

Hydrogeological Assessment

County Road 4, Peterborough, Ontario

Leahy Excavations Inc.

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1. Introduction

1.1 Purpose

GHD Limited (GHD) has prepared this Hydrogeological Assessment on behalf of Leahy Excavations Inc. (the Client) to be submitted as part of an Environmental Compliance Approval (ECA) application to the Ministry of Environment, Conservation and Parks (MECP). The ECA is for a proposed soil bank and existing hydro-vac slurry receiving operation at the lands identified on Part Lot 3, Concession 9 in the Township of Douro-Dummer in Peterborough, Ontario (the Site). The Site, including general features and proposed future development areas are shown on **Figure 1**.

This Hydrogeological Assessment was completed to evaluate the hydrogeological characteristics of the Site with respect to the soil, groundwater and surface water conditions.

2. Scope of Investigation

GHD completed the following tasks as part of the hydrogeological assessment:

- 1. Reviewed available background information including:
 - Regional scale physiographic, geologic and water resources mapping; and,
 - MECP well record data within 250 m of the Site.
- 2. Explored the subsurface conditions by completing the following:
 - Drilled six (6) boreholes and installed monitoring wells in each of the boreholes;
 - Submitted soil samples for analysis of grain size and moisture content;
 - Measured groundwater levels within the monitoring wells;
 - Completed single well response tests within the monitoring wells;
 - Collected two (2) surface water samples and two (2) groundwater samples to assess background water quality. The samples were submitted for analysis of general water chemistry, petroleum hydrocarbons fractions F1-F4 (PHCs), and volatile organic compounds (VOCs); and
 - Collected one (1) soil sample to determine background soil quality. The sample was analyzed for PHCs, metals and inorganics, and polycyclic aromatic hydrocarbons (PAHs).

The investigative locations are shown on Figure 2.

3. Project Details

It is understood that historically the Site was used as a wayside pit for construction of County Road 4 in the early to mid-1900's. Currently, the Site is used to receive topsoil and other soils excavated from construction projects as well as asphalt and concrete material. The topsoil is stockpiled, screened, and reused offsite. Granular materials are stockpiled, screened, and reused offsite or are used onsite for backfilling of the wayside pit area. Non-granular materials, generally described as higher in silt and clay content, are used for backfilling the wayside pit area. This soil is initially stockpiled in various locations on the east portion of the Site. Asphalt and concrete are crushed and sorted into piles and sold as recycled materials.

The Site also receives hydro-vac trucks with slurry material collected primarily from daylighting of underground utilities. The slurry from the hydro-vac trucks is deposited in the receiving pond where settling of material occurs. The receiving pond has been constructed out of the non-granular materials. Water from the slurry generally evaporates off or infiltrates into the ground. The pond is dredged on an approximate weekly basis and the material is piled and dried on the north side of the pond.

4. Site Conditions

4.1 General

The Site is identified by the following legal description: PT LT 3 CON 9 DOURO AS IN R377087, EXCEPT PTS 1 & 2 PL 45R8200, EXCEPT PT 1 PL 45R15813; TOWNSHIP OF DUORO-DUMMER. It is located on the south side of County Road 4 within the Township of Douro-Dummer.

As shown on **Figure 1**, the Site is located in a rural-residential / agricultural area approximately 5 kilometres east of Peterborough. The area is privately serviced for water and sewage. Meade Creek and a tributary of Meade Creek traverse the Site in a southerly direction. Meade Creek is a tributary of the Otonabee River.

The Site is irregular in shape covering an area of approximately 35.7 hectares (88.2 acres) with access via a gravel lane from County Road 4. The east side of the Site is designated as an Environmental Conservation Zone (EC) where Meade Creek is situated. Within the western portion of the Site is the tributary of Meade Creek. An earth berm has been constructed along the edge of the operational area and the EC zone. There are numerous stockpiles, internal roadways and lay down areas on the Site. A portable structure is present on the Site that is used as an office. The hydro-vac operations are limited to the receiving pond at this time. The Site was historically used as a wayside / gravel pit, which was excavated to the underlying glacial till and the granular material was sold. The general Site conditions are shown in the photo log in **Appendix A**.

Based upon our observations during a Site visit, the surrounding land use includes:

Agricultural lands; rural residential lands; an EC area; County Road 4 right-of-way and a gravel extraction pit.

4.2 Topography and Drainage

Regional ground surface topography is shown on **Figure 3**. The ground surface generally slopes towards the creek and tributary and generally in a southwesterly direction. Regionally, overland drainage is inferred to be toward Meade Creek and the tributary of Meade Creek which flow to the Otonabee River.

4.3 Physiography

The Site is located within the physiographic region known as the Peterborough Drumlin Field. Locally, the Site is within a drumlin feature, a drumlinized till plain and an esker. The operational portion of the Site is located within the esker. The physiographic region is shown on the figure entitled Physiography, **Figure 4**.

4.4 Geology

4.4.1 Regional Geology

Regional scale mapping, illustrated on **Figure 5**, indicates there are several surficial geology deposits including:

- ice-contact stratified deposits (sand and gravel, minor silt, clay and till);
- coarse-textured glaciolacustrine deposits (sand, gravel, minor silt and clay);
- glaciofluvial deposits (sand, gravel, minor silt and clay); and,

• stone-poor, sandy silt to silty sand-textured till (stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain).

Regional scale Quaternary geology mapping (**Figure 6**) shows that the Site is underlain by till of an undifferentiated, predominantly sandy silt to silt matrix, commonly rich in clasts, and often high in total matrix carbonate content.

Regional scale drift (overburden) thickness mapping was not available. MECP water well records suggest that overburden within 500 m of the Site is at least 3 m (~10 feet) thick. The MECP well records indicated bedrock was encountered between 3 to 27 m.

4.4.2 Site Geology

The Site geology is based on the six (6) boreholes (MW1-22 through MW6-22) drilled on August 8, 2022. The maximum depth of the boreholes was 3.8 m.

The geology underlying the Site to a depth of 3.8 m consisted of:

- **Gravelly Sand (GW)**: From surface to 0.8 2.3 m at the borehole locations. These shallow soils consisted of gravelly sand with silt and clay.
- **Till Silty Sand with Clay and Gravel (SM)**: Extended from beneath the gravelly sand to the full depth of the borehole locations.
- **Bedrock**: the boreholes were terminated upon auger refusal at depths ranging from 0.76 m to 3.8 m. The presence of bedrock is inferred.

The stratigraphic and instrumentation logs and particle size analysis are presented in **Appendix B**.

4.5 Hydrogeology

4.5.1 Source Water Protection Considerations

It is important to evaluate the presence of Significant Groundwater Recharge Areas (SGRAs) and Highly Vulnerable Aquifers (HVAs) for the Site and local area. These areas are protected under the Clean Water Act (2006). In general, SGRAs are defined as areas where water seeps into an aquifer from rain and melting snow, supplying water to the underlying aquifer. An HVA aquifer occurs where the subsurface material offers limited protection from contamination resulting from surface activities. GHD considered the potential for SGRAs and HVAs by reviewing the "Source Protection Information Atlas".

Based on the information reviewed, the Site is partially within SGRAs along County Road 4. From the middle of the Site toward the south, a SGRA exists with a vulnerability score of 4 or moderate. There are several smaller areas in the northern portion of the Site with a vulnerability score of 6. The northeast portion of the Site is also within an HVA as depicted on **Figure 7**.

The subsurface investigation by GHD encountered glacial till that is expected to exhibit relatively low hydraulic conductivity suggesting that infiltration contributions to the underlying aquifer complexes will be relatively minor. The majority of active potable groundwater wells in the area of the Site draw water from a bedrock aquifer. Some protection of the underlying aquifers is expected from the overlying till.

The Site is not within a wellhead protection area (WHPA). A WHPA is defined as the surface and subsurface area surrounding a water well or well field that supplies a municipal residential system through which contaminants are reasonably likely to move so as to eventually reach the water well. The WHPA does not apply.

4.5.2 Local Water Supply (within 250 m)

The area is privately serviced by water wells. Based on a search of the MECP well record database, there are forty-one (41) well records within 250 m of the Site. Ten of the water supply wells are installed in overburden at varying depths. Thirty-one (31) of the water supply well records are installed within the bedrock at varying depths. There are no supply wells within 250 m and downgradient of the Site.

The well records are presented in **Appendix C** and summarized in the table below.

Table 1 MECP Well Record Summary within 250 m of Site

Well Use	Well Type/Unit	No. of Wells	Well Depth Min – Max (Avg) (mbgs)	Water Encountered Depth Min – Max (Avg) (mbgs)	Static WL Min – Max (mbgs)	Yield Min – Max (Avg) (L/min)
Water Supply	Overburden – Dug/Bored	1 (2%)	6.1	4.6	2.4	23
Water Supply	Overburden – Drilled	9 (22%)	7.0 – 29 (19)	7.0 – 29 (19)	1.5 – 14 (7.0)	3.8 – 63 (22)
Water Supply	Bedrock	31 (76%)	8.2 – 69 (30)	4.6 – 27 (14)	1.2 – 12 (4.6)	1.9 – 57 (15)
Total		41				

Note: mbgs indicates metres below ground surface

4.5.3 Site Hydrogeology

Monitoring wells were installed in each of the six (6) boreholes. The stratigraphic and instrumentation logs are provided in **Appendix B**.

4.5.3.1 Groundwater Depth and Flow Direction

During the drilling activities, groundwater seepage was observed ranging from about 2.0 mbgs (MW2-22) to 3.0 mbgs (MW6-22) and was not observed in MW1-22 and MW4-22. Static groundwater levels were measured August 22, 2022 and October 26, 2022 and are summarized in the table below.

Table 2 Site Groundwater Depths

Monitoring Well	Ground Elevation	Depth (of Well	Water Level (mbgs)	Groundwater Elevation (masl)	Water Level (mbgs)	Groundwater Elevation (masl)
	(masl)	mbgs	masl	August 22, 2022		October 26, 2022	
MW1-22	209.78	0.78	209.00	DRY	DRY	DRY	DRY
MW2-22	209.48	3.08	206.40	2.50	207.83	2.75	206.73
MW3-22	210.57	3.00	207.57	3.72	207.79	3.75	206.82
MW4-22	211.21	1.80	209.41	DRY	DRY	DRY	DRY
MW5-22	207.52	1.52	206.00	1.15	207.27	1.54	205.98
MW6-22	213.43	3.83	209.60	3.75	210.58	3.81	209.62

mbgs = metres below ground surface, masl metres above sea level

Elevation data collected using an EOS Arrow Gold Plus GPS unit connected to the Real-Time Kinematic (RTK) network.

Based on the table above, the groundwater levels range from 1.15 to 3.75 mbgs. The shallow groundwater flow is in an east to southeast direction toward Meade Creek.

4.5.3.2 Horizontal Hydraulic Conductivity

Single well response tests were completed on three (3) monitoring wells (MW2-22, MW3-22, and MW6-22). The results are summarized in the table below.

Table 3 Single Well Response Test Results

Monitoring Well	Unit Tested	Test Type/ Number	Analysis Method	Horizontal Hydraulic Conductivity - K _H (each test) (m/sec)	Horizontal Hydraulic* Conductivity - K _H (each well) (m/sec)	
MW2-22	Crevelly Cond	FH-1	Bouwer-Rice	8.9 x 10 ⁻⁷	1.0 x 10 ⁻⁶	
	Gravelly Sand	RH-1	Bouwer-Rice	1.2 x 10 ⁻⁶	1.0 X 10°	
MW3-22	Gravelly Sand	FH-1	Bouwer-Rice	2.1 x 10 ⁻⁵	2.1 x 10 ⁻⁵	
MW6-22	Silty Sand,	FH-1	Bouwer-Rice	1.1 x 10 ⁻⁵		
	with gravel and clay (SM)	RH-1	Bouwer-Rice	1.1 x 10 ⁻⁶	3.5 x 10 ⁻⁶	

FH: falling head test; RH: rising head test

The single well response test analyses output from the program Agtesolv is provided in Appendix D.

4.5.4 Site Water Quality

4.5.4.1 Groundwater Quality

Groundwater samples were collected from monitoring wells MW2-22 and MW6-22) on August 17, 2022. The samples were analyzed for general chemistry, metals and inorganics, PHCs, and VOCs. The analytical results are compared to the Ontario Drinking Water Quality Standards (ODWQS) and the MECP Table 2 Standards for all property use in **Tables 4 to 6**. The results meet the MECP Table 2 standards. The results generally meet the ODWQS with the exception of hardness and turbidity. Elevated hardness is common in Southern Ontario. The exceedances are not considered to be of a concern. The Certificates of Analysis are presented in **Appendix E**.

Table 4 Groundwater Quality: Inorganics – General Chemistry and Metals & Inorganics

		Sample lo	lentification		MECP Table 2						
Parameter – Inorganics	Units	MW2-22	MW6-22	ODWQS	Standards						
		Sample Date:	August 17, 2022		Otariaaras						
General Chemistry	General Chemistry										
рН	No unit	7.86	7.90	6.5 – 8.5	NS						
Conductivity	µmho/cm	749	649	NS	0.7						
Alkalinity	μg/L	253,000	280,000	30,000 - 500,000	NS						
Bicarbonate (as CaCO3)	μg/L	253,000	280,000	NS	NS						
Carbonate (as CaCO3)	μg/L	< 5,000	< 5,000	NS	NS						
Hydroxide (as CaCO3)	μg/L	< 5,000	< 5,000	NS	NS						
Hardness (as CaCO3)	μg/L	375,000	328,000	80,000 - 100,000	NS						
Bromide	μg/L	< 400	< 400	NS	NS						
Chloride	μg/L	47,400	36,900	250,000	NS						
Fluoride	μg/L	< 100	< 100	1,500	NS						
Nitrite (N)	μg/L	< 100	< 100	1,000	NS						
Nitrate (N)	μg/L	7,900	400	10,000	NS						
Sulphate	μg/L	40,000	8,000	500,000	NS						
Colour	TCU	< 2	< 2	5	NS						
Turbidity	NTU	211	17.8	5	NS						
Total Organic Carbon	μg/L	1,700	1,700	NS	NS						

^{*}Geometric mean of falling and rising head tests.

		Sample Io	lentification		MECD Table 2
Parameter – Inorganics	Units	MW2-22	MW6-22	ODWQS	MECP Table 2 Standards
		Sample Date:	August 17, 2022		
Ammonia + Ammonium (N)	μg/L	< 10	< 10	NS	NS
o-Phosphate (P)	μg/L	< 2	< 2	NS	NS
Phosphorus-Total	μg/L	30	10	NS	NS
Silica	μg/L	13,900	11,900	NS	NS
Metals					
Aluminium	μg/L	40	30	100	NS
Antimony	μg/L	0.1	0.3	6	7.5
Arsenic	μg/L	0.2	0.1	25	18
Barium	μg/L	164	71	1,000	390
Beryllium	μg/L	< 2	< 2	NS	4
Boron	μg/L	59	13	5,000	120
Cadmium	μg/L	< 0.015	< 0.015	5	1.2
Calcium	μg/L	134,000	123,000	NS	NS
Chromium (total)	μg/L	< 2	< 2	50	160
Cobalt	μg/L	< 5	< 5	NS	22
Copper	μg/L	< 2	< 2	1,000	140
Iron	μg/L	< 5	< 5	300	NS
Lead	μg/L	< 0.02	0.02	10	120
Magnesium	μg/L	9,670	5,390	NS	NS
Manganese	μg/L	30	7	50	NS
Mercury	μg/L	< 0.02	< 0.02	1	0.27
Molybdenum	μg/L	2	0.3	NS	6.9
Nickel	μg/L	< 10	< 10	NS	100
Potassium	μg/L	4,600	1,700	NS	NS
Selenium	μg/L	< 1	< 1	10	2.4
Silver	μg/L	< 0.1	< 0.1	NS	20
Sodium	μg/L	37,800	6,200	200,000 (aesthetic)	NS
Thallium	μg/L	< 0.05	< 0.05	NS	1
Tin	μg/L	< 50	< 50	NS	NS
Titanium	μg/L	< 5	< 5	NS	NS
Uranium	μg/L	0.38	0.35	20	23
Vanadium	μg/L	< 5	< 5	NS	86
Zinc	μg/L	< 5	< 5	5,000	340
< indicates parameter is helo		tory reporting limit S	hadad and haldad co	Il indicatos parameter ex	coodanco

< indicates parameter is below the laboratory reporting limit. Shaded and bolded cell indicates parameter exceedance. NS indicates no standard

Table 5 Groundwater Quality: PHCs

		Sample Id	MECP Table 2		
Parameter – PHCs (F1-F4)	Units	MW2-22	MW-226	Standards	
		Sample Date: August 17, 2022		Staridards	
F1 (C ₆ -C ₁₀)	μg/L	< 25	< 25	750	
F2 (C ₁₀ -C ₁₆)	μg/L	< 50	< 50	150	
F3 (C ₁₆ -C ₃₄)	μg/L	< 400	< 400	500	
F4 (C ₃₄ -C ₅₀)	μg/L	< 400	< 400	500	

Table 6 Groundwater Quality: VOCs

		Sample I	MECP		
Parameter – VOCs	Units	MW2-22	MW6-22	Table 2	ODWQS
	Ī	Sample Date: August 17, 2022		Standards	
Acetone	μg/L	< 30	< 30	2,700	NS
Benzene	μg/L	< 0.5	< 0.5	5	5
Bromodichloromethane	μg/L	< 2	< 2	16	NS
Bromoform	μg/L	< 5	< 5	25	NS
Bromomethane	μg/L	< 0.5	< 0.5	0.89	NS
Carbon Tetrachloride	μg/L	< 0.2	< 0.2	0.79	5
Chlorobenzene	μg/L	< 0.5	< 0.5	30	80
Chloroform	μg/L	< 1	< 1	2.4	NS
Dibromochloromethane	μg/L	< 2	< 2	25	NS
Dichlorobenzene,1,2-	μg/L	< 0.5	< 0.5	3	200
Dichlorobenzene,1,3-	μg/L	< 0.5	< 0.5	59	NS
Dichlorobenzene,1,4-	μg/L	< 0.5	< 0.5	1	5
Dichlorodifluoromethane	μg/L	< 2	< 2	590	NS
Dichloroethane,1,1-	μg/L	< 0.5	< 0.5	5	5
Dichloroethane,1,2-	μg/L	< 0.5	< 0.5	1.6	NS
Dichloroethylene,1,1-	μg/L	< 0.5	< 0.5	1.6	14
Dichloroethene, cis-1,2-	μg/L	< 0.5	< 0.5	1.6	NS
Dichloroethene, trans-1,2-	μg/L	< 0.5	< 0.5	1.6	NS
Dichloropropane,1,2-	μg/L	< 0.5	< 0.5	5	NS
Dichloropropene, cis-1,3-	μg/L	< 0.5	< 0.5	0.5	NS
Dichloropropene, trans-1,3-	μg/L	< 0.5	< 0.5	0.5	NS
Dichloropropene 1,3- cis+trans	μg/L	< 0.5	< 0.5	0.5	NS
Ethylene Dibromide	μg/L	< 0.2	< 0.2	2.4	NS
Ethylbenzene	μg/L	< 0.5	< 0.5	0.2	2.4
Hexane	μg/L	< 5	< 5	51	NS
Methyl Ethyl Ketone	μg/L	< 20	< 20	1,800	NS
Methyl Isobutyl Ketone	μg/L	< 20	< 20	640	NS
Methyl-t-butyl Ether	μg/L	< 2	< 2	15	NS
Methylene Chloride	μg/L	< 5	< 5	50	NS
Styrene	μg/L	< 0.5	< 0.5	5.4	NS
Tetrachloroethane,1,1,1,2-	μg/L	< 0.5	< 0.5	1.1	NS
Tetrachloroethane,1,1,2,2-	μg/L	< 0.5	< 0.5	1	NS
Tetrachloroethylene	μg/L	< 0.5	< 0.5	1.6	30
Toluene	μg/L	< 0.5	0.6	24	24
Trichloroethane,1,1,1-	μg/L	< 0.5	< 0.5	200	NS
Trichloroethane,1,1,2-	µg/L	< 0.5	< 0.5	4.7	NS
Trichloroethylene	µg/L	< 0.5	< 0.5	1.6	5
Trichlorofluoromethane	µg/L	< 5	< 5	150	NS
Vinyl Chloride	µg/L	< 0.2	< 0.2	0.5	NS
Xylene, m,p-	μg/L	< 1.0	< 1.0	NV	NS
Xylene, o-	μg/L	< 0.5	< 0.5	NV	NS
Xylene, m,p,o-	µg/L	< 1.1	< 1.1	300	300

NS – No Standard

4.5.4.2 Surface Water Quality

Two (2) surface water samples were collected on August 17, 2022 and analyzed for metals and inorganics, PHCs, and VOCs. The surface water samples, Creek #1 and Creek #2, were collected from Meade Creek. Creek #1 represents a sample obtained upgradient of the Site, while Creek #2. The analytical results are compared to Provincial Water Quality Objectives (PWQOs) in **Tables 7** to **9**. The results meet the PWQOs with the exception of iron in sample Creek #2. The exceedance for iron is attributed to organic material within the sample.

Table 7 Surface Water Quality: Inorganics – General Chemistry and Metals

Parameter – Inorganics	Units	Creek #1	Creek #2	PWQO ⁽¹⁾	Interim PWQO ⁽²⁾	
_	Onits	August 1	7, 2022	T WQO	Internit PWQO	
General Chemistry	T		1 1			
pH, Lab	No unit	8.28	8.21	6.5 – 8.5	NV	
Conductivity	µmho/cm	849	720	NV	NV	
Alkalinity(CaCO3)	μg/L	279,000	255,000	<25%	<25%	
Bicarbonate (as CaCO3)	μg/L	279,000	255,000	NV	NV	
Carbonate (as CaCO3)	μg/L	< 5,000	< 5,000	NV	NV	
Hydroxide (as CaCO3)	μg/L	< 5,000	< 5,000	NV	NV	
Hardness (as CaCO3)	μg/L	335,000	296,000	NV	NV	
Bromide	μg/L	< 400	< 400	NV	NV	
Chloride	μg/L	106,000	81,500	NV	NV	
Fluoride	μg/L	< 0.1	< 0.1	NV	NV	
Nitrite (N)	μg/L	< 0.1	< 0.1	NV	NV	
Nitrate (N)	μg/L	8.0	0.1	NV	NV	
Sulphate	μg/L	10	4	NV	NV	
Colour	μg/L	28	47	NV	NV	
Turbidity	μg/L	2.7	7	NV	NV	
Total Organic Carbon	μg/L	5.8	9.4	NV	NV	
Ammonia (N)-Total	μg/L	0.05	0.57	20	NV	
o-Phosphate (P)	μg/L	0.004	0.004	NV	NV	
Phosphorus-Total	μg/L	0.05	0.09	NV	10	
Silica	μg/L	8,320	14,900	NV	NV	
Metals	1 10 1	·	·			
Aluminum (total)	μg/L	40	40	NV	75	
Antimony (total)	μg/L	0.4	0.3	NV	20	
Arsenic (total)	μg/L	0.3	0.6	5	5	
Barium (total)	μg/L	120	99	NV	NV	
Beryllium (total)	μg/L	< 2	< 2	11	NV	
Boron (total)	μg/L	14	8	NV	200	
Cadmium (total)	μg/L	< 0.015	< 0.015	0.2	0.1	
Calcium	μg/L	118,000	104,000	NV	NV	
Chromium (total)	μg/L	< 2	< 2	NV	NV	
Cobalt (total)	μg/L	< 0.1	0.2	NV	0.9	
Copper (total)	μg/L	< 2	< 2	NV	5	
Iron (total)	μg/L	112	520	300	NV	
Lead (total)	μg/L	0.05	0.1	5	1	
Magnesium (total)	µg/L	9,510	8,420	NV	NV	
Manganese (total)	μg/L	31	166	NV	NV	
Mercury (dissolved)	µg/L	< 0.02	< 0.02	0.2	NV	
Molybdenum (total)	µg/L	0.1	0.1	NV	40	
Nickel (total)	µg/L	< 10	< 10	25	NV	
Potassium	μg/L	1,200	2,000	NV	NV	
Selenium (total)	µg/L	< 1	< 1	100	NV	
Silver (total)	μg/L	< 0.1	< 0.1	0.1	NV	
Strontium (total)	μg/L	434	363	NV	NV	
Guoniium (iolai)	µg/∟	+04	505	INV	INV	

Parameter – Inorganics	Units	Units Creek #1 Creek #2 PWQO(1)	Interim PWQO ⁽²⁾		
		August 17, 2022			
Thallium (total)	μg/L	< 0.05	< 0.05	0.3	0.3
Tin (total)	μg/L	< 50	< 50	NV	NV
Titanium (total)	μg/L	< 5	< 5	NV	NV
Uranium (total)	μg/L	0.46	0.12	NV	5
Vanadium (total)	μg/L	< 5	< 5	NV	6
Zinc (total)	μg/L	< 5	< 5	30	20

< indicates parameter is below the laboratory reporting limit, NV = no value. Shaded and bolded cell indicates parameter exceedance.

Table 8 Surface Water Quality: PHCs

Parameter –	Units	Creek #1	Creek #2	PWQO ⁽¹⁾	Interim PWQO ⁽²⁾
PHCs (F1-F4)	Units	August '	17, 2022	PWQU	Interim PWQO(=/
F1 (C ₆ -C ₁₀)	μg/L	< 25	< 25	NV	NV
F2 (C ₁₀ -C ₁₆)	μg/L	< 50	< 50	NV	NV
F3 (C ₁₆ -C ₃₄)	μg/L	< 400	< 400	NV	NV
F4 (C ₃₄ -C ₅₀)	μg/L	< 400	< 400	NV	NV

< indicates parameter is below the laboratory reporting limit. NV = no value.

Table 9 Surface Water Quality: VOCs

Barrana Communica	11	Creek #1	Creek #2	DW(00(1)	Interior DMOO(2)
Parameter – Organics	Units	Septembe	r 12, 2022	PWQO ⁽¹⁾	Interim PWQO ⁽²⁾
Acetone	μg/L	< 30	< 30	NV	NV
Benzene	ug/L	< 0.5	< 0.5	NV	100
Bromodichloromethane	μg/L	< 2	< 2	NV	200
Bromoform	μg/L	< 5	< 5	NV	60
Bromomethane	μg/L	< 0.5	< 0.5	NV	0.9
Carbon tetrachloride	μg/L	< 0.2	< 0.2	NV	NV
Chlorobenzene	μg/L	< 0.5	< 0.5	15	NV
Chloroform	μg/L	< 1	< 1	NV	NV
Dibromochloromethane	μg/L	< 2	< 2	NV	NV
Dichlorobenzene, 1,2-	μg/L	< 0.5	< 0.5	2.5	NV
Dichlorobenzene, 1,3-	μg/L	< 0.5	< 0.5	2.5	NV
Dichlorobenzene, 1,4-	μg/L	< 0.5	< 0.5	4	NV
Dichlorodifluoromethane	μg/L	< 2	< 2	NV	NV
Dichloroethane, 1,1-	μg/L	< 0.5	< 0.5	NV	200
Dichloroethane, 1,2-	μg/L	< 0.5	< 0.5	NV	100
Dichloroethylene, 1,1-	μg/L	< 0.5	< 0.5	NV	40
Dichloroethylene, cis-1,2	μg/L	< 0.5	< 0.5	NV	200
Dichloroethylene, trans-1,2	μg/L	< 0.5	< 0.5	NV	200
Dichloropropane, 1,2-	μg/L	< 0.5	< 0.5	NV	0.7
Dichloropropene, cis-1,3-	μg/L	< 0.5	< 0.5	NV	NV
Dichloropropene, trans-1,3-	μg/L	< 0.5	< 0.5	NV	7
Ethylbenzene	ug/L	< 0.5	< 0.5	NV	8
Ethylene dibromide	μg/L	< 0.2	< 0.2	5	5
Hexane, n-	μg/L	< 5	< 5	NV	NV
Methyl ethyl ketone	μg/L	< 20	< 20	NV	400
Methyl Isobutyl Ketone	μg/L	< 20	< 20	NV	NV
Methyl-t-butyl Ether	μg/L	< 2	< 2	NV	200

⁽¹⁾ PWQOs – Provincial Water Quality Objectives: "Water Management - Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, July 1994, as amended.

⁽²⁾ Interim PWQO – insufficient information to prepare a PWQO.

Alkalinity Standard – should not be decreased by more than 25% of the natural concentration.

