confines of the 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; and
- 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:

"Application" means the application for an environmental compliance approval submitted to the Ministry for approval by or on behalf of the Owner and dated August 8, 2019.

"Approval" means this environmental compliance approval, 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 appropriate local District Office of the Ministry, where the Works are geographically located;

"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 includes its successors and assignees;

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

"Works" means the sewage works described in the 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) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- (2) Except as otherwise provided by these terms and conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with this Approval.
- (3) Where there is a conflict between a provision of this environmental compliance approval and any document submitted by the Owner, the conditions in this environmental compliance approval shall take precedence. Where there is a conflict between one or more of the documents submitted by the Owner, the Application shall take precedence

unless it is clear that the purpose of the document was to amend the Application

- (4) Where there is a conflict between the documents listed in the Schedule A, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- (5) The terms and conditions of this Approval are severable. If any term and condition of this environmental compliance approval, or the application of any requirement of this environmental compliance approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.
- (6) The issuance of, and compliance with the conditions of, this Approval does not:
 - a) relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority necessary to construct or operate the sewage Works; or
 - b) limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. CHANGE OF OWNER

- (1) The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within **thirty (30) days** of the change occurring:
 - (a) change of address of Owner or operating authority;
 - (b) change of Owner or operating authority or both, including address of new Owner or operating authority, or both;
 - (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 *Business Names Act, R.S.O. 1990, c. B.17* ; and
 - (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 “Initial Return” or “Notice of Change” filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* , 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 Approval, 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 refer to the number at the top of this environmental compliance approval.

3. OPERATION AND MAINTENANCE

- (1) The Owner shall prepare an operations manual of the Works that includes, but is not 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 to be 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 a potential spill, bypasses or any other abnormal situations, including notifying the District Manager of the situation; and
 - (e) procedures for receiving and responding to public complaints.
- (2) The Owner shall ensure that the Works and related equipment and appurtenances which are installed or used to achieve compliance with this Approval are properly operated and maintained.
- (3) The Owner shall inspect the sump, discharge pump and settling pond on a monthly basis and keep a log or record of the inspections at the Quarry.
- (4) The Owner shall carry out on an as-needed basis, specific maintenance requirements like removing build-up, associated with the sump, pump and settling pond.
- (5) The Owner shall, upon identification of a loss of oil and fuel, take immediate action to prevent the further occurrence of such loss and prevent the spill from entering into the sump and/or the settling pond.
- (6) In furtherance of, but without limiting the generality of, the obligation imposed by subsection (2), the Owner shall ensure that equipment and material for the containment, clean-up and disposal of oil and fuel and materials contaminated with oil or fuel are kept on hand and in good repair for immediate use in the event of:
 - (a) loss of oil or fuel during refuelling or equipment maintenance;

- (b) a spill within the meaning of Part X of the Environmental Protection Act; and/or
- (c) the identification of an abnormal amount of oil or fuel in the sump and/or settling pond.

4. EFFLUENT LIMITS

- (1) The Owner shall construct, operate and maintain 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 (milligrams per litre unless otherwise indicated)	Monthly Average Concentration (milligrams per litre unless otherwise indicated)
Column 1	Column 2	Column 3
Oil and Grease	30	15
Phenolics (4AAP)	0.04	0.02
Total Suspended Solids	30	15
pH of the effluent maintained between 6.0 to 9.5, inclusive, at all times		

- (2) For the purposes of determining compliance with and enforcing subsection (1):
 - (a) non-compliance with respect to a Daily Concentration is deemed to have occurred when any single grab sample analyzed for a parameter named in Column 1 of subsection (1) is greater than the corresponding daily concentration set out in Column 2 of subsection (1);
 - (b) non-compliance with respect to an Monthly Average Concentration is deemed to have occurred when the arithmetic mean concentration of all samples taken in a month, analyzed for a parameter named in Column 1 of subsection (1) is greater than the corresponding monthly average concentration set out in Column 3 of subsection (1); and
 - (c) non-compliance with respect to pH is deemed to have occurred when any single measurement is outside of the indicated range.

5. EFFLUENT - VISUAL OBSERVATIONS

- (1) 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.
- (2) Notwithstanding any other condition in this Approval, the Owner shall ensure that the

effluent from the Works shall not cause flooding or erosion to the downstream receiver and in particular Road flooding.

6. MONITORING AND RECORDING

The Owner shall, upon the Issuance of this Approval, carry out the following monitoring program:

- (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	
Sample Point	Outfall of settling pond approximately 150 metres north of Concession 1 (i.e. end of pipe discharge).
Frequency	Weekly
Sample Type	Grab
Parameters	Oil and Grease, Phenolics (4AAP), and Total Suspended Solid (TSS).

Table 3 - Effluent and Surface Water Monitoring	
Sample Point	<ol style="list-style-type: none"> 1. Outfall of settling pond approximately 150 metres north of Concession 1 (i.e. end of pipe discharge). 2. Box culvert on Eldon-Ramara Townline approximately 260 metres north of the intersection of Ramara Concession 1 and Eldon-Ramara Townline (i.e. upgradient of end of pipe discharge). 3. 80 centimetre CSP located at Concession 1 Road on McCarthy property (i.e. downgradient of end of pipe discharge).
Frequency	Semi-Annually during discharge event.
Sample Type	Grab
Parameters	Total Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic, Oil and Grease, Phenolics (4AAP), Hardness (as CaCO ₃), Alkalinity(as CaCO ₃), 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.

- (3) 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; and
 - (b) the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions.
- (4) The Owner shall measure, record and calculate the discharge rate and volume from the Works on a daily basis during discharging period.
- (5) The Owner shall retain for a minimum of **five (5) years** from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

7. RECEIVER INSPECTION

- (1) 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.

8. REPORTING

- (1) The Owner shall report to the District Manager or designate, any exceedance of any parameter specified in condition 4 orally, forthwith, and in writing within **seven (7) days** of the exceedance.
- (2) In addition to the obligations under Part X of the EPA, the Owner shall, within **ten (10) working days** of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, 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.
- (3) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.
- (4) The Owner shall submit quarterly reports of the information obtained under condition 6 within **30 days** of the end of each quarter.
- (5) The Owner shall prepare, and submit to the District Manager, a **performance report**, on

an annual basis, on or before March 31st. 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 4, 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;
- (e) any other information the District Manager requires from time to time.

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

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. Condition 1.(6) is included to emphasize that the issuance of this Approval does not diminish any other statutory and regulatory obligations to which the Owner is subject in the construction, maintenance and operation of the Works. The Condition specifically highlights the need to obtain any necessary conservation authority approvals. The Condition also emphasizes the fact that this Approval doesn't limit the authority of the Ministry to require further information.
2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the works in compliance with it.
3. Condition 3 is included to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works. The condition is also included to ensure that the Works will be operated and maintained in a manner enabling compliance with the terms and conditions of this Approval, such that the environment is protected and deterioration, loss, injury or damage to

any person or property is minimised and/or prevented.

