



**REPORT**

**MCCARTHY QUARRY**

*2025 Environmental Compliance Approval Annual Report*

Submitted to:

**Chris Hyde**

Ministry of the Environment, Conservation and Parks  
Barrie District Office  
1023-54 Cedar Pointe Drive  
Barrie, Ontario L4N 5R7

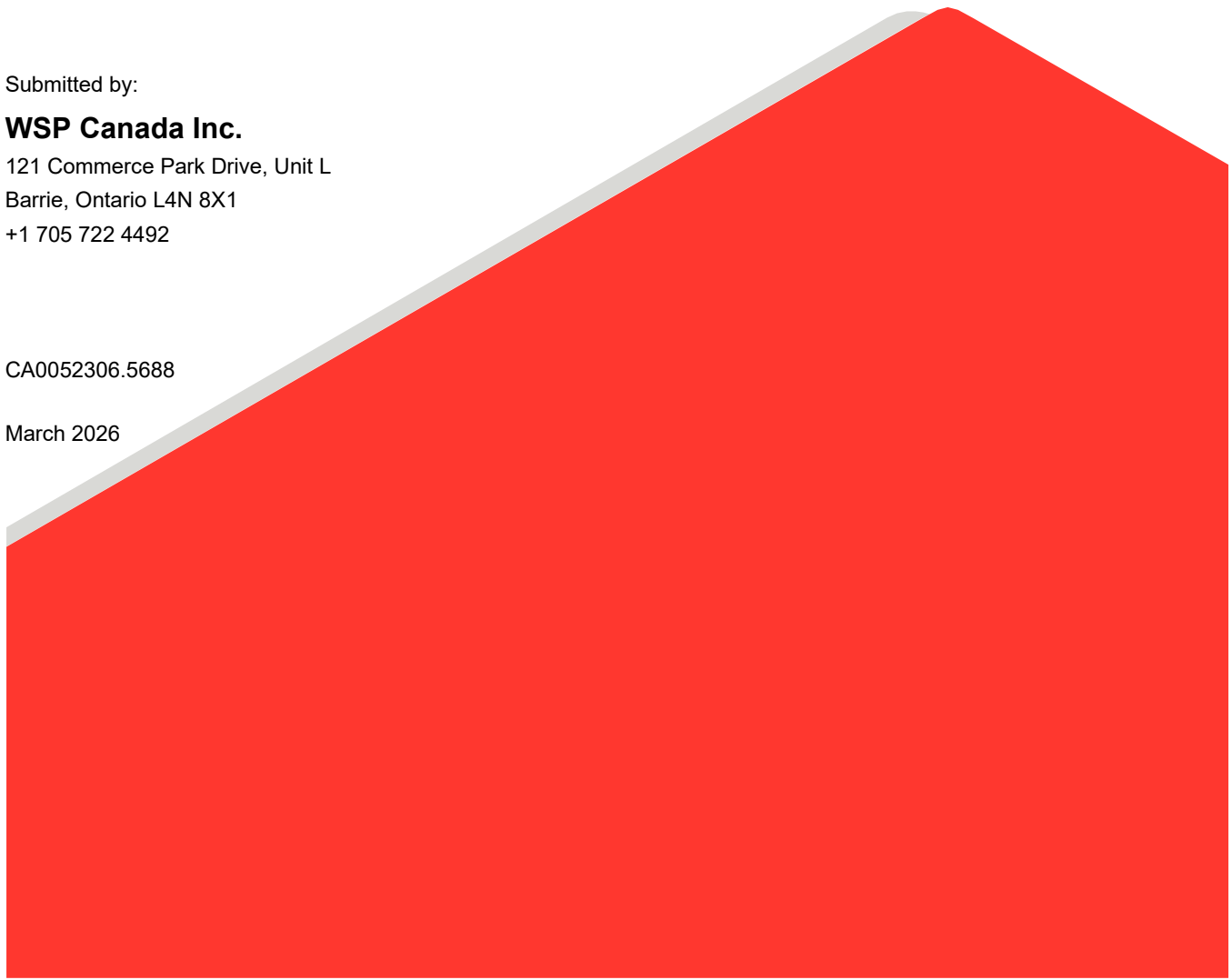
Submitted by:

**WSP Canada Inc.**

121 Commerce Park Drive, Unit L  
Barrie, Ontario L4N 8X1  
+1 705 722 4492

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ECA No. 7737-BH6QEA

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Permit to Take Water No. 0721-DDKR57

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Water Quality Results

## 1.0 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Green Infrastructure Partners Industrial Inc. (GIP) to prepare the annual compliance report for the McCarthy Quarry located in the Township of Ramara, County of Simcoe (Figure 1), as a requirement of Environmental Compliance Approval (ECA) No. 7737-BH6QEA issued on October 22, 2019. A copy of the ECA No. 7737-BH6QEA is provided in Appendix A.

The following report includes a summary of the requirements listed in Section 8(5) of the ECA for the period from January 1, 2025 to December 31, 2025. Included herein is a summary of:

- Interpretation of all monitoring data and a comparison to the effluent limits outlined in the ECA;
- Any operational problems encountered;
- Maintenance work completed on any part of the sewage works; and,
- Effluent discharge quality assurance or control measures undertaken.

## 2.0 BACKGROUND

The McCarthy Quarry dewatering system consists of the collection of groundwater and surface water at the base of the quarry floor to a settling pond to the south of the active quarry area (Figure 1). Groundwater and precipitation entering the quarry is collected in a sump in the quarry floor located in the southeast corner. The sump is equipped with a pump with a maximum discharge rate of 35 L/sec which is attached the discharge line that directs the water to a ditch that runs southward through the McCarthy property to the 14,000 m<sup>3</sup> settling pond. On April 11, 2023, McCarthy staff replaced the pump with a rental from Sunbelt following issues with the previous pump which continues to be in use. The rental pump is rated for a maximum discharge rate of up to 1417 L/min (24L/sec) and is attached to the discharge line. The water in the settling pond discharges once the water level in the pond reaches a specific height via a Hickenbottom control structure to the roadside ditches along Concession Road 1. The water in the roadside ditch travels eastward along the north side of Concession Road 1 to a municipal drain and eventually discharges to the Talbot River, which in turn discharges to Lake Simcoe.

The dewatering activities from the McCarthy Quarry are currently carried out under the existing Permit to Take Water (PTTW) No. 0721-DDKR57 (Appendix B). The Permit is in place from January 31, 2025 to January 31, 2035. Under the current PTTW GIP is permitted to pump water from the quarry sump at a rate of 4,545 L/min.

## 3.0 QUARRY DISCHARGE MONITORING

### 3.1 Quarry discharge Monitoring Requirements

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

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

### **Condition 6(2) Table 2**

Weekly quarry discharge monitoring is required at the McCarthy Pond for Total Suspended Solids (TSS), Oil and Grease and Phenols (4AAP). These results are summarized in Table 1, and the monthly averages are summarized in Table 2. No sample was collected for the weeks when quarry staff reported there was no or very limited discharge at the time of sampling.

The weekly quarry discharge samples (Section 6(2)) were collected by staff at the McCarthy Quarry. The weekly quality samples when collected were sent to Bureau Veritas Laboratories of Mississauga, Ontario for analysis. Laboratory analysis results are included in Appendix C.

### **Condition 6(2) Table 3**

Additional water quality sampling is required under Section 6(2) Table 3 at a semi-annual frequency at all three locations. The parameters required for semi-annual water quality monitoring at all three locations are listed in Table 3 of the ECA.

The semi-annual water quality samples (Section 6(2)) were collected by WSP. The semi-annual water quality samples were sent to Bureau Veritas Laboratories of Mississauga, Ontario for analysis. The laboratory analysis results are included in Appendix C.

### **Condition 6(4)**

Section 6(4) requires measurement, recording and calculation of the discharge rate and volume from the works during the discharge period. The flow rates are recorded and provided to WSP by staff at the McCarthy Quarry. These results are summarized in Table 6.

## **4.0 QUARRY DISCHARGE MONITORING RESULTS**

### **Condition 6(2) Tables 1-2**

The TSS, pH, Oil and Grease and Phenols (4AAP) concentrations were all below the daily concentration limits of the ECA (Table 1).

The calculated monthly average of the TSS, Oil and Grease and Phenols (4AAP) concentrations were all below the monthly concentration limits stipulated in the ECA (Table 2).

### **Condition 6(2) Tables 3-5**

All of the parameters tested for samples collected at the McCarthy Pond location were reported at concentrations below the Provincial Water Quality Objectives (PWQO). The results of which are provided in Table 3.

All of the parameters tested for samples collected at both the SW1 and SW2 locations were reported at concentrations below the PWQO except for Total Iron at SW1 in the Spring sample. As previously discussed in the quarterly reports during these periods, the elevated levels of Total Iron found in the samples at SW1 are likely attributed to entrained sediment in the sample. A Fall sample was not collected at any of the three locations due to dry conditions in October. Also noted in the prior quarterly reports the area experienced a drought in 2025 during the Summer into Fall resulting in drier conditions than usual in the area. A second attempt was made in November in which the locations similarly were dry during that attempt. Results for SW1 and SW2 locations are provided in Tables 4 and 5, respectively.

## 5.0 MEASURED DISCHARGE FROM QUARRY SUMP

A continuous record of flow rates and discharge volumes has been maintained throughout this monitoring period. The pump records are provided by McCarthy Quarry staff. The pump records for January 1, 2025 to December 31, 2025 are found in Table 6. The discharge rates were below the permitted rate of 4,545 L/min (6,544,800 L/day) throughout the monitoring period. There has been no indication of erosion and/or flooding of the downstream ditches.

## 6.0 OPERATIONAL PROBLEMS AND CORRECTIVE ACTIONS TAKEN

GIP identified on November 17, 2021 that the sump pump required replacement and a rental pump was installed on November 21, 2021. In addition, GIP reported that on December 17, 2021 it was identified that the discharge line that runs from the sump to the settling pond was damaged. GIP stopped pumping for the remainder of the year and replacement of the discharge line was planned for 2022.

GIP 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 GIP 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; GIP 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. As mentioned earlier in the report, on April 11, 2023, McCarthy staff replaced the pump with a rental from Sunbelt following issues with the previous pump which continues to be in use while a permanent replacement is being investigated. The rental pump is rated for a maximum discharge rate of up to 1417 L/min (24L/sec) and is attached to the discharge line.

During the winter of 2025 into 2026, GIP staff noted a break in the pipeline from the quarry to the settling pond caused by water freezing in the line. The pipeline was replaced by a similarly sized high-density polyethylene fusion welded pipeline complete with check valves and buried in place of the old pipeline. No other changes were made to the dewatering system.

GIP has indicated that no other operational problems were encountered with the dewatering system during the monitoring period of January to December 2025. GIP also indicated that no spills occurred during the January to December 2025 monitoring period.

## 7.0 MAINTENANCE OF SEWAGE WORKS

GIP started set up of a new sump in the southeastern corner of the sump in December 2021, and that was finished installation in March 2022. GIP has also adjusted the discharge piping that runs from the pump to the horseshoe shaped settling pond. GIP replaced the previous pipeline over the winter of 2025 into 2026 with high-density polyethylene fusion welded pipe following a break in the existing line caused by water freezing in the line being noted by GIP staff during the winter.

## 8.0 QUARRY DISCHARGE QUALITY ASSURANCE OR CONTROL MEASURES

GIP indicated that no major quarry discharge quality assurance or control measures were put in place during this monitoring period.

## 9.0 SUMMARY

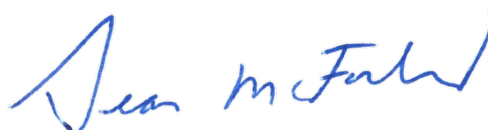
- ECA Condition 6(2) Table 2:
  - All of the weekly quarry discharge monitoring samples from the McCarthy Pond were below the permitted daily concentration limits; and
- All of the monthly quarry discharge concentrations for the McCarthy Pond were below the permitted monthly concentration limits.
- ECA Condition 6(2) Table 3:
  - At the McCarthy Pond, all parameters were below the PWQO in the Spring sample. No Fall sample was collected due to drought conditions in the area.
- ECA Condition 6(2) Table 4-5:
  - At SW1, all parameters were below the PWQO, with the exception of Total Iron in the Spring sample. The iron exceedance is likely related to entrained sediment in the sample. No Fall sample was collected due to drought conditions in the area.
  - At SW2, all parameters were below the PWQO in the Spring sample. No Fall sample was collected due to drought conditions in the area.
- ECA Condition 6(4):
  - A continuous record of flow rates has been maintained throughout the monitoring period and all water takings were below the permitted rate of 4,545 L/min (6,544,800 L/day).