⁽¹⁾ PWQOs – Provincial Water Quality Objectives: "Water Management - Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, July 1994, as amended.

⁽²⁾ Interim PWQO – insufficient information to prepare a PWQO

Parameter – Organics	Units	Creek #1 Septembe	Creek #2 r 12, 2022	PWQO ⁽¹⁾	Interim PWQO ⁽²⁾
Methylene Chloride	μg/L	< 5	< 5	NV	100
Styrene	μg/L	< 0.5	< 0.5	NV	4
Tetrachloroethane, 1,1,1,2-	μg/L	< 0.5	< 0.5	NV	20
Tetrachloroethane, 1,1,2,2-	μg/L	< 0.5	< 0.5	NV	70
Tetrachloroethylene	μg/L	< 0.5	< 0.5	NV	50
Toluene	ug/L	< 0.5	< 0.5	0.8	0.8
Trichloroethane, 1,1,1-	μg/L	< 0.5	< 0.5	NV	10
Trichloroethane, 1,1,2-	μg/L	< 0.5	< 0.5	NV	800
Trichloroethylene	μg/L	1.1	< 0.5	NV	20
Trichlorofluoromethane	μg/L	< 5	< 5	NV	NV
Vinyl Chloride	μg/L	< 0.2	< 0.2	NV	600
Xylene, m,p	ug/L	< 1.0	< 1.0	NV	NV
Xylene, o-	ug/L	< 0.5	< 0.5	NV	40
Xylene, m,p,o-	ug/L	< 1.1	< 1.1	NV	NV

<: parameter is below the laboratory reporting limit. NV: no value.

4.6 Site Soil Quality

One (1) soil sample was collected from the area of the Site immediately downgradient of the receiving pond. The sample was collected on September 12, 2022 and analyzed for pH, electrical conductivity (EC), sodium adsorption ratio (SAR), metals, PHCs, VOCs, and PAHs. The analytical results are compared to MECP Table 1 Standards (Full Depth Background Site Condition Standards for residential / parkland / institutional / industrial / commercial / community property use) in **Tables 10** to **13**. The results meet the Table 1 Standards for residential / parkland / institutional / industrial / commercial / community (RPIICC) types of property uses. Certificates of Analysis are presented in **Appendix E**.

Table 10 Soil Quality: pH, Conductivity, Sodium Adsorption Ratio and Metals

Parameter – Inorganics	Units	Sample Identification GS-1 Sample Date: September 12, 2022	MECP Table 1 Standards
рН	No unit	7.72	5 – 9 (surface soils)
Conductivity	mS/cm	0.319	0.57
Sodium Adsorption Ratio	No unit	1.48	2.4
Metals			
Antimony	μg/g	< 0.5	1.3
Arsenic	μg/g	2.3	18
Barium	μg/g	76	220
Beryllium	μg/g	0.3	2.5
Boron	μg/g	6.1	36
Boron (HWS)	μg/g	0.06	NS
Cadmium	μg/g	< 0.5	1
Chromium (total)	μg/g	15	70
Chromium (VI)	μg/g	< 0.2	0.66
Cobalt	μg/g	6	21
Copper	μg/g	12	92
Lead	μg/g	9	120
Mercury	μg/g	0.020	0.27
Molybdenum	μg/g	< 1	2
Nickel	μg/g	11	82

⁽¹⁾ PWQOs: Provincial Water Quality Objectives: "Water Management - Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, July 1994, as amended.

⁽²⁾ Interim PWQO: insufficient information to prepare a PWQO

Parameter – Inorganics	Units	Sample Identification GS-1 Sample Date: September 12, 2022	MECP Table 1 Standards
Selenium	μg/g	0.6	1.5
Silver	μg/g	0.3	0.5
Thallium	μg/g	0.1	1
Uranium	μg/g	0.5	2.5
Vanadium	μg/g	24	86
Zinc	μg/g	40	290
<: parameter is below the labora NS – no standard: HWS – hot was			

Table 11 Soil Quality: PHCs

Parameter – PHCs (F1-F4)	Units	Sample Identification GS-1 Sample Date: September 12, 2022	MECP Table 1 Standards
F1 (C ₆ -C ₁₀)	μg/g	< 10	25
F2 (C ₁₀ -C ₁₆)	μg/g	< 5	10
F3 (C ₁₆ -C ₃₄)	μg/g	27	240
F4 (C ₃₄ -C ₅₀)	μg/g	24	120
<: parameter is below the laborato	y reporting limit.		

Table 12 Soil Quality: VOCs

		Sample Identification	MECP Table 1
Parameter – VOCs	Units	GS-1	Standards
		Sample Date: September 12, 2022	Otandards
Acetone	μg/g	< 0.02	0.5
Benzene	μg/g	< 0.02	0.02
Bromodichloromethane	μg/g	< 0.05	0.05
Bromoform	μg/g	< 0.05	0.05
Bromomethane	μg/g	< 0.02	0.05
Carbon Tetrachloride	μg/g	< 0.02	0.05
Chlorobenzene	μg/g	< 0.02	0.05
Chloroform	μg/g	< 0.05	0.05
Dibromochloromethane	μg/g	< 0.05	0.05
Dichlorobenzene,1,2-	μg/g	< 0.05	0.05
Dichlorobenzene,1,3-	μg/g	< 0.05	0.05
Dichlorobenzene,1,4-	μg/g	< 0.02	0.05
Dichlorodifluoromethane	μg/g	< 0.02	0.05
Dichloroethane,1,1-	μg/g	< 0.02	0.05
Dichloroethane,1,2-	μg/g	< 0.02	0.05
Dichloroethylene,1,1-	μg/g	< 0.02	0.05
Dichloroethene, cis-1,2-	μg/g	< 0.02	0.05
Dichloroethene, trans-1,2-	μg/g	< 0.02	0.05
Dichloropropane,1,2-	μg/g	< 0.02	0.05
Dichloropropene, cis-1,3-	μg/g	< 0.02	0.05
Dichloropropene, trans-1,3-	μg/g	< 0.02	0.05
Dichloropropene 1,3- cis+trans	μg/g	< 0.02	0.05
Ethylene Dibromide	μg/g	< 0.02	0.05
Ethylbenzene	μg/g	< 0.05	0.05
Hexane	μg/g	< 0.02	0.05
Methyl Ethyl Ketone	μg/g	< 0.5	0.5
Methyl Isobutyl Ketone	μg/g	< 0.5	0.5

		Sample Identification	MECD Table 4
Parameter – VOCs	Units	GS-1	MECP Table 1 Standards
		Sample Date: September 12, 2022	Standards
Methyl-t-butyl Ether	μg/g	< 0.05	0.05
Methylene Chloride	μg/g	< 0.05	0.05
Styrene	μg/g	< 0.05	0.05
Tetrachloroethane,1,1,1,2-	μg/g	< 0.02	0.05
Tetrachloroethane,1,1,2,2-	μg/g	< 0.05	0.05
Tetrachloroethylene	μg/g	< 0.05	0.05
Toluene	μg/g	< 0.2	0.2
Trichloroethane,1,1,1-	μg/g	< 0.02	0.05
Trichloroethane,1,1,2-	μg/g	< 0.02	0.05
Trichloroethylene	μg/g	< 0.05	0.05
Trichlorofluoromethane	μg/g	< 0.02	0.05
Vinyl Chloride	μg/g	< 0.02	0.02
Xylene, m,p-	μg/g	< 0.03	0.05
Xylene, o-	μg/g	< 0.03	0.05
Xylene, m,p,o-	μg/g	< 0.03	0.05
<: parameter is below the laborator	y reporting limit.		

Table 13 Soil Quality: PAHs

		Sample Identification	MECP Table 1 Standards
Parameter – VOCs	Units	GS-1	
		Sample Date: September 12, 2022	
Acenaphthene	μg/g	< 0.05	0.072
Acenaphthylene	μg/g	< 0.05	0.093
Anthracene	μg/g	< 0.05	0.16
Benzo(a)anthracene	μg/g	< 0.05	0.36
Benzo(a)pyrene	μg/g	< 0.05	0.3
Benzo(b)fluoranthene	μg/g	< 0.05	0.47
Benzo(g,h,i)perylene	μg/g	< 0.05	0.68
Benzo(k)fluoranthene	μg/g	< 0.05	0.48
Chrysene	μg/g	< 0.05	2.8
Dibenzo(a,h)anthracene	μg/g	< 0.05	0.1
Fluoranthene	μg/g	< 0.05	0.56
Fluorene	μg/g	< 0.05	0.12
Indeno(1,2,3,-cd)pyrene	μg/g	< 0.05	0.23
Methylnaphthalene,1-	μg/g	< 0.05	NS
Methylnaphthalene,2-	μg/g	< 0.05	NS
Methylnaphthalene 2-(1-)	μg/g	< 0.05	0.59
Naphthalene	μg/g	< 0.05	0.09
Phenanthrene	μg/g	< 0.05	0.69
Pyrene	μg/g	< 0.05	1

4.7 Proposed Site Development

The existing Site conditions were surveyed with a drone operated by GHD on August 29, 2022. Ground control points were established using an EOS Arrow Gold Plus GPS unit connected to the Real-Time Kinematic (RTK) network. The interpreted existing Site contours are shown on **Figure 8**. Based on the contours depicted on **Figure 8** GHD has developed a proposed final contour plan, shown on **Figure 9**, which follows the below guidelines:

- A 2% slope will form the plateau of the final grading sloping in a generally eastern direction
- The east and south grade follows a 4:1 slope with the toe of the regrading area terminating at the eastern tree line.

Using the proposed final contours overlayed with the existing site contours, a cut and fill analysis was completed to estimate the total available fill volume at the Site. The cut and fill analysis is provided on **Figure 10**. The estimated available fill volume is on the order of 1,600,000 cubic metres (+/- 50,000 cubic metres).

The construction of a soil berm at the north and west portions of the Site, along County Road 4, is proposed for the purposes of noise and dust reduction.

5. Conclusions and Recommendations

It is our opinion that the Site is suitable for use as a Soil Bank facility and the continued use as a Hydro-Vac Receiving site from a hydrogeological perspective. It is our opinion that the operations will continue to have minimal impact on the surrounding surface water and groundwater regimes provided the Site continues to operate in an environmentally responsible manner. The Site is not within a wellhead protection area.

5.1 Conclusions

The following conclusions are made based on the information documented in this report:

- Baseline surface water quality meets the PWQOs at the upgradient and downgradient sampling locations with the exception of iron from the downgradient location (Creek #2);
- Baseline groundwater quality from monitoring wells MW2-22 and MW6-22 meets the MECP Table 2 Standards for all property use and generally meets the ODWQS with the exception of hardness and turbidity.
- The soil quality at GS-1 meets the MECP Table 1 Standards for RPIICC property use. Soil being accepted at the Site should meet the applicable site condition standard.
- The Site geology consists of gravelly sand underlain by glacial till. At depths ranging from 0.76 m to 3.8 m, inferred bedrock was encountered within the boreholes. The presence of the bedrock was not confirmed.
- Groundwater seepage was observed during drilling to range from about 2.0 to 3.0 mbgs. Groundwater seepage was not observed in MW1-22 and MW4-22. Static groundwater levels were measured August 22, 2022 and October 26, 2022 ranged from 1.15 to 3.75 mbgs. The shallow groundwater flow is in an east to southeast direction toward Meade Creek.
- Significant Groundwater Recharge Areas exist within relatively small areas of the Site with vulnerability scores of 4 to 6. The northeast portion of the Site is also within a Highly Vulnerable Aquifer. The Site is not within a Wellhead Protection Area.
- Downgradient surface water receptors from the Site include a tributary of Meade Creek and Meade Creek which flows into the Otonabee River.
- There are no private water wells that are downgradient and within 250 m of the Site.

It is the opinion of GHD that the Site operations are not impacting the soil quality or downgradient groundwater or surface water quality.

5.2 Recommendations

GHD recommends that a monitoring program be implemented at the Site to compare future analytical data with the baseline data and assess any trends or changes in the data. The monitoring is recommended for evaluating the surface water and groundwater quality. GHD recommends the following annual sampling program be conducted on a quarterly basis for the parameters tested for and documented in this report:

- Surface water sampling at the locations Creek #1 and Creek #2.
- Groundwater sampling at each of the monitoring well locations. Water levels should be obtained to assess seasonal fluctuations and to assess any trends over time.
- The sampling events are to be summarized annually a report reviewed by a qualified person along with interpretation of the data and recommendations.

We trust that this letter meets your immediate requirements. Should you have any questions regarding the planned work scope, please contact our office.

All of Which is Respectfully Submitted

GHD

Wesley Moore, P. Eng.

Project Manager

mitted,

PROFESSIONAL

Jan. 30/23 100548910 WM POLINCE OF ONTARIO

Robert Neck, P. Geo (Limited N T A R I O

Associate, Project Director

Steven Gagne, H.B.Sc. Associate, Project Director

6. References

Chapman L.J., and Putnam D.F., 1984. The Physiography of Southern Ontario, 3rd ed.

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Ontario Ministry of the Ministry of the Environment, Conservation and Parks, February 2021. Source Protection Information Atlas, available online at www.ontario.ca.

7. Limitations

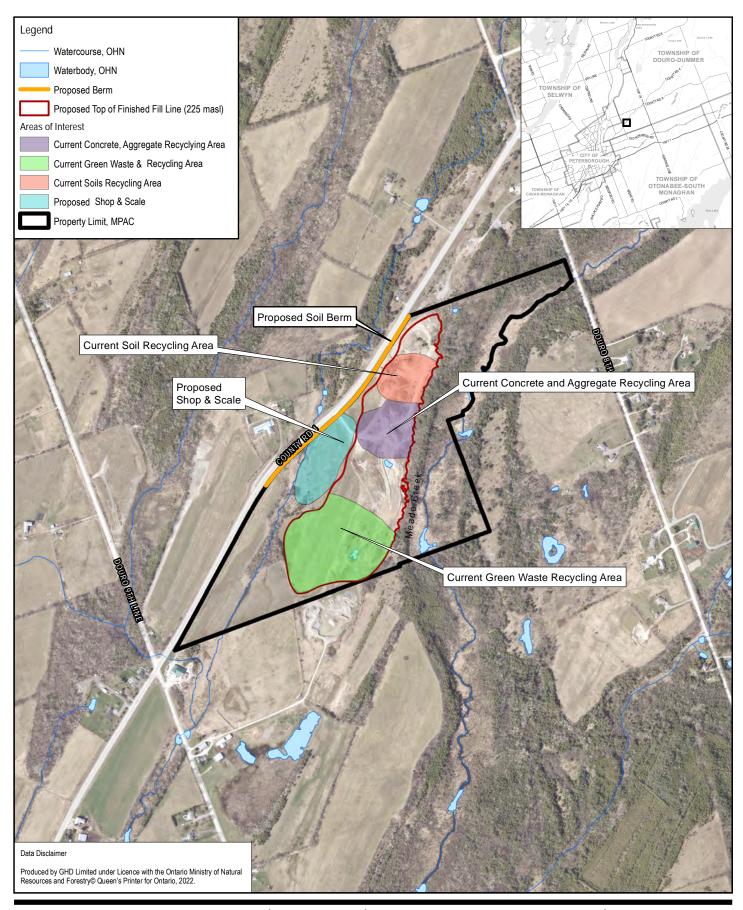
This report is intended solely for Leahy Excavations Inc. in assessing the hydrogeological aspects of the lands on County Road 4 identified as Part Lot 3, Concession 9 in the Township of Douro-Dummer, Peterborough, Ontario and is prohibited for use by others without GHD's prior written consent.

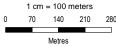
GHD otherwise disclaims responsibility to any person other than Leahy Excavations Inc. arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer to Section 5 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.







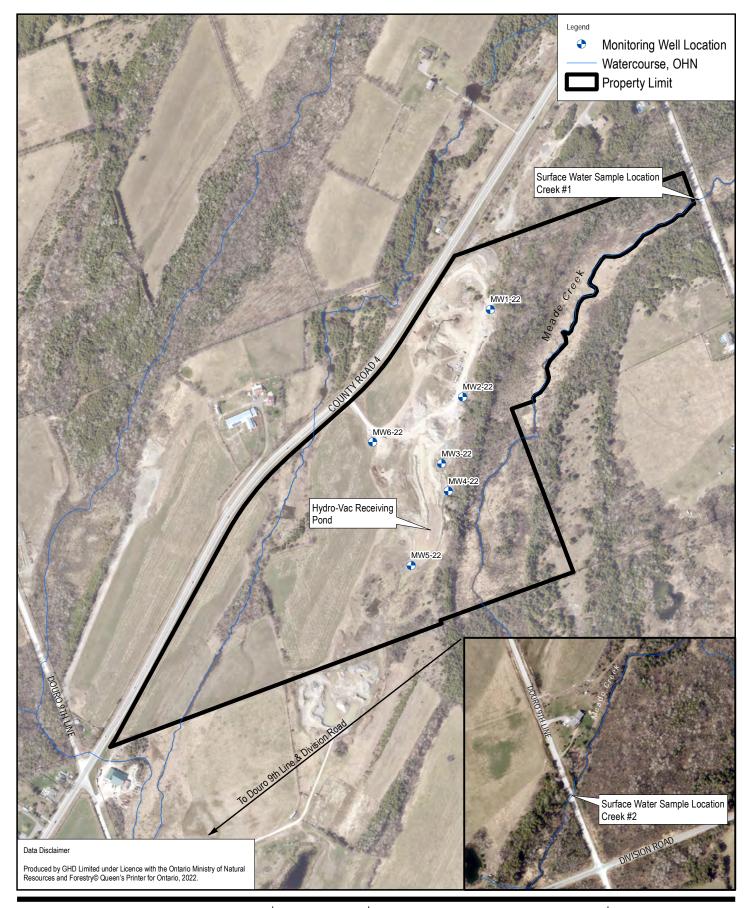


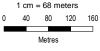
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Hydrogeological Assessment Site Location Plan

Project No. Revision No. 12583956

Date Jan 18, 2023







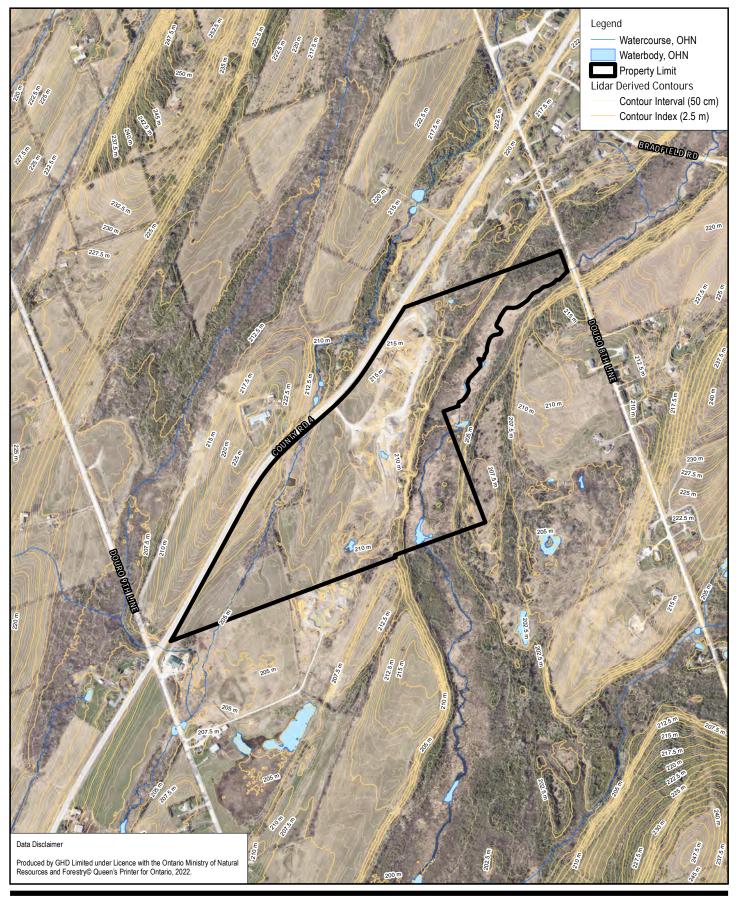


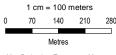
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Hydrogeological Assessment Investigative Locations

Project No. Revision No. Date 12583956

Date Dec 2, 2022







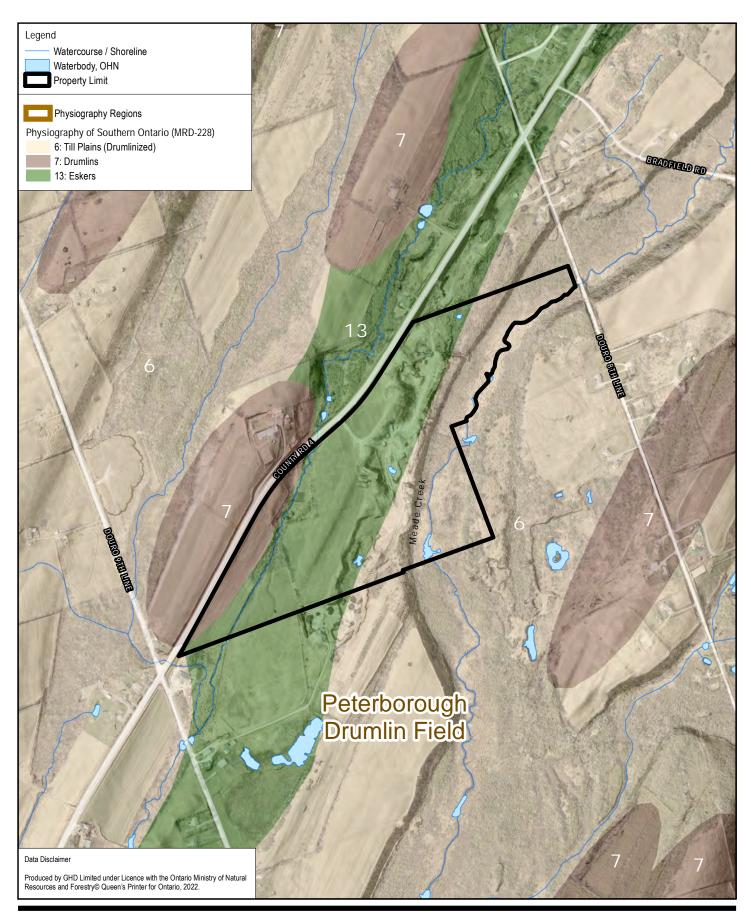


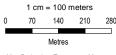
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Hydrogeological Assessment Regional Topography

Project No. Revision No. Date 12583956 Sep 8, 2022

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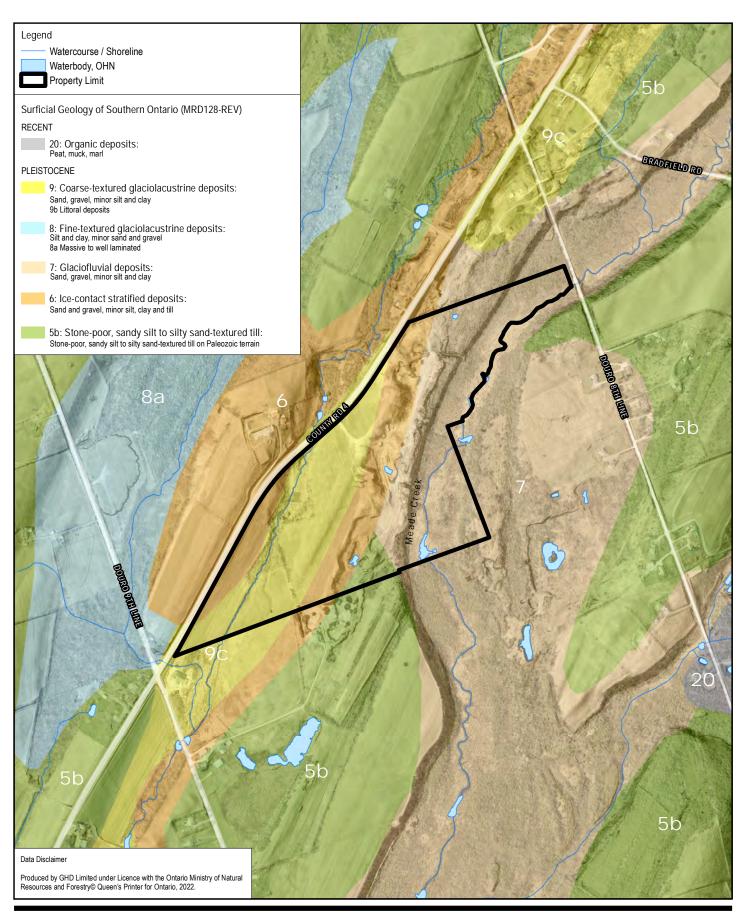


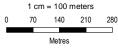
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Hydrogeological Assessment Physiography

Project No. 12583956 Revision No.