4. Conditions 4 and 5 are imposed to ensure that the effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.
5. Condition 6 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the Approval and that the Works does not cause any impairment to the receiver.
6. Condition 7 is included in order to determine if the ongoing discharge of quarry water is having a negative impact on the downstream ditches so that abatement measures can be taken to prevent such occurrences.
7. Condition 8 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.

SCHEDULE 'A'

1. Environmental Compliance Approval Application for Industrial Sewage Works submitted by John Easton, P.Geo., Golder Associates Ltd., and signed by Mr. Anthony Rossi, Director Land Development & Government Relations, QBJR Aggregates Inc., dated August 8, 2019; and all supporting documentation and information.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
4731-987KM8 issued on October 15, 2013.**

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. 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;
- b. 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:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. 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

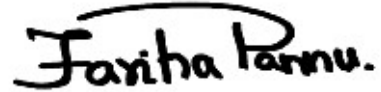
AND

The Director appointed for the purposes of Part
II.1 of the Environmental Protection Act
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

*** 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) 326-5370 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 22nd day of October, 2019



Fariha Pannu, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

AA/

c: District Manager, MECP Barrie District Office
John Easton, P.Geo., Golder Associates Ltd.

APPENDIX B

Water Quality Data



Your Project #: 21508089
 Site#: McCarthy
 Your C.O.C. #: 901523-04-01

Attention: Colin Imrie

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

Report Date: 2023/05/09
 Report #: R7621985
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3C3085

Received: 2023/05/02, 08:59

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Animal and Vegetable Oil and Grease	1	N/A	2023/05/08	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/08	2023/05/08	CAM SOP-00326	EPA1664B m,SM5520B m
pH	1	2023/05/03	2023/05/03	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/08	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/08	2023/05/08	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2023/05/05	2023/05/05	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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



Your Project #: 21508089
Site#: McCarthy
Your C.O.C. #: 901523-04-01

Attention: Colin Imrie

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

Report Date: 2023/05/09
Report #: R7621985
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3C3085

Received: 2023/05/02, 08:59

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

=====

This report has been generated and distributed using a secure automated process.

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



BUREAU
VERITAS

Bureau Veritas Job #: C3C3085
Report Date: 2023/05/09

Golder Associates Ltd
Client Project #: 21508089
Sampler Initials: JM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		VRU035		
Sampling Date		2023/05/01 11:00		
COC Number		901523-04-01		
	UNITS	POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	<0.50	0.50	8640706
Inorganics				
pH	pH	7.64	N/A	8644252
Phenols-4AAP	mg/L	<0.0010	0.0010	8652578
Total Suspended Solids	mg/L	6	1	8643381
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	<0.50	0.50	8651990
Total Oil & Grease Mineral/Synthetic	mg/L	<0.50	0.50	8652004
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



GENERAL COMMENTS

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

Package 1	16.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C3C3085
Report Date: 2023/05/09

Golder Associates Ltd
Client Project #: 21508089
Sampler Initials: JM

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8643381	RTB	QC Standard	Total Suspended Solids	2023/05/05		95	%	85 - 115
8643381	RTB	Method Blank	Total Suspended Solids	2023/05/05	<1		mg/L	
8643381	RTB	RPD	Total Suspended Solids	2023/05/05	0		%	20
8644252	TAK	Spiked Blank	pH	2023/05/03		102	%	98 - 103
8644252	TAK	RPD	pH	2023/05/03	0.011		%	N/A
8651990	RUP	Spiked Blank	Total Oil & Grease	2023/05/08		99	%	85 - 115
8651990	RUP	RPD	Total Oil & Grease	2023/05/08	0.76		%	25
8651990	RUP	Method Blank	Total Oil & Grease	2023/05/08	<0.50		mg/L	
8652004	RUP	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2023/05/08		98	%	85 - 115
8652004	RUP	RPD	Total Oil & Grease Mineral/Synthetic	2023/05/08	1.5		%	25
8652004	RUP	Method Blank	Total Oil & Grease Mineral/Synthetic	2023/05/08	<0.50		mg/L	
8652578	MKX	Matrix Spike	Phenols-4AAP	2023/05/08		100	%	80 - 120
8652578	MKX	Spiked Blank	Phenols-4AAP	2023/05/08		97	%	80 - 120
8652578	MKX	Method Blank	Phenols-4AAP	2023/05/08	<0.0010		mg/L	
8652578	MKX	RPD	Phenols-4AAP	2023/05/08	5.4		%	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.



BUREAU
VERITAS

Bureau Veritas Job #: C3C3085
Report Date: 2023/05/09

Golder Associates Ltd
Client Project #: 21508089
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



Your Project #: 21508089
 Site#: MCCARTHY
 Your C.O.C. #: 901523-02-01

Attention: Colin Imrie

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

Report Date: 2023/05/24
 Report #: R7641271
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3D8777

Received: 2023/05/16, 09:25

Sample Matrix: Water
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Animal and Vegetable Oil and Grease	1	N/A	2023/05/24	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/05/23	2023/05/24	CAM SOP-00326	EPA1664B m,SM5520B m
pH	1	2023/05/16	2023/05/16	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/05/18	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/05/23	2023/05/24	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2023/05/16	2023/05/17	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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



Your Project #: 21508089
Site#: MCCARTHY
Your C.O.C. #: 901523-02-01

Attention: Colin Imrie

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

Report Date: 2023/05/24
Report #: R7641271
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3D8777

Received: 2023/05/16, 09:25

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

=====

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BUREAU
VERITAS

Bureau Veritas Job #: C3D8777
Report Date: 2023/05/24

Golder Associates Ltd
Client Project #: 21508089
Sampler Initials: JM

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		VVA423		
Sampling Date		2023/05/15 13:09		
COC Number		901523-02-01		
	UNITS	MCCARTHY POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	<0.50	0.50	8667544
Inorganics				
pH	pH	7.44	N/A	8668086
Phenols-4AAP	mg/L	<0.0010	0.0010	8673723
Total Suspended Solids	mg/L	2	1	8667555
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	<0.50	0.50	8679812
Total Oil & Grease Mineral/Synthetic	mg/L	<0.50	0.50	8679825
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



BUREAU
VERITAS

Bureau Veritas Job #: C3D8777
Report Date: 2023/05/24

Golder Associates Ltd
Client Project #: 21508089
Sampler Initials: JM

GENERAL COMMENTS

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

Package 1	16.0°C
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Results relate only to the items tested.



QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8667555	SHD	QC Standard	Total Suspended Solids	2023/05/17		95	%	85 - 115
8667555	SHD	Method Blank	Total Suspended Solids	2023/05/17	<1		mg/L	
8667555	SHD	RPD	Total Suspended Solids	2023/05/17	17		%	20
8668086	TAK	Spiked Blank	pH	2023/05/16		102	%	98 - 103
8668086	TAK	RPD	pH	2023/05/16	0.097		%	N/A
8673723	MKX	Matrix Spike	Phenols-4AAP	2023/05/18		101	%	80 - 120
8673723	MKX	Spiked Blank	Phenols-4AAP	2023/05/18		101	%	80 - 120
8673723	MKX	Method Blank	Phenols-4AAP	2023/05/18	<0.0010		mg/L	
8673723	MKX	RPD	Phenols-4AAP	2023/05/18	15		%	20
8679812	K1P	Spiked Blank	Total Oil & Grease	2023/05/24		99	%	85 - 115
8679812	K1P	RPD	Total Oil & Grease	2023/05/24	0.25		%	25
8679812	K1P	Method Blank	Total Oil & Grease	2023/05/24	<0.50		mg/L	
8679825	K1P	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2023/05/24		98	%	85 - 115
8679825	K1P	RPD	Total Oil & Grease Mineral/Synthetic	2023/05/24	1.0		%	25
8679825	K1P	Method Blank	Total Oil & Grease Mineral/Synthetic	2023/05/24	<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.



BUREAU
VERITAS

Bureau Veritas Job #: C3D8777

Report Date: 2023/05/24

Golder Associates Ltd

Client Project #: 21508089

Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

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Your Project #: 22579526
 Site Location: McCarthy
 Your C.O.C. #: 934505-01-01

Attention: Colin Imrie

WSP Canada Inc.
 121 Commerce Park Drive
 Unit L
 Barrie, ON
 CANADA L4N 8X1

Report Date: 2023/05/31
 Report #: R7651789
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7254

Received: 2023/05/24, 11:45

Sample Matrix: Water
 # Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2023/05/26	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2023/05/29	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2023/05/26	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	4	N/A	2023/05/26	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2023/05/24	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2023/05/25	CAM SOP-00446	SM 23 5310 B m
Fluoride	4	2023/05/24	2023/05/26	CAM SOP-00449	SM 23 4500-F C m
Hardness (calculated as CaCO3)	4	N/A	2023/05/31	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals Analysis by ICP	4	2023/05/25	2023/05/31	CAM SOP-00408	EPA 6010D m
Total Metals Analysis by ICPMS	4	2023/05/26	2023/05/29	CAM SOP-00447	EPA 6020B m
Anion and Cation Sum	4	N/A	2023/05/31		
Total Ammonia-N	4	N/A	2023/05/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	4	N/A	2023/05/25	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Animal and Vegetable Oil and Grease	4	N/A	2023/05/30	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	4	2023/05/30	2023/05/30	CAM SOP-00326	EPA1664B m,SM5520B m
pH	4	2023/05/24	2023/05/26	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	4	N/A	2023/05/26	CAM SOP-00444	OMOE E3179 m
Orthophosphate	4	N/A	2023/05/26	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2023/05/31		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2023/05/31		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2023/05/26	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids	4	2023/05/26	2023/05/29	CAM SOP-00428	SM 23 2540C m
Total Kjeldahl Nitrogen in Water	4	2023/05/26	2023/05/29	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric)	4	2023/05/26	2023/05/29	CAM SOP-00407	SM 23 4500-P I
Mineral/Synthetic O & G (TPH Heavy Oil) (3)	4	2023/05/30	2023/05/30	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	4	2023/05/26	2023/05/29	CAM SOP-00428	SM 23 2540D m
Turbidity	4	N/A	2023/05/25	CAM SOP-00417	SM 23 2130 B m

Remarks:



Your Project #: 22579526
Site Location: McCarthy
Your C.O.C. #: 934505-01-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/05/31
Report #: R7651789
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7254

Received: 2023/05/24, 11:45

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

- (1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
- (3) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

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Total Cover Pages : 2
Page 2 of 24



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

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

Bureau Veritas ID			VWW778	VWW779	VWW780	VWW781		
Sampling Date			2023/05/23 11:30	2023/05/23 11:11	2023/05/23 13:11	2023/05/23		
COC Number			934505-01-01	934505-01-01	934505-01-01	934505-01-01		
	UNITS	Criteria	POND	SW1	SW2	DUP 3	RDL	QC Batch
Calculated Parameters								
Total Animal/Vegetable Oil and Grease	mg/L	-	<0.50	<0.50	<0.50	<0.50	0.50	8681631
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	-	<0.50	<0.50	<0.50	<0.50	0.50	8692656
Total Oil & Grease Mineral/Synthetic	mg/L	0.5	<0.50	<0.50	<0.50	<0.50	0.50	8692668
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW778			VWW778		
Sampling Date			2023/05/23 11:30			2023/05/23 11:30		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	POND	RDL	QC Batch	POND Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	9.75	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	100	1.0	8681739			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	1.1	1.0	8681739			
Cation Sum	me/L	-	9.68	N/A	8682207			
Hardness (CaCO3)	mg/L	-	320	1.0	8681022			
Langelier Index (@ 20C)	N/A	-	0.463		8682208			
Langelier Index (@ 4C)	N/A	-	0.215		8682209			
Saturation pH (@ 20C)	N/A	-	7.58		8682208			
Saturation pH (@ 4C)	N/A	-	7.83		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	0.078	0.050	8690187	0.061	0.050	8690187
Conductivity	umho/cm	-	980	1.0	8683061	980	1.0	8683061
Total Dissolved Solids	mg/L	-	570	10	8686039			
Fluoride (F-)	mg/L	-	0.47	0.10	8683055	0.46	0.10	8683055
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.45	0.10	8687259			
Dissolved Organic Carbon	mg/L	-	4.3	0.40	8682772			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078			
pH	pH	6.5:8.5	8.04		8683057	8.06		8683057
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	8686757			
Total Phosphorus	mg/L	0.01	<0.004	0.004	8687341			
Total Suspended Solids	mg/L	-	<10	10	8686035			
Dissolved Sulphate (SO4)	mg/L	-	240	1.0	8683076			
Turbidity	NTU	-	3.0	0.1	8683034			
Alkalinity (Total as CaCO3)	mg/L	-	100	1.0	8683056	100	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-	94	1.0	8683068			
Nitrite (N)	mg/L	-	0.010	0.010	8683051	<0.010	0.010	8683051
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								
N/A = Not Applicable								



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW778			VWW778		
Sampling Date			2023/05/23 11:30			2023/05/23 11:30		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	POND	RDL	QC Batch	POND Lab-Dup	RDL	QC Batch
Nitrate (N)	mg/L	-	0.18	0.10	8683051	0.19	0.10	8683051
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								



RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW779			VWW779		
Sampling Date			2023/05/23 11:11			2023/05/23 11:11		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	SW1	RDL	QC Batch	SW1 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	9.88	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	250	1.0	8681739			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	2.6	1.0	8681739			
Cation Sum	me/L	-	9.82	N/A	8682207			
Hardness (CaCO3)	mg/L	-	390	1.0	8681022			
Langelier Index (@ 20C)	N/A	-	1.06		8682208			
Langelier Index (@ 4C)	N/A	-	0.808		8682209			
Saturation pH (@ 20C)	N/A	-	6.99		8682208			
Saturation pH (@ 4C)	N/A	-	7.24		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	0.055	0.050	8690187			
Conductivity	umho/cm	-	930	1.0	8683061			
Total Dissolved Solids	mg/L	-	540	10	8686039			
Fluoride (F-)	mg/L	-	0.24	0.10	8683055			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.57	0.10	8687259	0.57	0.10	8687259
Dissolved Organic Carbon	mg/L	-	9.5	0.40	8685578			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078			
pH	pH	6.5:8.5	8.05		8683057			
Phenols-4AAP	mg/L	0.001	0.0010	0.0010	8686757			
Total Phosphorus	mg/L	0.01	0.015	0.004	8687341			
Total Suspended Solids	mg/L	-	16	10	8686035			
Dissolved Sulphate (SO4)	mg/L	-	150	1.0	8683076			
Turbidity	NTU	-	6.1	0.1	8683034			
Alkalinity (Total as CaCO3)	mg/L	-	250	1.0	8683056			
Dissolved Chloride (Cl-)	mg/L	-	65	1.0	8683068			
Nitrite (N)	mg/L	-	<0.010	0.010	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								
N/A = Not Applicable								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW779			VWW779		
Sampling Date			2023/05/23 11:11			2023/05/23 11:11		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	SW1	RDL	QC Batch	SW1 Lab-Dup	RDL	QC Batch
Nitrate (N)	mg/L	-	<0.10	0.10	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW780			VWW780		
Sampling Date			2023/05/23 13:11			2023/05/23 13:11		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	SW2	RDL	QC Batch	SW2 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	7.82	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	320	1.0	8681739			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	3.5	1.0	8681739			
Cation Sum	me/L	-	7.98	N/A	8682207			
Hardness (CaCO3)	mg/L	-	370	1.0	8681022			
Langelier Index (@ 20C)	N/A	-	1.24		8682208			
Langelier Index (@ 4C)	N/A	-	0.987		8682209			
Saturation pH (@ 20C)	N/A	-	6.83		8682208			
Saturation pH (@ 4C)	N/A	-	7.08		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	<0.050	0.050	8690187			
Conductivity	umho/cm	-	690	1.0	8683061			
Total Dissolved Solids	mg/L	-	335	10	8686039			
Fluoride (F-)	mg/L	-	<0.10	0.10	8683055			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.26	0.10	8687259			
Dissolved Organic Carbon	mg/L	-	6.5	0.40	8684183			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078			
pH	pH	6.5:8.5	8.07		8683057			
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	8686757			
Total Phosphorus	mg/L	0.01	0.008	0.004	8687341	0.005	0.004	8687341
Total Suspended Solids	mg/L	-	<10	10	8686035			
Dissolved Sulphate (SO4)	mg/L	-	42	1.0	8683076			
Turbidity	NTU	-	0.8	0.1	8683034	0.8	0.1	8683034
Alkalinity (Total as CaCO3)	mg/L	-	320	1.0	8683056			
Dissolved Chloride (Cl-)	mg/L	-	18	1.0	8683068			
Nitrite (N)	mg/L	-	<0.010	0.010	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								
N/A = Not Applicable								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW780			VWW780		
Sampling Date			2023/05/23 13:11			2023/05/23 13:11		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	SW2	RDL	QC Batch	SW2 Lab-Dup	RDL	QC Batch
Nitrate (N)	mg/L	-	<0.10	0.10	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW781			VWW781		
Sampling Date			2023/05/23			2023/05/23		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	DUP 3	RDL	QC Batch	DUP 3 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	9.72	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	250	1.0	8681739			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	2.4	1.0	8681739			
Cation Sum	me/L	-	9.76	N/A	8682207			
Hardness (CaCO3)	mg/L	-	390	1.0	8681022			
Langelier Index (@ 20C)	N/A	-	1.02		8682208			
Langelier Index (@ 4C)	N/A	-	0.774		8682209			
Saturation pH (@ 20C)	N/A	-	6.99		8682208			
Saturation pH (@ 4C)	N/A	-	7.23		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	<0.050	0.050	8690187			
Conductivity	umho/cm	-	920	1.0	8683061			
Total Dissolved Solids	mg/L	-	550	10	8686039			
Fluoride (F-)	mg/L	-	0.23	0.10	8683055			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.49	0.10	8687259			
Dissolved Organic Carbon	mg/L	-	9.4	0.40	8682772	9.5	0.40	8682772
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078			
pH	pH	6.5:8.5	8.01		8683057			
Phenols-4AAP	mg/L	0.001	0.0010	0.0010	8686757			
Total Phosphorus	mg/L	0.01	0.016	0.004	8687341			
Total Suspended Solids	mg/L	-	16	10	8686035			
Dissolved Sulphate (SO4)	mg/L	-	140	1.0	8683076			
Turbidity	NTU	-	6.4	0.1	8683034			
Alkalinity (Total as CaCO3)	mg/L	-	250	1.0	8683056			
Dissolved Chloride (Cl-)	mg/L	-	62	1.0	8683068			
Nitrite (N)	mg/L	-	<0.010	0.010	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								
N/A = Not Applicable								



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW781			VWW781		
Sampling Date			2023/05/23			2023/05/23		
COC Number			934505-01-01			934505-01-01		
	UNITS	Criteria	DUP 3	RDL	QC Batch	DUP 3 Lab-Dup	RDL	QC Batch
Nitrate (N)	mg/L	-	<0.10	0.10	8683051			
No Fill	No Exceedance							
Grey	Exceeds 1 criteria policy/level							
Black	Exceeds both criteria/levels							
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch								
Lab-Dup = Laboratory Initiated Duplicate								
Criteria: Ontario Provincial Water Quality Objectives								
Ref. to MOEE Water Management document dated Feb.1999								



**BUREAU
VERITAS**

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VWW778	VWW779	VWW780			VWW780		
Sampling Date			2023/05/23 11:30	2023/05/23 11:11	2023/05/23 13:11			2023/05/23 13:11		
COC Number			934505-01-01	934505-01-01	934505-01-01			934505-01-01		
	UNITS	Criteria	POND	SW1	SW2	RDL	QC Batch	SW2 Lab-Dup	RDL	QC Batch