## Signature Page

### WSP Canada Inc.



Colin Imrie, P.Ge.  
*Junior Hydrogeologist*



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

CSI/SM/

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## Tables

**Table 1: Condition 6(2) McCarthy Pond Weekly Water Quality Results**

Sample ID	Unit	RDL	PWQO <sup>1</sup>	Daily Limit <sup>2</sup>	McCarthy Quarry								
					Pond								
Date					27-Mar-25	01-May-25	20-May-25	12-Jun-25					
pH	pH	n/a		6.0-9.5	7.63	7.36	7.36	7.21					
Total Suspended Solids	mg/L	1		30	7	2	7	2					
Total Oil and Grease	mg/L	0.5	Note 3	30	8	<0.50	<0.50	<0.50					
Phenols (4AAP)	mg/L	<0.0010		0.04	<0.0010	<0.0010	<0.001	<0.001					

**Notes:**

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

**Table 2: Condition 6(2) McCarthy Pond Monthly Water Quality Results**

	Unit	RDL	PWQO <sup>1</sup>	Monthly Concentration Limit <sup>2</sup>												
Sample ID																
Date					January 2025	February 2025	March 2025	April 2025	May 2025	June 2025	July 2025	August 2025	September 2025	October 2025	November 2025	December 2025
Total Suspended Solids	mg/L	1		15	-	-	7.0	-	4.5	2.0	-	-	-	-	-	-
Total Oil and Grease	mg/L	0.5	Note 3	15	-	-	8	-	<0.50	<0.50	-	-	-	-	-	-
Phenols (4AAP)	mg/L	<0.0010		0.02	-	-	<0.0010	-	<0.0010	<0.0010	-	-	-	-	-	-

**Notes:**

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

Table 3: Condition 6(2) McCarthy Pond Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	ECA Effluent Limits	McCarthy Quarry	
						Pond	Pond
Date						7-May-25	-
<b>Field Measured Parameters</b>							
Conductivity	mS/cm					782	-
pH	pH	n/a	6.5-8.5		6.0-9.5	8.12	-
Temperature	°C	n/a				18.2	-
<b>Calculated Parameters</b>							
Hardness (CaCO <sub>3</sub> )	mg/L	1.0				320	-
<b>Inorganics</b>							
Total Ammonia-N	mg/L	0.050				<0.050	-
Conductivity	umho/cm	1.0				950	-
Total Dissolved Solids	mg/L	10				535	-
Fluoride (F <sup>-</sup> )	mg/L	0.10				0.34	-
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.40	-
Dissolved Organic Carbon	mg/L	0.20				5.1	-
pH	N/A		6.5-8.5		6.0-9.5	7.98	-
Phenols-4AAP	mg/L	0.0010	0.001		0.04	<0.0010	-
Total Phosphorus	mg/L	0.002		0.03 <sup>5b</sup>		0.011	-
Total Suspended Solids	mg/L	10			30	<10	-
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	1				180	-
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	1.0				89	-
Dissolved Chloride (Cl)	mg/L	1				100	-
Nitrite (N)	mg/L	0.010				<0.010	-
Nitrate (N)	mg/L	0.10				<0.10	-
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.50	Note 3		30	0.9	-
<b>Metals</b>							
Total Arsenic (As)	ug/L	1	100	5		<1.0	-
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<0.09	-
Dissolved Calcium (Ca)	mg/L	0.05				77	-
Total Calcium (Ca)	ug/L	200				66000	-
Total Chromium (Cr)	ug/L	5	1-89 <sup>5e</sup>			<5.0	-
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		<0.90	-
Total Iron (Fe)	ug/L	100	300			150	-
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		<0.50	-
Dissolved Magnesium (Mg)	mg/L	0.05				31	-
Total Magnesium (Mg)	ug/L	50				26000	-
Total Manganese (Mn)	ug/L	2				23	-
Total Nickel (Ni)	ug/L	1	25			<1.0	-
Dissolved Potassium (K)	mg/L	1				9.0	-
Total Potassium (K)	ug/L	200				7600	-
Dissolved Sodium (Na)	mg/L	0.5				78	-
Total Sodium (Na)	ug/L	100				68000	-
Total Zinc (Zn)	ug/L	5	30	20		<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.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p> <p><b>5a. Aluminum (Interim):</b></p> <p>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay free samples.</p> <p>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p> <p><b>5b. Phosphorus (Interim):</b></p> <p>- Current scientific evidence is insufficient to develop a firm Objective at this time.</p> <p>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies:</p> <p>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</p> <p>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</p> <p>(c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</p> <p><b>5c. Beryllium:</b> If Hardness &lt;75 mg/L (CaCO<sub>3</sub>), use 11 ug/L If Hardness &gt;75 mg/L (CaCO<sub>3</sub>), use 1100 ug/L</p> <p><b>5d. Cadmium (Interim):</b> If Hardness 0-100 mg/L (CaCO<sub>3</sub>), then use 0.1 ug/L If Hardness &gt;100 mg/L (CaCO<sub>3</sub>), then use 0.5 ug/L</p> <p><b>5e. Chromium:</b> 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p> <p><b>5f. Copper (Interim):</b> If Hardness as CaCO<sub>3</sub> (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt;20, then use 5 ug/L</p> <p><b>5g. Lead:</b> If Alkalinity as CaCO<sub>3</sub> (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is &gt; 80, use 25 ug/L</p> <p><b>5h. Lead (Interim):</b> If Hardness as CaCO<sub>3</sub> (mg/L) is &lt; 30, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is 30 to 80, then use 3 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt; 80, then use 5 ug/L</p>							

Table 4: Condition 6(2) SW1 Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	ECA Effluent Limits	McCarthy Quarry	
						SW1	SW1
Date						7-May-25	-
<b>Field Measured Parameters</b>							
Conductivity	mS/cm					682	-
pH	pH	n/a	6.5-8.5		6.0-9.5	7.81	-
Temperature	°C	n/a				17.8	-
<b>Calculated Parameters</b>							
Anion Sum	me/L	N/A				10.2	-
Cation Sum	me/L	N/A				12.1	-
Hardness (CaCO3)	mg/L	1.0				420	-
<b>Inorganics</b>							
Total Ammonia-N	mg/L	0.050				<0.050	-
Conductivity	umho/cm	1.0				1,100	-
Total Dissolved Solids	mg/L	10				635	-
Fluoride (F-)	mg/L	0.10				0.30	-
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.36	-
Dissolved Organic Carbon	mg/L	0.20				6.8	-
pH	pH	N/A	6.5-8.5		6.0-9.5	8.10	-
Phenols-4AAP	mg/L	0.0010	0.001			0.04	-
Total Phosphorus	mg/L	0.002		0.03 <sup>5b</sup>		<0.0010	-
Total Suspended Solids	mg/L	10			30	0.027	-
Dissolved Sulphate (SO4)	mg/L	10				21	-
Alkalinity (Total as CaCO3)	mg/L	1.0				140	-
Dissolved Chloride (Cl)	mg/L	1				190	-
Nitrite (N)	mg/L	0.010				120	-
Nitrate (N)	mg/L	0.10				0.022	-
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.50	Note 3		30	0.34	-
<b>Metals</b>							
Total Arsenic (As)	ug/L	1	100	5		1.3	-
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<1.0	-
Dissolved Calcium (Ca)	mg/L	0.05				<0.09	-
Total Calcium (Ca)	ug/L	200				120	-
Total Chromium (Cr)	ug/L	5	1-80 <sup>5e</sup>			110000	-
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		<5.0	-
Total Iron (Fe)	ug/L	100	300			1.1	-
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		410	-
Dissolved Magnesium (Mg)	mg/L	0.05				<0.50	-
Total Magnesium (Mg)	ug/L	50				28	-
Total Manganese (Mn)	ug/L	2				24000	-
Total Nickel (Ni)	ug/L	1	25			51	-
Dissolved Potassium (K)	mg/L	1				1.4	-
Total Potassium (K)	ug/L	200				7.0	-
Dissolved Sodium (Na)	mg/L	0.5				6600	-
Total Sodium (Na)	ug/L	100				80	-
Total Zinc (Zn)	ug/L	5	30	20		71000	-
<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.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p> <p><b>5a. Aluminum (Interim):</b></p> <p>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples.</p> <p>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p> <p><b>5b. Phosphorus (Interim):</b></p> <p>- Current scientific evidence is insufficient to develop a firm Objective at this time.</p> <p>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies:</p> <p>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</p> <p>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</p> <p>(c) Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 30 ug/L.</p> <p><b>5c. Beryllium:</b> If Hardness &lt;75 mg/L (CaCO3), use 11 ug/L If Hardness &gt;75 mg/L (CaCO3), use 1100 ug/L</p> <p><b>5d. Cadmium (Interim):</b> If Hardness 0-100 mg/L (CaCO3), then use 0.1 ug/L If Hardness &gt;100 mg/L (CaCO3), then use 0.5 ug/L</p> <p><b>5e. Chromium:</b> 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p> <p><b>5f. Copper (Interim):</b> If Hardness as CaCO3 (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO3 (mg/L) is &gt;20, then use 5 ug/L</p> <p><b>5g. Lead:</b> If Alkalinity as CaCO3 (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO3 (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO3 (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO3 (mg/L) is &gt; 80, use 25 ug/L</p> <p><b>5h. Lead (Interim):</b> If Hardness as CaCO3 (mg/L) is &lt; 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 &gt; 80, then use 5 ug/L</p>							

Table 5: Condition 6(2) SW2 Water Quality Results

Sample ID	Unit	Reportable Detection Limit (RDL)	PWQO <sup>1</sup>	Interim PWQO <sup>2</sup>	ECA Effluent Limits	McCarthy Quarry	
						SW2	SW2
Date						7-May-25	-
<b>Field Measured Parameters</b>							
Conductivity	mS/cm					512	-
pH	pH	n/a	6.5-8.5		6.0-9.5	7.81	-
Temperature	°C	n/a				18.5	-
<b>Calculated Parameters</b>							
Anion Sum	me/L	N/A				6.24	-
Cation Sum	me/L	N/A				7.08	-
Hardness (CaCO <sub>3</sub> )	mg/L	1.0				340	-
<b>Inorganics</b>							
Total Ammonia-N	mg/L	0.050				<0.050	-
Conductivity	umho/cm	1.0				570	-
Total Dissolved Solids	mg/L	10				340	-
Fluoride (F <sup>-</sup> )	mg/L	0.10				<0.10	-
Total Kjeldahl Nitrogen (TKN)	mg/L	0.10				0.30	-
Dissolved Organic Carbon	mg/L	0.20				6.8	-
pH	pH	N/A	6.5-8.5		6.0-9.5	8.08	-
Phenols-4AAP	mg/L	0.0010	0.001		0.04	<0.0010	-
Total Phosphorus	mg/L	0.002		0.03 <sup>5b</sup>		0.012	-
Total Suspended Solids	mg/L	10			30	<10	-
Dissolved Sulphate (SO <sub>4</sub> )	mg/L	1				20	-
Alkalinity (Total as CaCO <sub>3</sub> )	mg/L	1.0				280	-
Dissolved Chloride (Cl)	mg/L	1				6	-
Nitrite (N)	mg/L	0.010				<0.010	-
Nitrate (N)	mg/L	0.10				<0.10	-
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.50	Note 3		30	0.9	-
<b>Metals</b>							
Total Arsenic (As)	ug/L	1	100	5		<1.0	-
Total Cadmium (Cd)	ug/L	0.1	0.2	0.1-0.5 <sup>5d</sup>		<0.09	-
Dissolved Calcium (Ca)	mg/L	0.05				120	-
Total Calcium (Ca)	ug/L	200				100000	-
Total Chromium (Cr)	ug/L	5	1-80 <sup>5e</sup>			<5.0	-
Total Copper (Cu)	ug/L	1	5	1-5 <sup>5f</sup>		<0.9	-
Total Iron (Fe)	ug/L	100	300			<100	-
Total Lead (Pb)	ug/L	0.5	5-25 <sup>5g</sup>	1-5 <sup>5h</sup>		<0.50	-
Dissolved Magnesium (Mg)	mg/L	0.05				9.1	-
Total Magnesium (Mg)	ug/L	50				8400	-
Total Manganese (Mn)	ug/L	2				12	-
Total Nickel (Ni)	ug/L	1	25			<1.0	-
Dissolved Potassium (K)	mg/L	1				2.0	-
Total Potassium (K)	ug/L	200				1300	-
Dissolved Sodium (Na)	mg/L	0.5				7.8	-
Total Sodium (Na)	ug/L	100				6600	-
Total Zinc (Zn)	ug/L	5	30	20		<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.</p> <p>4. Results that are preceded by "&lt;" denote concentrations that are below the laboratory Reportable Detection Limit (RDL).</p> <p><b>5a. Aluminum (Interim):</b></p> <p>- At pH 4.5 to 5.5 the Interim PWQO is 15 ug/L based on inorganic monomeric aluminum measured in clay-free samples.</p> <p>- At pH &gt;5.5 to 6.5, no condition should be permitted which would increase the acid soluble inorganic aluminum concentration in clay-free samples to more than 10% above natural background concentrations for waters representative of that geological area of the Province that are unaffected by man-made inputs.</p> <p>- At pH &gt;6.5 to 9.0, the Interim PWQO is 75 ug/L based on total aluminum measured in clay-free samples.</p> <p>- If natural background aluminum concentrations in water bodies unaffected by manmade inputs are greater than the numerical Interim PWQO (above), no condition is permitted that would increase the aluminum concentration in clay-free samples by more than 10% of the natural background level.</p> <p><b>5b. Phosphorus (Interim):</b></p> <p>- Current scientific evidence is insufficient to develop a firm Objective at this time.</p> <p>- Accordingly, the following phosphorus concentrations should be considered as general guidelines which should be supplemented by site-specific studies:</p> <p>(a) To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 20 ug/L;</p> <p>(b) A high level of protection against aesthetic deterioration will be provided by a total phosphorus concentration for the ice-free period of 10 ug/L or less. This should apply to all lakes naturally below this value;</p> <p>(c) Excessive plant growth in rivers and streams should be eliminated <i>at a total phosphorus concentration below 20 ug/L</i>.</p> <p><b>5c. Beryllium:</b> If Hardness &lt;75 mg/L (CaCO<sub>3</sub>), use 11 ug/L If Hardness &gt;75 mg/L (CaCO<sub>3</sub>), use 1100 ug/L</p> <p><b>5d. Cadmium (Interim):</b> If Hardness 0-100 mg/L (CaCO<sub>3</sub>), then use 0.1 ug/L If Hardness &gt;100 mg/L (CaCO<sub>3</sub>), then use 0.5 ug/L</p> <p><b>5e. Chromium:</b> 1 ug/L for hexavalent chromium (Cr VI) 8.9 ug/L for trivalent chromium (Cr III)</p> <p><b>5f. Copper (Interim):</b> If Hardness as CaCO<sub>3</sub> (mg/L) is 0 - 20, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt;20, then use 5 ug/L</p> <p><b>5g. Lead:</b> If Alkalinity as CaCO<sub>3</sub> (mg/L) is &lt; 20, use 5 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 20 to 40, use 10 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is 40 to 80, use 20 ug/L If Alkalinity as CaCO<sub>3</sub> (mg/L) is &gt; 80, use 25 ug/L</p> <p><b>5h. Lead (Interim):</b> If Hardness as CaCO<sub>3</sub> (mg/L) is &lt; 30, then use 1 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is 30 to 80, then use 3 ug/L If Hardness as CaCO<sub>3</sub> (mg/L) is &gt; 80, then use 5 ug/L</p>							