Date Sep 8, 2022







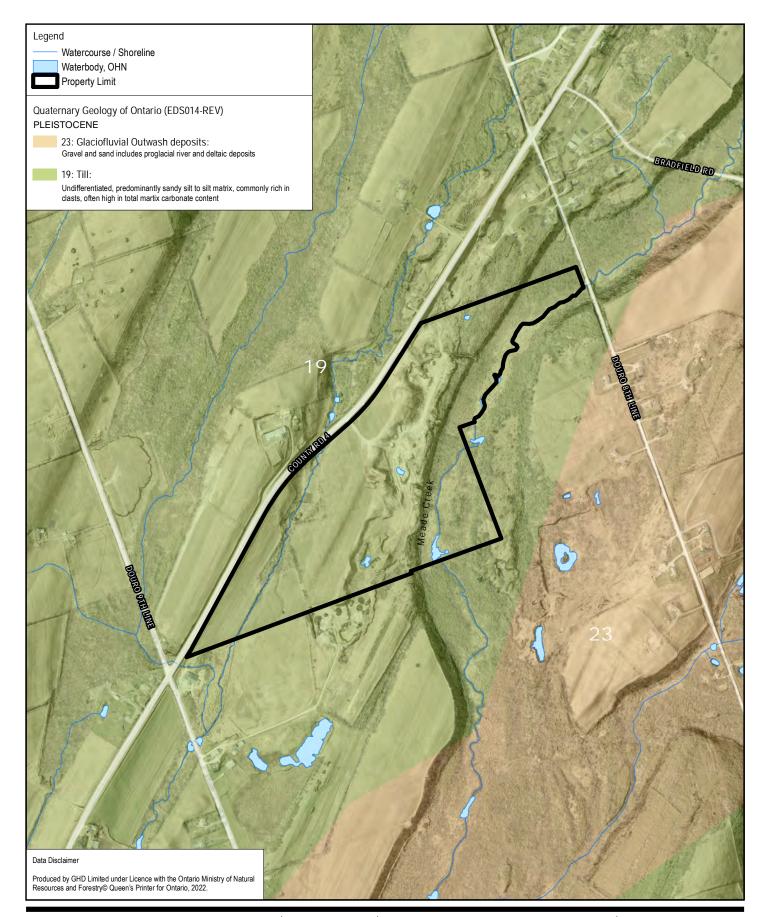


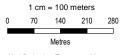
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Hydrogeological Assessment Surficial Geology

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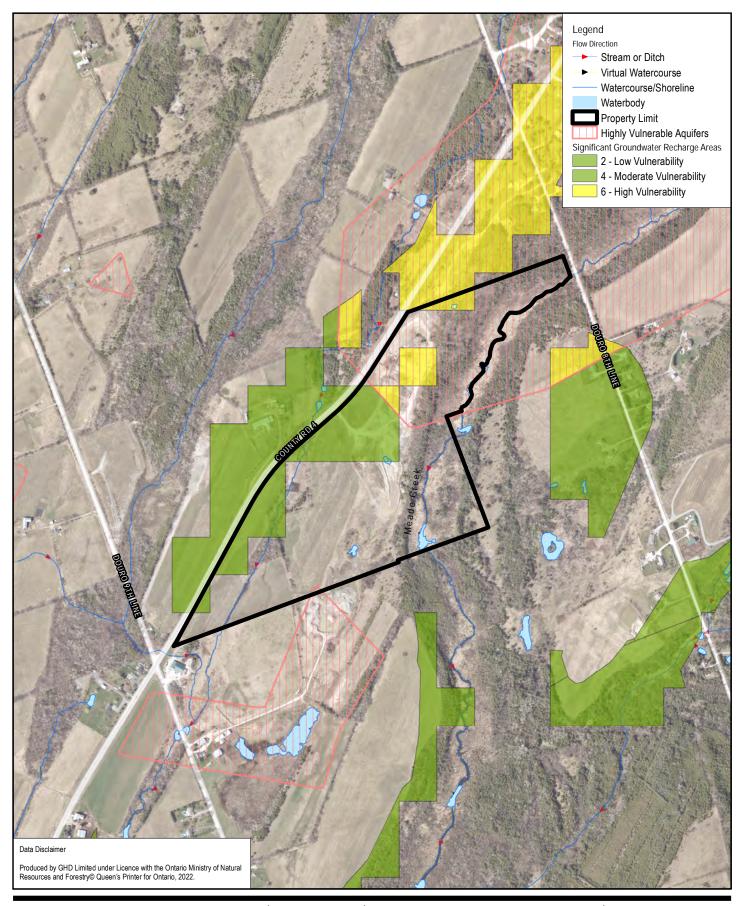
Hydrogeological Assessment

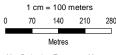
Quaternary Geology

EV. Ontario Geological Survey, 1997. Quaternary geology, seamless

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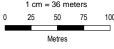
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Hydrogeological Assessment Source Protection

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Date Sep 8, 2022







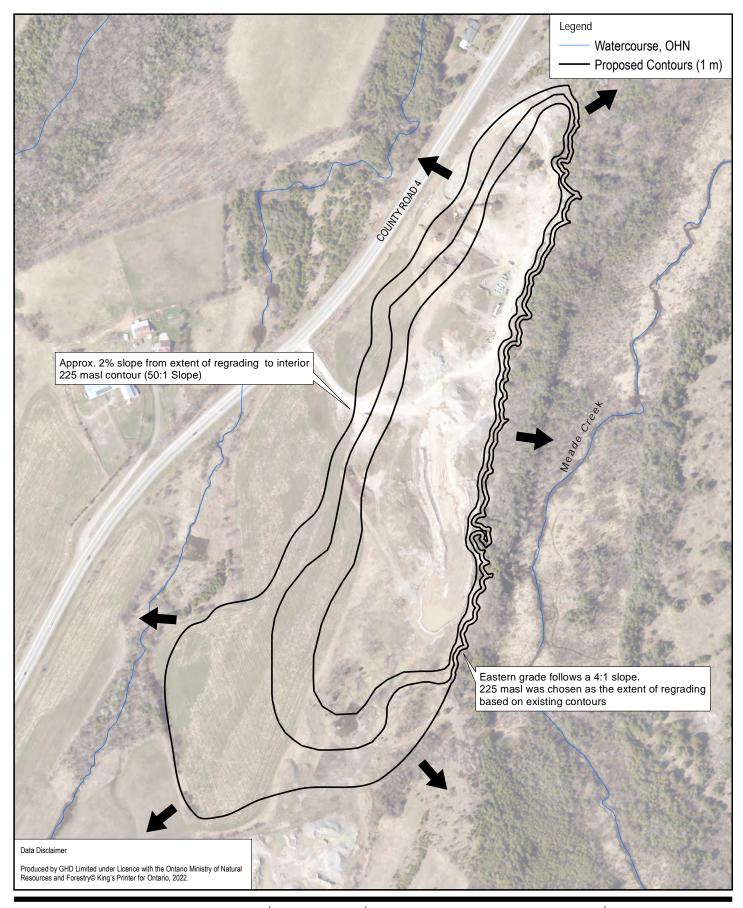


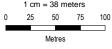
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Existing Contours

Project No. Revision No. Date 12583956

Jan 18, 2023







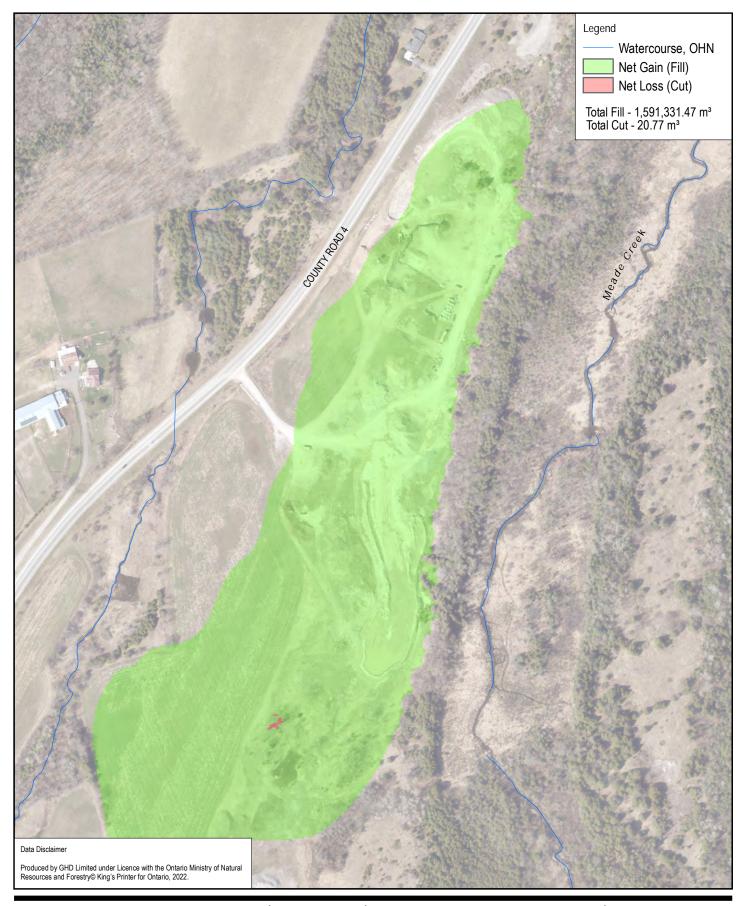


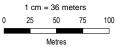
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Proposed Contours

Project No. Revision No. Date 12583956

Jan 18, 2023









Leahy Excavations Inc. County Road 4, Douro, ON Pt Lot 3, Con 9, Douro Township Township of Douro-Dummer County of Peterborough

Cut-Fill Analysis

Project No. Revision No. Date 12583956

Jan 18, 2023

Figure 10
Image Source: © City of Peterborough, 2022.

Appendices

Appendix A Photo Log





Photo 1 View of the Site, facing southwest, showing hydro-vac slurry receiving pond in background.

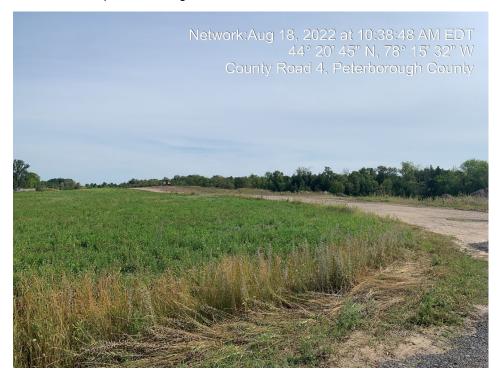


Photo 2 View of the Site, facing east, showing future soil filling area in background

Site Photographs

GHD | Hydrogeological Investigation, County Road 4, Peterborough, Ontario | 12583956-01



Photo 3 - View of Site, facing southeast, showing hydro-vac receiving area.



Photo 4 - View of Site, facing west, showing soil receiving area (lower elevation) and stockpiles of soil. Environmental protection lands are in background.

Site Photographs

Appendix B

Site Hydrogeologic Information

- Stratigraphic and Instrumentation Logs
- Geotechnical Analysis (Grain Size and Moisture Content)

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: MW1-22 **BOREHOLE LOG ELEVATION:** 209.78 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube RC Rock Core LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario Ţ Water Level CHECKED BY: DESCRIBED BY: J. Scott W. Moore 0 Water content (%) 8 August 2022 8 August 2022 DATE (START): DATE (FINISH): Atterberg limits (%) Report: BOREHOLE LOG Date: 1/12/22 Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Type and Number △ Cu Shear Strength based on Field Vane Recovery **DESCRIPTION OF** Depth □ Cu S Shear Strength based on Lab Vane Sensitivity Value of Soil 吕 BĞS SOIL AND BEDROCK Shear Strength based on 0.9 Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 209.78 **GROUND SURFACE** % ppm Ν metres **GRAVELLY SAND** - Brown, Riser → Very Dense, Moist packed in _ Bentonite SS-1 78 50+ GHD_GEOTECH_V10.GLB 0.3 0.5 -0.5 Screenpacked in Sand SS-2 100 50+ (IGHDNET/GHD/CA/PETERBOROUGH/PROJECTS/662/12683956)WORKSHARE/FIELD/12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ LIbrary File: 1.0 1.2 **NOTES:** 208.53 - Inferred bedrock at 1.24 mbgs. 1.5 2.0 2.5 3.0 3.5 4.0 4.5 NOTES: File:

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: <u>MW2-22</u> **BOREHOLE LOG ELEVATION:** 209.48 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube RC Rock Core LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario Water Level ¥ J. Scott CHECKED BY: W. Moore 0 Water content (%) DATE (START): __ 8 August 2022 DATE (FINISH): 8 August 2022 Atterberg limits (%) 1/12/22 Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on BOREHOLE LOG Date: Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Type and Number Shear Strength based on Field Vane Recovery **DESCRIPTION OF** Depth Shear Strength based on Lab Vane Sensitivity Value of Soil □ Cu 吕 s BĞS SOIL AND BEDROCK Shear Strength based on 0.9 Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 209.48 **GROUND SURFACE** % Ν metres ppm Report: **GRAVELLY SAND** - Light Brown, Compact, Moist GHD_GEOTECH_V10.GLB SS-1 67 25 Riser packed in Bentonite 0.5 Sand coarsens slightly 208.72 Library File: 1.0 SS-2 83 31 12 Riser→ WGHDNET/GHD/CA/PETERBOROUGH/PROJECTS/662/12683956/WORKSHARE/FIELD/12683956-FLD-22-08-12 BOREHOLE LOGS.GPJ packed in Sand 1.5 1.5 WL 1.7-8/17/2022 SS-3 67 37 2.0 Wet 207.50 Screenpacked in Sand TILL - Gravelly Sand, Trace 207.19 Silt and Clay, Very Dense 2.5 SS-4 92 97 3.0 3.0 206.43 - Auger Refusal, inferred bed rock at 3.05 mbgs. 3.5 4.0 4.5 NOTES:

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: <u>MW3-22</u> **BOREHOLE LOG ELEVATION:** 210.57 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube RC Rock Core LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario Water Level ¥ CHECKED BY: DESCRIBED BY: J. Scott W. Moore 0 Water content (%) DATE (START): ___ 8 August 2022 DATE (FINISH): 8 August 2022 Atterberg limits (%) 1/12/22 Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on BOREHOLE LOG Date: Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Shear Strength based on Field Vane Recovery Type and Number **DESCRIPTION OF** Depth Shear Strength based on Lab Vane Sensitivity Value of Soil □ Cu 吕 BGS SOIL AND BEDROCK Shear Strength based on 0.9 Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 210.57 **GROUND SURFACE** % Ν metres ppm Report: **GRAVELLY SAND** - Brown, Dense, Moist GHD_GEOTECH_V10.GLB SS-1 83 32 Riser packed in Bentonite 0.5 Silty 209.81 **Grading Grey** <u>=</u> SS-2A 88 4 209.66 1.0 Moist-Wet Library 209.51 12 SANDY SILT - Trace Gravel Riser → SS-2B 209.35 WGHDNET/GHD/CA/PETERBOROUGH/PROJECTS/662/12683956/WORKSHARE/FIELD/12683956-FLD-22-08-12 BOREHOLE LOGS.GPJ and Clay, Compact, Trace packed in Organics Sand 1.5 1.5 **GRAVELLY SAND** - Brown, 209.05 Compact, Moist SS-3 Screen -96 29 packed in Sand 2.0 TILL - Gravelly Sand, Trace 208.29 Silt, Brown, Dense, Moist-Wet SS-4 100 50+ 2.5 WI 28-8/22/2022 3.0 30 -**NOTES:** 207.53 - Augered to 3.05 mbgs for monitoring well install. (Inferred Bedrock) 3.5 4.0 4.5 NOTES:

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: <u>MW4-22</u> **BOREHOLE LOG ELEVATION**: 211.21 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube RC Rock Core LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario Ţ Water Level CHECKED BY: DESCRIBED BY: J. Scott W. Moore Water content (%) 0 8 August 2022 8 August 2022 DATE (START): DATE (FINISH): Atterberg limits (%) BOREHOLE LOG Date: 1/12/22 Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Type and Number △ Cu Shear Strength based on Field Vane Recovery **DESCRIPTION OF** Depth □ Cu S Shear Strength based on Lab Vane Sensitivity Value of Soil 吕 BGS SOIL AND BEDROCK Shear Strength based on 0.7 Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 metres 211.21 **GROUND SURFACE** % ppm Ν Report: **GRAVELLY SAND** - Brown, Compact, Moist GHD_GEOTECH_V10.GLB Riser SS-1 67 10 packed in Bentonite 0.5 0.6 Riser⊣ packed in Sand 0.9 Library File: 1.0 SS-2 83 27 Screen packed in I/GHDNET/GHDI/CAI/PETERBOROUGHI/PROJECTS/662/12583956/WORKSHARE\FIELD/12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Sand 1.5 SS-3 1.8 -67 29 2.0 Dense 208.92 2.5 SS-4 100 34 • NOTES: 208.31 3.0 - Auger Refusal, inferred bed rock at 2.90 mbgs. - Borehole caved to 1.83 mbgs. 3.5 4.0 4.5 NOTES: File:

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: <u>MW5-22</u> **BOREHOLE LOG ELEVATION:** 207.51 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube RC Rock Core LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario Ţ Water Level CHECKED BY: DESCRIBED BY: J. Scott W. Moore 0 Water content (%) 8 August 2022 8 August 2022 DATE (START): DATE (FINISH): Atterberg limits (%) Report: BOREHOLE LOG Date: 1/12/22 Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Type and Number △ Cu Shear Strength based on Field Vane Recovery **DESCRIPTION OF** Depth □ Cu S Shear Strength based on Lab Vane Sensitivity Value of Soil 吕 BGS SOIL AND BEDROCK Shear Strength based on 0.9 Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 207.51 **GROUND SURFACE** % Ν metres ppm **GRAVELLY SAND** - Brown, Very Dense, Moist SS-1 50+ 84 WL 0.2-GHD_GEOTECH_V10.GLB 8/22/2022 0.5 0.6 TILL - Silty Sand, With Gravel, Riser → 206.90 Brown, Very Dense, Moist packed in Sand 0.9 (IGHDNET/GHD/CA/PETERBOROUGH/PROJECTS/662/12683956)WORKSHARE/FIELD/12683956-FLD-22-08-12 BOREHOLE LOGS.GPJ LIbrary File: SS-2 100 50+ 1.0 Screen packed in Sand 1.5 1.5 — **NOTES:** 205.99 - Auger Refusal, inferred bed rock at 1.52 mbgs. 2.0 2.5 3.0 3.5 4.0 4.5 NOTES: File:

REFERENCE No.: 12583956-01 ENCLOSURE No.: BOREHOLE No.: <u>MW6-22</u> **BOREHOLE LOG ELEVATION:** 213.43 m Page: _1_ of _1_ **LEGEND** CLIENT: Leahy Excavations Inc. SS Split Spoon PROJECT: Environmental Compliance Approval for Soil Bank ST Shelby Tube LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario RC Rock Core Water Level ¥ CHECKED BY: DESCRIBED BY: J. Scott W. Moore 0 Water content (%) 8 August 2022 DATE (START): DATE (FINISH): 8 August 2022 Atterberg limits (%) Penetration Index based on MONITOR Split Spoon sample **SCALE STRATIGRAPHY** SAMPLE DATA WELL Penetration Index based on BOREHOLE LOG Date: Dynamic Cone sample Stratigraphy Penetration Index / RQD % Elevation (m) Shear Strength based on Field Vane Recovery **DESCRIPTION OF** Depth Shear Strength based on Lab Vane Sensitivity Value of Soil □ Cu 믑 BGS SOIL AND BEDROCK Shear Strength based on 0.9 -Pocket Penetrometer SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa 20 30 40 50 60 70 80 213.43 **GROUND SURFACE** % Ν metres ppm Report: TOPSOIL - (25 mm) 213.40 **GRAVELLY SAND** - Brown, Compact, Moist GHD_GEOTECH_V10.GLB 213.27 SS-1 15 Riser SAND - Trace Silt, Compact, packed in Moist Bentonite 0.5 SILTY SAND - Compact, Moist 212.67 Library File: 1.0 SS-2 10 I/GHDNET/GHDI/CAI/PETERBOROUGH/PROJECTS/662/12583956/WORKSHARE/FIELD/12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ 1.5 TILL - Silty Sand, With Gravel, 211.90 Trace Clay, Compact, Moist SS-3 63 11 2.0 -Riser -2.0 packed in Sand 2.3 Very Dense 211.14 SS-4 84 50+ 2.5 Screen packed in Sand Y WI 29-3.0 8/17/2022 Wet 210.38 SS-5 52 3.5 3.8 NOTES: 209.62 - Auger Refusal, inferred bed 4.0 rock at 3.81 mbgs. 4.5 NOTES:



Particle-Size Analysis of Soils MTO LS-702 (Geotechnical)

Clien	t:	Leahy Exca	avations		Lab No.:	s	S-22-42	
Proje	ct, Site:	County Road 4,	Peterborou	ugh	Project No.:	:12	2583956	
Bor	ehole No.:	MW-2			Sample No.:		SS-4	
Dep	oth:	7.5-9.5'			Enclosure:		-	
100								100
100								
90								90
80								80
70								70
ರಾ 60								60
Passing								
Percent Passing								Percent Retained
40								40
30								30
20								20
10								10
0 0.	001	0.01	0.1 Diame	1 eter (mm)		10		∐ ₀ 100
				Sand		Grav	rel	
		Clay & Silt	Fine	Mediu		Fine	Coarse	
		Particle-S	Size Limits a	as per USCS (ASTN	I D-2487)			
		Soil Description		Gravel (%)	Sand (%)	Clay	y & Silt (%)	
		Gravelly, silty sand with clay		29	43		28	
		Silt-size particles (%):	,			7		
	Additional la	Clay-size particles (%) (<0.002 mr boratory reporting information available		st.	1	1		
Perfo	rmed by:	Reanna M			Date:	Septer	mber 7, 2022	
Verifi	ed by:	Joe Sullivan	Sulla		Date:	Septer	mber 7, 2022	
Labo								



Particle-Size Analysis of Soils MTO LS-702 (Geotechnical)

Client:	Leahy Exc	avations	Lab No.:					
Project, Site:	County Road 4,	Peterborough	Project No.:	12583956				
Borehole No.:	MW-6		Sample No.:	SS-2				
Depth:	2.5-4.5'		Enclosure:					
100 90 80 70 60 40 30 20 10 0.001	O.01 Clay & Silt Particle-S Soil Description Silty sand with clay, trace gravel	0.1 Diameter (mm) Sand Fine NSize Limits as per USCS (A	ledium Coarse ISTM D-2487)	To Gravel Fine Coarse Clay & Silt (%) 46	100 90 80 70 60 40 40 40 100			
	Silt-size particles (%): 34							
Additional	Clay-size particles (%) (<0.002 mr	•	12	2				
Performed by			Date:	September 7, 20)22			
Verified by:	Joe Sullivan	Sullan	Date:	September 7, 20	-			
Laboratory Lo		Laboratory Location: GHD Limited - 347 Pido Road, Unit 29, Peterborough, ON						



Particle-Size Analysis of Soils MTO LS-702 (Geotechnical)

Client:		Leahy Ex			Lab No.:		SS-22-42		
Project, Si	te:	County Road 4	ugh		Project No.	:	12583956		
Borehole	No.:	MW-	6			Sample No.:		SS-3	
Depth:		5-7	1			Enclosure:		-	
100 90 80 70 60 60 40 90 10 10 0 0 0 0 0 10 10 10 10 10 10 10 1		O.01 Clay & Silt Particl Soil Description Gravelly, silty sand with clay Silt-size particles (%):	0.1 Diam Fine	as per US	Sand Mediu	Sand (%)	Fine	avel Coarse ay & Silt (%)	100 90 80 70 60 60 90 40 40 100
	Clay-size particles (%) (<0.002 mm):					1	13		
		oratory reporting information availal	ole upon reques	st.					
Performed	by:	Reanna	Mcllveen			Date:	Septe	ember 7, 2022	<u>2</u>
Verified by	/ :	Joe Sullivan	->ullan			Date:	Septe	ember 7, 2022	2
Laboratory	aboratory Location: GHD Limited - 347 Pido Road, Unit 29, Peterborough, ON						terborough, C	ON	

Appendix C MECP Well Records

	ownship, Village, T	OCT Ac ORDURO	ARIO WATER SES COMMISSION	232
Casing and Screen Record	, <u></u>	Pumping	g Test	
Inside diameter of casing Total length of casing Type of screen Length of screen Depth to top of screen Diameter of finished hole	Static levei Test-pumping ra Pumping level Duration of test p Water clear or cle Recommended p with pump settin	oumping 2 oudy at end of	test elec	G.P.M.
Well Log			T	Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Ted much duy.	0	7.7		
Clay & along	27	13 15	65	Le. L
For what purpose(s) is the water to be used? Is well on upland, it valley, or on hillside? Drilling or Boring Firm Address Licence Number Name of Driller or Borer Address Date (Signature of Licensed Drilling or Boring Contractor) Form 7 10M-62-1152	road and		distances of we licate north by	arrow.
OWRC COPY				Y

UTIM 772 7190 19 R 49146 Elev. 9 R 207125 Basin 7A4	The Walter	ontario Iter-well Driller Department of - Well Township	GEOLOGICAL S Act, 1584RTILENT Mines Record Village, Town, or Cit liress LLQ	1954 51 BRANCH of LINES	Nº 734
(day)	(month)		iress .fl		<i>[]</i>
Pipe and Casin		(year)	·····	Pumping Test	
Casing diameter(s)		Sta Pur Pur Dur	tic level	golo po Ars 30	mens.
Well Log			V	Vater Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Top soil	U	//	30'	20'	fresh.
For what purpose (s) is the water Is water clear or cloudy? Is well on upland, in valley, or on Drilling firm Address Name of Driller Address I certify that the statements of fact Date. Date. Date. J. M. J.	hillside?		In diagram below slroad and lot line.		I I
orm 5	nature of Licensee	-			

ENL 08 3108W UTM 1/7/2 17/18 902E RECEIVED 9 R 4914597N APR 1 6 1956 9 R 101712151 geological branch The Water-well Drillers Act, 1954 PARTITION OF IN S Department of Mines Water-Well Record Peterbora Township, Willago, Town or City... County or Territorial District. n Village, Town or City)...... Address . T. T. 5/0 (month) (year) Pipe and Casing Record **Pumping Test** Static level38 Casing diameter(s)..... Pumping rate 500 gals funks Type of screen Pumping level Length of screen Duration of test Well Log Water Record Depth(s) at which Overburden and Bedrock Record From To Kind of water No. of feet ft. ft. water rises or sulphur) For what purpose(s) is the water to be used? BW Location of Well In diagram below show distances of well from Is water clear or cloudy?..... road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside?..... WARSAW RO Drilling firm Name of Driller I certify that the foregoing statements of fact are prue. orm 5 C 33 / 34

E ENLO8 3108W UTM 1/17 | 7/19/0/4/7 | E 9 R 49146810 N APR 1 6 1956 Elev 9 RV 171215 The Water-well Drillers Act, 1954GILLOWAL BRANCH
Department of Mines Basin | 2 | 4 | 1 | 1 Department of Mines Water-Well Record Township, Williage, Town or City..... n Village, Town or City)... (year) Pipe and Casing Record **Pumping Test** Casing diameter(s)6" Static level Pumping rate 500 gals her Type of screen Length of screen Duration of test Well Log Water Record Depth(s) at which Kind of water From To No. of feet Overburden and Bedrock Record (fresh, salty, or sulphur) water(s) found water rises Top soil For what purpose(s) is the water to be used? Location of Well In diagram below show distances of well from WARSAWRD road and lot line. Indicate north by arrow. Is well on upland in valley, or on hillside?.... Killside Drilling firm ... N. F. aulkner Name of Driller, Licence Number.... I certify that the foregoing statements of fact are tru Form 5

ENZ 08 3108W UTM 1/1/2 1/1/8/9/7/1/E 9 R 49145811 N

Eleve 1 2 11/10/7/2/8

Basin + A



Department of Mines

The Water-well Drillers Act 1954 DEPARTMENT OF MINES

Water-Well Record

County or Territorial District	Petulos	_ T	mahi-	Village Be	City D	
	***************************************	10Y	n V	village, Town or C	lity)	a
			Add	ress RH	Otelatore	***************************************
(day)	((mont) ()	(year				
Pipe and Casing		· · · · · · · · · · · · · · · · · · ·			Pumping Test	
			1			
Casing diameter(s)4. 4	•••••••••••••••••••••••••••••••••••••••	••••••••		tic level/.5	••••••	***************************************
Length(s)/Q	***************************************	• • • • • • • • • • • • • • • • • • • •	1	nping rate/	<u>M:</u>	***************************************
Type of screen	***************************************		. Pun	nping level&a	/ ·····	
Length of screen	••••••••••••••••••	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	. Dur	ation of test	la	***************************************
Well Log			·•		Water Record	
Overburden and Bedrock Record	From ft.	To ft.		Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Top sail		//_				
Brown clayd Stone		10				
Darly livestone		75 80			1.5	
- Corac Hallston	/ <u>_</u>	- 30		-80	65	fresh
			<u> </u>			
		·				
		ļ				
For what purpose(s) is the water t	o be used?			Loc	ation of Well	ŕ×
Is water clear or cloudy?					show distances of	
Is well on upland, in valley, or on l	illside?		r	oad and lot line.	Indicate north	by arrow.
Drilling firm				"NATURE OF THE PROPERTY.	المعتقد المعتقد المعتقد المعتقد المعتقد في المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد المعتقد الم 2- المعتقد الم	and the same of th
Address						-1/5
	******************	••••••				Special
Name of Driller Musica	udino.	•••••				W.
Address					<i>J</i> y	/
······	***************************************				39/	Plan
Licence Number 209						anis
I certify that the fo	regoing				300	` مرد <i>(</i>

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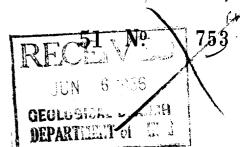
statements of fact are true.