Metals										
Dissolved Calcium (Ca)	mg/L	-	77	120	120	0.05	8685315	120	0.05	8685315
Dissolved Magnesium (Mg)	mg/L	-	31	21	16	0.05	8685315	16	0.05	8685315
Dissolved Potassium (K)	mg/L	-	11	6	1	1	8685315	1	1	8685315
Dissolved Sodium (Na)	mg/L	-	68	43	12	0.5	8685315	12	0.5	8685315
Total Arsenic (As)	ug/L	100	<1.0	<1.0	<1.0	1.0	8686761			
Total Cadmium (Cd)	ug/L	0.2	<0.090	<0.090	<0.090	0.090	8686761			
Total Calcium (Ca)	ug/L	-	83000	140000	120000	200	8686761			
Total Chromium (Cr)	ug/L	-	<5.0	<5.0	<5.0	5.0	8686761			
Total Copper (Cu)	ug/L	5	0.93	0.90	<0.90	0.90	8686761			
Total Iron (Fe)	ug/L	300	130	390	100	100	8686761			
Total Lead (Pb)	ug/L	5	<0.50	<0.50	<0.50	0.50	8686761			
Total Magnesium (Mg)	ug/L	-	33000	23000	11000	50	8686761			
Total Manganese (Mn)	ug/L	-	68	69	17	2.0	8686761			
Total Nickel (Ni)	ug/L	25	1.6	1.9	<1.0	1.0	8686761			
Total Potassium (K)	ug/L	-	12000	5700	1100	200	8686761			
Total Sodium (Na)	ug/L	-	72000	43000	5500	100	8686761			
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	<5.0	5.0	8686761			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
 QC Batch = Quality Control Batch
 Lab-Dup = Laboratory Initiated Duplicate
 Criteria: Ontario Provincial Water Quality Objectives
 Ref. to MOEE Water Management document dated Feb.1999



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID			VWW781		
Sampling Date			2023/05/23		
COC Number			934505-01-01		
	UNITS	Criteria	DUP 3	RDL	QC Batch
Metals					
Dissolved Calcium (Ca)	mg/L	-	120	0.05	8685315
Dissolved Magnesium (Mg)	mg/L	-	20	0.05	8685315
Dissolved Potassium (K)	mg/L	-	6	1	8685315
Dissolved Sodium (Na)	mg/L	-	41	0.5	8685315
Total Arsenic (As)	ug/L	100	<1.0	1.0	8686761
Total Cadmium (Cd)	ug/L	0.2	<0.090	0.090	8686761
Total Calcium (Ca)	ug/L	-	140000	200	8686761
Total Chromium (Cr)	ug/L	-	<5.0	5.0	8686761
Total Copper (Cu)	ug/L	5	1.2	0.90	8686761
Total Iron (Fe)	ug/L	300	380	100	8686761
Total Lead (Pb)	ug/L	5	<0.50	0.50	8686761
Total Magnesium (Mg)	ug/L	-	22000	50	8686761
Total Manganese (Mn)	ug/L	-	70	2.0	8686761
Total Nickel (Ni)	ug/L	25	2.0	1.0	8686761
Total Potassium (K)	ug/L	-	5400	200	8686761
Total Sodium (Na)	ug/L	-	41000	100	8686761
Total Zinc (Zn)	ug/L	30	<5.0	5.0	8686761
No Fill	No Exceedance				
Grey	Exceeds 1 criteria policy/level				
Black	Exceeds both criteria/levels				
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
Criteria: Ontario Provincial Water Quality Objectives					
Ref. to MOEE Water Management document dated Feb.1999					



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWW778
Sample ID: POND
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8682772	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/31	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	8685315	2023/05/25	2023/05/31	Suban Kanapathipplai
Total Metals Analysis by ICPMS	ICP/MS	8686761	2023/05/26	2023/05/29	Arefa Dabhad
Anion and Cation Sum	CALC	8682207	N/A	2023/05/31	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683051	N/A	2023/05/25	Viorica Rotaru
Animal and Vegetable Oil and Grease	BAL	8681631	N/A	2023/05/30	Automated Statchk
Total Oil and Grease	BAL	8692656	2023/05/30	2023/05/30	Mitul Patel
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Phenols (4AAP)	TECH/PHEN	8686757	N/A	2023/05/26	Mandeep Kaur
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/31	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/31	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids	BAL	8686039	2023/05/26	2023/05/29	Shaneil Hall
Total Kjeldahl Nitrogen in Water	SKAL	8687259	2023/05/26	2023/05/29	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	8687341	2023/05/26	2023/05/29	Sachi Patel
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8692668	2023/05/30	2023/05/30	Mitul Patel
Total Suspended Solids	BAL	8686035	2023/05/26	2023/05/29	Tina Teng
Turbidity	AT	8683034	N/A	2023/05/25	Gurpartee Kaur

Bureau Veritas ID: VWW778 Dup
Sample ID: POND
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683051	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWW779
Sample ID: SW1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8685578	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/31	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	8685315	2023/05/25	2023/05/31	Suban Kanapathipplai
Total Metals Analysis by ICPMS	ICP/MS	8686761	2023/05/26	2023/05/29	Arefa Dabhad
Anion and Cation Sum	CALC	8682207	N/A	2023/05/31	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683051	N/A	2023/05/25	Viorica Rotaru
Animal and Vegetable Oil and Grease	BAL	8681631	N/A	2023/05/30	Automated Statchk
Total Oil and Grease	BAL	8692656	2023/05/30	2023/05/30	Mitul Patel
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Phenols (4AAP)	TECH/PHEN	8686757	N/A	2023/05/26	Mandeep Kaur
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/31	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/31	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids	BAL	8686039	2023/05/26	2023/05/29	Shaneil Hall
Total Kjeldahl Nitrogen in Water	SKAL	8687259	2023/05/26	2023/05/29	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	8687341	2023/05/26	2023/05/29	Sachi Patel
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8692668	2023/05/30	2023/05/30	Mitul Patel
Total Suspended Solids	BAL	8686035	2023/05/26	2023/05/29	Tina Teng
Turbidity	AT	8683034	N/A	2023/05/25	Gurpartee KAU

Bureau Veritas ID: VWW779 Dup
Sample ID: SW1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Kjeldahl Nitrogen in Water	SKAL	8687259	2023/05/26	2023/05/29	Rajni Tyagi

Bureau Veritas ID: VWW780
Sample ID: SW2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWW780
Sample ID: SW2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/31	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	8685315	2023/05/25	2023/05/31	Suban Kanapathipplai
Total Metals Analysis by ICPMS	ICP/MS	8686761	2023/05/26	2023/05/29	Arefa Dabhad
Anion and Cation Sum	CALC	8682207	N/A	2023/05/31	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683051	N/A	2023/05/25	Viorica Rotaru
Animal and Vegetable Oil and Grease	BAL	8681631	N/A	2023/05/30	Automated Statchk
Total Oil and Grease	BAL	8692656	2023/05/30	2023/05/30	Mitul Patel
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Phenols (4AAP)	TECH/PHEN	8686757	N/A	2023/05/26	Mandeep Kaur
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/31	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/31	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids	BAL	8686039	2023/05/26	2023/05/29	Shaneil Hall
Total Kjeldahl Nitrogen in Water	SKAL	8687259	2023/05/26	2023/05/29	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	8687341	2023/05/26	2023/05/29	Sachi Patel
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8692668	2023/05/30	2023/05/30	Mitul Patel
Total Suspended Solids	BAL	8686035	2023/05/26	2023/05/29	Tina Teng
Turbidity	AT	8683034	N/A	2023/05/25	Gurpartee KAUAR