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
01-Jan-25	NO PUMP		0	0	-	-	-
02-Jan-25	NO PUMP		0	0	-	-	-
03-Jan-25	NO PUMP		0	0	-	-	-
04-Jan-25	NO PUMP		0	0	-	-	-
05-Jan-25	NO PUMP		0	0	-	-	-
06-Jan-25	NO PUMP		0	0	-	-	-
07-Jan-25	NO PUMP		0	0	-	-	-
08-Jan-25	NO PUMP		0	0	-	-	-
09-Jan-25	NO PUMP		0	0	-	-	-
10-Jan-25	NO PUMP		0	0	-	-	-
11-Jan-25	NO PUMP		0	0	-	-	-
12-Jan-25	NO PUMP		0	0	-	-	-
13-Jan-25	NO PUMP		0	0	-	-	-
14-Jan-25	NO PUMP		0	0	-	-	-
15-Jan-25	NO PUMP		0	0	-	-	-
16-Jan-25	NO PUMP		0	0	-	-	-
17-Jan-25	NO PUMP		0	0	-	-	-
18-Jan-25	NO PUMP		0	0	-	-	-
19-Jan-25	NO PUMP		0	0	-	-	-
20-Jan-25	NO PUMP		0	0	-	-	-
21-Jan-25	NO PUMP		0	0	-	-	-
22-Jan-25	NO PUMP		0	0	-	-	-
23-Jan-25	NO PUMP		0	0	-	-	-
24-Jan-25	NO PUMP		0	0	-	-	-
25-Jan-25	NO PUMP		0	0	-	-	-
26-Jan-25	NO PUMP		0	0	-	-	-
27-Jan-25	NO PUMP		0	0	-	-	-
28-Jan-25	NO PUMP		0	0	-	-	-
29-Jan-25	NO PUMP		0	0	-	-	-
30-Jan-25	NO PUMP		0	0	-	-	-
31-Jan-25	NO PUMP		0	0	-	-	-
01-Feb-25	NO PUMP		0	0	-	-	-
02-Feb-25	NO PUMP		0	0	-	-	-
03-Feb-25	NO PUMP		0	0	-	-	-
04-Feb-25	NO PUMP		0	0	-	-	-
05-Feb-25	NO PUMP		0	0	-	-	-
06-Feb-25	NO PUMP		0	0	-	-	-
07-Feb-25	NO PUMP		0	0	-	-	-
08-Feb-25	NO PUMP		0	0	-	-	-
09-Feb-25	NO PUMP		0	0	-	-	-
10-Feb-25	NO PUMP		0	0	-	-	-
11-Feb-25	NO PUMP		0	0	-	-	-
12-Feb-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
13-Feb-25	NO PUMP		0	0	-	-	-
14-Feb-25	NO PUMP		0	0	-	-	-
15-Feb-25	NO PUMP		0	0	-	-	-
16-Feb-25	NO PUMP		0	0	-	-	-
17-Feb-25	NO PUMP		0	0	-	-	-
18-Feb-25	NO PUMP		0	0	-	-	-
19-Feb-25	NO PUMP		0	0	-	-	-
20-Feb-25	NO PUMP		0	0	-	-	-
21-Feb-25	NO PUMP		0	0	-	-	-
22-Feb-25	NO PUMP		0	0	-	-	-
23-Feb-25	NO PUMP		0	0	-	-	-
24-Feb-25	NO PUMP		0	0	-	-	-
25-Feb-25	NO PUMP		0	0	-	-	-
26-Feb-25	NO PUMP		0	0	-	-	-
27-Feb-25	NO PUMP		0	0	-	-	-
28-Feb-25	NO PUMP		0	0	-	-	-
01-Mar-25	NO PUMP		0	0	-	-	-
02-Mar-25	NO PUMP		0	0	-	-	-
03-Mar-25	NO PUMP		0	0	-	-	-
04-Mar-25	NO PUMP		0	0	-	-	-
05-Mar-25	NO PUMP		0	0	-	-	-
06-Mar-25	NO PUMP		0	0	-	-	-
07-Mar-25	NO PUMP		0	0	-	-	-
08-Mar-25	NO PUMP		0	0	-	-	-
09-Mar-25	NO PUMP		0	0	-	-	-
10-Mar-25	NO PUMP		0	0	-	-	-
11-Mar-25	NO PUMP		0	0	-	-	-
12-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
13-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
14-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
15-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
16-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
17-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
18-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
19-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
20-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
21-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
22-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
23-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
24-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
25-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
26-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
27-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417

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Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
28-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
29-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
30-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
31-Mar-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
01-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
02-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
03-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
04-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
05-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
06-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
07-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
08-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
09-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
10-Apr-25	NO PUMP		0	0	-	-	-
11-Apr-25	NO PUMP		0	0	-	-	-
12-Apr-25	NO PUMP		0	0	-	-	-
13-Apr-25	NO PUMP		0	0	-	-	-
14-Apr-25	NO PUMP		0	0	-	-	-
15-Apr-25	NO PUMP		0	0	-	-	-
16-Apr-25	NO PUMP		0	0	-	-	-
17-Apr-25	NO PUMP		0	0	-	-	-
18-Apr-25	NO PUMP		0	0	-	-	-
19-Apr-25	NO PUMP		0	0	-	-	-
20-Apr-25	NO PUMP		0	0	-	-	-
21-Apr-25	NO PUMP		0	0	-	-	-
22-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
23-Apr-25	NO PUMP		0	0	-	-	-
24-Apr-25	NO PUMP		0	0	-	-	-
25-Apr-25	NO PUMP		0	0	-	-	-
26-Apr-25	NO PUMP		0	0	-	-	-
27-Apr-25	NO PUMP		0	0	-	-	-
28-Apr-25	NO PUMP		0	0	-	-	-
29-Apr-25	NO PUMP		0	0	-	-	-
30-Apr-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
01-May-25	NO PUMP		0	0	-	-	-
02-May-25	NO PUMP		0	0	-	-	-
03-May-25	NO PUMP		0	0	-	-	-
04-May-25	NO PUMP		0	0	-	-	-
05-May-25	NO PUMP		0	0	-	-	-
06-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
07-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
08-May-25	NO PUMP		0	0	-	-	-
09-May-25	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)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
10-May-25	NO PUMP		0	0	-	-	-
11-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
12-May-25	NO PUMP		0	0	-	-	-
13-May-25	NO PUMP		0	0	-	-	-
14-May-25	NO PUMP		0	0	-	-	-
15-May-25	NO PUMP		0	0	-	-	-
16-May-25	NO PUMP		0	0	-	-	-
17-May-25	NO PUMP		0	0	-	-	-
18-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
19-May-25	NO PUMP		0	0	-	-	-
20-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
21-May-25	NO PUMP		0	0	-	-	-
22-May-25	NO PUMP		0	0	-	-	-
23-May-25	NO PUMP		0	0	-	-	-
24-May-25	NO PUMP		0	0	-	-	-
25-May-25	NO PUMP		0	0	-	-	-
26-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
27-May-25	NO PUMP		0	0	-	-	-
28-May-25	NO PUMP		0	0	-	-	-
29-May-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
30-May-25	NO PUMP		0	0	-	-	-
31-May-25	NO PUMP		0	0	-	-	-
01-Jun-25	NO PUMP		0	0	-	-	-
02-Jun-25	NO PUMP		0	0	-	-	-
03-Jun-25	NO PUMP		0	0	-	-	-
04-Jun-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
05-Jun-25	NO PUMP		0	0	-	-	-
06-Jun-25	NO PUMP		0	0	-	-	-
07-Jun-25	NO PUMP		0	0	-	-	-
08-Jun-25	NO PUMP		0	0	-	-	-
09-Jun-25	NO PUMP		0	0	-	-	-
10-Jun-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
11-Jun-25	NO PUMP		0	0	-	-	-
12-Jun-25	NO PUMP		0	0	-	-	-
13-Jun-25	NO PUMP		0	0	-	-	-
14-Jun-25	NO PUMP		0	0	-	-	-
15-Jun-25	NO PUMP		0	0	-	-	-
16-Jun-25	NO PUMP		0	0	-	-	-
17-Jun-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
18-Jun-25	NO PUMP		0	0	-	-	-
19-Jun-25	NO PUMP		0	0	-	-	-
20-Jun-25	NO PUMP		0	0	-	-	-
21-Jun-25	NO PUMP		0	0	-	-	-
22-Jun-25	NO PUMP		0	0	-	-	-
23-Jun-25	NO PUMP		0	0	-	-	-
24-Jun-25	NO PUMP		0	0	-	-	-
25-Jun-25	NO PUMP		0	0	-	-	-
26-Jun-25	NO PUMP		0	0	-	-	-
27-Jun-25	NO PUMP		0	0	-	-	-
28-Jun-25	NO PUMP		0	0	-	-	-
29-Jun-25	NO PUMP		0	0	-	-	-
30-Jun-25	NO PUMP		0	0	-	-	-
01-Jul-25	NO PUMP		0	0	-	-	-
02-Jul-25	NO PUMP		0	0	-	-	-
03-Jul-25	NO PUMP		0	0	-	-	-
04-Jul-25	NO PUMP		0	0	-	-	-
05-Jul-25	NO PUMP		0	0	-	-	-
06-Jul-25	NO PUMP		0	0	-	-	-
07-Jul-25	NO PUMP		0	0	-	-	-
08-Jul-25	NO PUMP		0	0	-	-	-
09-Jul-25	NO PUMP		0	0	-	-	-
10-Jul-25	NO PUMP		0	0	-	-	-
11-Jul-25	NO PUMP		0	0	-	-	-
12-Jul-25	NO PUMP		0	0	-	-	-
13-Jul-25	NO PUMP		0	0	-	-	-
14-Jul-25	NO PUMP		0	0	-	-	-
15-Jul-25	NO PUMP		0	0	-	-	-
16-Jul-25	NO PUMP		0	0	-	-	-
17-Jul-25	NO PUMP		0	0	-	-	-
18-Jul-25	NO PUMP		0	0	-	-	-
19-Jul-25	NO PUMP		0	0	-	-	-
20-Jul-25	NO PUMP		0	0	-	-	-
21-Jul-25	NO PUMP		0	0	-	-	-
22-Jul-25	NO PUMP		0	0	-	-	-
23-Jul-25	NO PUMP		0	0	-	-	-
24-Jul-25	NO PUMP		0	0	-	-	-
25-Jul-25	NO PUMP		0	0	-	-	-
26-Jul-25	NO PUMP		0	0	-	-	-
27-Jul-25	NO PUMP		0	0	-	-	-
28-Jul-25	NO PUMP		0	0	-	-	-
29-Jul-25	NO PUMP		0	0	-	-	-
30-Jul-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
31-Jul-25	NO PUMP		0	0	-	-	-
01-Aug-25	NO PUMP		0	0	-	-	-
02-Aug-25	NO PUMP		0	0	-	-	-
03-Aug-25	NO PUMP		0	0	-	-	-
04-Aug-25	NO PUMP		0	0	-	-	-
05-Aug-25	NO PUMP		0	0	-	-	-
06-Aug-25	NO PUMP		0	0	-	-	-
07-Aug-25	NO PUMP		0	0	-	-	-
08-Aug-25	NO PUMP		0	0	-	-	-
09-Aug-25	NO PUMP		0	0	-	-	-
10-Aug-25	NO PUMP		0	0	-	-	-
11-Aug-25	NO PUMP		0	0	-	-	-
12-Aug-25	NO PUMP		0	0	-	-	-
13-Aug-25	NO PUMP		0	0	-	-	-
14-Aug-25	NO PUMP		0	0	-	-	-
15-Aug-25	NO PUMP		0	0	-	-	-
16-Aug-25	NO PUMP		0	0	-	-	-
17-Aug-25	NO PUMP		0	0	-	-	-
18-Aug-25	NO PUMP		0	0	-	-	-
19-Aug-25	NO PUMP		0	0	-	-	-
20-Aug-25	NO PUMP		0	0	-	-	-
21-Aug-25	NO PUMP		0	0	-	-	-
22-Aug-25	NO PUMP		0	0	-	-	-
23-Aug-25	NO PUMP		0	0	-	-	-
24-Aug-25	NO PUMP		0	0	-	-	-
25-Aug-25	NO PUMP		0	0	-	-	-
26-Aug-25	NO PUMP		0	0	-	-	-
27-Aug-25	NO PUMP		0	0	-	-	-
28-Aug-25	NO PUMP		0	0	-	-	-
29-Aug-25	NO PUMP		0	0	-	-	-
30-Aug-25	NO PUMP		0	0	-	-	-
31-Aug-25	NO PUMP		0	0	-	-	-
01-Sep-25	NO PUMP		0	0	-	-	-
02-Sep-25	NO PUMP		0	0	-	-	-
03-Sep-25	NO PUMP		0	0	-	-	-
04-Sep-25	NO PUMP		0	0	-	-	-
05-Sep-25	NO PUMP		0	0	-	-	-
06-Sep-25	NO PUMP		0	0	-	-	-
07-Sep-25	NO PUMP		0	0	-	-	-
08-Sep-25	NO PUMP		0	0	-	-	-
09-Sep-25	NO PUMP		0	0	-	-	-
10-Sep-25	NO PUMP		0	0	-	-	-
11-Sep-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
12-Sep-25	NO PUMP		0	0	-	-	-
13-Sep-25	NO PUMP		0	0	-	-	-
14-Sep-25	NO PUMP		0	0	-	-	-
15-Sep-25	NO PUMP		0	0	-	-	-
16-Sep-25	NO PUMP		0	0	-	-	-
17-Sep-25	NO PUMP		0	0	-	-	-
18-Sep-25	NO PUMP		0	0	-	-	-
19-Sep-25	NO PUMP		0	0	-	-	-
20-Sep-25	NO PUMP		0	0	-	-	-
21-Sep-25	NO PUMP		0	0	-	-	-
22-Sep-25	NO PUMP		0	0	-	-	-
23-Sep-25	NO PUMP		0	0	-	-	-
24-Sep-25	NO PUMP		0	0	-	-	-
25-Sep-25	NO PUMP		0	0	-	-	-
26-Sep-25	NO PUMP		0	0	-	-	-
27-Sep-25	NO PUMP		0	0	-	-	-
28-Sep-25	NO PUMP		0	0	-	-	-
29-Sep-25	NO PUMP		0	0	-	-	-
30-Sep-25	NO PUMP		0	0	-	-	-
01-Oct-25	NO PUMP		0	0	-	-	-
02-Oct-25	NO PUMP		0	0	-	-	-
03-Oct-25	NO PUMP		0	0	-	-	-
04-Oct-25	NO PUMP		0	0	-	-	-
05-Oct-25	NO PUMP		0	0	-	-	-
06-Oct-25	NO PUMP		0	0	-	-	-
07-Oct-25	NO PUMP		0	0	-	-	-
08-Oct-25	NO PUMP		0	0	-	-	-
09-Oct-25	NO PUMP		0	0	-	-	-
10-Oct-25	NO PUMP		0	0	-	-	-
11-Oct-25	NO PUMP		0	0	-	-	-
12-Oct-25	NO PUMP		0	0	-	-	-
13-Oct-25	NO PUMP		0	0	-	-	-
14-Oct-25	NO PUMP		0	0	-	-	-
15-Oct-25	NO PUMP		0	0	-	-	-
16-Oct-25	NO PUMP		0	0	-	-	-
17-Oct-25	NO PUMP		0	0	-	-	-
18-Oct-25	NO PUMP		0	0	-	-	-
19-Oct-25	NO PUMP		0	0	-	-	-
20-Oct-25	NO PUMP		0	0	-	-	-
21-Oct-25	NO PUMP		0	0	-	-	-
22-Oct-25	7:00 AM	5:00 PM	36000	600	850,200	24	1,417
23-Oct-25	NO PUMP		0	0	-	-	-
24-Oct-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
25-Oct-25	NO PUMP		0	0	-	-	-
26-Oct-25	NO PUMP		0	0	-	-	-
27-Oct-25	NO PUMP		0	0	-	-	-
28-Oct-25	NO PUMP		0	0	-	-	-
29-Oct-25	NO PUMP		0	0	-	-	-
30-Oct-25	NO PUMP		0	0	-	-	-
31-Oct-25	NO PUMP		0	0	-	-	-
01-Nov-25	NO PUMP		0	0	-	-	-
02-Nov-25	NO PUMP		0	0	-	-	-
03-Nov-25	NO PUMP		0	0	-	-	-
04-Nov-25	NO PUMP		0	0	-	-	-
05-Nov-25	NO PUMP		0	0	-	-	-
06-Nov-25	NO PUMP		0	0	-	-	-
07-Nov-25	NO PUMP		0	0	-	-	-
08-Nov-25	NO PUMP		0	0	-	-	-
09-Nov-25	NO PUMP		0	0	-	-	-
10-Nov-25	NO PUMP		0	0	-	-	-
11-Nov-25	NO PUMP		0	0	-	-	-
12-Nov-25	NO PUMP		0	0	-	-	-
13-Nov-25	NO PUMP		0	0	-	-	-
14-Nov-25	NO PUMP		0	0	-	-	-
15-Nov-25	NO PUMP		0	0	-	-	-
16-Nov-25	NO PUMP		0	0	-	-	-
17-Nov-25	NO PUMP		0	0	-	-	-
18-Nov-25	NO PUMP		0	0	-	-	-
19-Nov-25	NO PUMP		0	0	-	-	-
20-Nov-25	NO PUMP		0	0	-	-	-
21-Nov-25	NO PUMP		0	0	-	-	-
22-Nov-25	NO PUMP		0	0	-	-	-
23-Nov-25	NO PUMP		0	0	-	-	-
24-Nov-25	NO PUMP		0	0	-	-	-
25-Nov-25	NO PUMP		0	0	-	-	-
26-Nov-25	NO PUMP		0	0	-	-	-
27-Nov-25	NO PUMP		0	0	-	-	-
28-Nov-25	NO PUMP		0	0	-	-	-
29-Nov-25	NO PUMP		0	0	-	-	-
30-Nov-25	NO PUMP		0	0	-	-	-
01-Dec-25	NO PUMP		0	0	-	-	-
02-Dec-25	NO PUMP		0	0	-	-	-
03-Dec-25	NO PUMP		0	0	-	-	-
04-Dec-25	NO PUMP		0	0	-	-	-
05-Dec-25	NO PUMP		0	0	-	-	-
06-Dec-25	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
<b>ECA Permitted Rate</b>					<b>6,544,800</b>	<b>76</b>	<b>4,545</b>
07-Dec-25	NO PUMP		0	0	-	-	-
08-Dec-25	NO PUMP		0	0	-	-	-
09-Dec-25	NO PUMP		0	0	-	-	-
10-Dec-25	NO PUMP		0	0	-	-	-
11-Dec-25	NO PUMP		0	0	-	-	-
12-Dec-25	NO PUMP		0	0	-	-	-
13-Dec-25	NO PUMP		0	0	-	-	-
14-Dec-25	NO PUMP		0	0	-	-	-
15-Dec-25	NO PUMP		0	0	-	-	-
16-Dec-25	NO PUMP		0	0	-	-	-
17-Dec-25	NO PUMP		0	0	-	-	-
18-Dec-25	NO PUMP		0	0	-	-	-
19-Dec-25	NO PUMP		0	0	-	-	-
20-Dec-25	NO PUMP		0	0	-	-	-
21-Dec-25	NO PUMP		0	0	-	-	-
22-Dec-25	NO PUMP		0	0	-	-	-
23-Dec-25	NO PUMP		0	0	-	-	-
24-Dec-25	NO PUMP		0	0	-	-	-
25-Dec-25	NO PUMP		0	0	-	-	-
26-Dec-25	NO PUMP		0	0	-	-	-
27-Dec-25	NO PUMP		0	0	-	-	-
28-Dec-25	NO PUMP		0	0	-	-	-
29-Dec-25	NO PUMP		0	0	-	-	-
30-Dec-25	NO PUMP		0	0	-	-	-
31-Dec-25	NO PUMP		0	0	-	-	-