ENL 08 3108W UTM 1/7/2 7/18/9/3/1/E GROUND WATER BRAN AUG 10/059 The Ontario Water Resources Commission Act, 1957 CHTARIO WATER WATER WELL RECORD RESOURCES CUMMISSION Township, Village, Town or City.... County or District...... completed /2 Casing and Screen Record **Pumping Test** Inside diameter of casing 6 Static level 15 Total length of casing Test-pumping rate / O G.P.M. Type of screen Pumping level Duration of test pumping Length of screen..... Water clear or cloudy at end of test Depth to top of screen...\ Diameter of finished hole Recommended pumping rate 3 G.P.M. with pumping level of 20' Well Log Water Record Depth(s) at which Kind of water From ft. No. of feet (fresh, salty, sulphur) Overburden and Bedrock Record water(s) found For what purpose(s) is the water to be used? Location of Well Donati In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside: Drilling Firm Wree Sandus Licence Number 9 Form 5 15M-58-4149 \$ 10 mg

Basin 27A



The Water-well Drillers Act, 1954 Department of Mines



1	Nater-	·We	ll Recor	ď	
County or Territorial District	Serborou	د.لTowr		·	
			Village, Town or C	ity)	
(day)	(month)	(year)		0	
Pipe and Casing	Record			Pumping Test	
Casing diameter(s) .[2.114]			Static level	1.0	/
Length(s)			Pumping rate	$\bigcap K$	
Type of screen	•••••••		Pumping level	1) [\ 1	
Length of screen	•••••••••••••••••••••••••••••••••••••••		Duration of test		
Well Log				Water Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
top wil				- 0 W	
Lenal aland		2/		 	
That 200 k	2.1	36			
line store	36	110	Sans gas	at 110	
			J		
					
For what purpose(s) is the water	to be used?		Loc	cation of Well	P
	•••••		In diagram below	show distances of	well from \(\)
Is water clear or cloudy?			road and lot line	. Indicate north	by arrow.
Is well on upland, in valley, or on	hillside?	nal.			,,
7.00		*******			
Drilling firm W. Alson des	() () () () () () () () () ()			1	
Address/3. S. Inazia.	de la la companya de			200	
Name of Driller H. J.H. Ganza	menangan ang	A			ight
Address . 5.3 Manage	Title Colombia dolores de				7
L.	Luberon	-01			9.
Licence Number		1	to Wo		m'
I certify that the	foregoing		(Jahan Pas	<u> </u>	
statements of fact			() into		
10 10 11 11 11	_				
Date May 17/56 A 14 0	nature of Licensee		•	- The second sec	

Form 5

UTM 1 7 2 7 1 7 9 6 3 E SR 9913164NElev. SB 977903

Basin |24 | | |



The Water-well Drillers Act, 1954 Department of Mines

Water-Well Record

			ship, Village, Town of in Village, Town or Address	r City	
Date completed	march (month)	/958 (year)		. Si	anoron a
Pipe and Casi	ng Record			Pumping Test	
Casing diameter(s)		•••••	Static level	2'	
Type of screen	*************************	•••••••••	Pumping level	0' dis	
Well Log	3			Water Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Jop soil	0.	21			
Shey clay of gravel har span	2'	58' 6'	7.		
Limitone rock	58'6"	66'	60.	54'	Frest
For what purpose(s) is the water	to be used?		Lo	cation of Well	asn
Is water clear or cloudy?				show distances of . Indicate north	
Drilling firm 7): 1/2 Address 682 Water Deterborough	ultzers Oxil	•••••		ر م	//
Name of Driller Edward Address R. 720.10	Peterso	lough	PON10	3 50 145	74
I certify that the istatements of fact	_				
Date 7/4/58 Edward Sig	nature of Licensee	-			

ENL 08 3 108W UTM 1772 718413E SR 4914127N AUG 10 1956 The Ontario Water Resources Commission Act, 1957 CMTARIO RECOURCES COMMISSION WATER WELL RECORD County or District Township, Village, Town or City Con. 9 te completed J > May 5 g

(day month year)

Iress PR # 16 Q 22 g Casing and Screen Record **Pumping Test** Inside diameter of casing 6 Static level 20' Total length of casing 36 Test-pumping rate 4 G.P.M. Type of screen..... Pumping level 35 Length of screen..... Duration of test pumping 2 Lo Depth to top of screen Water clear or cloudy at end of test Clear Diameter of finished hole b 4 Recommended pumping rate 3. G.P.M. with pumping level of 30 Well Log **Water Record** Depth(s) at which From ft. Kind of water No. of feet Overburden and Bedrock Record water(s) found (fresh, salty, sulphur) water rises For what purpose(s) is the water to be used? Location of Well Dourtie In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hills der Drilling Firm The Landerson Licence Number 5 Name of Driller V. O-ser

Form 5 15M-58-4149

1. 33. 53

Date Maria 13/61

(Signature of Licensed Drilling Contractor)

Form 5 15M-58-4149

Kind of water (fresh, salty, sulphur)

ENLO8 3108W UTM 172 717883E 51 9 R 4913086N Elev. 9 R 0690 RE The Well Drillers Act MAR 19 Department of Mines, Province of Ontario Water Well Record DEPARTMENT OF MINES Township, Village, Town or City Dours Peterta cluding pump) \$ 131.75 (month) (year) Pipe and Casing Record **Pumping Test** Casing diameter(s)...... 24. Length(s) of casing(s).....3.1. Static level. ... 5 Type of screen..... Pumping level . . . 3.6. Length of screen..... Pumping rate. 1809 P. H. Duration of test. ... & Hm: Distance from top of screen to ground level..... Is well a gravel-wall type?.... Distance from cylinder or bowls to ground level..... Water Record Kind (fresh or mineral)..... and.... Depth(s) to Water Horizon(s) No. of Feet Water Rises Kind of Water Quality (hard, soft, contains iron, sulphur, etc.)... Appearance (clear, cloudy, coloured)..... For what purpose(s) is the water to be used?.... How far is well from possible source of contamination?.. What is the source of contamination?...... September 7 Enclose a copy of any mineral analysis that has been made of water. Well Log Location of Well Overburden and Bedrock Record From То 0 ft. 15.ft. In diagram below show distances of well from road and lot line. In-45 dicate north by arrow. aw RR. Co R Situation: Is well on upland, in valley, or on hillside? Drilling Firm. ... Frankling Address.

Name of Driller.

Address. 138

J.....Licence Number

Signature of Licensee

FORM 5

ENLOS 310	18W				527	4
UTM 1) 7 2 7 1 7 9 5 6 E	*Em }	¥			_51	785
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CONCIX FROM SPETCH. Water I			سنا	The second second second second second	WIMES	
CONCIX Water Water	Well	R	eco	ord		
County or Territorial District Peterboro			•	Dour	ra	
	wo'	n or Cit	t y) .		•••••	• • • • • • • • • • • • • • • • • • • •
(day) (month) (year)		G = 1	. 3	I Dakamba		
Pipe and Casing Record	- VOII (CACIL	iding pu	mp)	• • • • • • • • • • • • • • • • • • • •	••••••	••••••
Casing diameter(s)	<u> </u>			imping Test		
Length(s) of casing(s)? It.				••••••	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •
Type of screen	Pumping Is	1	10 It	. from to	p	• • • • • • • • •
Distance from top of screen to ground level	Pumping ra	te	25.0 3hrs	eph	• • • • • • • • • • • • • • • • • • • •	•••••
Is well a gravel-wall type?	Distance fro	test m cylin	der or 1	owls to group	d level	• • • • • • • • • • • • • • • • • • • •
	ater Record			- Co ground	4 1evel	• • • • • • • • • • • • • • • • • • • •
Kind (fresh or mineral)				Depth(s)		1
Quanty (nard, soft, contains iron, sulphur, etc.) Har	đ			to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Appearance (clear, cloudy, coloured)		• • • • • • •		70-73	Freigh	46ft.

How far is well from possible source of contamination? What is the source of contamination?	• • • • • • • • • • • • •	• • • • • • • •				
Enclose a copy of arry mineral analysis that has been made	of water	• • • • • • • •				
Well Log Overburden and Bedrock Record			<u> </u>			
Overburden and Bedrock Record	From 0 ft.		WY		tion of Well	
Old Well	011.	2I	S	In diagram be	elow show distand and lot line	nces of
Till	SI	70		dicate north	by arrow.	
GINXIX Gravel	70	_73			ई	1
					9	250
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				, S)		1 1.
				-N*//	() 	
					r!	
Situation, Is well as a second		-				
Situation: Is well on upland, in valley, or on hillside? Hi N. H. Faulkner	Liside	• • • • • • • •	• • • • • • •			
Address 167. Aylmer. St., Peterboro	· • • • • • • • • • • • • • • • • • • •	• • • • • • •	• • • • • •	• • • • • • • • • • • • •	••••••	•••••
Dec. 17		address.	بببب	ame e	•••••••••	
окм 5	I	icence l	Numbe	F H Z	· · · · · · · · · · · · · · · · · · ·	
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The Water-well Drillers Act, 1954 Department of Mines



County or Territorial District			in Village, '	Fown or C	City)	ace On. f.
(day)	(month)	(year)		100000000000000000000000000000000000000	ka k	10 a in 6 a a can de
Pipe and Casir	g Record				Pumping Test	
Casing diameter(s)	***************************************	***************************************	Static level	81	***************************************	
Length(s)	***************************************		Pumping ra	ite3.0.	GPH	***************************************
Type of screen			Pumping le	vel <i>/ 0</i> ,	3.1	
Length of screen	*************************	•••••••••••••••••••••••••••••••••••••••	Duration of	test	2 hes	***************************************
Well Log	3				Water Record	-
Overburden and Bedrock Record	From ft.	To ft.	at wat	oth(s) which ter(s)	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Too soil	6.	1				
havely tardpart stone	1'	121				ļ .
Licy clayd stones	12'	45'		4.4	0.=1	
Live Stone Rock	60'	1031	6	<u>, , , , , , , , , , , , , , , , , , , </u>	95"	Fresh
	· · · · · · · · · · · · · · · · · · ·					
For what purpose(s) is the water	to be used?			Loc	ation of Well	
Is water clear or cloudy?	l / .		In diagra	am below	show distances of	well from
Is well on upland, in valley, or on			road and	l lot ling	Indicate north	by arrow.
	V				CON	CON
Drilling firm 1712 Faul				JOH		/ X
Address 687 Water	A.T.			/k 1	X	
Nome of Dalland & de day	2.4.64		<u> </u>	,,,	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Name of Driller Educated Address 86 Victoria	Daugaba.		(*)/			
Octuber Ost		••••••				J'N RS
Licence Number 746			3//			Wres Nies
I certify that the			<u> </u>		74	5
statements of fact		-			501	Wites Andres
Date Och 5/5/6 Edward	mature of Licensee		0410	4		
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n 5			L	_		

EN108 3108M	GROUND WATER BOANON				
UTM2 172 71175114 E			51. No	787	
SR 4913513N Ontario Water Resort	Commission				
Elev. SR ONBS WATER WEL			u i oo oo oo ah rangii <mark>jagaalals</mark> i	MON	
19 A 1 1 -1 -1 -1			P€T€R	BOROUGH	
Basin County or District T	ow <u>n</u> ship, Village, T	own of City.).		2.)	
Con. 10 V Lot 35 D	ate completed	(day	month	year)	
	ess		An door	y	
Casing and Screen Record		Pumping	g Test		
Inside diameter of casing	Static level				
Total length of casing 35'	Test-pumping ra	te 12	Z	G.P.M.	
Type of screen	Pumping level		80		
Length of screen	Duration of test p	oumping	3 Airs.		
Depth to top of screen	Water clear or cle	oudy at end of	test	<u> </u>	
Diameter of finished hole	Recommended p	oumping rate.	inka se	G.P.M.	
	with pump settin	g of YC	feet belov	w ground surface	
Well Log			Water	Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)	
THE RAIL	9	/			
grue clas of prefiche	/	34 50			
	311 50	8 3	40-82	fich	
from 11 11		<i>C ya</i>			
			11		
For what purpose(s) is the water to be used?	T 1	Location		ll from	
tain	In diagram	m below show lot line. Inc	distances of weldicate north by	arrow.	
Is well on upland, in valley, or on hillside?				N	
Drilling or Boring Firm		AND THE RESERVE OF THE PERSON NAMED IN COMM	garante (1700 - maior 1800) esta para la constante esta de la constante		
Address			WELL	The state of the s	
Address		LOT	8-150	mi.	
		3	1		
Licence Number			.3ml	•	
Name of Driller or Borer					
Address Renge 17		and many or constant			
Date Date		257	4)	ON. CON	
(Signature of Licensed Drilling or Boring Contractor)			<i>ツ</i>	XX	
Form 7 10M-62-1152	. "		r	e de la companya de l	
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9 17100	Water management in Ontario

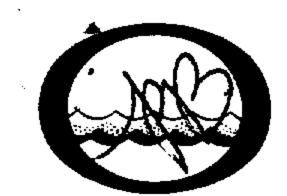
The Ontario Water Resources Commission Act

WATER WE	LL RE	CORD		
County or District Velerland			Done	. 4
Con. Lot 2	Date completed	, Town or City	T	LE
		(day	month	year)
	dress	Nove		
Casing and Screen Record		Pumpi	ng Test	
Inside diameter of casing 6 3	Static level			
Total length of casing / 8				G.P.M.
Type of screen	Pumping level	70'		
Length of screen				
Depth to top of screen	No.		f test Clu	
Diameter of finished hole 6				G.P.M.
	with pump set	ting of	feet belo	ow ground surface
Well Log				r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
- Dung.	0	5		Saiphai)
Brown clay I stones	5-	23		
- Day lineiton	- 23	85	83-85	fresh
			+	intested
For what purpose(s) is the water to be used?		Location		
Donestei	In diagra	am below show	distances of well	l from
Is well on upland in valley or on hillside?	Toau and	i lot line. Ind	icate north by	arrow.
Drilling or Boring Firm and and		ا؛ س	TX	
0 -		$\sqrt{\chi}$	-3/	/ 1
Address Unlike			207	λ
	ين در			
Licence Number 255	,	00'7	1072	
Name of Driller or Borer	60.		-	
Address				
Date 21/68				
(Signature of Licensed Dailling on Baring Co.				•

Form 7

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The Ontario Water Resources Commission Act

WATER WELL RECORD

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	ES PROVIDED BOX WHERE APPLICABLE	5105837	MUNICIP. CON.	DN 108
PETERRORO	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON.	BLOCK, TRACT, SURVEY, ETC.	LOT 25-27
OWNER (SURNAME FIRST) 28-47	ADDRESS PRESS		DATE CO	OMPLETED 48-53
21 1 7 9 n	NORTHING RO	C. ELEVATION RC.	BASIN CODE II	MO
LOG	OF OVERBURDEN AND BEDR	OCK MATERIALS (SEE	INSTRUCTIONS.	47
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS		L DESCRIPTION	DEPTH - FEET
70P 50/C				FROM TO
	BOULDERS			1 10
BROWN CLAY CREY LIMESTONE				18 38
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31 000102 100186	ast13 Qa38215			
32				
41 WATER RECORD 5	1 CASING & OPEN HOLE	· · · · · · · · · · · · · · · · · · ·	OF OPENING 31-33 DIAM	75 80 ETER 34-38 LENGTH 39-40
AT FEET KIND OF WATER	MATERIAL THICKNESS FR	DEPTH — FEET ROM TO MATER	IAL AND TYPE	DEPTH TO TOP 41-44 80 OF SCREEN
SALTY 4 MINERAL	10-11 TO STEEL 12 2 GALVANIZED 3 CONCRETE	0020		FEET
2 SALTY 4 MINERAL 20-23 1 FRESH 3 SULPHUR 24	4 OPEN HOLE		ET AT - FEET MATERIAL AND	CEMENT CROUT
2 SALTY 4 MINERAL 25-28 1 FRESH 3 SULPHUR 29	2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	0038 FROM	TO	LEAD PACKER, ETC.)
2 SALTY 4 MINERAL 30-33 I FRESH 3 SULPHUR 34 80	24-25 I STEEL 26 2 GALVANIZED	27-30		
2 SALTY 4 MINERAL	3 CONCRETE 4 OPEN HOLE	26-2	9 30-33 80	
71 PUMP NG TEST METHOD 10 PUMPING RATE	11-14 DURATION OF PUMPING 15-16 GPM. HOURS MINS.	LC	CATION OF WE	LL
O LEVEL PUMPING	ELS DURING PUMPING RECOVERY		W SHOW DISTANCES OF WELL FRATE NORTH BY ARROW.	ROM ROAD AND
19-21 19-24 15 MINUTES 3 19-21 004 1004 1004 1004 1004 1004 1006 1006	FEET 45 MINUTES 60 MINUTES 32-34 35-37		:	1
IF FLOWING, GIVE RATE 38-41 PUMP INTAKE SET AT	WATER AT END OF TEST 42	Property of the second		
RECOMMENDED PUMP TYPE RECOMMENDED PUMP	FEET CLEAR 2 CLOUDY 43-45 RECOMMENDED 46-49 PUMPING		And the second s	•
50-53 DEEP SETTING 35	APACITY GPM.		J111	a 1L
FINAL SUPPLY OBSERVATION WELL	5 ABANDONED, INSUFFICIENT SUPPLY 6 ABANDONED, POOR QUALITY	1 *	RO	
STATUS 3 TEST HOLE 4 RECHARGE WELL	7 UNFINISHED		MARSAW	
WATED & STOCK 6	COMMERCIAL MUNICIPAL	81	h Far	0.)
IICE & CONTROL /	☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED		WE 300'	
SE CABLE TOOL	6 D BORING		WELL	
METHOD 3 ROTARY (CONVENTIONAL ROTARY (REVERSE) DRILLING A ROTARY (AIR)	.) 7 🗌 DIAMOND 8 🗎 JETTING 9 🔲 DRIVING			
5 AIR PERCUSSION		DRILLERS REMARKS:	······································	
NAME OF WELL CONTRACTOR ANTON URBAN	LICENCE NUMBER	DATA 58 CON SOURCE	TRACTOR 59-62 DATE RECEIVED	0372
ADDRESS ADDRESS PETERBORO		DATE OF INSPECTION	INSPECTOR	
NAME OF DRILLER OR BORER	LICENCE NUMBER	REMARKS:		P \
O SIGNATURE OF CONTRACTOR A LA	SUBMISSION DATE DAY 3 MO FEB YR 22	는 는 는 는 는 는 는 는 는 는 는 는 는 는 는 는 는 는 는		WI
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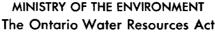
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The Ontario Water Resources Act ER WELL RECORD 15106978 51007 CPN 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK CORRECT BOX WHERE APPLI 9 004 Peterborough Douro DATE COMPLETED R. 10, Peterborough, 18 Ont. 4093 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET MOST COMMON MATERIAL GENERAL DESCRIPTION OTHER MATERIALS GENERAL COLOUR τo Top soil 0 1 Brown Clay Stones Dense 10 Grey Clay Stones Dense 10 42 Grey Limestones Rock Porous 42 150 02 1 2 001 06 05 12 1 60 82 20 512 1 615 02 15 1 1 1 1 1 1 10 14 15 21 21 32 43 43 54 54 54 65 32 (5) CASING & OPEN HOLE RECORD 41 SCREEN WATER RECORD KIND OF WATER WALL THICKNESS INCHES MATERIAL MATERIAL AND TYPE 061 1 DE TEEL FRESH 3 | SULPHUR Untested 2 SALTY 4 MINERAL ∞42° .188 ☐ GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE **PLUGGING & SEALING RECORD** 61 4 OPEN HOLE 1 STEEL MATERIAL AND TYPE 1 FRESH 3 SULPHUR 2
2 SALTY 4 MINERAL 2 GALVANIZED 950 1 | FRESH 3 | SULPHUR 2
2 | SALTY 4 | MINERAL DPEN HOLE 22-25 STEEL 2 GALVANIZED 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 26.25 30.33 3 CONCRETE OPEN HOLE UM WIG TAT WE HOD LOCATION OF WELL 2 🗆 BAILER 1 🗆 PUMP IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. 1 D PUMPING WATER LEVEL END OF WATER LEVELS DURING 2 - RECOVERY wELL → 15 MINUTES MINUTES MINUTES 60 MINUTES 200 32-34 26-28 PUMPING PUMP INTAKE SET A 'X OTHER IF FLOWING 1 CLEAR 2 CLOUDY RECOMMENDED PUMPING 46-49 RECOMMENDED PUMP PUMP SETTING ☐ SHALLOW ☐ DEEP FEET RATE GPM _ GPM./FT. SPECIFIC CAPACITY ABANDONED, INSUFFICIENT SUPPLY 1 WATER SUPPLY .61 **FINAL** 2 OBSERVATION WELL **STATUS** ☐ TEST HOLE 7 UNFINISHED OF WELL 2 STOCK
3 IRRIGATION MUNICIPAL WATER PUBLIC SUPPLY COOLING OR AIR CONDITIONING USE 09 ☐ INDUSTRIAL 9 NOT USED ☐ OTHER 6 DORING
7 DIAMOND CABLE TOOL **METHOD** ROTARY (CONVENTIONAL) ROTARY (REVERSE) B JETTING
DRIVING OF **DRILLING** AIR PERCUSSION 59-92 DATE RECEIVED 2 70674 ONLY 2104 Faulkner Well Drilling Co.Ltd 2104 MAY, 14 789 Erskine Ave. Peterborough, J.A. OFFICE I P/JB. Wm. Burges

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MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act
WATER WELL RECORD

On	tario	1. PRINT ONLY IN	SPACES PROVIDED			<u> </u> 51069	79 1	MUNICIP. 5.1,90.7	r con.	l	i ingi
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			11.4	0.8.3	RC.	O730	5	BASIN CODE	n 11		'V
		L	OG OF OVERBURDEN	AND BED				NSTRUCTIONS)			•/
GENE	RAL COLOUR	MOST COMMON MATERIAL	OTHER MAT	ERIALS			GENER	AL DESCRIPTION		DEPTH FROM	TO
	v		Top soil							0	1
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	еу	Clay	Stones			Dense				8	47
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32	<u> </u>	14 15	32				البل	54			1 40
WATE WATE	FOUND	ER RECORD	51 CASING & C	PEN HOL		CORD	III (SLOT	S) OF OPENING 'NO.)	31-33 DIAME	TER 34-38	LENGTH 39-40
AT	- FEET	SULPHUR 14	DIAM. MATERIAL INCHES	THICKNESS INCHES	FROM	13-16		RIAL AND TYPE		DEPTH TO TOP OF SCREEN	41-44 80
nt	CDUCA	SALTY 4 MINERAL FRESH 3 SULPHUR 19	10-11 1 XTEEL 12 6 411 2 GALVANIZED 3 CONCRETE	.188	0	0047	61	PLUGGING	C O CEAL	INC DECC	FEET
	2 🗆	SALTY 4 MINERAL FRESH 3 SULPHUR 24	4 OPEN HOLE			20-23	DEPTH	SET AT - FEET	MATERIAL AND	TVDC (CEM	ENT GROUT,
ļ	2 🗆	SALTY 4 MINERAL	2 GALVANIZED 3 GOVERETE 4 MOPEN HOLE		47	0/50	FROM 10	-13 14-17		LEAD	ACKER, ETC.)
	2 🗆	FRESH 3 SULPHUR 29 SALTY 4 MINERAL	24-25 1 STEEL 26			27-30	18	-21 22-25			
		FRESH 3 SULPHUR 34 54 SALTY 4 MINERAL	3 CONCRETE 4 OPEN HOLE				26-	29 30-33 80			
	PUMPING LISTE &		E 11-14 DURATION OF PU		-18		L	OCATION O	F WEL	1714	N
	STATIC LEVEL	WATER LEVEL 25 END OF WATER L	EVELS DIDING	PUMPING	INS	IN DIAG LOT LIN		OW SHOW DISTANCE:		FROM ROAD	ND A
TEST	19-21	PUMPING 22-24 15 MINUTES 26-2	30 MINUTES 45 MINUTES	60 MINUTES	1 1	LOT		4	-		4
	FEET	FEET FE			हरू गर भ स्य	3 /		B		LOT	4
N N	GIVE RATE : RECOMMENDED PUM	GPM.	FEET 1 CLEAR	2 CLOUE	ρY	~ 1	150				<i>'</i>
	☐ SHALLOW	PUMP	D 43-45 RECOMMENDED PUMPING FEET RATE		49		<u> </u>		<u> </u>		
5	0-53	GPM./FT. SPI	ECIFIC CAPACITY		4	.	L	9th C	000	/	
	FINAL STATUS	1 WATER SUPPLY 2 OBSERVATION WE	5 ABANDONED, INSUF LL 6 ABANDONED. POOR 7 UNFINISHED		Y		-		111111111111111111111111111111111111111		
	OF WELL	4 RECHARGE WELL	x no wate	er					20	oT3	
	WATER	1 DOMESTIC 2 STOCK 3 RRIGATION	5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY			-71	-				
:	USE 🌉	4 INDUSTRIAL OTHER	D COOLING OR AIR COND.	TIONING		4					
		57 1 CABLE TOOL	6 ☐ BORING		+						
	METHOD OF	2 ROTARY (CONVEN 3 ROTARY (REVERSE 4 ROTARY (AIR)									
	DRILLING	S AIR PERCUSSION	» LJ DRIVING			RILLERS REMARKS	:			<u> </u>	
1	Faulkne		ling Co.Ltd	2104	\ \[\frac{1}{2}	DATA	58 C	2/04	DATE RECEIVED	270	6 7'4"
CONTRACTOR	ADDRESS		1	*		DATE OF INSPECT		INSPECTOR			- 10
ITRA	NAME OF DRILLER	R OR BORER	eterborough,	Unt.		REMARKS	7//			្រ F	<u>т</u>
S	Wm. Bui	NTRACTOR	SUBMISSION DATE			2			2	-	100
			M DAY 23_ MO		74 2	<u> </u>		·	\$ 14	FOR	W 7 07-091
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MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

31 D/8 W

WATER WELL RECORD

ONTARIO 5, (,0,07 5107233' 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE Peterboro ugh Douro 004 DATE COMPLETED R. 10, Peterborough, Ont. DAY 25 11 YR. 74 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS GENERAL DESCRIPTION Sandy fill Soft 0 4 Clay Grey Packed 25 Grey Gravel Loose 25 28 Shale Grey Loose 28 31 Grey Limestone Porous, hard 41 GOICH 78011 1 0025205 1 1 002821111 1 003/21/21/7 1 004/21/5 1 32 (5) **WATER RECORD CASING & OPEN HOLE RECORD** SCREEN DEPTH - FEET KIND OF WATER WALL THICKNESS MATERIAL AND TYPE 10 DEPTH TO TOP OF SCREEN ¹ M FRESH 3 □ SULPHUR CC 3D-4-10-11 2 SALTY 4 MINERAL ntested **%**₹ .188 0 0032 2 | GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 61 PLUGGING & SEALING RECORD 4 GPEN HOLE DEPTH SET AT - FEET STEEL 06 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 2 GALVANIZED FROM 320041 FRESH 3 SULPHUR OPEN HOLE 1 🗍 STEEL 2 🗍 SALTY 4 🗍 MINERAL 2 GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL ☐ CONCRETE GPEN HOLE LOCATION OF WELL 1714 15-16 O.D 1 🗆 PUMP 2 🗶 BAILER 0003 PUMPING
2 RECOVERY IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER LEVEL END OF PUMPING 22-24 WATER LEVELS DURING ES 60 MINUTES 15 MINUTES 30 MINUTES 26-28 29 PUMPING TEST 29-31 040 FEET 040 FEET 040 FEET 040 FEE 36 1 Kelear RECOMMENDED PUMP SETTING 036 RECOMMENDED PUMPIN FEET RATE ☐ SHALLOW X DEEP °0003 O D O . _ GPM./FT. SPECIFIC CAPACITY WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY **FINAL** 6 ABANDONED, POOR QUALITY
7 UNFINISHED 2 OBSERVATION WELL **STATUS** 3 TEST HOLE OF WELL 4 | RECHARGE WELL DOMESTIC 2 STOCK 5 COMMERCIAL STOCK 6 MUNICIPAL WATER 3 | IRRIGATION 7 | PUBLIC SUPPLY USE /2 4 | INDUSTRIAL OTHER 9 NOT USED CABLE TOOL 6 BORING **METHOD** ADIARY (CONVENTIONAL)

TO ROTARY (REVERSE)

ROTARY (AIR)

AIR PROCUSSION 7 DIAMOND 8 | JETTING DRILLING NAME OF WELL CONTRACTOR 2104 0 91274 ONLY Faulkner Well Drilling Co.Ltd 2104 789 Erskine Ave., Peterborough, Ont. May NAME OF DRILLER OR BORER CENCE NUMBER OFFICE Donald Miller ruckney, WI