Bureau Veritas ID: VWW780 Dup
Sample ID: SW2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Lab Filtered Metals Analysis by ICP	ICP	8685315	2023/05/25	2023/05/31	Suban Kanapathipplai
Total Phosphorus (Colourimetric)	SKAL/P	8687341	2023/05/26	2023/05/29	Sachi Patel
Turbidity	AT	8683034	N/A	2023/05/25	Gurpartee KAUAR

Bureau Veritas ID: VWW781
Sample ID: DUP 3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8682772	N/A	2023/05/24	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/31	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	8685315	2023/05/25	2023/05/31	Suban Kanapathipplai



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWW781
Sample ID: DUP 3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Metals Analysis by ICPMS	ICP/MS	8686761	2023/05/26	2023/05/29	Arefa Dabhad
Anion and Cation Sum	CALC	8682207	N/A	2023/05/31	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683051	N/A	2023/05/25	Viorica Rotaru
Animal and Vegetable Oil and Grease	BAL	8681631	N/A	2023/05/30	Automated Statchk
Total Oil and Grease	BAL	8692656	2023/05/30	2023/05/30	Mitul Patel
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Phenols (4AAP)	TECH/PHEN	8686757	N/A	2023/05/26	Mandeep Kaur
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/31	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/31	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids	BAL	8686039	2023/05/26	2023/05/29	Shaneil Hall
Total Kjeldahl Nitrogen in Water	SKAL	8687259	2023/05/26	2023/05/29	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	8687341	2023/05/26	2023/05/29	Sachi Patel
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	8692668	2023/05/30	2023/05/30	Mitul Patel
Total Suspended Solids	BAL	8686035	2023/05/26	2023/05/29	Tina Teng
Turbidity	AT	8683034	N/A	2023/05/25	Gurpartee Kaur

Bureau Veritas ID: VWW781 Dup
Sample ID: DUP 3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8682772	N/A	2023/05/24	Gyulshen Idriz



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

GENERAL COMMENTS

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

Package 1	9.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8682772	GID	Matrix Spike [VWW781-04]	Dissolved Organic Carbon	2023/05/24		98	%	80 - 120
8682772	GID	Spiked Blank	Dissolved Organic Carbon	2023/05/24		98	%	80 - 120
8682772	GID	Method Blank	Dissolved Organic Carbon	2023/05/24	<0.40		mg/L	
8682772	GID	RPD [VWW781-04]	Dissolved Organic Carbon	2023/05/24	0.11		%	20
8683034	GTK	Spiked Blank	Turbidity	2023/05/25		100	%	80 - 120
8683034	GTK	Method Blank	Turbidity	2023/05/25	<0.1		NTU	
8683034	GTK	RPD [VWW780-02]	Turbidity	2023/05/25	1.8		%	20
8683051	VRO	Matrix Spike [VWW778-02]	Nitrite (N)	2023/05/25		103	%	80 - 120
			Nitrate (N)	2023/05/25		98	%	80 - 120
8683051	VRO	Spiked Blank	Nitrite (N)	2023/05/25		106	%	80 - 120
			Nitrate (N)	2023/05/25		99	%	80 - 120
8683051	VRO	Method Blank	Nitrite (N)	2023/05/25	<0.010		mg/L	
			Nitrate (N)	2023/05/25	<0.10		mg/L	
8683051	VRO	RPD [VWW778-02]	Nitrite (N)	2023/05/25	3.0		%	20
			Nitrate (N)	2023/05/25	7.4		%	20
8683055	KIT	Matrix Spike [VWW778-02]	Fluoride (F-)	2023/05/26		97	%	80 - 120
8683055	KIT	Spiked Blank	Fluoride (F-)	2023/05/26		98	%	80 - 120
8683055	KIT	Method Blank	Fluoride (F-)	2023/05/26	<0.10		mg/L	
8683055	KIT	RPD [VWW778-02]	Fluoride (F-)	2023/05/26	1.9		%	20
8683056	KIT	Spiked Blank	Alkalinity (Total as CaCO3)	2023/05/26		98	%	85 - 115
8683056	KIT	Method Blank	Alkalinity (Total as CaCO3)	2023/05/26	<1.0		mg/L	
8683056	KIT	RPD [VWW778-02]	Alkalinity (Total as CaCO3)	2023/05/26	0.12		%	20
8683057	KIT	Spiked Blank	pH	2023/05/26		102	%	98 - 103
8683057	KIT	RPD [VWW778-02]	pH	2023/05/26	0.23		%	N/A
8683061	KIT	Spiked Blank	Conductivity	2023/05/26		101	%	85 - 115
8683061	KIT	Method Blank	Conductivity	2023/05/26	<1.0		umho/cm	
8683061	KIT	RPD [VWW778-02]	Conductivity	2023/05/26	0.20		%	25
8683068	MJ1	Matrix Spike	Dissolved Chloride (Cl-)	2023/05/26		NC	%	80 - 120
8683068	MJ1	Spiked Blank	Dissolved Chloride (Cl-)	2023/05/26		96	%	80 - 120
8683068	MJ1	Method Blank	Dissolved Chloride (Cl-)	2023/05/26	<1.0		mg/L	
8683068	MJ1	RPD	Dissolved Chloride (Cl-)	2023/05/26	3.0		%	20
8683076	MJ1	Matrix Spike	Dissolved Sulphate (SO4)	2023/05/26		NC	%	75 - 125
8683076	MJ1	Spiked Blank	Dissolved Sulphate (SO4)	2023/05/26		105	%	80 - 120
8683076	MJ1	Method Blank	Dissolved Sulphate (SO4)	2023/05/26	<1.0		mg/L	
8683076	MJ1	RPD	Dissolved Sulphate (SO4)	2023/05/26	1.6		%	20
8683078	MJ1	Matrix Spike	Orthophosphate (P)	2023/05/26		97	%	75 - 125
8683078	MJ1	Spiked Blank	Orthophosphate (P)	2023/05/26		99	%	80 - 120
8683078	MJ1	Method Blank	Orthophosphate (P)	2023/05/26	<0.010		mg/L	
8683078	MJ1	RPD	Orthophosphate (P)	2023/05/26	NC		%	20
8684183	GID	Matrix Spike	Dissolved Organic Carbon	2023/05/25		93	%	80 - 120
8684183	GID	Spiked Blank	Dissolved Organic Carbon	2023/05/25		96	%	80 - 120
8684183	GID	Method Blank	Dissolved Organic Carbon	2023/05/25	<0.40		mg/L	
8684183	GID	RPD	Dissolved Organic Carbon	2023/05/25	4.4		%	20
8685315	SUK	Matrix Spike [VWW780-02]	Dissolved Calcium (Ca)	2023/05/31		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2023/05/31		NC	%	80 - 120
			Dissolved Potassium (K)	2023/05/31		99	%	80 - 120
			Dissolved Sodium (Na)	2023/05/31		NC	%	80 - 120