Figure



**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.

<b>Table 1 - Effluent Limits</b>		
<b>Effluent Parameter</b>	<b>Daily Concentration</b> (milligrams per litre unless otherwise indicated)	<b>Monthly Average Concentration</b> (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:

<b>Table 2 - Effluent Monitoring</b>	
<b>Sample Point</b>	Outfall of settling pond approximately 150 metres north of Concession 1 (i.e. end of pipe discharge).
<b>Frequency</b>	Weekly
<b>Sample Type</b>	Grab
<b>Parameters</b>	Oil and Grease, Phenolics (4AAP), and Total Suspended Solid (TSS).

<b>Table 3 - Effluent and Surface Water Monitoring</b>	
<b>Sample Point</b>	<ol style="list-style-type: none"> <li>1. Outfall of settling pond approximately 150 metres north of Concession 1 (i.e. end of pipe discharge).</li> <li>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).</li> <li>3. 80 centimetre CSP located at Concession 1 Road on McCarthy property (i.e. downgradient of end of pipe discharge).</li> </ol>
<b>Frequency</b>	Semi-Annually during discharge event.
<b>Sample Type</b>	Grab
<b>Parameters</b>	Total Suspended Solids, Copper, Lead, Nickel, Zinc, Arsenic, Oil and Grease, Phenolics (4AAP), Hardness (as CaCO <sub>3</sub> ), Alkalinity(as CaCO <sub>3</sub> ), Conductivity, pH, Fluoride, Chloride, Nitrate (N), Nitrite (N), Sulphate, Calcium, Magnesium, Sodium, Potassium, Ammonia (N), Dissolved Organic Carbon, Iron, Total Kjeldahl Nitrogen, Phosphorus (Total), Cadmium, Chromium, Manganese, Anion (Sum), Cation (Sum) and Total Dissolved Solids.

- (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 31<sup>st</sup>. 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

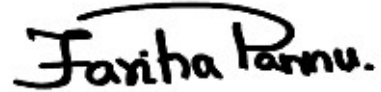
AND

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](http://www.ert.gov.on.ca)**

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

DATED AT TORONTO this 22nd day of October, 2019



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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**

**Permit to Take Water  
No. 0721-DDKR57**

**PERMIT TO TAKE WATER**  
Ground Water  
NUMBER 0721-DDKR57

*Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:*

GIP Industrial Inc.  
100 Commerce Valley Dr W  
Markham, Ontario, L3T 0A1  
Canada

*For the water taking from:* Quarry Sump

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

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

**DEFINITIONS**

- (a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34.1, OWRA.
- (b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.
- (c) "Ministry" means Ontario Ministry of the Environment, Conservation and Parks.
- (d) "District Office" means the Barrie District Office.
- (e) "Permit" means this Permit to Take Water No. 0721-DDKR57 including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.
- (f) "Permit Holder" means GIP Industrial Inc..
- (g) "OWRA " means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

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

## **TERMS AND CONDITIONS**

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

- 1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated November 1, 2024 and signed by Gerald Quinlan, and all Schedules included in this Permit.
- 1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.
- 1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.
- 1.4 This Permit is not transferable to another person without the Director's written consent.
- 1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.
- 1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.
- 1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change.

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

#### **2.1 Inspections**

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

#### **2.2 Other Approvals**

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

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

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

2.2.1 No water taken under the authority of this Permit may be discharged directly to the natural environment without prior treatment in accordance with an Ontario Water Resources Act, R.S.O. 1990, Section 53, Industrial Sewage Works Approval.

### 2.3 Information

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

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

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

### 2.4 Rights of Action

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

### 2.5 Severability

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

### 2.6 Conflicts

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

## 3. Water Takings Authorized by This Permit

### 3.1 Expiry

This Permit expires on **January 31, 2035**. No water shall be taken under authority of this Permit after the expiry date.

### 3.2 Amounts of Taking Permitted

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

**Table A**

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Quarry Sump	Pond Connected	Pits and Quarries	Dewatering	4,545	24	6,544,800	250	17 651324 4933188
						<b>Total Taking:</b>	6,544,800		

3.3 Notwithstanding Table A, the **maximum taking per year** from **Source 1** (Quarry Sump) is 196,500,000 litres.

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

#### 4. Monitoring

4.1 The Permit Holder shall maintain a record of all water takings. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director. This record shall include the dates and times of water takings, the rates of pumping, and the total measured amounts of water pumped per day for each day that water is taken under the authorization of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder shall submit, on or before March 31<sup>st</sup> in every year, the daily water taking data collected and recorded for the previous year to the Ministry's Water Taking Reporting System.

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

- a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in **Item 2** of **Schedule A** of this Permit, if granted permission by the property owner.
- b) The monitoring wells named OW4-1, OW4-2, OW5-1, OW6-1, OW6-2, OW8-3, OW9-2, and Bored Well (shown on Figure 2, in **Item 2** of **Schedule A** of this Permit).
- c) The City of Kwartha Lakes monitoring well CKL-1, if granted permission by the property owner.

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

- 4.3 The Permit Holder shall conduct monthly water level monitoring with the use of a manual water level meter at:
- a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in Item 2 of Schedule A of this Permit, if granted permission by the property owner.
  - b) The residential wells named DW1, DW2, and DW4, if granted permission by the property owner (shown on Figure 2, in **Item 2 of Schedule A** of this Permit).
  - c) The monitoring wells named AM1b, AMX-R, TW1-1, OW4-1, OW4-2, OW5-1, OW5-2, OW5-3, OW6-1, OW6-2, OW6-3, OW7-1, OW7-2, OW7-3, OW8-1, OW8-2, OW8-3, OW9-1, OW9-2, and Bored Well (shown on Figure 2 in **Item 2 of Schedule A** of this Permit).
  - d) The City of Kwartha Lakes monitoring wells CKL-1 and CKL-2, if granted permission by the property owner.

The Permit Holder may suspend monthly water level monitoring under Condition 4.3 for the months of January and/or February if no water is taken from the quarry on those months.

- 4.4 The Permit Holder shall, if granted permission by the property owner, measure and record static water levels in the residential wells named DW6, DW7, and DW8, as shown on Figure 2 in **Item 2 of Schedule A** of this Permit, at least once in every two (2) month period during which water is taken from the quarry. The Permit Holder may suspend monthly water level monitoring under Condition 4.4 for the months of January and/or February if no water is taken from the quarry on those months.
- 4.5 The Permit Holder shall, if granted permission by the property owner, on a semi-annual basis collect raw water samples from the residential wells named DW1, DW2, and the well identified in condition 4.2(a). Each sample shall be tested, at a minimum, for the parameters listed in Table 1 below:

Table 1: Water Quality Parameters for Residential Wells

pH	Sulphate	DOC	Copper
Alkalinity (CaCO <sub>3</sub> )	Magnesium	Colour	Iron
Bicarbonate	Calcium	Turbidity	Lead
Conductivity	Sodium	Aluminium	Manganese
Fluoride	Potassium	Arsenic	Selenium
Chloride	Ammonia (N)	Barium	Zinc
Nitrate	Phosphate	Boron	Hardness (CaCO <sub>3</sub> )
Nitrite	Phosphorus	Cadmium	TDS (iron sum calc.)
Chromium	Anion Sum	Ion Ratio	Langelier Index

Tannins	Cation Sum	% Difference	
---------	------------	--------------	--

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

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

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

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

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

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

- 4.7 The Permit Holder shall notify the Director, in writing, within 30 days if the groundwater level or groundwater quality monitoring of any well listed under conditions 4.2, 4.3, 4.4, 4.5, and 4.6 is not possible, including being denied access to a private well. In the event of damage or loss of any monitoring well, monitoring devices or related equipment, the Permit Holder shall be allowed 30 calendar days from the date of discovery of the occurrence to repair or replace equipment. If a well is too damaged to be repaired or monitored, or if the well is deemed unsafe to be monitored, then the Director will decide if a replacement well is required and will modify the appropriate monitoring conditions in a written letter to the Permit Holder.
- 4.8 The Permit Holder shall submit an annual monitoring report to the Director **by no later than March 1 of each year** during the life of this Permit. The annual monitoring report shall be prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:
- a) The review and assessment of all monitoring data required by this Permit.
  - b) An up-date of the quarry operations and predicted quarrying and dewatering for the next twelve (12) months.
  - c) An assessment of the groundwater trends using the on-site on off-site monitoring data.

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

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

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

- 4.9 The Permit Holder shall make available on a publicly-accessible site on the internet all water quality and quantity data that is required under this Permit and O.Reg. 387/04, as amended, and a copy of every report that is required to be prepared under this Permit. For greater clarity, the Permit Holder shall not publish any personal information as defined by the *Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c. F.31, as amended.
- 4.10 The Permit Holder shall maintain a Public Liaison Committee ("PLC") comprised of not more than seven (7) members that will meet **at least once every four (4) months**, unless the majority of the PLC decide that more or less frequent meetings are required. The PLC shall be comprised of: two (2) members appointed by the Permit Holder - one of whom shall act as Chairperson; one (1) member from each of the Township and the County, if they wish to have representatives; and three (3) members appointed by the public, if they wish to have representatives, who must be permanent residents within a 3 kilometre radius of the quarry property. The PLC shall serve in an advisory / community liaison role and shall have no powers to direct the Permit Holder or the Ministry.
- 4.11 Any request for an amendment or renewal of this Permit shall be accompanied by a report prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:
  - a) The review and assessment of all monitoring data required by this Permit.
  - b) An up-date of the quarry operations and predicted quarrying and dewatering for the duration of the requested permit.