The Ontario Water Resources Act

WATER WELL RECORD

Ontario		1. 2	PRINT ONLY I	N SPACES PRO	VIDED HERE APPLICABLE		5	1096	03	MUNICIP.	0.7	CON.	_	08W
COUNTY	erb	o~ o	CHECK (2) CO	TOWNS	HIP, BOROUGH, CITY	1 2 Y, TOWN, VILLA			CON	BLOCK, TRACT.	14	is #		00 / 15-27
OWAS COUR	W				ADDRESS RHIC		y 1 ~			0~.8	DA	TE COMPLI	ETED 10	48.53
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1-2		M 10			VERBURDEN			26	30	31	<u></u>			47
GENERAL CO	DLOUR		DST MATERIAL		OTHER MAT				· 	AL DESCRIPTIO				H - FEET
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GAE	7	(/me	570n	-									15	2>
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32		4 15								1 1 1 1 1 1				
41	WATE	R RECOF	RD	51	CASING & O	PEN HOL	E REC	1 4	Z ISLOT	OF OPENING	31-33	65 DIAMETER	34-38	75 80 ENGTH 39-40
WATER FOUND AT - FEET	<u> </u>	RE# 5		INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH FROM	- FEET	MATER	IAL AND TYPE			INCHES PTH TO TOP SCREEN	FEET 41-44 30
15-18	206	YY TO	MINERAL	ا بر ا	STEEL 12 GALVANIZED				S				JCREEN	FEET
20-23	² □ S	RESH 3 S	MINERAL	00	CONCRETE OPEN HOLE STEEL	64	da	2/6	61 DEPTH SE	PLUGG			G RECO	
25.28	2 🗆 S	RESH 3 S	WINERAL	3	GALVANIZED CONCRETE				FROM 10-1	TO 14-17	MATERIA	AL AND TY	7 E	NT GROUT CKER, ETC)
·	² □ s	RESH 3 S	MINERAL	24.25	OPEN HOLE STEEL GALVANIZED	,		27-30	18-2	1 22-25	·			
30-33	l i U F	RESH 3 S	•	3	OPEN HOLE		- <u></u>		26-2	9 30-33	80			
71 PUMPING TE		BAILER	PUMPING RATE	11	-14 DURATION OF PUM	PING 17-11	8		LC	CATION	OF W	ELL		
STATE	C W	ATER LEVEL END OF PUMPING	25 WATER LI	GF EVELS DURING	HOURS	UMPING	S	IN DIAGR		N SHOW DISTAN		ELL FRO	M ROAD AI	N D
TEST	19-24	22-24	15 MINUTES 26-2	30 MINUTES		60 MINUTES	7							
Z IF FLOWING	FEET S.		PUMP INTAKE S	1	ET FEET WATER AT END OF		7							
RECOMMEND	DED PUMP TY	GPM YPE	RECOMMENDED			2 CLOUDY	- ∤					-		
50-53	ALLOW [DEEP	SETTING O	2 4	PUMPING OOF	GРМ	<u> </u>							
FINAL	54 L	1 X WATE	R SUPPLY	5 🗌 A	BANDONED, INSUFFI	CIENT SUPPLY] 			iller A	In Br	U	,	
STATU OF WE	s /	3 🗍 TEST	RVATION WELL HOLE FARGE WELL	L 6 □ A	BANDONED POOR QU NFINISHED					10021	18000	*	70'	
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NAME OF W			//./	· · . · . · · . · · · · · · · ·	_	CE NUMBER		DATA SOURCE	58 CON	•	2 DATE REC	SIVED .		7 (3) 60 80
ADDRESS	NIC			an		102		DATE OF INSPECTION		102 INSPECTOR		<i>.</i> U .	11	
	7	Y BORER	Hete,	rbor,		CE NUMBER		RENARKS:	90			·		
SIGNATURE	OF CONTE	RACTOR	ban	su	BMISSION DATE	 -	FICE	4	,					
MINIST	No.	ETUE	1600			<u> </u>	OFF.	Notberta	prope	ly bedre	admi	27	· · · · · · · · · · · · · · · · · · ·	
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The Ontario Water Resources Act

\	_	ironment		WA	11	ER	WI		RE	- - -	RD
(Ontario		N SPACES PROVIDED RRECT BOX WHERE APPLICABLE		5	1096	60	5100	27 G	1 3	108W
	COUNTY OR DISTRICT	PRAPALIC	TOWNSHIP, BOROUGH.		AGE		CON	BLOCK, TRACT, SU	RVEY. ETC		LOT 25-27
			P	# / ^	12		<i>y</i>	244.	DATE COM	PLETED	"5" DO
			HING P	W 3 5 0	RC	ELEVATION	KUA	BASIN CODE	DAYOC	<u>Б. нО 1</u>	Q YR ZZ
Γ	15	10 72	OG OF OVERBURD	FN AND BEI	- 150 CI	Q V V	। <i>डू</i>	3.4	<u> </u>	<u> </u>	47
ŀ	GENERAL COLOUR	MOST COMMON MATERIAL		MATERIALS		MATERIA		ASTRUCTIONS)		DEPTH	- FEET
	BL ACK	The	8011							FROM	70
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F		ER RECORD	(51) CASING 8	OPEN HO	<u> Грес</u>	CORD	54 SIZE (5)	OF OPENING	65 31-33 DIAME	TER 34-38 L	75 80 ENGTH 39-40
1	WATER FOUND AT - FEET	KIND OF WATER	INSIDE MATERIAL	WALL	DEPT	H · FEET	MATERIO MATERIO	IAL AND TYPE		INCHES	FEET
ap,	18 "·" Z	FRESH 3 SULPHUR 14 SALTY 4 MINERAL	10-11 1 STEEL	INCHES	FROM	13-16	SC	TAL AND ITTE		DEPTH TO TOP OF SCREEN	41-44 30 FEET
		FRESH 3 SULPHUR 19 SALTY 4 MINERAL	CONCRETE OPEN HOLE	22	0	9011.	61	PLUGGI	NG & SEAL	ING RECO	RD
	20-23 1	FRESH 3 SULPHUR 24 SALTY 4 MINERAL	17-18 STEEL 2 GALVANIZET 3 CONCRETE	2		20-23	FROM	T AT - FEET	MATERIAL AND		NT GROUT CKER, ETC)
		FRESH 3 SULPHUR 29 SALTY 4 MINERAL	4 OPEN HOLE			27-30	10-1; ;:18-2				
	30-33 1 🖂	FRESH 3 SULPHUR 34 80 SALTY 4 MINERAL	2 GALVANIZED 3 GONCRETE				26-29	30-33 80	7	1	
	DUMPING TEST METH	OD 10 PUMPING RATE		PUMPING	7.		1.0	CATION	O E WELL		
	1 □ PUMP STATIC	WATER LEVEL 25	G₽МН	OURS 20 MI	-18 NS	IN DIAG		V SHOW DISTANC			1D
For	LEVEL 19-21	END OF WATER L	30 MINUTES 45 MINUTE			LOT LIN		CATE NORTH BY			
		OS CLEET PUMP INTAKE	B 029-31 B O	11.1030.	-37 EET						_
CAIGNIG	GIVE RATE	GPM	34 FEET 1X CLEA	`.,	,	Ń.			0		
ā	☐ SHALLOW	PUMP A	34 Hand RECOMMENDER PUMPING OF RATE	~ 1	49 PM			AW	BIG	17.07m	
Ļ	50-53	541			4			ARSING	83		
	FINAL STATUS	WATER SUPPLY OBSERVATION WEL TEST HOLE	5 ABANDONED, INSI L 6 ABANDONED POO 7 UNFINISHED		'			ABSAW	1		
	OF WELL 55.	4 🗍 RECHARGE WELL	S COMMERCIAL		-						
İ	WATER	STOCK 3 IRRIGATION	MUNICIPAL PUBLIC SUPPLY								
	use Of	4 INDUSTRIAL OTHER	COOLING OR AIR CON								
	METHOD	CABLE TOOL	€ ☐ BORING)							
	OF DRILLING	FOTARY (REVERSE) ROTARY (AIR) AIR PERCUSSION									
F	NAME OF WELL CO	ONTRACTOR A		ICEACE NUMBER.	╡┝	LLERS REMARKS	, 58 CON	IRACIOR SP.62	no proven		
3	Jale	well Mr	elling !	1723	ONLY	SOURCE DATE OF INSPECT	1 40	723	02"	118	0 "
RACI	NAMEOTORINE	#2 000 OR BORK	terboro (m.	USE			SFECTOR			
CONTRACT	Lav	w Mo	to	4923	FFICE L	REMARKS	-2147	1. (0)			
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4.7	MINISTRY	OF THE ENVIRO	NMENT COPY		<u> </u>					FORM NO	. 0506477



The Ontario Water Resources Act

of the	he vironment		ER WELL RE	CORD
Ontario	1. PRINT ONLY IN S 2. CHECK 🗵 CORR	SPACES PROVIDED ECT BOX WHERE APPLICABLE TOWNSHIP BOROUGH, CITY, TOWN, VILLAGE	5113195 51007 15	LOT 25-27
Detember	augh	ilouxo	G DATE COMP	2
		J. box 1106,	hakefield, Ont. ACL2110 DAY 28	
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		OG OF OVERBURDEN AND BEDROO	CK MATERIALS (SEE INSTRUCTIONS)	
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM TO
∍rown	fill		medium	0 47
Grey	limestone		porous	47 66
····				
	<u> </u>			
31				
32	14 15		43 54 65 65 65 65 65 65 65 65 65 65 65 65 65	75 80 TER 34-38 LENGTH 33-40
41 WA	TER RECORD	51 CASING & OPEN HOLE R	EECORD SIZE(S) DF OPENING 31-33	INCHES FEET
AT - FEET	KIND OF WATER FRESH 3 SULPHUR 14	DIAM MATERIAL THICKNESS INCHES FRO	EECORD SEPTH - FEET OM TO 13-16 13-16 OWN MATERIAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
itested -	SALTY 4 MINERAL FRESH 3 SULPHUR 19	64 GALVANIZED 138	147 61 PLUGGING & SEAL	ING RECORD
2 [SALTY 4 MINERAL FRESH 3 SULPHUR 24	4 ☐ OPEN HOLE 17-18 ☐ STEEL 19	DEPTH SET AT - FEET MATERIAL AND	
2 [SALTY 4 MINERAL	Z GALVANIZED GONCRETE GOPEN HOLE	10-13 14-17	
2 [☐ FRESH 3 ☐ SULPHUR ²⁹ ☐ SALTY 4 ☐ MINERAL	24-25 1 STEEL 26 2 GALVANIZED	27-30 18-21 22-25	
30-33 2	☐ FRESH 3 ☐ SULPHUR 34 30 ☐ SALTY 4 ☐ MINERAL	3 CONCRETE 4 OPEN HOLE	26-29 30-33 80	
71 MAPING TEN ME		E 11-14 DURATION OF PUMPING	LOCATION OF WEL	L
STATIC	WATER LEVEL 25 WATER LEVEL	GPM 2 HOURS MINS 1 CK PUMPING EVELS DURING	IN DIAGRAM BELOW SHOW DISTANCES OF WELL LOT LINE. INDICATE NORTH BY ARROW.	FROM ROAD AND
19-2 19-2	PUMPING 1 22-24 IS MINUTES 26.7			
	1 60 125	ET 40 FEET OU FEET FEET	82h	
IF FLOWING. GIVE RATE RECOMMENDED P	дры 62	FEET 1 1 CLEAR 2 □ CLOUDY		
RECOMMENDED P		D 43-45 RECOMMENDED 46-49 PUMPING GPM		
50-53				
FINAL STATUS	1 (2) WATER SUPPLY 2 (1) OBSERVATION WE 3 (1) TEST HOLE	5 ABANDONED, INSUFFICIENT SUPPLY LL 6 ABANDONED, POOR QUALITY 7 UNFINISHED	43	
OF WELL	4 RECHARGE WELL		Ro	1.3
WATER	1 DX DOMESTIC 2 STOCK 3 HRRIGATION	5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY	TV Ra RSAV	. 11
USE	4 INDUSTRIAL OTHER	COOLING OR AIR CONDITIONING 9 NOT USED	± □ G	65'
	57 CABLE TOOL	6 BORING	BOUNDRY	Ġ
METHOD OF	3 ROTARY (REVERS		BOOKERY	· ·
DRILLING	S AIR PERCUSSION	- U VALLING	DRILLERS REMARKS: 5 Y	
NAME OF WELL		LICENCE NUMBER	DATA SOURCE SE CONTRACTOR 59-62 DATE RECEIVE JUL DATE OF INSPECTION INSPECTOR	. 1 4 1988 *** **
ADDRESS	er ell uril	-		
NAME OF DRIL	skine Ave., P	LICENCE NUMBER	O REMAPKS	
SIGNATURE OF	Contention	SUBMISSION DATE	3019	
Ven	authrer	DAY 29 MO. 6 YR 88	Ō	CSSES FORM NO. 0506—4—77 FORM

The Ontario Water Resources Act WATER WELL RECORD

Ontario and En	ergy					
Print only in sp Mark correct b	paces provided. pox with a checkmark, where applicable.	11	51177	23 Municipality 5 1007	Con. [CO.N : 15	22 23 24
County or Distr	int	Township/Borough/City/To	own∕village	Con block tract	survey, etc. Lot	25-27
County of Distr		2		9		+
		Address	D	Date	oleted 29 7	977
		RED (D)	BC Eleva	MA	day me	onth year
21	T i	Norming		30 31		47
1 2	M 10 12	OVERBURDEN AND BEDR	OCK MATERIALS (
General colou		Other materials		General description	De From	pth – feet To
General Colou	Most common mazona				PIOIII	10
Brun						
Clay & La					0	30
7.0						
1	Lante				30	40
Drown	Remedone		74			
						+
				_		
				<u> </u>		
31						
32			45	54	65	75 80
41 V	VATER RECORD 51	CASING & OPEN HOLE		(Classia)	Diameter 34-38 Leng	gth ^{39–40}
Water found at – feet	Kind of water Inside diam inches	Material Wall thickness inches	Depth - feet From To	EE	inches	feet
3 (10-13	resh 3 Sulphur 10-11 1	Steel 12	0 32	Material and type	Depth at top	of screen
		Galvanized Concrete Open hole	0 25			feet
	4 ☐ Minerals 5	☐ Plastic ☐ Steel 19	20-23		SEALING RECOF	
	1 G Fresh 3 G Sulphur 24	Galvanized Concrete		Depth set at – feet	d type (Cement grout, b	
	2 Gas 4	Open hole		From To Waterial and	Type (Cement grout, a	- CHOINE, CLO.
	2 Salty 6 Minerals 24-25 1	☐ Steel ²⁶	27-36	18-21 22-25		
30-33	1 Gresh 3 Gulphur 34 60	Concrete Open hole		26-29 30-33 80		
		Plastic				
71 Pumping te		Duration of pumping 17-18		LOCATION OF WEL	L	
ump	2 Bailer GPM GPM Water level 25	Hours Mins	In diagram	below show distances of well	from road and lot	line.
Static level	end of pumping	45 minutes 60 minutes	Indicate n	orth by arrow. Duro To	: s a	
TEST feet If flowing g		32-34 35-37	102	Dario 1	251	i
feet		Water at end of test 42				
<u>M</u> <u>M</u>	GPM 40 feet	Recommended 46-49	1 ' N			
Recommen	pump setting	pump rate				
50-53	w Deep 30 feet	GPM GPM				
FINAL STA	TUS OF WELL 54					
	rvation well 6 Abandoned, poor quality	upply □ Onlinished □ Replacement well	~	100-4		
3 ☐ Test1				Ž.		
WATER US	5 5-56					
1 Dom	estic ⁵ Commercial	9 Not used] 3	972	, [*]	
3 ☐ Irriga 4 ☐ Indu	ation 7 D Public supply		4	Ain &		

Well Contractor's Licence No. 1322

METHOD OF CONSTRUCTION

9 Driving
10 Digging
11 Other ...

day 10 mo 8 yr 97

ONLY	Data source	58 Contrac	cto 5	51	59-62	Date receiv	O	5	1998	80
USE 0	Date of inspection		Inspec	tor	-					
MINISTRY U	Remarks						- ,4		K	<u>}</u>
						C	506	07/94	4) Front Form	n 9

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The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

5117915

Municipality	Con.					
51007	CON	1		1	09	
10 14	15		 	22	23 24	

County or District	Township/Borough/City/Town/Village		Con block tract surv	rey, etc. Lot 25-27
f # AV # AV AV AV AV AV AV	Address Q	2011	Date completed	20 8 98
	Northing A	C Elevation RC B	lasin Code ii	day month year
21 I I I I I I I I I I I I I I I I I I I	17 18 24 25	EPIALS (see instruction	· · · · · · · · · · · · · · · · · · ·	47
LOG OF OVI	ERBURDEN AND BEDROCK MAT Other materials	General de		Depth - feet
				From To
ded WHESTONE				
			-	
31				
32 DE PARTICIPATION STATE LANGE TO STATE OF STAT	CASING & OPEN HOLE RECORD	54 Sizes of ope	ning 31-33 Diamete	75 80 er 34-38 Length 39-40
Water found Inside	Wall Depth - Material thickness inches From	To (Slot No.) 13-16 Material and		inches feet
10-13	Steel 12 Galvanized	Material and	type	Depth at top of screen 41-44
15-18 1 Fresh 3 Sulphur 19	Concrete Open hole Plastic	61	PLUGGING & SEAL	ING RECORD
20-23 1 Fresh 3 Sulphur 2 2	Steel 19 Galvanized	20-23	nnular space	☐ Abandonment
2 Saity 6 Gas 4	Concrete Open hole Plastic	From 7	Material and type (Cement grout, bentonite, etc.)
2	Galvanized	27-30 18-21	22-25	
Minerals 4	Concrete Open hole Plastic	26-29	30-33 80	
	ratio of proping	LOCA	ATION OF WELL	
Water level 25		n diagram below show di		road and lot line.
ena or pumping	minutes 60 minutes 32-34	ndicate north by arrow.		
U feet feet feet feet	feet feet			
GPM feet	☐ Clear ☐ Cloudy		WARSAW A	;
Shallow Deep	commended 46-49 mp rate	9		
50-53 Teet	GPM	SK.		
FINAL STATUS OF WELL 1	y ⁹ ☐ Unfinished ¹⁰ ☐ Replacement well			
3 ☐ Test hole 7 ☐ Abandoned (Other) 4 ☐ Recharge well 8 ☐ Dewatering	· II	0	l, Nt Lu WJ	
WATERJUSE 55-56	-	pa.		
Domestic 5 Commercial Stock 6 Municipal Irrigation 7 Public supply	9	- 1		
4 ☐ Industrial 8 ☐ Cooling & air conditioning		1 4	W 47	_
METHOD OF CONSTRUCTION 57 1	9 Driving		- f	
P Rotary (conventional) Rotary (reverse) Rotary (reverse) Rotary (air) S Diamond	10 Digging 11 Other			198042
Name of Work Contractor	Well Contractor's Licence No.	58 Contracctor	64 Date	eceived 2 1998 63-68 80
ACTH WHITE	1 1 111 1		pector	-1 U G 177V
Name of Vell Technician	Well Technician's Licence No.	ks		
SEITH WHITE	Well Technician's Licence No. Submission date Submission date			CSS. ES9
Signature of Vectohician Contractor	20 mg/g/ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	118 Mg		0506 (07/94) Front Form 9

The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

5117939

Municipality	Con.	
51007	CON	09
10 14	15	22 23 24

County or District	Township/Borough/City/To	own/fillage Con block trace Con. 9	ct survey, etc. Lot 25 27
	Address # 10	Dat	e 19 /0 98 npleted day month year
21	Northing	RC Basin Code	ii iii iv
M 10 12	OVERBURDEN AND BEDR	OCK MATERIALS (see instructions)	Danith face
General colour Most common material	Other materials	General description	Depth – feet From To
Brown	Clay	Soft	1 15
Grey	Grave!	5ott	15 20
		<u> </u>	
		· · · · · · · · · · · · · · · · · · ·	
			•
31	<u> </u>		il . <u></u>
32 10 14 15 21		Sizes of opening 31 33	65 75 80 Diameter 14:38 Length 39:40
41 WATER RECORD 51 Water found to feet Kind of water diam	CASING & OPEN HOLE Wall Material thickness	(Clan No.)	inches feet
10.13 A Fresh 3 Sulphur 14 inches inches 10.13 Minerals	inches	Prom To To Material and type	Depth at top of screen 30
15-18 Fresh 3 Sulphur 19 36 3 Minerals	Concrete Open hole	1 20 Clear Stor	SEALING RECORD
22 23 1 Fresh 3 Sulphur 24 22 23 1 Minerals 2	☐ Steel 19 ☐ Galvanized	20 23 Annular space Depth set at – feet	☐ Abandonment
2 Salty G Gas 3 25-28 : Fresh 3 Sulphur 29 5	☐ Concrete ☐ Open hole ☐ Plastic	From To Material a	and type (Cement grout, bentonite, etc.)
2 Salty 4 Minerals 24-25 1 6 Gas 24-25 1 7 9-33	☐ Concrete	21-30 13-31 0 22-25 (1/4	nens vee Slurr
Presh 3 Minerals 4 Salty 6 Gas 5		26-29 30-33 80	/
Pumping test method 10 Pumping rate 11-14 71 Pump 2 Bailer GPM	Duration of pumping 3. Onlins	LOCATION OF WE	
eria or paritiping	Pumping 2 Recovery 45 minutes 60 minutes	In diagram below show distances of we Indicate north by arrow.	ni Irom road and lot line.
feet	45 minutes	[1
If flowing give rate 38-41 Pump intake set at GPM feet	Water at end of test 42		-
Shallow Deep Deep	Recommended 46-49 pump rate		
00-53	GPM GPM		Targer
FINAL STATUS OF WELL Water supply Observation well Abandoned, insufficient st	upply 5 Unfinished 10 Replacement well	6.	010
Test hole	·	7	
WATER USE 55-56 Domestic 5 Commercial	₉ ☐ Not used	The state of the s	77/1/10
Domestic 5 Commercial Stock 6 Municipal Stock 7 Public supply 4 Industrial 8 Cooling & air conditioning	i₀ □ Other	1 aneway	\(\tilde{\t
METHOD OF CONSTRUCTION 57		and the state of t	
1 ☐ Cable tool 5 ☐ Air percussion 2 ☐ Rotary (conventional) 6 ☐ Boring	g Driving 10 X Digging 10 Other		400000
3 ☐ Rotary (reverse) 7 ☐ Diamond 4 ☐ Rotary (air) 8 ☐ Jetting	11 Other		169600
Name of Well Contractor	Well Contractor's Licence No.	Data source 58 Contact 2 3 59 6	Date received 63-68 8 NOV 1 9 1998
Jeff Fallis Excavatings Address RR#11 Peterborough	11 6023	Date of inspection Inspector	
Name of Well Technician	Well Technician's Licence No.	Remarks	000 500
Signature of Technician/Contractor	Submission date	Pate of inspection inspector Remarks	CSS. ES9
Julitally	day/4 mo// yr95] [=	0506 (07/94) Front Form

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Ministry of the Environment

The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

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Municipality	Con		
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10 14	10		

0506 (07/00) Front Form 9

				1 2		1130	1 4	<u>5, 1,0</u>		ON	22 23
PETERA	30467.		1 41	hip/Borough/Cit ソレR O	ty/Town/Villa	age		Con block	tract surve	y, etc.	Lot 25-3
			Address	Peter	bro		7		Date completed	23 day	// 6/ month year
1 2	T M			Northing			vation FIC	Basin Code	. 1 , , ,	iii , ,	iv
		LOG OF OV	/ERBURDE	N AND BED	PROCK M	ATERIALS (s	see instruction	ns)			<u></u>
General colour	Most common materi	1		ther materials			General d			De From	epth - feet To
BROWN	TOPSOI1									0	/
BEOWN	CLAY. ST	ONE		***		ļ				/	14
GKEY	CLAY, S SHALE	MULE								14	161
GKEY.	SHALL A	BOCK								6	62
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31										<u> </u>	
32 10 14 1			32		43	 	54		65		1111
41 WATER Water found at - feet	R RECORD Kind of water	51 CA Inside diam	ASING & O Material	Wall thickness		h - feet	Sizes of ope	ening 31-3	33 Diameter	İ	ength 39-40
10-13 1 F	Fresh 3 Sulphur 14	inches 10-11 1	Steel 12	inches	From	To 13-16	(Slot No.) Material and	l type		nches Depth at top	pp of screen
6/-6Z 2 = S	Fresh 3 Gas	/// ² 3 = 3 = 4 = 4	Galvanized Concrete Open hole	100		1,,}	Ø				feet
2 🗆 5	Salty 6 Gas	17-18 1 🗆	Plastic Steel	188W	0	62		UGGING 8	& SEALING	RECORI	
25.28	Salty 6 Gas	3 🗆	Galvanized Concrete Open hole				Depth set at - fe	eet Materia	al and type (Cen		
25-28 1 🗆 F 2 🗆 S		24-25 1	Plastic 26			27-30	O" 10	5 BE	NSEZ		
30-33	Fresh 3 Sulphur 34 60	3 🗆	Galvanized Concrete Open hole					22-25 30-33 8 0		nix.	
Disposing Acad worth	- La Gas		Plastic		L						
71 Pumping test meth	Bailer 3		uration of pumpi 15-16 Hours	Ding 17-18		- dingram	holow obow di	TION OF W			
	of pumping Water levels di			Recovery 60 minutes 35-37		In diagram Indicate no	below show di orth by arrow	stances or	well from 104	ad and io	ot line.
5 30 feet 2	80 70 feet feet 5	5 S feet 45 F	H O feet	34			- ,		/		
Static level end of the level 19-21 5 19-21	70.14	at Wa	ater at end of tes								
Hecommended pump		43-45 Re	Recommended	☐ Cloudy 46-49							
50-53	Deep	S feet	Hump rate 3	GPM			~J.	<u>, </u>	7		
FINAL STATUS C	/ 5 ☐ Abandoned, in	insufficient supply	⁹ ☐ Unfinish		J.,			"	7		
 ² ☐ Observation w ³ ☐ Test hole ⁴ ☐ Recharge well 	well 6 ☐ Abandoned, p	poor quality	10 ☐ Replace						5		Ç
WATER USE	55-56								1		
Domestic Stock	5 🗀 Commercial 6 🗀 Municipal		9 Dot use						8	-	
3 ☐ Irrigation 4 ☐ Industrial	7 ☐ Public supply 8 ☐ Cooling & air o								RA		
METHOD OF COI	DNSTRUCTION 57 5 ☐ Air percussion				R		are superior and the su	and the second s			
² ☐ Rotary (conve ³ ☐ Rotary (revers	entional) ⁶ Boring rse) ⁷ Diamond		9 ☐ Driving 10 ☐ Digging 11 ☐ Other		Vet.						~ 4 🛧
⁴ ☐ Rotary (air)	8 ☐ Jetting					3.9.		5		2346	<u>318</u>
Name of Well Contracto	s well Drill	/ V	Well Contractor	or's Licence No.	Data source				62 Date receive		63-68 80
Address	_				Date	of inspection		55 ector	MAY	062	2002
Name of Well Technician		V		n's Licence No.	S	arks					·
Signature of rechalician	BURGE n/Confractor		TO&:		IISTRY Rema						

(Fig. 1)	?) (Эr	nta	ari	0
Inst	ruct	ions	for	Cor	npl
•	For t	ıse i	n the	Pro	vin

Ministry of the Environment

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		Well	Record

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	19 S. J. 196 J. J. 18 S. S. S. S. S. S. S. S. S. S. S. S. S.		\$ \$ T			
For use in the Province of Ontario only Thi	a daggeraant in a namaanant lawal	Alaaninaanii Diaaaa aatät	- C C	28. X		
For use in the Province of Ontario only. The	s document is a permanent lega r	document. Please retail	n for future referen	ce.	39	1861
				37.57767		