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC	Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8685315	SUK		Spiked Blank	Dissolved Calcium (Ca)	2023/05/31		96	%	80 - 120
				Dissolved Magnesium (Mg)	2023/05/31		96	%	80 - 120
				Dissolved Potassium (K)	2023/05/31		97	%	80 - 120
				Dissolved Sodium (Na)	2023/05/31		96	%	80 - 120
8685315	SUK		Method Blank	Dissolved Calcium (Ca)	2023/05/31	<0.05		mg/L	
				Dissolved Magnesium (Mg)	2023/05/31	<0.05		mg/L	
				Dissolved Potassium (K)	2023/05/31	<1		mg/L	
				Dissolved Sodium (Na)	2023/05/31	<0.5		mg/L	
8685315	SUK		RPD [VWW780-02]	Dissolved Calcium (Ca)	2023/05/31	1.5		%	25
				Dissolved Magnesium (Mg)	2023/05/31	1.4		%	25
				Dissolved Potassium (K)	2023/05/31	3.6		%	25
				Dissolved Sodium (Na)	2023/05/31	0		%	25
8685578	GID		Matrix Spike	Dissolved Organic Carbon	2023/05/25		96	%	80 - 120
8685578	GID		Spiked Blank	Dissolved Organic Carbon	2023/05/25		98	%	80 - 120
8685578	GID		Method Blank	Dissolved Organic Carbon	2023/05/25	<0.40		mg/L	
8685578	GID		RPD	Dissolved Organic Carbon	2023/05/25	0.45		%	20
8686035	TTE		Spiked Blank	Total Suspended Solids	2023/05/29		100	%	85 - 115
8686035	TTE		Method Blank	Total Suspended Solids	2023/05/29	<10		mg/L	
8686035	TTE		RPD	Total Suspended Solids	2023/05/29	NC		%	20
8686039	SHD		Spiked Blank	Total Dissolved Solids	2023/05/29		97	%	90 - 110
8686039	SHD		Method Blank	Total Dissolved Solids	2023/05/29	<10		mg/L	
8686039	SHD		RPD	Total Dissolved Solids	2023/05/29	1.4		%	20
8686757	MKX		Matrix Spike	Phenols-4AAP	2023/05/26		103	%	80 - 120
8686757	MKX		Spiked Blank	Phenols-4AAP	2023/05/26		101	%	80 - 120
8686757	MKX		Method Blank	Phenols-4AAP	2023/05/26	<0.0010		mg/L	
8686757	MKX		RPD	Phenols-4AAP	2023/05/26	NC		%	20
8686761	ADA		Matrix Spike	Total Arsenic (As)	2023/05/29		103	%	80 - 120
				Total Cadmium (Cd)	2023/05/29		101	%	80 - 120
				Total Calcium (Ca)	2023/05/29		105	%	80 - 120
				Total Chromium (Cr)	2023/05/29		101	%	80 - 120
				Total Copper (Cu)	2023/05/29		108	%	80 - 120
				Total Iron (Fe)	2023/05/29		105	%	80 - 120
				Total Lead (Pb)	2023/05/29		108	%	80 - 120
				Total Magnesium (Mg)	2023/05/29		109	%	80 - 120
				Total Manganese (Mn)	2023/05/29		98	%	80 - 120
				Total Nickel (Ni)	2023/05/29		102	%	80 - 120
				Total Potassium (K)	2023/05/29		104	%	80 - 120
				Total Sodium (Na)	2023/05/29		102	%	80 - 120
				Total Zinc (Zn)	2023/05/29		105	%	80 - 120
				8686761	ADA		Spiked Blank	Total Arsenic (As)	2023/05/29
Total Cadmium (Cd)	2023/05/29		97					%	80 - 120
Total Calcium (Ca)	2023/05/29		106					%	80 - 120
Total Chromium (Cr)	2023/05/29		97					%	80 - 120
Total Copper (Cu)	2023/05/29		103					%	80 - 120
Total Iron (Fe)	2023/05/29		101					%	80 - 120
Total Lead (Pb)	2023/05/29		102					%	80 - 120
Total Magnesium (Mg)	2023/05/29		102					%	80 - 120
Total Manganese (Mn)	2023/05/29		95					%	80 - 120
Total Nickel (Ni)	2023/05/29		98					%	80 - 120
Total Potassium (K)	2023/05/29		104					%	80 - 120
Total Sodium (Na)	2023/05/29		103					%	80 - 120