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

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

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

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

### **5.1 Notification**

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

### **5.2 For Groundwater Takings**

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

adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

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

**6. Director May Amend Permit**

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

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

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

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

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

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

- a. The name of the appellant;
- b. The address of the appellant;
- c. The Permit to Take Water number;
- d. The date of the Permit to Take Water;
- e. The name of the Director;
- f. The municipality within which the works are located;

*This notice must be served upon:*

*The Secretary  
Environmental Review Tribunal  
Registrar  
Ontario Land Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5  
OLT.Registrar@ontario.ca*

*AND*

*The Minister of the Environment,  
Conservation and Parks  
777 Bay Street, 5th Floor  
Toronto, Ontario  
M7J 2J3*

*AND*

*The Director, Section 34.1,  
Ministry of the Environment,  
Conservation and Parks  
Floor 1, 135 St Clair Ave W  
Toronto, ON  
M4V 1P5*

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

by Telephone at

(416) 212-6349

Toll Free 1(866) 448-2248

by Fax at

(416) 326-5370

Toll Free 1(844) 213-3474

by e-mail at

[www.ert.gov.on.ca](http://www.ert.gov.on.ca)

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

This Permit cancels and replaces Permit Number 5184-CQ7MQS, issued on 2023/03/27.

Dated at Toronto this 12th day of March, 2025.

A handwritten signature in black ink, appearing to read 'A. Uprey', written in a cursive style.

Archana Uprey  
Director, Section 34.1  
*Ontario Water Resources Act* , R.S.O. 1990

## **Schedule A**

This Schedule "A" forms part of Permit To Take Water 0721-DDKR57, dated March 12, 2025.

1. Permit to Take Water Application, signed by Gerald Quinlan, dated November 1, 2024.
2. WSP Canada Inc. 2024. Hydrogeological Assessment, Permit to Take Water Renewal, McCarthy Quarry, report signed by Colin Imrie, GIT and Sean McFarland, P.Geo., dated November 2024.

**APPENDIX C**

**Water Quality Results**



Your Project #: 20448776  
 Site Location: McCarthy  
 Your C.O.C. #: C#817098-03-01

**Attention: Colin Imrie**

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

**Report Date: 2025/04/04**  
 Report #: R8514935  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C533907**

**Received: 2025/03/28, 09:00**

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	2025/04/03	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2025/04/03	2025/04/03	CAM SOP-00326	EPA1664B m,SM5520B m
pH (1)	1	2025/03/31	2025/04/01	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/04/01	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2025/04/03	2025/04/03	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2025/04/03	2025/04/04	CAM SOP-00428	SM 24 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, EPA, APHA or the Quebec Ministry of Environment.

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) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."



Your Project #: 20448776  
Site Location: McCarthy  
Your C.O.C. #: C#817098-03-01

**Attention: Colin Imrie**

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

**Report Date: 2025/04/04**  
Report #: R8514935  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C533907**

**Received: 2025/03/28, 09:00**

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

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

04 Apr 2025 12:36:48

Please direct all questions regarding this Certificate of Analysis to:  
Trushna Patel, B.Tech. Biomedical Engineering, Project Manager  
Email: Trushna.Patel@bureauveritas.com  
Phone# (905) 817-5700

=====

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BUREAU  
VERITAS

Bureau Veritas Job #: C533907  
Report Date: 2025/04/04

Golder Associates Ltd  
Client Project #: 20448776  
Site Location: McCarthy  
Sampler Initials: JM

### RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		APIO25		APIO25	
Sampling Date		2025/03/27 11:30		2025/03/27 11:30	
COC Number		C#817098-03-01		C#817098-03-01	
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>POND Lab-Dup</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	8.0	0.50	N/A	9900944
<b>Inorganics</b>					
pH	pH	7.63	N/A	7.65	9901729
Phenols-4AAP	mg/L	<0.0010	0.0010	N/A	9902008
Total Suspended Solids	mg/L	7	1	N/A	9903515
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	10	0.50	N/A	9903286
Total Oil & Grease Mineral/Synthetic	mg/L	2.0	0.50	N/A	9903287
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					



BUREAU  
VERITAS

Bureau Veritas Job #: C533907  
Report Date: 2025/04/04

Golder Associates Ltd  
Client Project #: 20448776  
Site Location: McCarthy  
Sampler Initials: JM

### GENERAL COMMENTS

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

Package 1	13.0°C
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Samples received on temperature greater than 10C. Client consented to proceed with analysis.

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



BUREAU  
VERITAS

Bureau Veritas Job #: C533907  
Report Date: 2025/04/04

Golder Associates Ltd  
Client Project #: 20448776  
Site Location: McCarthy  
Sampler Initials: JM

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9901729	GTK	Spiked Blank	pH	2025/04/01		102	%	98 - 103
9901729	GTK	RPD [APIO25-03]	pH	2025/04/01	0.34		%	N/A
9902008	SPC	Matrix Spike	Phenols-4AAP	2025/04/01		101	%	80 - 120
9902008	SPC	Spiked Blank	Phenols-4AAP	2025/04/01		103	%	80 - 120
9902008	SPC	Method Blank	Phenols-4AAP	2025/04/01	<0.0010		mg/L	
9902008	SPC	RPD	Phenols-4AAP	2025/04/01	NC		%	20
9903286	NSG	Spiked Blank	Total Oil & Grease	2025/04/03		98	%	80 - 110
9903286	NSG	RPD	Total Oil & Grease	2025/04/03	0.76		%	25
9903286	NSG	Method Blank	Total Oil & Grease	2025/04/03	<0.50		mg/L	
9903287	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2025/04/03		96	%	65 - 130
9903287	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2025/04/03	1.0		%	25
9903287	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2025/04/03	<0.50		mg/L	
9903515	RTB	Spiked Blank	Total Suspended Solids	2025/04/04		100	%	80 - 120
9903515	RTB	Method Blank	Total Suspended Solids	2025/04/04	<1		mg/L	
9903515	RTB	RPD	Total Suspended Solids	2025/04/04	15		%	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.

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 #: C533907  
Report Date: 2025/04/04

Golder Associates Ltd  
Client Project #: 20448776  
Site Location: McCarthy  
Sampler Initials: JM

### VALIDATION SIGNATURE PAGE

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

A handwritten signature in cursive script that reads 'Louise A. Harding'.

Louise Harding, Scientific Specialist

---

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Your Project #: CA0052306.5688  
 Site Location: MCCARTHY  
 Your C.O.C. #: C#851932-04-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/09**  
 Report #: R8535642  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C549693**

**Received: 2025/05/02, 10:36**

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	2025/05/09	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2025/05/09	2025/05/09	CAM SOP-00326	EPA1664B m,SM5520B m
pH (1)	1	2025/05/07	2025/05/07	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/05/06	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2025/05/09	2025/05/09	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2025/05/05	2025/05/07	CAM SOP-00428	SM 24 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, EPA, APHA or the Quebec Ministry of Environment.

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) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."



Your Project #: CA0052306.5688  
Site Location: MCCARTHY  
Your C.O.C. #: C#851932-04-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/09**  
Report #: R8535642  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C549693**

**Received: 2025/05/02, 10:36**

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

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

09 May 2025 16:53:54

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager  
Email: keshani.vijh@bureauveritas.com  
Phone# (905) 817-5700

=====

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**RESULTS OF ANALYSES OF WATER**

<b>Bureau Veritas ID</b>			AQMT73		
<b>Sampling Date</b>			2025/05/01 11:05		
<b>COC Number</b>			C#851932-04-01		
	<b>UNITS</b>	<b>Criteria</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	-	<0.50	0.50	9921589
<b>Inorganics</b>					
pH	pH	<b>6.5:8.5</b>	7.36	N/A	9923975
Phenols-4AAP	mg/L	<b>0.001</b>	<0.0010	0.0010	9923526
Total Suspended Solids	mg/L	-	2	1	9922301
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	-	<0.50	0.50	9925504
Total Oil & Grease Mineral/Synthetic	mg/L	-	<0.50	0.50	9925507
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Provincial Water Quality Objectives Ref. to MOEE Water Management document dated Feb.1999 N/A = Not Applicable					



### GENERAL COMMENTS

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

Package 1	16.0°C
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Samples received over 10 degrees C, proceeded with client consent.

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



BUREAU  
VERITAS

Bureau Veritas Job #: C549693  
Report Date: 2025/05/09

Golder Associates Ltd  
Client Project #: CA0052306.5688  
Site Location: MCCARTHY  
Sampler Initials: JM

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9922301	MV1	Spiked Blank	Total Suspended Solids	2025/05/07		99	%	80 - 120
9922301	MV1	Method Blank	Total Suspended Solids	2025/05/07	<1		mg/L	
9922301	MV1	RPD	Total Suspended Solids	2025/05/07	0		%	20
9923526	SSV	Matrix Spike	Phenols-4AAP	2025/05/06		103	%	80 - 120
9923526	SSV	Spiked Blank	Phenols-4AAP	2025/05/06		99	%	80 - 120
9923526	SSV	Method Blank	Phenols-4AAP	2025/05/06	<0.0010		mg/L	
9923526	SSV	RPD	Phenols-4AAP	2025/05/06	NC		%	20
9923975	S_P	Spiked Blank	pH	2025/05/07		102	%	98 - 103
9923975	S_P	RPD	pH	2025/05/07	0.062		%	N/A
9925504	NSG	Spiked Blank	Total Oil & Grease	2025/05/09		99	%	80 - 110
9925504	NSG	RPD	Total Oil & Grease	2025/05/09	0.25		%	25
9925504	NSG	Method Blank	Total Oil & Grease	2025/05/09	<0.50		mg/L	
9925507	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2025/05/09		97	%	65 - 130
9925507	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2025/05/09	0.52		%	25
9925507	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2025/05/09	<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 #: C549693  
Report Date: 2025/05/09

Golder Associates Ltd  
Client Project #: CA0052306.5688  
Site Location: MCCARTHY  
Sampler Initials: JM

### VALIDATION SIGNATURE PAGE

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

Louise Harding, Scientific Specialist

---

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Your Project #: CA0052306.5688  
 Site#: McCarthy  
 Your C.O.C. #: 1044379-01-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/14**  
 Report #: R8538027  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552255**

**Received: 2025/05/08, 13:16**

Sample Matrix: Water  
 # Samples Received: 4

<b>Analyses</b>	<b>Quantity</b>	<b>Date Extracted</b>	<b>Date Analyzed</b>	<b>Laboratory Method</b>	<b>Analytical Method</b>
Alkalinity	4	N/A	2025/05/12	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2025/05/13	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	2	N/A	2025/05/11	CAM SOP-00463	SM 24 4500-Cl E m
Chloride by Automated Colourimetry	2	N/A	2025/05/12	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	4	N/A	2025/05/12	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2025/05/10	CAM SOP-00446	SM 24 5310 B m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2025/05/09	CAM SOP-00446	SM 24 5310 B m
Fluoride	4	2025/05/10	2025/05/13	CAM SOP-00449	SM 24 4500-F C m
Hardness (calculated as CaCO3)	4	N/A	2025/05/13	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals Analysis by ICP	4	2025/05/09	2025/05/13	CAM SOP-00408	EPA 6010D m
Total Metals Analysis by ICPMS	4	2025/05/09	2025/05/09	CAM SOP-00447	EPA 6020B m
Anion and Cation Sum	4	N/A	2025/05/13	CAM SOP-00102	SM 24 1030E m
Total Ammonia-N	4	N/A	2025/05/14	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	4	N/A	2025/05/11	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Animal and Vegetable Oil and Grease	4	N/A	2025/05/13	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	4	2025/05/13	2025/05/13	CAM SOP-00326	EPA1664B m,SM5520B m
pH (3)	4	2025/05/10	2025/05/12	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	4	N/A	2025/05/12	CAM SOP-00444	OMOE E3179 m
Orthophosphate	2	N/A	2025/05/11	CAM SOP-00461	SM 24 4500-P E
Orthophosphate	2	N/A	2025/05/12	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	4	N/A	2025/05/13		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2025/05/13		Auto Calc
Sulphate by Automated Turbidimetry	2	N/A	2025/05/11	CAM SOP-00464	SM 24 4500-SO42- E m
Sulphate by Automated Turbidimetry	2	N/A	2025/05/12	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids	2	2025/05/10	2025/05/12	CAM SOP-00428	SM 24 2540C m
Total Dissolved Solids	2	2025/05/12	2025/05/13	CAM SOP-00428	SM 24 2540C m
Total Kjeldahl Nitrogen in Water	4	2025/05/12	2025/05/12	CAM SOP-00938	SM 4500-N B m
Total Phosphorus (Colourimetric)	4	2025/05/12	2025/05/13	CAM SOP-00407	SM 24 4500-P I
Total Phosphorus (Colourimetric)	4	2025/05/12	2025/05/13	CAM SOP-00407	SM 24 4500-P I



Your Project #: CA0052306.5688  
 Site#: McCarthy  
 Your C.O.C. #: 1044379-01-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/14**  
 Report #: R8538027  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552255**

**Received: 2025/05/08, 13:16**

Sample Matrix: Water  
 # Samples Received: 4

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Mineral/Synthetic O & G (TPH Heavy Oil) (4)	4	2025/05/13	2025/05/13	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	4	2025/05/09	2025/05/10	CAM SOP-00428	SM 24 2540D m
Turbidity	4	N/A	2025/05/09	CAM SOP-00417	SM 24 2130 B

**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, EPA, APHA or the Quebec Ministry of Environment.

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) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

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



Your Project #: CA0052306.5688  
Site#: McCarthy  
Your C.O.C. #: 1044379-01-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/14**  
Report #: R8538027  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C552255**

**Received: 2025/05/08, 13:16**

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

14 May 2025 12:42:31

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager  
Email: keshani.vijh@bureauveritas.com  
Phone# (905) 817-5700

=====

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BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