All Sections must be coQuestions regarding co	e of Ontario ompleted in mpleting thi	full to avoid delays s application can l	s in process be directed t	ing. Further to the Water	instructions an	∟ Please retain for future refer d explanations are available o ment Coordinator at 416-23	on the back o	
 All metre measurement Please print clearly in b 			th of a metre	9.		Ministry Use Only	- 1967 - 287	
Wall Owner's Information				MUN	C	ON	LOT	
- F 	•	ппоращу)	. 10	ownadib		Lot	Concession	1 - 41,835
RR#/Street Number/Name	941-				20	26	9.	
8th line L	Daar	0.		City/Town/V	iliage	Site/Compartment/	Block/Tract et	ic.
GPS Reading NAD Z	one Eastin	ng Nort	hing 9/14423	Unit Make/N	Model Model	e of Operation: Undifferentiat	روه السسا	raged
Log of Overburden and E	Bedrock Ma	aterials (see ins	tructions)	<u> </u>	C T T T TA	Differentiated	, specify	
General Colour Most commo	n material	Other Ma	aterials		Genera	al Description	Depth From	Metres To
BROWN TOPSO	11						0	.30
BROWN, CLA GREY. CLAY GREY. SYAL GREY. LIM	1, 00	BBLES,	V. 1.				,30	3.81
GREY. CLAY	, 57	026				,	3.8/	5.48
GELY, SHAL	=, GA	PAVEL,	E 45.			5.48	6.09	
GRET. Lim	5501	FROE	IC.				6.09	30.30
				1		:		
				- 4				
	,		-		. 4		,	lo (
Hole Diameter		Cons	truction Rec	ord		Test of We	ll Yield	
Depth Metres Diameter	Inside	NA-4	Wall	Depth	Metres	Pumping test method Draw	Down R	Recovery
From To Centimetres 0 2).80 /59	diam centimetres	Material	thickness centimetres	From	То	FUMP min	ater Level Time Metres min	
0 32.80 159			Casing	I mag		Pump intake set at - Static (metres) 31.08 Level	7.43	
		Steel Fibreglass						27.58
Water Record	15.9	Plastic Concrete	er er i	0	e 1/0	Duration of pumping 2	3.65 2	27.00
Water found Kind of Water	1/2./	Steel Fibreglass	1886)		5.48	hrs + min		
Fresh Sulphur Salty Minerals		Plastic Concrete			Markett Markette Alleger	metres	4.26 3	26.21
Other:	•	Steel Fibreglass				Shallow Deep Recommended pump 5	4.87 4 5.48 5	24.38
Other:		Galvanized				depth. 11. O detres		
│	Outside	Stool Street	Screen				8.07 10 7.75 15	23.01
Other:	diam	Steel Fibreglass Plastic Concrete	Slot No.			If flowing give rate - 20	12.34 20	20.87
After test of well yield, water was Clear and sediment free		Galvanized				(litres/min) 25 If pumping discontin- 30	14.63 25 17.06 30	19.20
Other, specify		No C	asing or Scr	een	Mark II.	l ued, dive reason.	7.03 40	16.79
Chlorinated Yes No		Open hole		5.48	32.30		72.77 50 72.09 60	13.96
Plugging and S	ealing Reco	rd Annula	r space	bandonment		Location of Well	W-67 00	10000
		lurry, neat cement slurry	etc Volun	ne Placed c metres)		v show distances of well from road,	lot line, and bu	ilding.
	TO/U/TE	SLUERY	7777		Indicate north by			
5.48 6.09 GRAVE					Wre	SAW. RO-		
							- 181	1
								in
	Method of C	Construction			Λ	1 Ace	2	Doveo
Cable Tool Rotary	(air)	☐ Diamond		Digging	1/1	A SEC OF STREET		
Rotary (conventional) Air pel Rotary (reverse) Boring	cussion	☐ Jetting ☐ Driving		Other				
	Wate				N			
✓ Domestic		☐ Public Suppl ☐ Not used	ly 🗆	Other				
☐ Irrigation ☐ Munici	oal	Cooling & ai	r conditioning		Audit No.	2COOA Date Well Co	ompleted	MM DD
Water Supply Recharge w	Final Stat	us of Well Unfinished	Abando	oned, (Other)		36084 Date Delivere	2006 ed	MM DD
Observation well Abandoned	, insufficient su	pply Dewatering		,(55,57)	package delivered	inor o initioning		08 01
	poor quality	Replacemen				Ministry Use Only		
Name of Well Contractor			ell Contractor's L	The state of the second second	Data Source	Contractor	ARE	2
Business Address (street name, num			we let the	<u> </u>	Date Received	GYYNN7 MM DD Date of Inspe	ection YYYY	MM DD
Name of Well Technician (last name,	first name)		ell <u>Tech</u> nician's I	icence No	APK I Remarks	Vell Record	Number	
Signature of Technician/Contractor			1-/	0	Comains	vveii Record	Nambel	
X (Septimician/Contractor		Date	Submitted YYYY	00 80				
0506E (09/03)	Contr	actor's Copy 🔲 Mir			er's Copy	Cette formule e	st disponible (ən français

Ministry of Well Record Well Tag No. (Place Sticker and/or Print Below) Ontario the Environment Regulation 903 Ontario Water Resources Act surements recorded in:

Metric

Imperial Page 2 8th line 1040. Z Douco. Postal Code Province Lake Preld. PETER BOUEJ4.
UTM Coordinates | Zone | Easting Ontario NAD 8 3 17 719 298 4913 519 Municipal Plan and Sublot Number rourden and Bedrock Materials (About 1997) Other Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft Other Materials General Description General Colour Most Common Material BEOWN CLAY BOULDERS, GENVEL, GREY. GENVEL. CLAY, COBBLES, SAND. BROWN CLAY 36 GREY LIMESIONE ROCK Results of Well Yield Testing **Annular Space** Recovery Type of Sealant Used (Material and Type) Volume Placed (m³/ft³) After test of well yield, water was: Draw Down Depth Set at (m/ft) Time Water Level Time Water Level Clear and sand free (min) Other, specify (m/ft) (m/\hbar) BENTONINE QUERT. 20' If pumping discontinued, give reason: 26 Level 1 30.1 Pump intake set at (m/ft) 33 2 354 41.5 Pumping rate (Vmin / GPM) 5. 6. P. M. Method of Construction Well Use 37 39.8 4 Cable Tool ☐ Not used ☐ Dewatering Domestic Diamond Commercial Duration of pumping Municipal Municipal Rotary (Conventional) Jetting / hrs + O min 39.5 38.3 Livestock
Irrigation Rotary (Reverse) Test Hole Monitoring Driving Final water level end of pumping (m/ft) Boring Digging Cooling & Air Conditioning 10 32.6 467 4/8 Air percussion
Other, specify Industrial Other, specify 51.3 15 15 If flowing give rate (I/min-/ GPM) Status of Well Construction Record - Casing 20 542 Water Supply Recommended pump depth (m/ft) Depth (m/ft) Open Hole OR Material Inside Wall (Galvanized, Fibreglass, Concrete, Plastic, Steel) Diameter Thickness Replacement Well 25 562 25 26.7 To (cm/in) (cm/in) Test Hole Recommended pump rate Recommendation (Umin / GPM) 54, P.M 57.5 6/4" 30 30 75' Recharge Well 26 0 SIZEL 188W Dewatering Well 53 40 Observation and/or Well production (Vmin / GPM) 5. G. P. M Monitoring Hole 56.2 50 Alteration (Construction) 48 60 60 Abandoned, Insufficient Supply Yes Map of Well Location Construction Record - Screen Abandoned, Poor ouli Please provide a map below following instructions on the back Water Quality Outside Depth (m/ft) Diameter (cm/in) Slot No. Abandoned, other, (Plastic, Galvanized, Steel) From specify Other, specify Water Details Hole Diameter Water found at Depth Kind of Water: Fresh Untested Depth (m/ft) From То (cm/in) 75-90(m/ft) ☐ Gas ☐ Other, specify 614 0 Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Business Name of Well Contractor Well Contractor's Licence No BURGESS WELL 455 Address (Street Number/Name) Comments Postal Code LOLZWO Business E-mail Address Ministry Use Only Well owner information Date Package Delivered Name of Well Technician (Last Name, First Name) package delivered Yes 2008 109 20 WAT30W KYCE Frechnician and/or Contractor Date Submitted

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Ministry of A 067031 and/or Print Below) Well Record the Environment Regulation 903 Ontario Water Resources Act A067031 MImperial easurements recorded in: Metric Page Address of Well Location (Street Number/Name) City/Town/Village 312 County Rd Man Postal Code Province UTM Coordinates Zone Easting Northing NAD 8 3 / 7/18 327 49/ 3964 Ontario K80672 Municipal Plan and Sublot Number Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) Ok Blow V Topsoil General Description Other Materials From 2.5 0 2.5 BROWN CLAY, COBBLES. GREY CLAY. Cobbles gravel. GREY, GRAVEL, SYALE, SHND, CLAY. GREY LIMESTONE ROCK Results of Well Yield Testing Annular Space After jest of well yield, water was: Recovery Type of Sealant Used (Material and Type) Volume Placed Draw Down Clear and sand free Water Level Time Water Level From (m^3/ft^3) (m/R)(m/lt)Other, specify BENTONITE SLURRY Static 38-5 If pumping discontinued, give reason: 67 1 Pump intake set at (m/ft) 62 59-5 Pumping rate (Vmin / GPM) 44.5 Method of Construction Well Use 4 Cable Tool Public Not used Diamond Commercial Duration of pumping hrs + min Rotary (Conventional)
Rotary (Reverse) Municipal ☐ Dewatering☐ Monitoring Jetting Domestic Driving Livestock Test Hole Final water level end of pumping (m/ft) Irrigation
Industrial Cooling & Air Conditioning ☐ Boring
☐ Air percussion Digging 56 10 46-1 Other, specify Other, specify 15 15 If flowing give rate (I/min-/ GPM) Construction Record - Casing Status of Well 20 66 Recommended pump depth (m/ft) Inside Open Hole OR Material Water Supply Wall (Galvanized, Fibreglass, Concrete, Plastic, Steel) Thickness 7/-5 Replacement Well (cm/in) (cm/in) Test Hole Recommended pump rate (Vmin / GPM) 89 38.7 30 SPEL Recharge Well 30 88W 6/4 Dewatering Well 40 40 38.5 Observation and/or Well production (I/min / GPM) Monitoring Hole 50 50 Alteration (Construction) Yes 🗌 No 60 60 Abandoned, Insufficient Supply Map of Well Location Construction Record - Screen Abandoned, Poor Please provide a map below following instructions on the back Outside Depth (m/ft) Water Quality Material Diamete (cm/in) Slot No. Abandoned, other, (Plastic, Galvanized, Steel) From specify Other, specify Water Details Hole Diameter Depth (m/ft) Water found at Depth Kind of Water: Fresh Untested From (cm/in) 89~/00 (m/ft) Gas Other, specify
Water found at Depth Kind of Water: Fresh Untested /00 (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Business Name of Well Contractor
RURGUSS WELL DELLING Well Contractor's Licence No. BURGESS Business Address (Street Number/Name)
167 Emily Pack
Province Postal Code B Municipality Comments: RO. Omemer Business E-mail Address KO4240 Date Package Delivered Ministry Use Only Well owner Audit No. Z 80941 code) Name of Well Technician (Last Name, First Name) 00806 2 package delivered APR 0 8 2009 of Vechnician and/or Contractor Date Submit

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No

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Well Location	700.7			1010 Donag	1 011	/\\ 10\\c	<i></i>		(6) (3)	,,,,,,,,
	ocation (Street Nui	nber/Name)	[Township	05	Lot 4		Concession &		
465 Lour County/District/M	unicipality		E	Douto / Dum City/Town/Village			Provin	ice	Postal	
Teterboro UTM Coordinates	Zone Fasting	, Northing		<u>Peterborow</u> Municipal Plan and Subl	A Number		Ont	ario	KIG	J161412
NAD 8 3		128491	1		9. 110/11001		04101			
	i Bedrock Materi	als/Abandonmen	Sealing Reco	ord (see instructions on the	T				Den	th (<i>m/ft</i>)
General Colour	Most Comn	non Material	Oti	her Materials	:	General Description			From	To
	50.1								0	
	C. bravel Stone [R Limestone		Cobbles	, Stones		1				29
Yellowish	Stone (R	ek)			Weathere	d			29	38
Grey	Limestone	? 			Hard				35	225
,										
										<u> </u>
	***************************************	· · · · · · · · · · · · · · · · · · ·								-
V							***************************************		***************************************	NA CARPONING PARACAMANA CARPONIA AMARINA
		Annular Space			1	Results of We	ell Yiel	d Testina	300 300 70	
Depth Set at (m		Type of Sealant Us	Volume Placed	After test of well	yield, water was:	Dr	aw Down	·	ecovery	
From To		(Material and Type	(m³/ft³)	☐ Clear and s☐ Other, spec		Time (min)	Water Level (m/it)	Time (min)	Water Level (m/ft)	
0 22	3 Beaton	te Quik 6	rout		If pumping disco	ntinued, give reason:	Static Level			
							1		1	
					Pump intake se	t at (m/ft)	2		2	
Various forting to the Common of States	The Tables of Proceedings of the State of th	obodnik I dan o codanskih da mad Za da se	Nobellaniaki Ville Ville	idanda 1974 a Matata Casa Casa Casa Casa Casa Casa Casa	Pumping rate (I/	/min / GPM)	3		3	
Method o ☐ Cable Tool	f Construction ☐ Diamond	☐ Public	Well U				4		4	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	tional) 🔲 Jetting	☐ Domestic	Municip	pal Dewatering	Duration of pun hrs +	nping min	5		5	
☐ Rotary (Reverse ☐ Boring	e)	☐ Livestock ☐ Irrigation	☐ Test Ho	ole Monitoring g & Air Conditioning		end of pumping (m/ft)	10		10	·
☐ Air percussion ☐ Other, specify _		☐ Industrial ☑ Other, spe	city Geothern	ial Loop System	If flowing give ra	in Wash / ODIA	15		15	
	Construction R			Status of Well	I in nowing give ra	ite (I/IIIII / GPM)	20		20	
Inside Ope Diameter (Galv	n Hole OR Material vanized, Fibreglass,	Thickness	Depth (<i>m/ft)</i>	☐ Water Supply ☐ Replacement Well	Recommended		25			
(cm/in) Cond	crete, Plastic, Steel)	(cm/in) Fro	m To	Test Hole	Recommended	pump rate	25			· · · · · · · · · · · · · · · · · · ·
14 Pla	stic	+2	_ 223	Recharge Well Dewatering Well	(I/min / GPM)		30		30	
				Observation and/or Monitoring Hole	Well production	(I/min / GPM)	40		40	
				Alteration (Construction)	Disinfected?		50		50	
				Abandoned, Insufficient Supply	Yes N	0	60		60	
Outside	Construction R	ecord - Screen		Abandoned, Poor Water Quality	Please provide a	Map of W map below following			ack	
Diameter	Material ic, Galvanized, Steel)	Slot No. Fro	Depth (<i>m/ft)</i> m To	Abandoned, other,		This bolon lonothing			oror (N
				specify		01	ı,			
				Other, specify		Cty. Rd.	7/3/	Loop		
	Water Det	ails		Hole Diameter			70 \	O Tole		
	epth Kind of Wate	: Fresh Unte		oth (<i>m/ft</i>) Diameter To (<i>cm/in</i>)		.30 LM				
	Gas Other, speepth Kind of Water			223 6 18	;					
	Gas Other, spe				2					
	epth Kind of Wate		sted		Fe le					
(m/π) [_	Gas Other, spe	r and Well Techr	icjan informa	ition	Root field					
Business Name of	Well Contractor	_		ell Contractor's Licence No.	1					
Roger Boar	duny Ent (Street Number/Na	Ltd.	AA.	1 4 1 3 unicipality	Comments:					
	Sutton We Postal Code	_		York						
		1	l Address	,	Well owner's	Package Delivere	d 1	Minia	ry Use	Only
Bus.Teiephone No.	(inc. area code) Na	U beadwaySi me of Well Technic	ian (Last Name,	lol, com , First Name)	information			Audit No.	i y use	7 / A
					dolivorod	Y Y Y Y M M	OID	Ζ.	LUC •-	1141
9 0 5 7 3 3 5 3 6 3 Brown PLi) Well Technician's Licence No. Signature of Technician and/or Contractor Date Submitted 0 0 3 5 Hill Brown . 3 3 10 0 0						161001	0.1	FEB	17	ረሀ ሀሀ

Well Record

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Well Loc Address of 465 (County/Dis	Well L		on (Street Nu	mber/Name)			Fownship	L Dum	ner_			Lot 4	Provi	Concessio		al Code
Peter UTM Coord								r <i>borou</i> an and Sublo					Ont	ario		5672
			Easting		orthing		Municipal Pla	an and Sublo	Number	r			Other	•		
Overburd	en and		irock Materi	als/Abando		aling Reco		***************************************	back of th	is forn					Der	pth (<i>m/ft</i>)
General C	olour			non Material		Oth	er Materials				Gene	eral Description	on		From	To
		<u>_</u>				P > 5 5							***************************************			1 0
<u></u>	_ 1		Gravel tone (f	2 2		Cobbles	5 + 51	ones	3 10.	i.) .					_ 28	28
Yellowi	<u> </u>		inesto	cock)					Wear		erea				37	225
brey			m 2 5 101	ve					nan	<u> </u>					-7-1	~ ~ ~ ·
				Annular	Space							Results of \	Vell Yie	ld Testing		
Depth S From	et at (m/		2015-2016-2016-2016-2016-2016-2016-2016-2016	Type of Sea (Material ar	alant Used			e Placed ³/ft³)	After test		ell yield,	water was:	D	raw Down	~~~	Recovery Water Level
Ð	215 Bentonite Quile brout				+			Oth	er, <i>sp</i>	ecify		(min)	(m/ft)	(min)	(m/ft)	
	35.1		PERIOR		1- 1- 1-1				If pumpir	ng dis	continue	ed, give reaso	Level	1		
										1-1		(61)	_ 1		1	
									Pump in	паке :	set at (i	m/it)	2		2	
Met	hod of	Cor	struction			Well Us	ie		Pumping	g rate	(l/min /	GPM)	3		3	
Cable To		ional	☐ Diamono ☐ Jetting		blic mestic	Comme		Not used Dewatering	Duration	ofpi	umping		4		4	
Rotary (,	Driving	Liv	estock	Test Ho	le 🗆	Monitoring		nrs +		min	5		5	
☐ Boring ☐ Air perce			Digging	☐ Irri	luetrial		& Air Condition			ter iev	ei ena c	of pumping (m	10		10	
Other, s	. /			·····		beother	,	o <i>f</i> Well	If flowing	give	rate (I/	min / GPM)	15		15	
Inside	Oper	1 Hole	struction R OR Material	Wall		h (<i>m/ft)</i>	☐ Water s		Recomn	nende	ed pum	p depth (m/ft)	20		20	
Diameter (cm/in)	(Galv	anize rete, l	d, Fibreglass, Plastic, Steel)	Thickness (cm/in)	From	То	Replace	ement Well ole	Recomn		- d n		25		25	
14	Pla	sti	<u>C</u>		+2	215	Rechar	-	(Vmin / G	nende SPM)	aa pum	prate	30		30	
		,					Observ	ation and/or	Well pro	ductio	on <i>(l/mii</i>	n / GPM)	40		40	
							Alterati		Disinfect	ed?			50		50	
							Abando		Yes		No		60		60	
		Co	nstruction R	ecord - Scre)		Abando 🔲		Planna n	rouide	0 mar	Map of below following			haak	
Outside Diameter (cm/in)	(Plasti		aterial vanized, Steel)	Slot No.	From	h (<i>m/ft</i>) To	Water 6	oned, other,	Flease p	TOVICE					Dack.	IN
							Other,	specify				Cty. Rd	٠ <u>٩</u>	100		
			Water De	tails		Н	lole Diame	ter					 >	D Lorle		
		- 1	Kind of Wate	r: 🗌 Fresh	Untested	1	th (<i>m/ft</i>) To	Diameter (cm/in)		-		, 20 KM		,		
			Other, spe Kind of Wate		Untested	0	215	218	- 9							
			Other, spe						7							
		- 1	Kind of Wate		Untestet				Bradfleld							
elementele (edler megs apalite (ilia, rejo, qua		We	II Contracto		Technicia	0.000 0.000 0.000 0.000	* +111 * +11 * 11000 * 11000 * 10000 * 10000 * 10000		Bra							
Rusiness N	Boar	مدا	V Ent	Ltd.			ell Contractor's	13	Commer	ite.						
Box 397 Sutton West York																
Province / Postal Code / Business E-mail Address					(1)	Well own	ner's	Date F	Package Delive	ered	Minis	strv He	e Only			
ON LOE IRD boodway Services (a) a.o.l. com Bus. Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name)					1	information package	on		Y Y M N	1 .	Audit No.	William Willey	(complete light)			
Well Technic	PlD 5 7 2 2 5 3 4 2 Brown Phile Pell Technician's Licence No. Signature of Technician and/or Contractor Date Submitted						delivered Yes		Date V	Nork Complete	ed	TANKS STATES		3742		
	Technician's Licence No. Signature of Technician and/or Contractor Date Submitted 0 3 5 Phil Brown 2010 9							☐ No		ماد	palle	04	LEEB.	72	บไป	

Well Record

147	URLET	~		,,,		TO CERTIFICA	Α	-/-I-T	19 100 10		, _ , , ,	<u>, , , , , , , , , , , , , , , , , , , </u>	, , <u>, , , , , , , , , , , , , , , , , </u>
Well Locat	tion /	on (Street Nu	mbor/Nems\			ownship			Lot		Concession	חו	,
County/Distr			mber/Name)		1	Duoto) Dur	mer		4		Concession	8	
					-	ity/Town/Village			•	Provir Ont		Postal	Code 丌らソユ
Peter) UTM Coordin	ates Zone	Easting	-1	orthing	1	Peterbor Iunicipal Plan and Sub	lot Number	•		Other			10/12
NAD 8		1 7 1 9 1	Annual Control of the	9114	· · · · · · · · · · · · · · · · · · ·	rd (see instructions on th	a haal af th	e form				1900 TAX V MARIO MA	A CONTROL OF THE STATE OF THE S
General Col			non Material	millent Sea		er Materials	e back or un		eral Description	1		Depi From	h (<i>m/ft)</i> I To
	5,	p ()										0	1
		bravel			Cabble	s y Stones							28
Yellowis	iL S	tone (Kock)					thereo	l			28	37
brey	L	meston	<u>e</u>				Bed	rock		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		37	225
***************************************	•						ļ						
***									***************************************				***************************************
			Annular	Space					Results of W	ell Yiel	d Testino	ı	1
Depth Set	at (<i>m/ft</i>) To		Type of Sea	lant Used	econ numerous numerous	Volume Placed (m³/ff³)		t of well yield ar and sand	l, water was:	Dr	aw Down Water Lev	Re	ecovery Water Level
Ó	D 223 Bentonite Quik brout				+	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		er, specify		(min)	(m/it)	(min)	(m/ft)
	D 22) pertonite Quik Orbal				4.1		If pumpir	ng discontinu	ied, give reason:	Static Level	1		
								to to a stat	/ Aft	1		1	
							Pump intake set at (m/ft)			2		2	
Metho	od of Co	nstruction			Well Us	e	Pumping	g rate (I/min	/ GPM)	3		3	
☐ Cable Too ☐ Rotary (Co		☐ Diamono) ☐ Jetting		blíc mestic	☐ Commer		Duration	of pumping)	4		4	
Rotary (Re		Driving Digging	Liv	estock	Test Hol		~ II bre ± min			5		5	
Air percus		Em Digging		-		rmal Loop Syste	11			10		10	
Other, spe		struction R			U-CD I NO	Status of Well	1 If flowing	g give rate (/min / GPM)	15		15	
Inside Diameter	Open Hole	OR Material	Wall Thickness		ı (<i>m/ft</i>)	☐ Water Supply	Recomn	nended pun	np depth (m/ft)	20		20	
(cm/in)	Concrete,	d, Fibreglass, Plastic, Steel)	(cm/in)	From	То	Replacement Well Test Hole	Recomn	nended pun	np rate	25		25	
) 14	Plast	ìc		* <u>2</u>	223	☐ Recharge Well ☐ Dewatering Well	(I/min / G			30		30	
						Observation and/or Monitoring Hole	Well pro	duction (I/m	in / GPM)	40	^	40	
						Alteration (Construction)	Disinfect			50		50	
Alternative Artes (Inc. 4 December 2014)	00C1 941 000 FLV48 300 V-0-130 F-11116	10 14/4/10 to 711/10 10 4 75-14/4/10 10 10 10 10 10 10 10 10 10 10 10 10 1		Sallahi ticherricher skutetali	an ing graph and a state of the	Abandoned, Insufficient Supply	Yes	☐ No	rainesee a commence a	60	salari Peralanggi galik	60	V. 0.000.000.000.000.000.000.000.000.000
Outside		onstruction R aterial	, m	1	n (<i>m/ft</i>)	Abandoned, Poor Water Quality	Please p	rovide a ma	Map of W p below following			back.	
Diameter (cm/in)		Ivanized, Steel)	Slot No.	From	То	Abandoned, other, specify							N
						Other, specify			ctu. R	d.4			
						- Other, specify	<u> </u>		Cty. R	\$1	Son, 12 6		
Water found	at Denth	Water Det		Untested		ole Diameter h (m/ft) Diameter		1-	,20 KM	`	- O Lake		
(m/i	ft) 🗌 Gas	Other, spe	ecify		From	To (cm/in)			, Joken				
	' 1	Kind of Wate		Untested	D	223 618	0	₹					
		Kind of Wate		Untested				<u> </u>					
(m/l		Other, spe			any air arranger	■ 11×10×36 / 100 × 11×10 × 10 × 10 × 10 × 10 × 10		F-1					
Business Na		ell Contracto Contractor	or and Well	Technicia		i on Il Contractor's Licence No.	4	Š					
Roger	Boadwa	y Ent,	, Ltd.			114 1 13		<u> </u>		····	***************************************		
					Mui	nicipality York	Commer	ns:					
					^ · ·	Well owr	orio In .	Package Delivere		* * * * * * * * * * * * * * * * * * *	tit granisit e grayis	- Carlos estados	
		Bus. Telephone No. (inc. area code) Name of Well Technidian (Last Name, I					TANDENII OLDE	were libete	Packade Heliver	- n	■ AMERICAN BENEFIT METERS		
	ne No. (inc.	io E) R area code) Na	D bood	way Sc echnidian (I	<u>たりにどらし</u> _ast Name, I	<i>WOD1. CDM</i> First Name)	- informatio	on	1 1		Audit No.	stry Use	710
DN Bus.Telephon	ا ا اه اه اه اه اه اه اه اه اه اه اه اه اه	o E R area code) Na 3 6 2 6 No. Signature	D boad me of Well T Brown,	echnician (1	rvices(_ast Name, I	First Name)		on V Y	Y Y M M	D D	Audit No. Z	106 172	743

mentage constraint and				san terration of the second of				
Well Location Address of Well	n / Location (Street Nu	mber/Name)		ر Township	Lot	Conces		
465 Courty/District	Ay Rd. 4 Municipality			Douro / Dumi City/Town/Village	ner	4 Province	8 Posta	I Code
	Dug L s Zone Easting			Peterborou Municipal Plan and Sublo	ς h	Ontario		J161412
UTM Coordinate		Northing	4837	Municipal Plan and Sublo	o ∜ Number	Other	•	
		 		ord (see instructions on the	back of this form)			
General Colour	Most Com	mon Material	Oth	ner Materials	General Descri	ption	Dep From	oth (<i>m/ft</i>)
	5011		_				0	
	C. Gravel		Cobble	s + Stones			<u> </u>	27
Yellowish	Stone, Ro Limeston	ick			Weathered		27	37
brey	Limeston	<u>e</u>			Hard		37	225
•								
***************************************						***************************************		W 100 P 111 10 W 10.111.111.111.111.111.111.111.111.111.
Donth Set at	m/ft)	Annular Space	A111-28-14-28-14-14-14-14-14-14-14-14-14-14-14-14-14-	Valura Blaced	Results of After test of well yield, water was:	of Well Yield Test Draw Dow		ecovery
Depth Set at (m/ft) Type of Sealant Used From To (Material and Type)				Volume Placed (m³/ft³)	Clear and sand free	Time Water (min) (m/n)	_evel Time	
0 2	22 Benton	ite Duik 6	rout		Other, specify If pumping discontinued, give rea	Static	t) (min)	(non)
						Level 1	1	
					Pump intake set at (m/ft)	2	2	
					Pumping rate (Vmin / GPM)	3	3	
Method Cable Tool	of Construction Diamon	d 🗆 Public	Well Us			4	4	
☑ Rotary (Conve	entional) 🔲 Jetting	☐ Domestic	☐ Municip	al Dewatering	Duration of pumping hrs + min	5	5	
Boring	Digging	☐ Irrigation	=	& Air Conditioning	Final water level end of pumping	(m/ft) 10	10	
☐ Air percussion☐ Other, specify		☐ Industrial ☐ Other, <i>spe</i>	city <u>be</u> other	na l Loop System	If flowing give rate (I/min / GPM)	15	15	
		ecord - Casing) 4	Status of Well		20	20	
Inside O Diameter (G (cm/in) Co	pen Hole OR Material alvanized, Fibreglass, increte, Plastic, Steel)	Wall I Thickness (cm/in) From	Depth (<i>m/ft)</i> m To	☐ Water Supply ☐ Replacement Well	Recommended pump depth (m	25	25	
		† a	335	Test Hole Recharge Well	Recommended pump rate (I/min / GPM)	30	30	
171	lastic		332	Dewatering Well Observation and/or	Well production (I/min / GPM)	40	40	
				Monitoring Hole Alteration		50	50	
				(Construction)	Disinfected? Yes No	60	60	
	Construction F	Record - Screen		Insufficient Supply Abandoned, Poor		of Well Location		
Outside Diameter (Pla	Material stic, Galvanized, Steel)	Slot No. Fro.	Depth (<i>m/ft)</i> m To	Water Quality Abandoned, other,	Please provide a map below follo	wing instructions on	he back.	7
(cm/in)	,	, , ,		specify		01 1	Í	N
				Other, specify	Cty.	ra. T	^	
	Water De	tails	l F	lole Diameter			ole Sla	
	Depth Kind of Water		sted Dep From	th (<i>m/ft</i>) Diameter To (<i>cm/in</i>)	(,30 K	m, '		
	☐Gas ☐Other, <i>sp</i> Depth Kind of Wate		sted O	222 618	ভ			
	Gas Other, sp							
	Depth Kind of Wate ☐Gas ☐Other, <i>sp</i>		sie0					
		or and Well Techn			Brad fre le			
	of Well Contractor	4 1+2	VVe	ell Contractor's Licence No.				
	adway Er		i	unicipality	Comments;			
Box 39-	Postal Code	ມະς† Business E-mail	Address	YorK				
ON Bus Telephone N				a ad Lom First Name)	Well owner's Date Package De information	livered M	inistry Use	e Only
90572	o. (inc. area code) Na 25362 Licence No. Signature	Brown PL	an (wast Name,	restivants)	package delivered Date Work Comp	M D D	z 106	3744
Well Technician's	icence No. Signature	of Technician and/o	or Contractor Da	te Submitted	☐ Yes ☐ No 2009 4	ال يد إد	ĘΒ 17	2010
00000 (40)0007)	1 1 - 1 T. Aul	ULEWY .				TANTO Kecdiv	eeff	