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8686761	ADA	Method Blank	Total Zinc (Zn)	2023/05/29		100	%	80 - 120
			Total Arsenic (As)	2023/05/29	<1.0		ug/L	
			Total Cadmium (Cd)	2023/05/29	<0.090		ug/L	
			Total Calcium (Ca)	2023/05/29	<200		ug/L	
			Total Chromium (Cr)	2023/05/29	<5.0		ug/L	
			Total Copper (Cu)	2023/05/29	<0.90		ug/L	
			Total Iron (Fe)	2023/05/29	<100		ug/L	
			Total Lead (Pb)	2023/05/29	<0.50		ug/L	
			Total Magnesium (Mg)	2023/05/29	<50		ug/L	
			Total Manganese (Mn)	2023/05/29	<2.0		ug/L	
			Total Nickel (Ni)	2023/05/29	<1.0		ug/L	
			Total Potassium (K)	2023/05/29	<200		ug/L	
			Total Sodium (Na)	2023/05/29	<100		ug/L	
			Total Zinc (Zn)	2023/05/29	<5.0		ug/L	
8686761	ADA	RPD	Total Arsenic (As)	2023/05/29	10		%	20
			Total Cadmium (Cd)	2023/05/29	NC		%	20
			Total Copper (Cu)	2023/05/29	NC		%	20
			Total Iron (Fe)	2023/05/29	0.96		%	20
			Total Lead (Pb)	2023/05/29	NC		%	20
			Total Nickel (Ni)	2023/05/29	NC		%	20
			Total Zinc (Zn)	2023/05/29	NC		%	20
8687259	RTY	Matrix Spike [VWW779-06]	Total Kjeldahl Nitrogen (TKN)	2023/05/29		102	%	80 - 120
8687259	RTY	QC Standard	Total Kjeldahl Nitrogen (TKN)	2023/05/29		97	%	80 - 120
8687259	RTY	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2023/05/29		100	%	80 - 120
8687259	RTY	Method Blank	Total Kjeldahl Nitrogen (TKN)	2023/05/29	<0.10		mg/L	
8687259	RTY	RPD [VWW779-06]	Total Kjeldahl Nitrogen (TKN)	2023/05/29	0		%	20
8687341	SPC	Matrix Spike [VWW780-06]	Total Phosphorus	2023/05/29		99	%	80 - 120
			Total Phosphorus	2023/05/29		103	%	80 - 120
8687341	SPC	Spiked Blank	Total Phosphorus	2023/05/29		101	%	80 - 120
8687341	SPC	Method Blank	Total Phosphorus	2023/05/29	<0.004		mg/L	
8687341	SPC	RPD [VWW780-06]	Total Phosphorus	2023/05/29	NC		%	20
8690187	KPJ	Matrix Spike [VWW778-08]	Total Ammonia-N	2023/05/29		102	%	75 - 125
8690187	KPJ	Spiked Blank	Total Ammonia-N	2023/05/29		101	%	80 - 120
8690187	KPJ	Method Blank	Total Ammonia-N	2023/05/29	<0.050		mg/L	
8690187	KPJ	RPD [VWW778-08]	Total Ammonia-N	2023/05/29	NC		%	20
8692656	MPZ	Spiked Blank	Total Oil & Grease	2023/05/30		99	%	85 - 115
8692656	MPZ	RPD	Total Oil & Grease	2023/05/30	0.25		%	25
8692656	MPZ	Method Blank	Total Oil & Grease	2023/05/30	<0.50		mg/L	
8692668	MPZ	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2023/05/30		96	%	85 - 115
8692668	MPZ	RPD	Total Oil & Grease Mineral/Synthetic	2023/05/30	1.0		%	25



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
8692668	MPZ	Method Blank	Total Oil & Grease Mineral/Synthetic	2023/05/30	<0.50		mg/L		
<p>N/A = Not Applicable</p> <p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.</p> <p>QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.</p> <p>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.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)</p> <p>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 (absolute difference <= 2x RDL).</p>									



BUREAU
VERITAS

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.



**BUREAU
VERITAS**

Bureau Veritas Job #: C3E7254
Report Date: 2023/05/31

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

**Exceedance Summary Table – Prov. Water Quality Obj.
Result Exceedances**

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
SW1	VWW779-05	Total Iron (Fe)	300	390	100	ug/L
SW1	VWW779-06	Total Phosphorus	0.01	0.015	0.004	mg/L
DUP 3	VWW781-05	Total Iron (Fe)	300	380	100	ug/L
DUP 3	VWW781-06	Total Phosphorus	0.01	0.016	0.004	mg/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.



Your Project #: 22579526
 Your C.O.C. #: 934508-04-01

Attention: Colin Imrie

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

Report Date: 2023/07/04
 Report #: R7699444
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C318077

Received: 2023/06/27, 09:45

Sample Matrix: Surface Water
 # Samples Received: 1

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Animal and Vegetable Oil and Grease	1	N/A	2023/07/02	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2023/07/02	2023/07/02	CAM SOP-00326	EPA1664B m,SM5520B m
pH	1	2023/06/29	2023/06/29	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2023/06/28	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2023/07/02	2023/07/02	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2023/06/29	2023/06/29	CAM SOP-00428	SM 23 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

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

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

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



Your Project #: 22579526
Your C.O.C. #: 934508-04-01

Attention: Colin Imrie

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

Report Date: 2023/07/04
Report #: R7699444
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C318077

Received: 2023/06/27, 09:45

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:

Ankita Bhalla, Project Manager

Email: Ankita.Bhalla@bureauveritas.com

Phone# (905) 817-5700

=====

This report has been generated and distributed using a secure automated process.

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BUREAU
VERITAS

Bureau Veritas Job #: C318077
Report Date: 2023/07/04

Golder Associates Ltd
Client Project #: 22579526
Sampler Initials: JM

RESULTS OF ANALYSES OF SURFACE WATER

Bureau Veritas ID		WFL315		
Sampling Date		2023/06/26 13:40		
COC Number		934508-04-01		
	UNITS	POND	RDL	QC Batch
Calculated Parameters				
Total Animal/Vegetable Oil and Grease	mg/L	0.90	0.50	8754231
Inorganics				
pH	pH	7.52	N/A	8760640
Phenols-4AAP	mg/L	<0.0010	0.0010	8758809
Total Suspended Solids	mg/L	3	1	8759754
Petroleum Hydrocarbons				
Total Oil & Grease	mg/L	1.4	0.50	8765519
Total Oil & Grease Mineral/Synthetic	mg/L	0.50	0.50	8765521
RDL = Reportable Detection Limit QC Batch = Quality Control Batch N/A = Not Applicable				



BUREAU
VERITAS

Bureau Veritas Job #: C318077
Report Date: 2023/07/04

Golder Associates Ltd
Client Project #: 22579526
Sampler Initials: JM

GENERAL COMMENTS

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

Package 1	22.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C318077
Report Date: 2023/07/04

Golder Associates Ltd
Client Project #: 22579526
Sampler Initials: JM

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8758809	MKX	Matrix Spike	Phenols-4AAP	2023/06/28		102	%	80 - 120
8758809	MKX	Spiked Blank	Phenols-4AAP	2023/06/28		102	%	80 - 120
8758809	MKX	Method Blank	Phenols-4AAP	2023/06/28	<0.0010		mg/L	
8758809	MKX	RPD	Phenols-4AAP	2023/06/28	NC		%	20
8759754	SHD	Spiked Blank	Total Suspended Solids	2023/06/29		95	%	85 - 115
8759754	SHD	Method Blank	Total Suspended Solids	2023/06/29	<1		mg/L	
8759754	SHD	RPD	Total Suspended Solids	2023/06/29	15		%	20
8760640	TAK	Spiked Blank	pH	2023/06/29		102	%	98 - 103
8760640	TAK	RPD	pH	2023/06/29	0.27		%	N/A
8765519	NSG	Spiked Blank	Total Oil & Grease	2023/07/02		98	%	85 - 115
8765519	NSG	RPD	Total Oil & Grease	2023/07/02	0.25		%	25
8765519	NSG	Method Blank	Total Oil & Grease	2023/07/02	<0.50		mg/L	
8765521	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2023/07/02		96	%	85 - 115
8765521	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2023/07/02	0.52		%	25
8765521	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2023/07/02	<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.

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 (absolute difference <= 2x RDL).



BUREAU
VERITAS

Bureau Veritas Job #: C318077
Report Date: 2023/07/04

Golder Associates Ltd
Client Project #: 22579526
Sampler Initials: JM

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

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