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

Bureau Veritas ID		AQRM40	AQRM41	AQRM42	AQRM43		
Sampling Date		2025/05/07 11:00	2025/05/07 10:50	2025/05/07 12:50	2025/05/07		
COC Number		1044379-01-01	1044379-01-01	1044379-01-01	1044379-01-01		
	<b>UNITS</b>	<b>Pond</b>	<b>SW1</b>	<b>SW2</b>	<b>DUP 3</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>							
Total Animal/Vegetable Oil and Grease	mg/L	0.90	0.80	0.90	<0.50	0.50	9925419
<b>Petroleum Hydrocarbons</b>							
Total Oil & Grease	mg/L	0.90	1.3	0.90	<0.50	0.50	9927417
Total Oil & Grease Mineral/Synthetic	mg/L	<0.50	0.50	<0.50	<0.50	0.50	9927418
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			AQRM40			AQRM40		
Sampling Date			2025/05/07 11:00			2025/05/07 11:00		
COC Number			1044379-01-01			1044379-01-01		
	UNITS	Criteria	Pond	RDL	QC Batch	Pond Lab-Dup	RDL	QC Batch
<b>Calculated Parameters</b>								
Anion Sum	me/L	-	8.42	N/A	9924593			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	88	1.0	9925415			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	<1.0	1.0	9925415			
Cation Sum	me/L	-	10.0	N/A	9924593			
Hardness (CaCO3)	mg/L	-	320	1.0	9925228			
Langelier Index (@ 20C)	N/A	-	0.344		9924596			
Langelier Index (@ 4C)	N/A	-	0.0960		9924597			
Saturation pH (@ 20C)	N/A	-	7.64		9924596			
Saturation pH (@ 4C)	N/A	-	7.89		9924597			
<b>Inorganics</b>								
Total Ammonia-N	mg/L	-	<0.050	0.050	9926970			
Conductivity	umho/cm	-	950	2.0	9926466			
Total Dissolved Solids	mg/L	-	535	10	9926394			
Fluoride (F-)	mg/L	-	0.34	0.10	9926464			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.40	0.10	9927010			
Dissolved Organic Carbon	mg/L	-	5.1	0.40	9926208			
Orthophosphate (P)	mg/L	-	<0.010	0.010	9926312			
pH	pH	6.5:8.5	7.98		9926467			
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	9927142	<0.0010	0.0010	9927142
Total Phosphorus	mg/L	0.01	<b>0.011</b>	0.004	9926993			
Total Suspended Solids	mg/L	-	<10	10	9926179			
Dissolved Sulphate (SO4)	mg/L	-	180	1.0	9926311			
Turbidity	NTU	-	5.5	0.1	9925741			
Alkalinity (Total as CaCO3)	mg/L	-	89	1.0	9926465			
Dissolved Chloride (Cl-)	mg/L	-	100	1.0	9926309			
Nitrite (N)	mg/L	-	<0.010	0.010	9925881			
Nitrate (N)	mg/L	-	<0.10	0.10	9925881			
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 #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### RESULTS OF ANALYSES OF WATER

<b>Bureau Veritas ID</b>			AQRM41		AQRM42			AQRM42		
<b>Sampling Date</b>			2025/05/07 10:50		2025/05/07 12:50			2025/05/07 12:50		
<b>COC Number</b>			1044379-01-01		1044379-01-01			1044379-01-01		
	<b>UNITS</b>	<b>Criteria</b>	<b>SW1</b>	<b>QC Batch</b>	<b>SW2</b>	<b>RDL</b>	<b>QC Batch</b>	<b>SW2 Lab-Dup</b>	<b>RDL</b>	<b>QC Batch</b>

Calculated Parameters										
Anion Sum	me/L	-	10.2	9924593	6.24	N/A	9924593			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	190	9925415	280	1.0	9925415			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	2.3	9925415	3.1	1.0	9925415			
Cation Sum	me/L	-	12.1	9924593	7.08	N/A	9924593			
Hardness (CaCO3)	mg/L	-	420	9925228	340	1.0	9925228			
Langelier Index (@ 20C)	N/A	-	0.983	9924596	1.17		9924596			
Langelier Index (@ 4C)	N/A	-	0.735	9924597	0.919		9924597			
Saturation pH (@ 20C)	N/A	-	7.12	9924596	6.91		9924596			
Saturation pH (@ 4C)	N/A	-	7.37	9924597	7.16		9924597			

Inorganics										
Total Ammonia-N	mg/L	-	<0.050	9926970	<0.050	0.050	9926970			
Conductivity	umho/cm	-	1100	9926466	570	2.0	9926466			
Total Dissolved Solids	mg/L	-	635	9926394	340	10	9926764			
Fluoride (F-)	mg/L	-	0.30	9926464	<0.10	0.10	9926464			
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.36	9927010	0.30	0.10	9927010			
Dissolved Organic Carbon	mg/L	-	6.8	9926208	6.8	0.40	9926240			
Orthophosphate (P)	mg/L	-	<0.010	9925898	<0.010	0.010	9925898			
pH	pH	6.5:8.5	8.10	9926467	8.08		9926467			
Phenols-4AAP	mg/L	0.001	<0.0010	9927142	<0.0010	0.0010	9927142			
Total Phosphorus	mg/L	0.01	<b>0.027</b>	9926993	<b>0.012</b>	0.004	9926993	<b>&lt;0.020 (1)</b>	0.020	9927065
Total Suspended Solids	mg/L	-	21	9926179	<10	10	9926179			
Dissolved Sulphate (SO4)	mg/L	-	140	9925897	20	1.0	9925897			
Turbidity	NTU	-	5.7	9925741	2.0	0.1	9925741			
Alkalinity (Total as CaCO3)	mg/L	-	190	9926465	280	1.0	9926465			
Dissolved Chloride (Cl-)	mg/L	-	120	9925896	6.3	1.0	9925896			
Nitrite (N)	mg/L	-	0.022	9925874	<0.010	0.010	9925881			
Nitrate (N)	mg/L	-	0.34	9925874	<0.10	0.10	9925881			

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  
(1) RDL exceeds criteria



**RESULTS OF ANALYSES OF WATER**

Bureau Veritas ID			AQRM43		
Sampling Date			2025/05/07		
COC Number			1044379-01-01		
	UNITS	Criteria	DUP 3	RDL	QC Batch
<b>Calculated Parameters</b>					
Anion Sum	me/L	-	10.4	N/A	9924593
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	200	1.0	9925415
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	2.2	1.0	9925415
Cation Sum	me/L	-	11.7	N/A	9924593
Hardness (CaCO3)	mg/L	-	410	1.0	9925228
Langelier Index (@ 20C)	N/A	-	0.939		9924596
Langelier Index (@ 4C)	N/A	-	0.692		9924597
Saturation pH (@ 20C)	N/A	-	7.13		9924596
Saturation pH (@ 4C)	N/A	-	7.38		9924597
<b>Inorganics</b>					
Total Ammonia-N	mg/L	-	<0.050	0.050	9926970
Conductivity	umho/cm	-	1100	2.0	9926466
Total Dissolved Solids	mg/L	-	670	10	9926764
Fluoride (F-)	mg/L	-	0.29	0.10	9926464
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.36	0.10	9927010
Dissolved Organic Carbon	mg/L	-	6.7	0.40	9926208
Orthophosphate (P)	mg/L	-	<0.010	0.010	9926312
pH	pH	6.5:8.5	8.07		9926467
Phenols-4AAP	mg/L	0.001	<0.0010	0.0010	9927142
Total Phosphorus	mg/L	0.01	<b>0.037</b>	0.004	9926993
Total Suspended Solids	mg/L	-	45	10	9926179
Dissolved Sulphate (SO4)	mg/L	-	140	1.0	9926311
Turbidity	NTU	-	7.4	0.1	9925741
Alkalinity (Total as CaCO3)	mg/L	-	200	1.0	9926465
Dissolved Chloride (Cl-)	mg/L	-	130	1.0	9926309
Nitrite (N)	mg/L	-	0.022	0.010	9925881
Nitrate (N)	mg/L	-	0.34	0.10	9925881
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					
N/A = Not Applicable					



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

**ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)**

Bureau Veritas ID			AQRM40	AQRM41	AQRM42	AQRM43		
Sampling Date			2025/05/07 11:00	2025/05/07 10:50	2025/05/07 12:50	2025/05/07		
COC Number			1044379-01-01	1044379-01-01	1044379-01-01	1044379-01-01		
	UNITS	Criteria	Pond	SW1	SW2	DUP 3	RDL	QC Batch
<b>Metals</b>								
Dissolved Calcium (Ca)	mg/L	-	77	120	120	120	0.05	9926234
Dissolved Magnesium (Mg)	mg/L	-	31	28	10	27	0.05	9926234
Dissolved Potassium (K)	mg/L	-	9	7	2	7	1	9926234
Dissolved Sodium (Na)	mg/L	-	78	80	7.6	78	0.5	9926234
Total Arsenic (As)	ug/L	100	<1.0	<1.0	<1.0	<1.0	1.0	9925923
Total Cadmium (Cd)	ug/L	0.2	<0.090	<0.090	<0.090	<0.090	0.090	9925923
Total Calcium (Ca)	ug/L	-	66000	110000	100000	110000	200	9925923
Total Chromium (Cr)	ug/L	-	<5.0	<5.0	<5.0	<5.0	5.0	9925923
Total Copper (Cu)	ug/L	5	<0.90	1.1	<0.90	2.0	0.90	9925923
Total Iron (Fe)	ug/L	300	150	<b>410</b>	<100	<b>680</b>	100	9925923
Total Lead (Pb)	ug/L	5	<0.50	<0.50	<0.50	<0.50	0.50	9925923
Total Magnesium (Mg)	ug/L	-	26000	24000	8400	24000	50	9925923
Total Manganese (Mn)	ug/L	-	23	51	12	59	2.0	9925923
Total Nickel (Ni)	ug/L	25	<1.0	1.4	<1.0	1.6	1.0	9925923
Total Potassium (K)	ug/L	-	7600	6600	1300	6400	200	9925923
Total Sodium (Na)	ug/L	-	68000	71000	6600	69000	100	9925923
Total Zinc (Zn)	ug/L	30	<5.0	<5.0	<5.0	<5.0	5.0	9925923
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 #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### TEST SUMMARY

**Bureau Veritas ID:** AQRM40  
**Sample ID:** Pond  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926465	N/A	2025/05/12	Gurpartee K AUR
Carbonate, Bicarbonate and Hydroxide	CALC	9925415	N/A	2025/05/13	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9926309	N/A	2025/05/12	Alina Dobreanu
Conductivity	AT	9926466	N/A	2025/05/12	Gurpartee K AUR
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9926208	N/A	2025/05/09	Gyulshen Idriz
Fluoride	ISE	9926464	2025/05/10	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925228	N/A	2025/05/13	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	9926234	2025/05/09	2025/05/13	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9925923	2025/05/09	2025/05/09	Azita Fazaeli
Anion and Cation Sum	CALC	9924593	N/A	2025/05/13	Automated Statchk
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
Animal and Vegetable Oil and Grease	BAL	9925419	N/A	2025/05/13	Automated Statchk
Total Oil and Grease	BAL	9927417	2025/05/13	2025/05/13	Navneet Singh
pH	AT	9926467	2025/05/10	2025/05/12	Gurpartee K AUR
Phenols (4AAP)	TECH/PHEN	9927142	N/A	2025/05/12	Sachi Patel
Orthophosphate	SKAL	9926312	N/A	2025/05/12	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9924596	N/A	2025/05/13	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9924597	N/A	2025/05/13	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9926311	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9926394	2025/05/10	2025/05/12	Tina Teng
Total Kjeldahl Nitrogen in Water	SKAL	9927010	2025/05/12	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926993	2025/05/12	2025/05/13	Vidhi Khatri
Total Phosphorus (Colourimetric)	SKAL/P	9927065	2025/05/12	2025/05/13	Vidhi Khatri
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9927418	2025/05/13	2025/05/13	Navneet Singh
Total Suspended Solids	BAL	9926179	2025/05/09	2025/05/10	Tina Teng
Turbidity	AT	9925741	N/A	2025/05/09	Gurpartee K AUR

**Bureau Veritas ID:** AQRM40 Dup  
**Sample ID:** Pond  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Phenols (4AAP)	TECH/PHEN	9927142	N/A	2025/05/12	Sachi Patel

**Bureau Veritas ID:** AQRM41  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926465	N/A	2025/05/12	Gurpartee K AUR
Carbonate, Bicarbonate and Hydroxide	CALC	9925415	N/A	2025/05/13	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9925896	N/A	2025/05/11	Alina Dobreanu
Conductivity	AT	9926466	N/A	2025/05/12	Gurpartee K AUR
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9926208	N/A	2025/05/09	Gyulshen Idriz



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### TEST SUMMARY

**Bureau Veritas ID:** AQRM41  
**Sample ID:** SW1  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Fluoride	ISE	9926464	2025/05/10	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925228	N/A	2025/05/13	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	9926234	2025/05/09	2025/05/13	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9925923	2025/05/09	2025/05/09	Azita Fazaeli
Anion and Cation Sum	CALC	9924593	N/A	2025/05/13	Automated Statchk
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925874	N/A	2025/05/11	Helen He
Animal and Vegetable Oil and Grease	BAL	9925419	N/A	2025/05/13	Automated Statchk
Total Oil and Grease	BAL	9927417	2025/05/13	2025/05/13	Navneet Singh
pH	AT	9926467	2025/05/10	2025/05/12	Gurpartee K AUR
Phenols (4AAP)	TECH/PHEN	9927142	N/A	2025/05/12	Sachi Patel
Orthophosphate	SKAL	9925898	N/A	2025/05/11	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9924596	N/A	2025/05/13	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9924597	N/A	2025/05/13	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9925897	N/A	2025/05/11	Alina Dobreanu
Total Dissolved Solids	BAL	9926394	2025/05/10	2025/05/12	Tina Teng
Total Kjeldahl Nitrogen in Water	SKAL	9927010	2025/05/12	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926993	2025/05/12	2025/05/13	Vidhi Khatri
Total Phosphorus (Colourimetric)	SKAL/P	9927065	2025/05/12	2025/05/13	Vidhi Khatri
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9927418	2025/05/13	2025/05/13	Navneet Singh
Total Suspended Solids	BAL	9926179	2025/05/09	2025/05/10	Tina Teng
Turbidity	AT	9925741	N/A	2025/05/09	Gurpartee K AUR

**Bureau Veritas ID:** AQRM42  
**Sample ID:** SW2  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926465	N/A	2025/05/12	Gurpartee K AUR
Carbonate, Bicarbonate and Hydroxide	CALC	9925415	N/A	2025/05/13	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9925896	N/A	2025/05/11	Alina Dobreanu
Conductivity	AT	9926466	N/A	2025/05/12	Gurpartee K AUR
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9926240	N/A	2025/05/10	Gyulshen Idriz
Fluoride	ISE	9926464	2025/05/10	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925228	N/A	2025/05/13	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	9926234	2025/05/09	2025/05/13	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9925923	2025/05/09	2025/05/09	Azita Fazaeli
Anion and Cation Sum	CALC	9924593	N/A	2025/05/13	Automated Statchk
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
Animal and Vegetable Oil and Grease	BAL	9925419	N/A	2025/05/13	Automated Statchk
Total Oil and Grease	BAL	9927417	2025/05/13	2025/05/13	Navneet Singh
pH	AT	9926467	2025/05/10	2025/05/12	Gurpartee K AUR
Phenols (4AAP)	TECH/PHEN	9927142	N/A	2025/05/12	Sachi Patel
Orthophosphate	SKAL	9925898	N/A	2025/05/11	Alina Dobreanu