Well Tag No. (Place Sticker and/or Print Below)

Well Record

	ents recor		nvironment Metric 🗹	Imperial		A10357	7	Regulatio	n 903 (sources Act
Weashran	ipile ipilii	Nen ar	WEITIG 1	imica			:			Рэде		OT.
Address of		ion (Street Nu	mber/Name)		1	ownship		Lot		Concessio	<u> </u>	
	,3 0	74 L=	NE			Dour Dity/Town/Village	O	3		(<u> </u>	
County/Dis	strict/Munici	TERB	orouc	s H		PETERBO	orougy		Provin Ont		Posta	l Code
	linates Zon	e Easting		orthing		Municipal Plan and Subl		· · · · · · · · · · · · · · · · · · ·	Other			
					3 7 5 aling Reco	rd (see instructions on the	e back of this form)					
General C			non Materia		Oth	er Materials	Gene	ral Description	l		Der From	oth (m/tt)
GREY		CLAY			<u>S</u>	NEL SAND	PAC	KEP			_0_	50
GREY		CLAY						KED			<u>50</u>	61
GREY		IMES 70.		- 1	CLA	ONAS Y		RED	100	1	61	67
GRES)	LIMES:	ONELA	YENS			MEC	JUM !	INK	$U \mid \zeta$	e L	71
***************************************						AA PALLALIAN AA PA						
						· · · · · · · · · · · · · · · · · · ·						
												:
Depth Sc	et at (<i>m(ft)</i>)	I	Annular			Volume Blood	After test of well yield, v	Results of W		d Testing aw Down	~~~	ecovery
From	То		(Material ar			Volume Placed	Clear and sand fr		Time	Water Leve	el Time	Water Level
	20	BEN	TONE	TE CH	tps	6 BAGS	Other, specify If pumping discontinue	d, give reason:	(min) Static	(mm) 150	(min)	(m(tt))
***************************************				***************************************					Level 1	21:2	1	708
				***************************************			Pump intake set at (n	(fi)	2	2016	, 2	101
	Nan to 2 months at 10 min		Service I street the old a point	VA.200 122900 12300 1200			89 Pumping rate (I/min /)	ŚŔ.	3	24	3	111
Metr ☐ Cable To		nstruction Diamone		blic	Well Us		1 3 GPM		4	261	4	60.8
Rotary (C	Conventional Reverse))	25	mestic estock	☐ Municipa☐ Test Ho!	=	Duration of pumping hrs + 30 m	าเท	5	27:3	5	401
Boring Air percu	•	Digging	☐ trri			& Air Conditioning	Final water level end of	f pumping <i>(m/ft)</i>	10	3317	10	51.7
Other, sp				ner, <i>specify</i> _			If flowing give rate (I/n	nin / GPM)	15	40	15	52'3
Inside	Y	nstruction R e OR Material	ecord - Cas Wall		1 (m/kg)	Status of Well Water Supply	Recommended pump	donth (n(ff)	20	447	20	4912
Diameter <i>(cn(in</i>)	(Galvanize	ed, Fibreglass, Plastic, Steel)	Thickness (cm/in)	From	То	Replacement Well	89	depair (mga)	25	4915	25	4817
674	5-	ee	-188	0	64	Recharge Well	Recommended pump		30	52%	30	44.4
6 74		NHOLE		64	91	Dewatering Well Observation and/or	Well production (I/min		40	5818	40	38 17
						Monitoring Hole ☐ Alteration	Disinfected?		50	64Z	50	365
***************************************						(Construction) Abandoned,	Yes No		60	646	60	342
Outside	Co	onstruction R	ecord - Scre	1	1 (2)	Insufficient Supply Abandoned, Poor	Please provide a map l	Map of W			200	
Diameter (cm/in)		aterial Ivanized, Steel)	Slot No.	From	1 (<i>m/īt)</i> To	Water Quality Abandoned, other, specify	Tricase provide a map	Delow Tollowing	Journ	ons on the t	Jack.	//
				VICTORIAN CONTRACTOR OF THE PARTY OF THE PAR		Specify	Cox	Ro#9	1			1/
						Other, specify			1	_	*	
		Water De				ole Diameter			1 Lui	in 2	GAR	<u>+GB</u>
		Kind of Wate ☐ Other, <i>spe</i>		✓ Untested	From	h (m(ft) Diameter			,	/	Hovs	
Water foun	d at Depth	Kind of Wate	r: Fresh [Untested	0	20 811					2000	
		Other, spe Kind of Wate		Untested	0	91 61/4"		1	F	76	,	
(m	v/ft) ∐Gas	Other, spe	ecify					2001	L	58 WELL		
Business Na		ell Contracto Contractor	r and Well	Technicia		ion Il Contractor's Licence No.	CR#	F4 _ *			>	
HERB	LANG	W€LL (100 CLI	NGLT		The state of the s	CK		,			
485	12 He	et Number/Na		2#1		nicipality Opm CM EE	Comments:					
Province		ostal Code	Business	E-mail Ad		**************************************	Well owner's Date Pa	ckage Delivere	٦ ٦ ١	BAY-0		
Bus.Telepho	one No. (inc.	area code) Na	me of Well T	echnician (i	_ast Name, F	First Name) (EUN	information	ickage Delivere	- 11	Audit No.	try Use م الله	50. (5) (5) (6)
		No. Signature					package delivered Date W	ork Completed		Z J.,		967
<u>314</u>	1616	<u> </u>	As.	1 Lor	e/2	0101010		10/12/1	5	Receiv.JA	N 1	3 2011
0506E (2007/1	2) © Quee	n's Printer for Ont	ario, 200	· ·	1	Minietry'e Conv						

Minietry'e Conv

Ministry of the Environment

Well Tag No. (Place Sticker and/or Print Polow)

A103618

Well Record

Regulation 903 Ontario Water Resources Act

	ion (Street Number/Name)		ownship	Lot	t Conce	ession 8	
UTM Coordinates Zon	PETER BOROUGE Easting Northing 7 7 1 1 9 3 9 5 49 1	FH 6	િંદુ/Town/Village funicipal Plan and Subl	ot Number	Province Ontario Other	Postal	Code
Overburden and Be General Colour BROWA BROWA GREY	drock Materials/Abandonment Most Common Material TOP SOIL CLAY GRAVEL	Sealing Reco Oth	rd (see instructions on the er Materials ,	General D SOFT SOFT LOOSE	-	Dept From	h (m/g) 6 18 23
GREY	CLAY HALE LIMESTONE LIMESTONE		RAVEL	HARD PARE	ac <i>ke</i> d Zed	23 42 43	42 43 61
Depth Set at (m/	Annular Space Type of Sealant Use (Material and Type) BENTONITE S I BAG FLOLE	LUERY	Volume Placed (m)/6 30 GAL 50 LBS	Resu After test of well yield, water Clear and sand free Other, specify If pumping discontinued, giv	Time Wate (min) (m Static Level 2	wn Re	Nater Level (m/h) \$3' \$1'2
Method of Co Cable Tool Rotary (Conventional Rotary (Reverse) Boring Air percussion Other, specify	☐ Diamond ☐ Public		cial Not used	Pumping rate (l/min / GR/N) Duration of pumping hrs + 60 min Final water level end of pum If flowing give rate (l/min / G	4 1 5 1 1 2 1 1 2 2	7 3 5 9 4 8 5 1 5 1 10 7 15	50' 49'1 48`6 44'6 42'8
Diameter (Galvanize Concrete,	e OR Material Policy Plastic, Steel) Wall Thickness (cm/in) From 188 +2 J HOLIZ Wall Thickness (cm/in) From 188 +2	43'	Water Supply Replacement Well Test Hole Recharge Well Dewatering Well Observation and/or Monitoring Hole Alteration (Construction) Abandoned.	Recommended pump dept 58 Recommended pump rate (I/min / GRV) 3 6 PN Well production (I/min / GRV) Disinfected? Yes No	$\frac{25}{30}$ $\frac{3}{30}$ $\frac{3}{30}$	3 30	43° 42° 413 37'4 33'2
Outside M	onstruction Record - Screen aterial Slot No. From		Insufficient Supply Abandoned, Poor Water Quality Abandoned, other, specify Other, specify	Please provide a map below			51 V
43 (m/6) ☐ Gas Water found at Depth (m/ft) ☐ Gas Water found at Depth (m/ft) ☐ Gas	Kind of Water: Fresh Untest Other, specify Kind of Water: Fresh Untest Other, specify Kind of Water: Fresh Untest Other, specify Other, specify	ted Depth From	To Diameter (cm@)	1.4 PR	OU I DENCE	LINE	<u>zu</u>
Business Name of Well HERB LANG Business Address (Stre #8 SQ / Province Province Province (Streen) Bus. Telephone No. (inc. Well Technician's Licence	Contractor -W CLL DRILLIAG- et Number/Name)	Address (Last Name, FFRANK) Contractor Date	Contractor's Licence No. 3 6 7 nicipality MEMEE First Name) 3 7 E O	Well owner's information package delivered Yes No Date Package Date Work C	0926 Audit	No. Z 139	560

Ministry's Conv

Ministry of the Environment

Well Tag No. (Place Sticker and/or Print Below)

No TAG - DECOMMISSITA N

Well Record

						12,00,110,000,000,011,000,00			
Well Location Address of Well L	ocation (Street Num	ber/Name)	one of the second second second	Township		Lot	Conce	ssion	
	311 N3	ENTH LI	ルビ	Dou	20	4	9		
County/District/M	unicipality CTERBOA	2 0 U & U		City/Town/Village			Province Ontario	Postal	Code
UTM Coordinates	Zone Easting	l Northing		Municipal Plan and Subl	ot Number		Other		
NAD 8 3		737491		ord (see instructions on the					
General Colour	Most Commo			ther Materials		al Description	1	Dept	th (m/6)
BROWN	CLA	ν.Υ		THE PARTY OF THE P	.9'0	FT	-	From	14
GREY	CLA		Co	BBLES		KED		14	33
GREY	CLA			RAVEL		PAC	VEN	33	46
GREY		STONE		CIVE	HA		<u> </u>	46	76
4								- 6	
1.1.1.1.1.1		NOTE	· INS	UFFICTEN	T WATER				
				O CASING		***************************************	FON E A	WEL	_

		Annular Space	The second of th				ell Yield Tes		
Depth Set at (m		Type of Sealant U (Material and Type		Volume Placed (m³/ft²)	After test of well yield, w		Draw Dov		COVERY Water Level
0 76	BENT	DNIFE	CHES	ISOLBS	Other, specify		(min) (m		(m/ft)
		estone S			If pumping discontinued	, give reason:	Level		
LAYER		ついまいの				(Fc)	1		
					Pump intake set at (m/	π)	2	/2	
Method o	f Construction		Well U	Se	Pumping rate (I/min / G	PM)	3	/ 3	
Cable Tool	Diamond	Public	Comm	<u>-</u>	Duration of pumping	A	4	4	
Rotary (Convent	e) Driving	☐ Domestic☐ Livestock	☐ Munici ☐ Test H	ole Monitoring	hrs + mi		5	5	
☐ Boring ☐ Air percussion	☐ Digging	☐ Irrigation☐ Industrial	☐ Coolin	g & Air Conditioning	Final water level end of	pumping (m/ft)	10	10	
Other, specify		Other, spe	ecify		If flowing give rate (Vmi	n / GPM)	15	15	
Inside Ope	Construction Red		Depth (<i>m/f[]</i>)	Status of Well Water Supply	Recommended pump	A (- 161)	20	20	
Diameter (Galv		Thickness (cm/iii) Fro		Replacement Well	Recommended pump	geptn (<i>m/it)</i>	25	25	
. 11.	· · · · · · · · · · · · · · · · · · ·	(188 6	7 4/		Recommended pump	rate	30	30	
	TEEL DELL	40		☐ Dewatering Well ☐ Observation and/or			40	40	
<u>@ /T 0</u>	PEN HOLE	70	0 76	Monitoring Hole	Well production (I/min /	GPM)	50	50	
****				(Construction)	Disinfected?		60	60	
	Construction Rec	cord - Screen		Abandoned, Insufficient Supply		Man of W	ell Location		N
Outside Diameter	Material		Depth (<i>m/ft</i>)	Abandoned, Poor Water Quality	Please provide a map b	***************************************		the back.	1
(cm/in) (Plasti	c, Galvanized, Steel)	Fro	m To	Abandoned, other, specify				Nassau	ed.
				Other, specify	<u> </u>	1.1 km-		Proveco	Rol
						oncerld.	1		^
Water found at D	Water Deta	The state of the s		Hole Diameter	/		Con	C. Rd.#9	Douro
46 (m/m)	Gas X Other, speci	∐Fresn ∐Unite ify ∑NSüFF 1C	From	To (cm/4e)	/				
Water found at De	epth Kind of Water:	Fresh Unte		20 8"			.8km		BREW
	Gas Other, speci epth Kind of Water:		ested O	76 6/4"			1 #3	a //	Wellan
	Gas ☐Other, <i>speci</i>			1					SWED
Business Name of	Well Contractor		T			01 ~	<u>V</u>	Hasel /	1
HERE	S LAVE WE	LL DRILL	ING LTB	3 3 6 7	University	u.	F==		
	(Street Number/Nam	ie)		unicipality	Comments: We II	was 22'	from co	rner of	sted.
Province	4850 Hw Postal Code	Business E-mai	l Address	OMEMEE					
ON	140LQWC				Well owner's Date Pacinformation	ckage Delivere	2986/46/80/20/20/	linistry Use	Only
Bus. Felephone No.	(inc. area code) Nam			, First Name) とをUエル	package delivered	1 1/1/C	2 Z	₀. Z139	60 <i>1</i>
	ence No. Signature	rechnician and/	or Contractor D	ate Submitted	res _	rk Completed	Salana	68891498025888686959596	150-0450-04160-0460-046
0508F (2007/12) @	Queen's Printer for Ontari	Ml Ker		30 M 12 10 10 10 10 10 10 10 10 10 10 10 10 10		111/21	D 👍 Receiv	ed FEB 2 1	ZUIZ



Ministry of

Well Tan No. (Place Sticker and/or Print Below)

Well Record

Regulation 903 Ontario Water Resources Act

A121750 the Environment of <u>3</u> Page_ ☐ Metric **P** Imperial Measurements recorded in:

	ocation (Street Number/Nar			Township DowRo	Lot	U.	Concess	ion 7	·····
County/District/M	, , , , , , , , , , , , , , , , , , ,	<u>*</u>		City/Town/Village		Pr	ovince	Posta	l Code
PETERS	Boeowall		····	DOURO			ntario	K 9	2 698
UTM Coordinates	20ne Easting 17718874	Northing		Municipal Plan and Subl	of Number	Ot	her 🗷		
*************************************	d Bedrock Materials/Abar		*************************************	ord (see instructions on the	a back of this form)	<u>{</u>			
General Colour	Most Common Mate	rial	· Oth	ner Materials	General Des	cription		Dep From	oth (<i>m/tt</i>) To
					TOP SO	٠, ١		0	3
GREY	GRAUEL							3	36
GREY	LIMESTONE	35		<u></u>	}	***************************************	01100011001010	36	54
BROWN	LIMESTONE						vrviviivviiivviimaviivii.\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	S4	57
GREY	LIMESTON	·•···············		——————————————————————————————————————	 			57	96

				· · · · · · · · · · · · · · · · · · ·			<u></u>	***************************************	· ·
		***************************************			400000000000000000000000000000000000000				
1000000011100001110000111000011100001110000					1	N. N. N. N. N. N. N. N. N. N. N. N. N. N		····	
	Annu	lar Space			Results	s of Well)	ield Testin	a	<u> </u>
Depth Set at (m)	2 II	Sealant Usi and Type)		Volume Placed (m³/ft³)	After test of well yield, water wa	as:	Draw Down	R	lecovery
0 20		Like		377771	Clear and sand free Other, specify	* * * * * * * * * * * * * * * * * * * *	me Water Le	vei Time (min)	Water Level
		<u> </u>	<u> </u>		If pumping discontinued, give r	reason, 🔡 .	vel 31	140	95
	······			······································	9		¹ 3බ	1	94
	4		——————————————————————————————————————		Pump intake set at (m/ft)		2 32	2	47
					70		3 3 3 3 T	3	92
	f Construction	*	Well Us		Pumping rate (I/min / GPM)		4 3Q	-	
Cable Tool Rotary (Convent		Public Domestic	Commer Municipa	******	Duration of pumping		·····	4	92
☐ Rotary (Reverse ☐ Boring		Livestock	Test Hol	le Monitoring	hrs + 🔾 🕝 min 🕟	, s	5 30	5	92
Air percussion		Irrigation Industrial	L Cooling	& Air Conditioning	Final water level end of pumpin	19 (may 1	0 35	10	90
Other, specify	1	Other, spec	ify	**************************************	If flowing give rate (I/min / GPI	<i>M</i>) 1	5 41	15	88
	Construction Record - C		epth (<i>m/ft)</i>	Status of Well Water Supply	(2)	2	0 46	20	86
Diameter (Galvi	ranized, Fibreglass, Thicknes rete, Plastic, Steel) (cm/n)	s F	}	Replacement Well	Recommended pump depth (·	5 5A	25	84
<i>s</i> 11			7	☐ Test Hole ☐ Recharge Well	Recommended pump rate	3	っくつ	30	Q 3
			36	Dewatering Well	(Vmin / GPM)	***************************************	_ / / 6		<u>00</u>
6 OP6	in Hole &	36	96	Observation and/or Monitoring Hole	Well production (Vmin / GPM)			40	77
				Alteration (Construction)	Disinfected?	5		50	
				Abandoned, Insufficient Supply	Yes 2 No	6	<i>88</i> □	60	<u>71 </u>
Outside	Construction Record - So			Abandoned, Poor		of Well L		1 -	
Diameter	Material c, Galvanized, Steel) Slot No.	From	epth (<i>m/ft)</i> n To	Water Quality Abandoned, other,	Please provide a map below for	aowang insur	ucuons on the	раск.	
				specify	N				
				Other, specify		1	A 1		
	······································						_		Ω
Water found at De	Water Details pth Kind of Water: Frest	2 Dillintes		ole Diameter h (m/b) Diameter	House		,	o LAV	s 610-
	Gas Other, specify	· Promes	From	To (cm4n)	,		() w	XIL 3	
Water found at De	epth Kind of Water: Frest	ı []Unles	ted O	966	1 2	ENER	9		
······	Gas Other, <i>specify</i> opth Kind of Water: Fresh	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					P		
	Gas Other, specify	iontes			(4)		0		
	Well Contractor and We	II Techni	cian Informat	ion				«/- -	
Business Name of \			3 .	Contractor's Licence No.	(x) Wec Wec	· +0'	ROPO	<u> </u>	0,
	Street Number/Name)	UN6		ricipality	Comments:	LTO	140456	<u> </u>	1 <u></u>
	son Line		C	ÄÜAN	Ourminatina.				
Province	Postal Code Busine	ss E-mail /	Address		,				
·	(inc. grea code) Name of Well	I Technici-) B/Lost Nome 5	Gret Nama)	Well owner's Date Package D information		Mini Audit No.	stry Use	Only
705799	5343 Walledi Well		30R	пэт гчанте)	package delivered	となるで		120	203
Well Technician's Lice	ence No. Signature of Technic	cian and/or	Contractor Date	Submitted	Yes Date Work Com	pleted		LUJ	LUU
1 3 9			<u> </u>	KARIO HIC	DNO BOYA	7/14	. Rece vis		



Measurements recorded in:

Ministry of the Environment and Climate Change

(mperial

Metric

Well Tag No. (Place Sticker and/or Print Below)

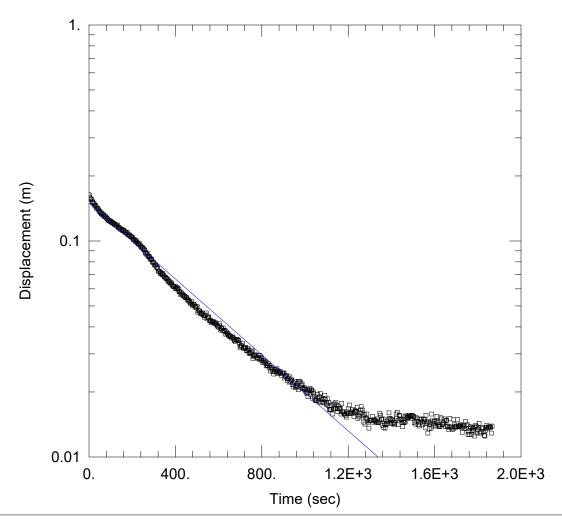
Well Record

Tag#: A248967

Regulation 903 O	ntario Water I	Resources .	Ac
	Page	of	

Address of Well Location (Street Number/Name)	Township -	Lot		Concess	ion	
BRADFIECD TOORD	5. (109)	DURO PT	4		8	
County/District/Municipality LETER TSOAR COAR	City/Town/Village		I _	ovince ntario	Postal Postal	Code
	Municipal Plan and Sublot	t Number	Ot	her	7 1 74	<u>* [[0]] </u>
NAD 8 3 (/ / / / / S O / 7 9 / Y / ZZ Overburden and Bedrock Materials/Abandonment Sealing Rec	ord (see instructions on the	e back of this form)				
	ther Materials	General Desc			,	th (<i>m/ft</i>)
BROWN SANDY CLAY (TOPSDIC					0	3
BROWN SANDY GRAVEL WITH	STONE				3	38
BROWN SAND TRACKS OF SI	<u></u>			····································	38	42
BROWN COARSE SAND WITH	GRAUEC				42	58
GREY COARSE GRAVEC		<u> </u>	· · · · · · · · · · · · · · · · · · ·		58	60
				·····		
				······································	·····	<u> </u>
				··· Isaahasaa/maaa/araamaan		
Annular Space		Decuite	of Walls	Yield Testin		
Depth Set at (m/ft) Type of Sealant Used	Volume Placed	After test of well yield, water wa	3S:	Draw Dowi	n R	ecovery
From To (Material and Type)	(m³/ft³)	Clear and sand free Other, specify	11 .	me Water L		Water Level (m/ft)
0 21 BENTONTE GRANNIA	1 Lift	If pumping discontinued, give re	eason: II.	atic evel 46		
				1 48	5" 1	
		Pump intake set at (m/ft)		2 48/	2	
/Method of Construction Well L		Pumping rate (I/min / GPM)		3 48/	3	
Method of Construction Well L Cable Tool □ Diamond □ Public □ Comm		4 900		4 4/51	6 4	
□ Rotary (Conventional) □ Jetting □ Domestic □ Municipal □ Rotary (Reverse) □ Driving □ Livestock □ Test H	· — —	Duration of pumping / hrs + / 5 min		5 481	," 5	····
	ng & Air Conditioning	Final water level end of pumpin	ng (m/ft)	10 50	/ 10	
Other, specify Other, specify		If flowing give rate (Vmin / GPM)		15 50	15	
Construction Record - Casing	Status of Well	1/19		20 50	20	
Inside Open Hole OR Material Wall Depth (m/ft) Diameter (Galvanized, Fibreglass, Thickness (cm/in) Concrete, Plastic, Steel) (cm/in) From To		Recommended pump depth (n	· 11	25 49'	Jr 25	
	Test Hole Recharge Well	Recommended pump rate (I/min / GPM)		30 <i>USA</i>	30	** **********************************
614 STEEL .186 0 60	Dewatering Well Dobservation and/or	4		40 المالية	40	
	Monitoring Hole Alteration	Well production (Vmin / GPM)		50 4	Q 50	
	(Construction)	Disinfected? Yes No		60 4.14	9 60	
Construction Record - Screen	Abandoned, Insufficient Supply			Location		
Outside Material Depth (m/ft)	Abandoned, Poor Water Quality	Please provide a map below		<u> </u>	on the back	ζ.
(cm/in) (Plastic, Galvanized, Steel) Slot No. From To	Abandoned, other, specify			3		
-N/H	Other, specify	M M	<i>.</i>	A.		
			IGM.			
Water Details Water found at Depth Kind of Water: ☐Fresh ☐ Untested Details	Hole Diameter epth (<i>m/ft</i>) Diameter	1			48,	A
58 (mb) Gas Other, specify From		Peofe Hav	reol	\	700	(
Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify	40 614	1 1/180	<u>> 1</u>	•		
Water found at Depth Kind of Water: Fresh Untested		-				
(m/ft) Gas Other, specify		R			V f	ROPERTO
Well Contractor and Well Technician Inform Business Name of Well Contractor	iation Well Contractor's Licence No.	1 650m				
BRAMMINE DRIUNG SENJICES	7647	13RA	DFIE	D 72	8A	
	Municipality ENNISMONE	Comments:				
Province Postal Code Business E-mail Address		10/all average Date D	Di a Carron			
Bus. Telephone No. (inc. area code) Name of Well Technician (Last Nam	ıe, First Name)	Well owner's Date Package information package	***** : .	Audit N	inistry Us o. Z/) Q	e Uniy 8346
7059336106 ANSY SRATTHE	SATE	delivered Date Work Co.	O V b			
Well Technician's Licence No. Signature of Technician and/or Contractor I	Date Submitted 201907076	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	0/16/0	6 Receive	MASS 189427 1894A	9 2019
0506E (2014/11)	Ministry's Copy	_3 <u> </u>				or Ontario, 2014

Appendix D Hydraulic Conductivity



MW2 FALLING HEAD TEST

Data Set: G:\662\12583956\Workshare\Field\SWRT\BH-2\MW2 Falling Head Test.aqt

Date: 09/07/22 Time: 15:33:04

PROJECT INFORMATION

Company: GHD Limited

Client: Leahy Excavations Inc.

Project: 12583956-01

Location: County Road 4, Peterborough

Test Well: MW2

Test Date: August 17, 2022

AQUIFER DATA

Saturated Thickness: 1.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW2)

Initial Displacement: 0.1636 m

636 m Static Water Column Height: 1.2 m

Total Well Penetration Depth: 1.52 m

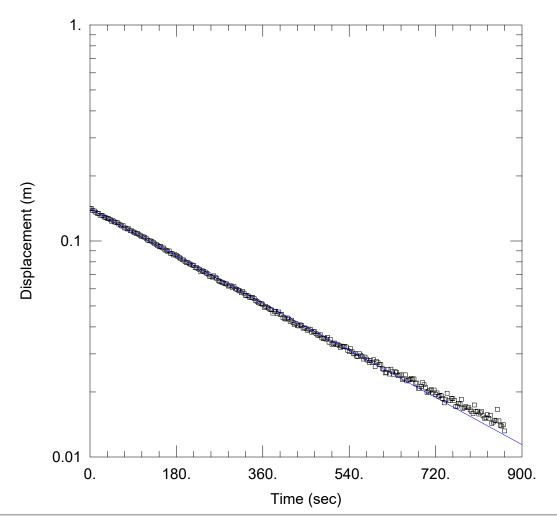
Screen Length: 1.52 m Well Radius: 0.0254 m

Casing Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 8.858E-5 cm/sec y0 = 0.1499 m



MW2 RISING HEAD TEST

Data Set: G:\662\12583956\Workshare\Field\SWRT\BH-2\MW2 Rising Head Test.aqt

Date: 09/07/22 Time: 15:34:35

PROJECT INFORMATION

Company: GHD Limited

Client: Leahy Excavations Inc.