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### TEST SUMMARY

**Bureau Veritas ID:** AQRM42  
**Sample ID:** SW2  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	9924596	N/A	2025/05/13	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9924597	N/A	2025/05/13	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9925897	N/A	2025/05/11	Alina Dobreanu
Total Dissolved Solids	BAL	9926764	2025/05/12	2025/05/13	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9927010	2025/05/12	2025/05/12	Rajni Tyagi
Total Phosphorus (Colourimetric)	SKAL/P	9926993	2025/05/12	2025/05/13	Vidhi Khatri
Total Phosphorus (Colourimetric)	SKAL/P	9927065	2025/05/12	2025/05/13	Vidhi Khatri
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9927418	2025/05/13	2025/05/13	Navneet Singh
Total Suspended Solids	BAL	9926179	2025/05/09	2025/05/10	Tina Teng
Turbidity	AT	9925741	N/A	2025/05/09	Gurpartee KAU

**Bureau Veritas ID:** AQRM42 Dup  
**Sample ID:** SW2  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Phosphorus (Colourimetric)	SKAL/P	9927065	2025/05/12	2025/05/13	Vidhi Khatri

**Bureau Veritas ID:** AQRM43  
**Sample ID:** DUP 3  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9926465	N/A	2025/05/12	Gurpartee KAU
Carbonate, Bicarbonate and Hydroxide	CALC	9925415	N/A	2025/05/13	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9926309	N/A	2025/05/12	Alina Dobreanu
Conductivity	AT	9926466	N/A	2025/05/12	Gurpartee KAU
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9926208	N/A	2025/05/09	Gyulshen Idriz
Fluoride	ISE	9926464	2025/05/10	2025/05/13	Nachiketa Gohil
Hardness (calculated as CaCO3)		9925228	N/A	2025/05/13	Automated Statchk
Lab Filtered Metals Analysis by ICP	ICP	9926234	2025/05/09	2025/05/13	Aswathy Neduveli Suresh
Total Metals Analysis by ICPMS	ICP/MS	9925923	2025/05/09	2025/05/09	Azita Fazaali
Anion and Cation Sum	CALC	9924593	N/A	2025/05/13	Automated Statchk
Total Ammonia-N	SKAL/NH4	9926970	N/A	2025/05/14	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9925881	N/A	2025/05/11	Helen He
Animal and Vegetable Oil and Grease	BAL	9925419	N/A	2025/05/13	Automated Statchk
Total Oil and Grease	BAL	9927417	2025/05/13	2025/05/13	Navneet Singh
pH	AT	9926467	2025/05/10	2025/05/12	Gurpartee KAU
Phenols (4AAP)	TECH/PHEN	9927142	N/A	2025/05/12	Sachi Patel
Orthophosphate	SKAL	9926312	N/A	2025/05/12	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9924596	N/A	2025/05/13	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9924597	N/A	2025/05/13	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9926311	N/A	2025/05/12	Alina Dobreanu
Total Dissolved Solids	BAL	9926764	2025/05/12	2025/05/13	Binuja Kodithuwakku Arachchilage
Total Kjeldahl Nitrogen in Water	SKAL	9927010	2025/05/12	2025/05/12	Rajni Tyagi



**BUREAU**  
**VERITAS**

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### TEST SUMMARY

**Bureau Veritas ID:** AQRM43  
**Sample ID:** DUP 3  
**Matrix:** Water

**Collected:** 2025/05/07  
**Shipped:**  
**Received:** 2025/05/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Phosphorus (Colourimetric)	SKAL/P	9926993	2025/05/12	2025/05/13	Vidhi Khatri
Total Phosphorus (Colourimetric)	SKAL/P	9927065	2025/05/12	2025/05/13	Vidhi Khatri
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	9927418	2025/05/13	2025/05/13	Navneet Singh
Total Suspended Solids	BAL	9926179	2025/05/09	2025/05/10	Tina Teng
Turbidity	AT	9925741	N/A	2025/05/09	Gurparteek KAUR



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
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WSP Canada Inc.  
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### GENERAL COMMENTS

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

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



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9925741	GTK	Spiked Blank	Turbidity	2025/05/09		98	%	80 - 120
9925741	GTK	Method Blank	Turbidity	2025/05/09	<0.1		NTU	
9925741	GTK	RPD	Turbidity	2025/05/09	16		%	20
9925874	HH	Matrix Spike	Nitrite (N)	2025/05/11		99	%	80 - 120
			Nitrate (N)	2025/05/11		90	%	80 - 120
9925874	HH	Spiked Blank	Nitrite (N)	2025/05/11		98	%	80 - 120
			Nitrate (N)	2025/05/11		92	%	80 - 120
9925874	HH	Method Blank	Nitrite (N)	2025/05/11	<0.010		mg/L	
			Nitrate (N)	2025/05/11	<0.10		mg/L	
9925874	HH	RPD	Nitrite (N)	2025/05/11	NC		%	20
			Nitrate (N)	2025/05/11	NC		%	20
9925881	HH	Matrix Spike	Nitrite (N)	2025/05/11		100	%	80 - 120
			Nitrate (N)	2025/05/11		92	%	80 - 120
9925881	HH	Spiked Blank	Nitrite (N)	2025/05/11		98	%	80 - 120
			Nitrate (N)	2025/05/11		93	%	80 - 120
9925881	HH	Method Blank	Nitrite (N)	2025/05/11	<0.010		mg/L	
			Nitrate (N)	2025/05/11	<0.10		mg/L	
9925881	HH	RPD	Nitrite (N)	2025/05/11	NC		%	20
			Nitrate (N)	2025/05/11	NC		%	20
9925896	ADB	Matrix Spike	Dissolved Chloride (Cl-)	2025/05/11		NC	%	80 - 120
9925896	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2025/05/11		93	%	80 - 120
9925896	ADB	Method Blank	Dissolved Chloride (Cl-)	2025/05/11	<1.0		mg/L	
9925896	ADB	RPD	Dissolved Chloride (Cl-)	2025/05/11	1.9		%	20
9925897	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2025/05/11		NC	%	75 - 125
9925897	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2025/05/11		95	%	80 - 120
9925897	ADB	Method Blank	Dissolved Sulphate (SO4)	2025/05/11	<1.0		mg/L	
9925897	ADB	RPD	Dissolved Sulphate (SO4)	2025/05/11	0.30		%	20
9925898	ADB	Matrix Spike	Orthophosphate (P)	2025/05/11		93	%	75 - 125
9925898	ADB	Spiked Blank	Orthophosphate (P)	2025/05/11		94	%	80 - 120
9925898	ADB	Method Blank	Orthophosphate (P)	2025/05/11	<0.010		mg/L	
9925898	ADB	RPD	Orthophosphate (P)	2025/05/11	NC		%	20
9925923	AFZ	Matrix Spike	Total Arsenic (As)	2025/05/09		101	%	80 - 120
			Total Cadmium (Cd)	2025/05/09		97	%	80 - 120
			Total Calcium (Ca)	2025/05/09		NC	%	80 - 120
			Total Chromium (Cr)	2025/05/09		96	%	80 - 120
			Total Copper (Cu)	2025/05/09		96	%	80 - 120
			Total Iron (Fe)	2025/05/09		94	%	80 - 120
			Total Lead (Pb)	2025/05/09		94	%	80 - 120
			Total Magnesium (Mg)	2025/05/09		91	%	80 - 120
			Total Manganese (Mn)	2025/05/09		94	%	80 - 120
			Total Nickel (Ni)	2025/05/09		92	%	80 - 120
			Total Potassium (K)	2025/05/09		94	%	80 - 120
			Total Sodium (Na)	2025/05/09		NC	%	80 - 120
			Total Zinc (Zn)	2025/05/09		99	%	80 - 120
9925923	AFZ	Spiked Blank	Total Arsenic (As)	2025/05/09		101	%	80 - 120
			Total Cadmium (Cd)	2025/05/09		101	%	80 - 120
			Total Calcium (Ca)	2025/05/09		99	%	80 - 120
			Total Chromium (Cr)	2025/05/09		96	%	80 - 120
			Total Copper (Cu)	2025/05/09		97	%	80 - 120
			Total Iron (Fe)	2025/05/09		97	%	80 - 120
			Total Lead (Pb)	2025/05/09		98	%	80 - 120
			Total Magnesium (Mg)	2025/05/09		95	%	80 - 120



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9925923	AFZ	Method Blank	Total Manganese (Mn)	2025/05/09		96	%	80 - 120
			Total Nickel (Ni)	2025/05/09		94	%	80 - 120
			Total Potassium (K)	2025/05/09		95	%	80 - 120
			Total Sodium (Na)	2025/05/09		96	%	80 - 120
			Total Zinc (Zn)	2025/05/09		102	%	80 - 120
			Total Arsenic (As)	2025/05/09	<1.0		ug/L	
			Total Cadmium (Cd)	2025/05/09	<0.090		ug/L	
			Total Calcium (Ca)	2025/05/09	<200		ug/L	
			Total Chromium (Cr)	2025/05/09	<5.0		ug/L	
			Total Copper (Cu)	2025/05/09	<0.90		ug/L	
			Total Iron (Fe)	2025/05/09	<100		ug/L	
			Total Lead (Pb)	2025/05/09	<0.50		ug/L	
			Total Magnesium (Mg)	2025/05/09	<50		ug/L	
			Total Manganese (Mn)	2025/05/09	<2.0		ug/L	
			Total Nickel (Ni)	2025/05/09	<1.0		ug/L	
9925923	AFZ	RPD	Total Potassium (K)	2025/05/09	<200		ug/L	
			Total Sodium (Na)	2025/05/09	<100		ug/L	
			Total Zinc (Zn)	2025/05/09	<5.0		ug/L	
			Total Calcium (Ca)	2025/05/09	0.14	%	20	
			Total Magnesium (Mg)	2025/05/09	1.1	%	20	
9926179	TTE	Spiked Blank	Total Potassium (K)	2025/05/09	0.89	%	20	
			Total Sodium (Na)	2025/05/09	0.18	%	20	
9926179	TTE	Method Blank	Total Suspended Solids	2025/05/10		95	%	80 - 120
9926179	TTE	RPD	Total Suspended Solids	2025/05/10	<10		mg/L	
9926179	TTE	RPD	Total Suspended Solids	2025/05/10	NC		%	20
9926208	GID	Matrix Spike	Dissolved Organic Carbon	2025/05/09		93	%	80 - 120
9926208	GID	Spiked Blank	Dissolved Organic Carbon	2025/05/09		96	%	80 - 120
9926208	GID	Method Blank	Dissolved Organic Carbon	2025/05/09	<0.40		mg/L	
9926208	GID	RPD	Dissolved Organic Carbon	2025/05/09	1.3		%	20
9926234	ANF	Matrix Spike	Dissolved Calcium (Ca)	2025/05/13		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2025/05/13		99	%	80 - 120
			Dissolved Potassium (K)	2025/05/13		96	%	80 - 120
			Dissolved Sodium (Na)	2025/05/13		NC	%	80 - 120
			Dissolved Calcium (Ca)	2025/05/13		103	%	80 - 120
9926234	ANF	Spiked Blank	Dissolved Magnesium (Mg)	2025/05/13		106	%	80 - 120
			Dissolved Potassium (K)	2025/05/13		105	%	80 - 120
			Dissolved Sodium (Na)	2025/05/13		104	%	80 - 120
			Dissolved Calcium (Ca)	2025/05/13	<0.05		mg/L	
9926234	ANF	Method Blank	Dissolved Magnesium (Mg)	2025/05/13	<0.05		mg/L	
			Dissolved Potassium (K)	2025/05/13	<1		mg/L	
			Dissolved Sodium (Na)	2025/05/13	<0.5		mg/L	
			Dissolved Calcium (Ca)	2025/05/13	2.4	%	20	
9926234	ANF	RPD	Dissolved Magnesium (Mg)	2025/05/13	3.0	%	20	
			Dissolved Potassium (K)	2025/05/13	2.1	%	20	
			Dissolved Sodium (Na)	2025/05/13	1.2	%	20	
			Dissolved Calcium (Ca)	2025/05/13	1.2	%	20	
9926240	GID	Matrix Spike	Dissolved Organic Carbon	2025/05/10		91	%	80 - 120
9926240	GID	Spiked Blank	Dissolved Organic Carbon	2025/05/10		93	%	80 - 120
9926240	GID	Method Blank	Dissolved Organic Carbon	2025/05/09	<0.40		mg/L	
9926240	GID	RPD	Dissolved Organic Carbon	2025/05/10	5.8		%	20
9926309	ADB	Matrix Spike	Dissolved Chloride (Cl-)	2025/05/12		NC	%	80 - 120
9926309	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2025/05/12		102	%	80 - 120
9926309	ADB	Method Blank	Dissolved Chloride (Cl-)	2025/05/12	<1.0		mg/L	



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9926309	ADB	RPD	Dissolved Chloride (Cl-)	2025/05/12	1.7		%	20
9926311	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2025/05/12		NC	%	75 - 125
9926311	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2025/05/12		95	%	80 - 120
9926311	ADB	Method Blank	Dissolved Sulphate (SO4)	2025/05/12	<1.0		mg/L	
9926311	ADB	RPD	Dissolved Sulphate (SO4)	2025/05/12	3.0		%	20
9926312	ADB	Matrix Spike	Orthophosphate (P)	2025/05/12		92	%	75 - 125
9926312	ADB	Spiked Blank	Orthophosphate (P)	2025/05/12		95	%	80 - 120
9926312	ADB	Method Blank	Orthophosphate (P)	2025/05/12	<0.010		mg/L	
9926312	ADB	RPD	Orthophosphate (P)	2025/05/12	0.76		%	20
9926394	TTE	Spiked Blank	Total Dissolved Solids	2025/05/12		102	%	80 - 120
9926394	TTE	Method Blank	Total Dissolved Solids	2025/05/12	<10		mg/L	
9926394	TTE	RPD	Total Dissolved Solids	2025/05/12	9.1		%	20
9926464	NGI	Matrix Spike	Fluoride (F-)	2025/05/13		104	%	80 - 120
9926464	NGI	Spiked Blank	Fluoride (F-)	2025/05/13		100	%	80 - 120
9926464	NGI	Method Blank	Fluoride (F-)	2025/05/13	<0.10		mg/L	
9926464	NGI	RPD	Fluoride (F-)	2025/05/13	6.6		%	20
9926465	GTK	Spiked Blank	Alkalinity (Total as CaCO3)	2025/05/12		97	%	85 - 115
9926465	GTK	Method Blank	Alkalinity (Total as CaCO3)	2025/05/12	<1.0		mg/L	
9926465	GTK	RPD	Alkalinity (Total as CaCO3)	2025/05/12	2.0		%	20
9926466	GTK	Spiked Blank	Conductivity	2025/05/12		100	%	85 - 115
9926466	GTK	Method Blank	Conductivity	2025/05/12	<2.0		umho/cm	
9926466	GTK	RPD	Conductivity	2025/05/12	0		%	10
9926467	GTK	Spiked Blank	pH	2025/05/12		102	%	98 - 103
9926467	GTK	RPD	pH	2025/05/12	0.62		%	N/A
9926764	BKG	Spiked Blank	Total Dissolved Solids	2025/05/13		97	%	80 - 120
9926764	BKG	Method Blank	Total Dissolved Solids	2025/05/13	<10		mg/L	
9926764	BKG	RPD	Total Dissolved Solids	2025/05/13	0.59		%	20
9926970	MJ1	Matrix Spike	Total Ammonia-N	2025/05/14		89	%	75 - 125
9926970	MJ1	Spiked Blank	Total Ammonia-N	2025/05/14		95	%	80 - 120
9926970	MJ1	Method Blank	Total Ammonia-N	2025/05/14	<0.050		mg/L	
9926970	MJ1	RPD	Total Ammonia-N	2025/05/14	0.76		%	20
9926993	VKH	Matrix Spike	Total Phosphorus	2025/05/13		101	%	80 - 120
9926993	VKH	QC Standard	Total Phosphorus	2025/05/13		95	%	80 - 120
9926993	VKH	Spiked Blank	Total Phosphorus	2025/05/13		99	%	80 - 120
9926993	VKH	Method Blank	Total Phosphorus	2025/05/13	<0.004		mg/L	
9926993	VKH	RPD	Total Phosphorus	2025/05/13	13		%	20
9927010	RTY	Matrix Spike	Total Kjeldahl Nitrogen (TKN)	2025/05/13		NC	%	80 - 120
9927010	RTY	QC Standard	Total Kjeldahl Nitrogen (TKN)	2025/05/12		108	%	80 - 120
9927010	RTY	Spiked Blank	Total Kjeldahl Nitrogen (TKN)	2025/05/12		100	%	80 - 120
9927010	RTY	Method Blank	Total Kjeldahl Nitrogen (TKN)	2025/05/12	<0.10		mg/L	
9927010	RTY	RPD	Total Kjeldahl Nitrogen (TKN)	2025/05/13	1.7		%	20
9927065	VKH	Matrix Spike [AQRM42-07]	Total Phosphorus	2025/05/13		105	%	80 - 120
9927065	VKH	QC Standard	Total Phosphorus	2025/05/13		92	%	80 - 120
9927065	VKH	Spiked Blank	Total Phosphorus	2025/05/13		90	%	80 - 120
9927065	VKH	Method Blank	Total Phosphorus	2025/05/13	<0.020		mg/L	
9927065	VKH	RPD [AQRM42-07]	Total Phosphorus	2025/05/13	NC		%	20
9927142	SPC	Matrix Spike [AQRM40-05]	Phenols-4AAP	2025/05/12		97	%	80 - 120
9927142	SPC	Spiked Blank	Phenols-4AAP	2025/05/12		99	%	80 - 120
9927142	SPC	Method Blank	Phenols-4AAP	2025/05/12	<0.0010		mg/L	
9927142	SPC	RPD [AQRM40-05]	Phenols-4AAP	2025/05/12	NC		%	20



BUREAU  
VERITAS

Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9927417	NSG	Spiked Blank	Total Oil & Grease	2025/05/13		99	%	80 - 110
9927417	NSG	RPD	Total Oil & Grease	2025/05/13	0.76		%	25
9927417	NSG	Method Blank	Total Oil & Grease	2025/05/13	<0.50		mg/L	
9927418	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2025/05/13		97	%	65 - 130
9927418	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2025/05/13	0.52		%	25
9927418	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2025/05/13	<0.50		mg/L	

N/A = Not Applicable

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

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

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

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).



BUREAU  
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Bureau Veritas Job #: C552255  
Report Date: 2025/05/14

WSP Canada Inc.  
Client Project #: CA0052306.5688  
Sampler Initials: CI

### VALIDATION SIGNATURE PAGE

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

Louise Harding, Scientific Specialist

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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.



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

**Result Exceedances**

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
Pond	AQRM40-07	Total Phosphorus	0.01	0.011	0.004	mg/L
SW1	AQRM41-03	Total Iron (Fe)	300	410	100	ug/L
SW1	AQRM41-07	Total Phosphorus	0.01	0.026	0.020	mg/L
SW1	AQRM41-07	Total Phosphorus	0.01	0.027	0.004	mg/L
SW2	AQRM42-07	Total Phosphorus	0.01	0.012	0.004	mg/L
DUP 3	AQRM43-03	Total Iron (Fe)	300	680	100	ug/L
DUP 3	AQRM43-07	Total Phosphorus	0.01	0.037	0.004	mg/L
DUP 3	AQRM43-07	Total Phosphorus	0.01	0.036	0.020	mg/L

**Detection Limit Exceedances**

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
Pond	AQRM40-07	Total Phosphorus	0.01	<0.020	0.020	mg/L
SW2	AQRM42-07-Lab Dup	Total Phosphorus	0.01	<0.020	0.020	mg/L
SW2	AQRM42-07	Total Phosphorus	0.01	<0.020	0.020	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 #: CA0052306.5688  
Your C.O.C. #: C#1044386-01-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/28**  
Report #: R8546275  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C558056**

**Received: 2025/05/21, 09:30**

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	2025/05/28	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2025/05/27	2025/05/27	CAM SOP-00326	EPA1664B m,SM5520B m
pH (1)	1	2025/05/22	2025/05/22	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/05/26	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2025/05/27	2025/05/27	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2025/05/23	2025/05/24	CAM SOP-00428	SM 24 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, EPA, APHA or the Quebec Ministry of Environment.

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

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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) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."



Your Project #: CA0052306.5688  
Your C.O.C. #: C#1044386-01-01

**Attention: Colin Imrie**

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

**Report Date: 2025/05/28**  
Report #: R8546275  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C558056**

**Received: 2025/05/21, 09:30**

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

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

28 May 2025 09:54:22

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager  
Email: keshani.vijh@bureauveritas.com  
Phone# (905) 817-5700

=====

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**RESULTS OF ANALYSES OF SURFACE WATER**

<b>Bureau Veritas ID</b>			ARBU97		
<b>Sampling Date</b>			2025/05/20 09:58		
<b>COC Number</b>			C#1044386-01-01		
	<b>UNITS</b>	<b>Criteria</b>	<b>POND</b>	<b>RDL</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	-	<0.50	0.50	9933156
<b>Inorganics</b>					
pH	pH	<b>6.5:8.5</b>	7.36	N/A	9933669
Phenols-4AAP	mg/L	<b>0.001</b>	<0.0010	0.0010	9935449
Total Suspended Solids	mg/L	-	7	1	9934711
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	-	<0.50	0.50	9936449
Total Oil & Grease Mineral/Synthetic	mg/L	-	<0.50	0.50	9936454
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Criteria: Ontario Provincial Water Quality Objectives Ref. to MOEE Water Management document dated Feb.1999 N/A = Not Applicable					



BUREAU  
VERITAS

Bureau Veritas Job #: C558056  
Report Date: 2025/05/28

Golder Associates Ltd  
Client Project #: CA0052306.5688  
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
9933669	KIT	Spiked Blank	pH	2025/05/22		102	%	98 - 103
9933669	KIT	RPD	pH	2025/05/22	0.14		%	N/A
9934711	BKG	Spiked Blank	Total Suspended Solids	2025/05/24		100	%	80 - 120
9934711	BKG	Method Blank	Total Suspended Solids	2025/05/24	<1		mg/L	
9934711	BKG	RPD	Total Suspended Solids	2025/05/24	5.7		%	20
9935449	MV1	Matrix Spike	Phenols-4AAP	2025/05/26		95	%	80 - 120
9935449	MV1	Spiked Blank	Phenols-4AAP	2025/05/26		100	%	80 - 120
9935449	MV1	Method Blank	Phenols-4AAP	2025/05/26	<0.0010		mg/L	
9935449	MV1	RPD	Phenols-4AAP	2025/05/26	NC		%	20
9936449	JHV	Matrix Spike	Total Oil & Grease	2025/05/27		99	%	80 - 110
9936449	JHV	Spiked Blank	Total Oil & Grease	2025/05/27		98	%	80 - 110
9936449	JHV	Method Blank	Total Oil & Grease	2025/05/27	<0.50		mg/L	
9936454	JHV	Matrix Spike	Total Oil & Grease Mineral/Synthetic	2025/05/27		96	%	65 - 130
9936454	JHV	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2025/05/27		96	%	65 - 130
9936454	JHV	Method Blank	Total Oil & Grease Mineral/Synthetic	2025/05/27	<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 #: C558056  
Report Date: 2025/05/28

Golder Associates Ltd  
Client Project #: CA0052306.5688  
Sampler Initials: JM

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Senior Scientific Specialist

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Your Project #: CA0052306.5688  
 Site Location: McCarthy  
 Your C.O.C. #: C#1044386-02-01

**Attention: Colin Imrie**

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

**Report Date: 2025/06/20**  
 Report #: R8561934  
 Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C570290**

**Received: 2025/06/13, 10:14**

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	2025/06/20	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2025/06/20	2025/06/20	CAM SOP-00326	EPA1664B m,SM5520B m
pH (1)	1	2025/06/17	2025/06/17	CAM SOP-00413	SM 24th - 4500H+ B
Phenols (4AAP)	1	N/A	2025/06/18	CAM SOP-00444	OMOE E3179 m
Mineral/Synthetic O & G (TPH Heavy Oil) (2)	1	2025/06/20	2025/06/20	CAM SOP-00326	EPA1664B m,SM5520F m
Low Level Total Suspended Solids	1	2025/06/18	2025/06/19	CAM SOP-00428	SM 24 2540D m

**Remarks:**

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Your Project #: CA0052306.5688  
Site Location: McCarthy  
Your C.O.C. #: C#1044386-02-01

**Attention: Colin Imrie**

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

**Report Date: 2025/06/20**  
Report #: R8561934  
Version: 1 - Final

**CERTIFICATE OF ANALYSIS**

**BUREAU VERITAS JOB #: C570290**

**Received: 2025/06/13, 10:14**

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

Encryption Key



**AUTHORIZED REPORT  
RAPPORT AUTORISÉ**

Bureau Veritas

20 Jun 2025 16:54:33

Please direct all questions regarding this Certificate of Analysis to:

Keshani Vijh, Sr. Project Manager  
Email: keshani.vijh@bureauveritas.com  
Phone# (905) 817-5700

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**RESULTS OF ANALYSES OF WATER**

<b>Bureau Veritas ID</b>		ARYI87		ARYI87	
<b>Sampling Date</b>		2025/06/12 11:00		2025/06/12 11:00	
<b>COC Number</b>		C#1044386-02-01		C#1044386-02-01	
	<b>UNITS</b>	<b>POND</b>	<b>RDL</b>	<b>POND Lab-Dup</b>	<b>QC Batch</b>
<b>Calculated Parameters</b>					
Total Animal/Vegetable Oil and Grease	mg/L	<0.50	0.50	N/A	9949697
<b>Inorganics</b>					
pH	pH	7.21	N/A	7.18	9951166
Phenols-4AAP	mg/L	<0.0010	0.0010	N/A	9952486
Total Suspended Solids	mg/L	2	1	N/A	9952667
<b>Petroleum Hydrocarbons</b>					
Total Oil & Grease	mg/L	<0.50	0.50	N/A	9954013
Total Oil & Grease Mineral/Synthetic	mg/L	<0.50	0.50	N/A	9954014
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate N/A = Not Applicable					



### GENERAL COMMENTS

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

Package 1	18.3°C
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Samples received over 10 degrees C.

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



BUREAU  
VERITAS

Bureau Veritas Job #: C570290  
Report Date: 2025/06/20

Golder Associates Ltd  
Client Project #: CA0052306.5688  
Site Location: McCarthy

### QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9951166	SRT	Spiked Blank	pH	2025/06/17		102	%	98 - 103
9951166	SRT	RPD [ARY187-03]	pH	2025/06/17	0.39		%	N/A
9952486	SSV	Matrix Spike	Phenols-4AAP	2025/06/18		92	%	80 - 120
9952486	SSV	Spiked Blank	Phenols-4AAP	2025/06/18		95	%	80 - 120
9952486	SSV	Method Blank	Phenols-4AAP	2025/06/18	<0.0010		mg/L	
9952486	SSV	RPD	Phenols-4AAP	2025/06/18	0		%	20
9952667	M1G	Spiked Blank	Total Suspended Solids	2025/06/19		100	%	80 - 120
9952667	M1G	Method Blank	Total Suspended Solids	2025/06/19	<1		mg/L	
9952667	M1G	RPD	Total Suspended Solids	2025/06/19	4.4		%	20
9954013	NSG	Spiked Blank	Total Oil & Grease	2025/06/20		98	%	80 - 110
9954013	NSG	RPD	Total Oil & Grease	2025/06/20	0.76		%	25
9954013	NSG	Method Blank	Total Oil & Grease	2025/06/20	<0.50		mg/L	
9954014	NSG	Spiked Blank	Total Oil & Grease Mineral/Synthetic	2025/06/20		96	%	65 - 130
9954014	NSG	RPD	Total Oil & Grease Mineral/Synthetic	2025/06/20	1.0		%	25
9954014	NSG	Method Blank	Total Oil & Grease Mineral/Synthetic	2025/06/20	<0.50		mg/L	

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BUREAU  
VERITAS

Bureau Veritas Job #: C570290  
Report Date: 2025/06/20

Golder Associates Ltd  
Client Project #: CA0052306.5688  
Site Location: McCarthy

### VALIDATION SIGNATURE PAGE

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

*Cristina Carriere*

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Cristina Carriere, Senior Scientific Specialist

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