Project: 12583956-01

Location: County Road 4, Peterborough

Test Well: MW2

Test Date: August 17, 2022

AQUIFER DATA

Saturated Thickness: 1.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW2)

Initial Displacement: 0.1412 m

Total Well Penetration Depth: 1.52 m

Casing Radius: 0.0254 m

Static Water Column Height: 1.2 m

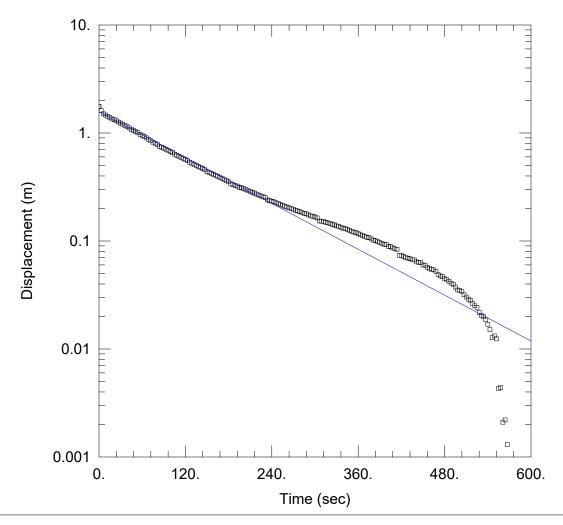
Screen Length: 1.52 m Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0001222 cm/sec

y0 = 0.1409 m



MW3 FALLING HEAD TEST

Data Set: G:\662\12583956\Workshare\Field\SWRT\MW3\MW3 Falling Head Test.aqt

Date: 09/07/22 Time: 15:54:27

PROJECT INFORMATION

Company: GHD Limited

Client: Leahy Excavations Inc.

Project: 12583956-01

Location: County Road 4, Peterborough

Test Well: MW3

Test Date: August 22, 2022

AQUIFER DATA

Saturated Thickness: 0.155 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW3)

Initial Displacement: 1.759 m

Static Water Column Height: 0.155 m

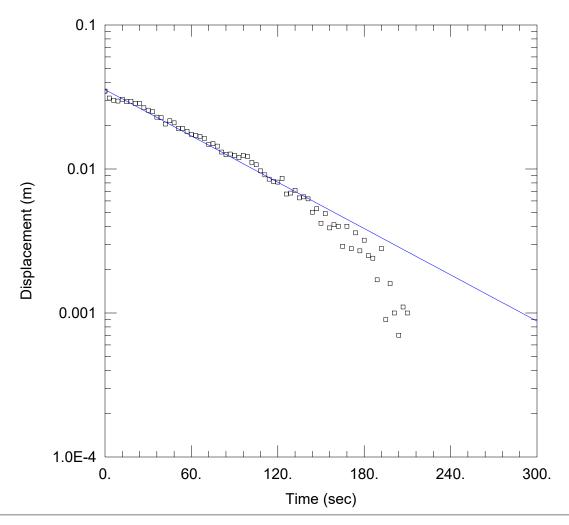
Total Well Penetration Depth: 1.52 m Screen Length: 1.52 m Casing Radius: 0.0254 m Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.002063 cm/secy0 = 1.57 m



MW6 FALLING HEAD TEST

Data Set: G:\662\12583956\Workshare\Field\SWRT\MW6\MW6 Falling Head Test.aqt

Date: 09/07/22 Time: 16:04:23

PROJECT INFORMATION

Company: GHD Limited

Client: Leahy Excavations Inc.

Project: 12583956-01

Location: County Road 4, Peterborough

Test Well: MW6

Test Date: August 22, 2022

AQUIFER DATA

Saturated Thickness: 0.56 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW6)

Initial Displacement: 0.0347 m

Static Water Column Height: 0.56 m

Total Well Penetration Depth: 1.52 m

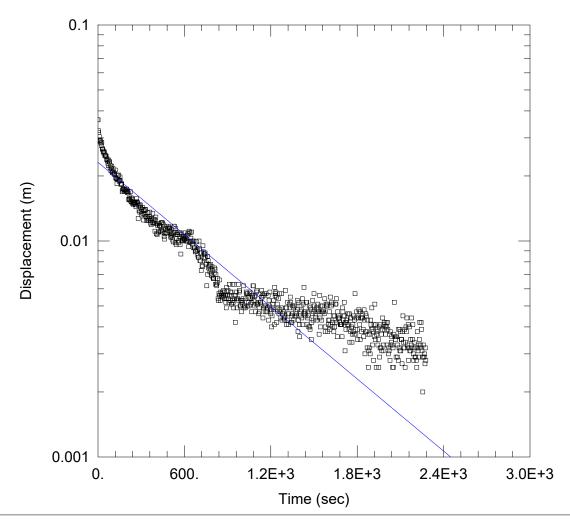
Screen Length: 1.52 m Well Radius: 0.0254 m

Casing Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.001076 cm/sec y0 = 0.03556 m



MW6 RISING HEAD TEST

Data Set: G:\662\12583956\Workshare\Field\SWRT\MW6\MW6 Falling Head Test.aqt

Date: 09/07/22 Time: 16:05:45

PROJECT INFORMATION

Company: GHD Limited

Client: Leahy Excavations Inc.

Project: 12583956-01

Location: County Road 4, Peterborough

Test Well: MW6

Test Date: August 22, 2022

AQUIFER DATA

Saturated Thickness: <u>0.56</u> m Anisotropy Ratio (Kz/Kr): <u>1.</u>

WELL DATA (MW6)

Initial Displacement: 0.0364 m

.0364 m Static Water Column Height: 0.56 m

Total Well Penetration Depth: 1.52 m

Screen Length: 1.52 m Well Radius: 0.0254 m

Casing Radius: 0.0254 m

SOLUTION

Aguifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0001118 cm/sec

y0 = 0.02311 m

Appendix E Laboratory Analytical Data



Final Report

C.O.C.: --- REPORT No. B22-26592 (i)

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Groundwater

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442

Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		BH-2	BH-6	
			Sample I.D.		B22-26592-1	B22-26592-2	
			Date Collect	ed	17-Aug-22	17-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
pH @25°C	pH Units		SM 4500H	22-Aug-22/O	7.86	7.90	
Conductivity @25°C	µmho/cm	1	SM 2510B	22-Aug-22/O	749	649	
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	22-Aug-22/O	253	280	
Bicarbonate(as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	253	280	
Carbonate (as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	< 5	< 5	
Hydroxide (as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	< 5	< 5	
Hardness (as CaCO3)	mg/L	1	SM 3120	24-Aug-22/O	375	328	
Bromide	mg/L	0.4	SM4110C	24-Aug-22/O	< 0.4	< 0.4	
Chloride	mg/L	0.5	SM4110C	24-Aug-22/O	47.4	36.9	
Fluoride	mg/L	0.1	SM4110C	24-Aug-22/O	< 0.1	< 0.1	
Nitrite (N)	mg/L	0.1	SM4110C	24-Aug-22/O	< 0.1	< 0.1	
Nitrate (N)	mg/L	0.1	SM4110C	24-Aug-22/O	7.9	0.4	
Sulphate	mg/L	1	SM4110C	24-Aug-22/O	40	8	
Colour	TCU	2	SM 2120C	23-Aug-22/O	< 2	< 2	
Turbidity	NTU	0.1	SM 2130	23-Aug-22/O	211	17.8	
Total Organic Carbon	mg/L	0.2	EPA 415.2	22-Aug-22/O	1.7	1.7	
Ammonia + Ammonium (N)	mg/L	0.01	SM4500- NH3-H	22-Aug-22/K	< 0.01	< 0.01	
o-Phosphate (P)	mg/L	0.002	PE4500-S	22-Aug-22/K	< 0.002	< 0.002	
Phosphorus-Total	mg/L	0.01	E3516.2	25-Aug-22/K	0.03	0.01	
Calcium	mg/L	0.02	SM 3120	24-Aug-22/O	134	123	
Magnesium	mg/L	0.02	SM 3120	24-Aug-22/O	9.67	5.39	
Potassium	mg/L	0.1	SM 3120	24-Aug-22/O	4.6	1.7	
Sodium	mg/L	0.2	SM 3120	24-Aug-22/O	37.8	6.2	
Aluminum	mg/L	0.01	SM 3120	24-Aug-22/O	0.04	0.03	

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Christine Burke Lab Manager



Final Report

C.O.C.: ---**REPORT No. B22-26592 (i)**

Report To: Caduceon Environmental Laboratories GHD Limited

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

DATE RECEIVED: 19-Aug-22 DATE REPORTED: 01-Sep-22 SAMPLE MATRIX: Groundwater

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

455 Phillip Street,

		ſ	Client I.D.		BH-2	BH-6	
			Sample I.D.		B22-26592-1	B22-26592-2	
			Date Collect	ed	17-Aug-22	17-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Antimony	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0001	0.0003	
Arsenic	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0002	0.0001	
Barium	mg/L	0.001	SM 3120	24-Aug-22/O	0.164	0.071	
Beryllium	mg/L	0.002	SM 3120	24-Aug-22/O	< 0.002	< 0.002	
Boron	mg/L	0.005	SM 3120	24-Aug-22/O	0.059	0.013	
Cadmium	mg/L	0.000015	EPA 200.8	25-Aug-22/O	< 0.000015	< 0.000015	
Chromium	mg/L	0.002	SM 3120	24-Aug-22/O	< 0.002	< 0.002	
Cobalt	mg/L	0.005	SM 3120	24-Aug-22/O	< 0.005	< 0.005	
Copper	mg/L	0.002	SM 3120	24-Aug-22/O	< 0.002	< 0.002	
Iron	mg/L	0.005	SM 3120	24-Aug-22/O	< 0.005	< 0.005	
Lead	mg/L	0.00002	EPA 200.8	25-Aug-22/O	< 0.00002	0.00002	
Manganese	mg/L	0.001	SM 3120	24-Aug-22/O	0.030	0.007	
Mercury	mg/L	0.00002	SM 3112 B	23-Aug-22/O	< 0.00002	< 0.00002	
Molybdenum	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0020	0.0003	
Nickel	mg/L	0.01	SM 3120	24-Aug-22/O	< 0.01	< 0.01	
Selenium	mg/L	0.001	EPA 200.8	25-Aug-22/O	< 0.001	< 0.001	
Silica	mg/L	0.02	SM 3120	24-Aug-22/O	13.9	11.9	
Silver	mg/L	0.0001	EPA 200.8	25-Aug-22/O	< 0.0001	< 0.0001	
Strontium	mg/L	0.001	SM 3120	24-Aug-22/O	0.411	0.272	
Thallium	mg/L	0.00005	EPA 200.8	25-Aug-22/O	< 0.00005	< 0.00005	
Tin	mg/L	0.05	SM 3120	24-Aug-22/O	< 0.05	< 0.05	
Titanium	mg/L	0.005	SM 3120	24-Aug-22/O	< 0.005	< 0.005	
Uranium	mg/L	0.00005	EPA 200.8	25-Aug-22/O	0.00038	0.00035	
Vanadium	mg/L	0.005	SM 3120	24-Aug-22/O	< 0.005	< 0.005	
Zinc	mg/L	0.005	SM 3120	24-Aug-22/O	< 0.005	< 0.005	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie



455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---**REPORT No. B22-26592 (i)**

Report To: Caduceon Environmental Laboratories GHD Limited

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442

Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01 DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22 P.O. NUMBER: 735-004065

SAMPLE MATRIX: Groundwater WATERWORKS NO.

			Client I.D.		BH-2	BH-6	
			Sample I.D.		B22-26592-1	B22-26592-2	
			Date Collect	ed	17-Aug-22	17-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Anion Sum	meq/L		Calc.	24-Aug-22/O	7.79	6.82	
Cation Sum	meq/L		Calc.	24-Aug-22/O	9.25	6.87	
% Difference	%		Calc.	24-Aug-22/O	8.57	0.332	
Ion Ratio	AS/CS		Calc.	24-Aug-22/O	0.842	0.993	
Sodium Adsorption Ratio	-		Calc.	24-Aug-22/O	0.851	0.149	
TDS(ion sum calc.)	mg/L	1	Calc.	24-Aug-22/O	460	350	
Conductivity (calc.)	µmho/cm		Calc.	24-Aug-22/O	820	651	
TDS(calc.)/EC(actual)	-		Calc.	24-Aug-22/O	0.615	0.540	
EC(calc.)/EC(actual)	-		Calc.	24-Aug-22/O	1.09	1.00	
Langelier Index(25°C)	S.I.		Calc.	24-Aug-22/O	0.927	0.982	

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Christine Burke Lab Manager



Final Report

C.O.C.: ---**REPORT No. B22-26592 (ii)**

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Groundwater

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442

Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		BH-2	BH-6	
			Sample I.D.		B22-26592-1	B22-26592-2	
			Date Collect	ed	17-Aug-22	17-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Acetone	μg/L	30	EPA 8260	22-Aug-22/R	< 30	< 30	
Benzene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Bromodichloromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Bromoform	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Bromomethane	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Carbon Tetrachloride	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Monochlorobenzene (Chlorobenzene)	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Chloroform	μg/L	1	EPA 8260	22-Aug-22/R	< 1	< 1	
Dibromochloromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichlorobenzene,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorobenzene,1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorobenzene,1,4-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorodifluoromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichloroethane,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethane,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethylene,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethene, cis-1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethene, trans-1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropane,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene, cis-1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene, trans-1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene 1,3- cis+trans	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Ethylbenzene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie



Final Report

C.O.C.: ---**REPORT No. B22-26592 (ii)**

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Groundwater

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		BH-2	BH-6	
			Sample I.D.		B22-26592-1	B22-26592-2	
			Date Collect	ed	17-Aug-22	17-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Dibromoethane,1,2- (Ethylene Dibromide)	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Hexane	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Methyl Ethyl Ketone	μg/L	20	EPA 8260	22-Aug-22/R	< 20	< 20	
Methyl Isobutyl Ketone	μg/L	20	EPA 8260	22-Aug-22/R	< 20	< 20	
Methyl-t-butyl Ether	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichloromethane (Methylene Chloride)	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Styrene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethane,1,1,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethane,1,1,2,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethylene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Toluene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	0.6	
Trichloroethane,1,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichloroethane,1,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichloroethylene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichlorofluoromethane	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Vinyl Chloride	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Xylene, m,p-	μg/L	1.0	EPA 8260	22-Aug-22/R	< 1.0	< 1.0	
Xylene, o-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Xylene, m,p,o-	μg/L	1.1	EPA 8260	22-Aug-22/R	< 1.1	< 1.1	
PHC F1 (C6-C10)	μg/L	25	MOE E3421	22-Aug-22/R	< 25	< 25	
PHC F2 (>C10-C16)	μg/L	50	MOE E3421	22-Aug-22/K	< 50	< 50	
PHC F3 (>C16-C34)	μg/L	400	MOE E3421	22-Aug-22/K	< 400	< 400	
PHC F4 (>C34-C50)	μg/L	400	MOE E3421	22-Aug-22/K	< 400	< 400	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie



Final Report

C.O.C.: --- REPORT No. B22-26601 (i)

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Jacob Kempt

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Surface Water

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		Creek #1	Creek #2	
			Sample I.D.		B22-26601-1	B22-26601-2	
			Date Collect	ed	17-Aug-22	18-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
pH @25°C	pH Units		SM 4500H	22-Aug-22/O	8.28	8.21	
Conductivity @25°C	µmho/cm	1	SM 2510B	22-Aug-22/O	849	720	
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	22-Aug-22/O	279	255	
Bicarbonate(as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	279	255	
Carbonate (as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	< 5	< 5	
Hydroxide (as CaCO3)	mg/L	5	SM 2320B	22-Aug-22/O	< 5	< 5	
Hardness (as CaCO3)	mg/L	1	SM 3120	25-Aug-22/O	335	296	
Bromide	mg/L	0.4	SM4110C	24-Aug-22/O	< 0.4	< 0.4	
Chloride	mg/L	0.5	SM4110C	24-Aug-22/O	106	81.5	
Fluoride	mg/L	0.1	SM4110C	24-Aug-22/O	< 0.1	< 0.1	
Nitrite (N)	mg/L	0.1	SM4110C	24-Aug-22/O	< 0.1	< 0.1	
Nitrate (N)	mg/L	0.1	SM4110C	24-Aug-22/O	0.8	0.1	
Sulphate	mg/L	1	SM4110C	24-Aug-22/O	10	4	
Colour	TCU	2	SM 2120C	23-Aug-22/O	28	47	
Turbidity	NTU	0.1	SM 2130	23-Aug-22/O	2.7	7.0	
Total Organic Carbon	mg/L	0.2	EPA 415.2	22-Aug-22/O	5.8	9.4	
Ammonia (N)-Total	mg/L	0.01	SM4500- NH3-H	25-Aug-22/K	0.05	0.57	
o-Phosphate (P)	mg/L	0.002	PE4500-S	25-Aug-22/K	0.004	0.004	
Phosphorus-Total	mg/L	0.01	E3516.2	25-Aug-22/K	0.05	0.09	
Calcium	mg/L	0.02	SM 3120	25-Aug-22/O	118	104	
Magnesium	mg/L	0.02	SM 3120	25-Aug-22/O	9.51	8.42	
Potassium	mg/L	0.1	SM 3120	25-Aug-22/O	1.2	2.0	
Sodium	mg/L	0.2	SM 3120	25-Aug-22/O	52.8	37.4	
Aluminum	mg/L	0.01	SM 3120	25-Aug-22/O	0.04	0.04	

R.L. = Reporting Limit

Christine Burke Lab Manager

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455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Jacob Kempt

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---**REPORT No. B22-26601 (i)**

Report To: Caduceon Environmental Laboratories GHD Limited

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01 DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22 P.O. NUMBER: 735-004065

SAMPLE MATRIX: Surface Water WATERWORKS NO.

			Client I.D.		Creek #1	Creek #2	
			Sample I.D.		B22-26601-1	B22-26601-2	
			Date Collect	ed	17-Aug-22	18-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Antimony	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0004	0.0003	
Arsenic	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0003	0.0006	
Barium	mg/L	0.001	SM 3120	25-Aug-22/O	0.120	0.099	
Beryllium	mg/L	0.002	SM 3120	25-Aug-22/O	< 0.002	< 0.002	
Boron	mg/L	0.005	SM 3120	25-Aug-22/O	0.014	0.008	
Cadmium	mg/L	0.000015	EPA 200.8	25-Aug-22/O	< 0.000015	< 0.000015	
Chromium	mg/L	0.002	SM 3120	25-Aug-22/O	< 0.002	< 0.002	
Cobalt	mg/L	0.0001	EPA 200.8	25-Aug-22/O	< 0.0001	0.0002	
Copper	mg/L	0.002	SM 3120	25-Aug-22/O	< 0.002	< 0.002	
Iron	mg/L	0.005	SM 3120	25-Aug-22/O	0.112	0.520	
Lead	mg/L	0.00002	EPA 200.8	25-Aug-22/O	0.00005	0.00010	
Manganese	mg/L	0.001	SM 3120	25-Aug-22/O	0.031	0.166	
Mercury	mg/L	0.00002	SM 3112 B	24-Aug-22/O	< 0.00002	< 0.00002	
Molybdenum	mg/L	0.0001	EPA 200.8	25-Aug-22/O	0.0001	0.0001	
Nickel	mg/L	0.01	SM 3120	25-Aug-22/O	< 0.01	< 0.01	
Selenium	mg/L	0.001	EPA 200.8	25-Aug-22/O	< 0.001	< 0.001	
Silica	mg/L	0.02	SM 3120	25-Aug-22/O	8.32	14.9	
Silver	mg/L	0.0001	EPA 200.8	25-Aug-22/O	< 0.0001	< 0.0001	
Strontium	mg/L	0.001	SM 3120	25-Aug-22/O	0.434	0.363	
Thallium	mg/L	0.00005	EPA 200.8	25-Aug-22/O	< 0.00005	< 0.00005	
Tin	mg/L	0.05	SM 3120	25-Aug-22/O	< 0.05	< 0.05	
Titanium	mg/L	0.005	SM 3120	25-Aug-22/O	< 0.005	< 0.005	
Uranium	mg/L	0.00005	EPA 200.8	25-Aug-22/O	0.00046	0.00012	
Vanadium	mg/L	0.005	SM 3120	25-Aug-22/O	< 0.005	< 0.005	
Zinc	mg/L	0.005	SM 3120	25-Aug-22/O	< 0.005	< 0.005	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie



455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---**REPORT No. B22-26601 (i)**

Report To: Caduceon Environmental Laboratories GHD Limited

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442

Attention: Jacob Kempt Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01 DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22 P.O. NUMBER: 735-004065

SAMPLE MATRIX: Surface Water WATERWORKS NO.

			Client I.D.		Creek #1	Creek #2	
			Sample I.D.		B22-26601-1	B22-26601-2	
			Date Collect	ed	17-Aug-22	18-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Anion Sum	meq/L		Calc.	24-Aug-22/O	8.82	7.48	
Cation Sum	meq/L		Calc.	24-Aug-22/O	9.02	7.61	
% Difference	%		Calc.	24-Aug-22/O	1.12	0.863	
Ion Ratio	AS/CS		Calc.	24-Aug-22/O	0.978	0.983	
Sodium Adsorption Ratio	-		Calc.	24-Aug-22/O	1.26	0.947	
TDS(ion sum calc.)	mg/L	1	Calc.	24-Aug-22/O	469	392	
Conductivity (calc.)	µmho/cm		Calc.	24-Aug-22/O	871	737	
TDS(calc.)/EC(actual)	-		Calc.	24-Aug-22/O	0.552	0.544	
EC(calc.)/EC(actual)	-		Calc.	24-Aug-22/O	1.03	1.02	
Langelier Index(25°C)	S.I.		Calc.	24-Aug-22/O	1.34	1.18	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie



Final Report

C.O.C.: --- REPORT No. B22-26601 (ii)

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Jacob Kempt

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Surface Water

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		Creek #1	Creek #2	
			Sample I.D.		B22-26601-1	B22-26601-2	
			Date Collect	ed	17-Aug-22	18-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Acetone	μg/L	30	EPA 8260	22-Aug-22/R	< 30	< 30	
Benzene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Bromodichloromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Bromoform	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Bromomethane	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Carbon Tetrachloride	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Monochlorobenzene (Chlorobenzene)	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Chloroform	μg/L	1	EPA 8260	22-Aug-22/R	< 1	< 1	
Dibromochloromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichlorobenzene,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorobenzene,1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorobenzene,1,4-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichlorodifluoromethane	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichloroethane,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethane,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethylene,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethene, cis-1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloroethene, trans-1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropane,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene, cis-1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene, trans-1,3-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Dichloropropene 1,3- cis+trans	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Ethylbenzene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie



Final Report

C.O.C.: --- REPORT No. B22-26601 (ii)

Report To:

GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Jacob Kempt

DATE RECEIVED: 19-Aug-22

DATE REPORTED: 01-Sep-22

SAMPLE MATRIX: Surface Water

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: Leahy ECA/12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

			Client I.D.		Creek #1	Creek #2	
			Sample I.D.		B22-26601-1	B22-26601-2	
			Date Collect	Date Collected		18-Aug-22	
Parameter	Units	R.L.	Reference Method	Date/Site Analyzed			
Dibromoethane,1,2- (Ethylene Dibromide)	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Hexane	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Methyl Ethyl Ketone	μg/L	20	EPA 8260	22-Aug-22/R	< 20	< 20	
Methyl Isobutyl Ketone	μg/L	20	EPA 8260	22-Aug-22/R	< 20	< 20	
Methyl-t-butyl Ether	μg/L	2	EPA 8260	22-Aug-22/R	< 2	< 2	
Dichloromethane (Methylene Chloride)	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Styrene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethane,1,1,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethane,1,1,2,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Tetrachloroethylene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Toluene	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichloroethane,1,1,1-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichloroethane,1,1,2-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Trichloroethylene	μg/L	0.5	EPA 8260	22-Aug-22/R	1.1	< 0.5	
Trichlorofluoromethane	μg/L	5	EPA 8260	22-Aug-22/R	< 5	< 5	
Vinyl Chloride	μg/L	0.2	EPA 8260	22-Aug-22/R	< 0.2	< 0.2	
Xylene, m,p-	μg/L	1.0	EPA 8260	22-Aug-22/R	< 1.0	< 1.0	
Xylene, o-	μg/L	0.5	EPA 8260	22-Aug-22/R	< 0.5	< 0.5	
Xylene, m,p,o-	μg/L	1.1	EPA 8260	22-Aug-22/R	< 1.1	< 1.1	
PHC F1 (C6-C10)	μg/L	25	MOE E3421	22-Aug-22/R	< 25	< 25	
PHC F2 (>C10-C16)	μg/L	50	MOE E3421	22-Aug-22/K	< 50	< 50	
PHC F3 (>C16-C34)	μg/L	400	MOE E3421	22-Aug-22/K	< 400	< 400	
PHC F4 (>C34-C50)	μg/L	400	MOE E3421	22-Aug-22/K	< 400	< 400	

R.L. = Reporting Limit

Christine Burke Lab Manager

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie



Final Report

C.O.C.: ---**REPORT No. B22-29497 (i)**

Report To:

GHD Limited 455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22

DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

WATERWORKS NO.

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
Conductivity	1	Holly Lane	LMG	16-Sep-22	A-COND-01 (o)	SM 2510B
pН	1	Richmond Hill	JE	16-Sep-22	A-pH-02 (rh)	MOEE3530
Chromium (VI)	1	Holly Lane	LMG	19-Sep-22	D-CRVI-02 (o)	EPA7196A
Mercury	1	Holly Lane	PBK	19-Sep-22	D-HG-01 (o)	EPA 7471A
Boron - HWS	1	Holly Lane	hmc	19-Sep-22	D-HWE s	MOE3470
Sodium Adsorption Ratio	1	Holly Lane	hmc	16-Sep-22	D-ICP-01 SAR (o)	SM 3120
Metals - ICP-OES	1	Holly Lane	hmc	16-Sep-22	D-ICP-02 (o)	EPA 6010
Metals - ICP-MS	1	Holly Lane	TPR	16-Sep-22	D-ICPMS-01 (o)	EPA 6020

μg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in μg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in μg/g, (F2-napth if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in μg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention

time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an * Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie



Final Report

C.O.C.: ---REPORT No. B22-29497 (i)

Report To: GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22 DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

	Client I.D. Sample I.D. Date Collected		GS-1 B22-29497-1 12-Sep-22	O. Reg. 153 Tbl. 1 - Agricultural	
Parameter	Units	R.L.			
pH @25°C	pH Units		7.72		
Conductivity @25°C	mS/cm	0.001	0.319	0.47	
Sodium Adsorption Ratio	units		1.48	1	
Antimony	μg/g	0.5	< 0.5	1	
Arsenic	μg/g	0.5	2.3	11	
Barium	μg/g	1	76	210	
Beryllium	μg/g	0.2	0.3	2.5	
Boron	μg/g	0.5	6.1	36	
Boron (HWS)	μg/g	0.02	0.06		
Cadmium	μg/g	0.5	< 0.5	1	
Chromium	μg/g	1	15	67	
Chromium (VI)	μg/g	0.2	< 0.2	0.66	
Cobalt	μg/g	1	6	19	
Copper	μg/g	1	12	62	
Lead	μg/g	5	9	45	
Mercury	μg/g	0.005	0.020	0.16	
Molybdenum	μg/g	1	< 1	2	
Nickel	μg/g	1	11	37	
Selenium	μg/g	0.5	0.6	1.2	
Silver	μg/g	0.2	0.3	0.5	
Thallium	μg/g	0.1	0.1	1	
Uranium	μg/g	0.1	0.5	1.9	
Vanadium	μg/g	1	24	86	
Zinc	μg/g	3	40	290	

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

R.L. = Reporting Limit

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Director of Laboratory Services

Steve Garrett



Final Report

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Report To:

GHD Limited 455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22 DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

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Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

Summary of Exceedances

Table 1 - Agricultural/Other Soil Std						
GS-1	Found Value	Limit				
Sodium Adsorption Ratio (units)	1.48	1				

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

R.L. = Reporting Limit

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Final Report

C.O.C.: --- REPORT No. B22-29497 (ii)

Report To:

GHD Limited 455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22

DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
% Moisture	1	Richmond Hill	FAL	14-Sep-22	A-% moisture RH	
PHC(F2-F4)	1	Kingston	KPR	15-Sep-22	C-PHC-S-001 (k)	CWS Tier 1
VOC's	1	Richmond Hill	JE	14-Sep-22	C-VOC-02 (rh)	EPA 8260
PHC(F1)	1	Richmond Hill	JE	14-Sep-22	C-VPHS-01 (rh)	CWS Tier 1

μg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in μg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-napth if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

AVA

R.L. = Reporting Limit

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Final Report

C.O.C.: --- REPORT No. B22-29497 (ii)

Report To:
GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22

DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

	Client I.D. Sample I.D. Date Collected		GS-1	O. Reg. 153
			B22-29497-1	Tbl. 1 -
			12-Sep-22	Agricultural Agricultural
		I		
Parameter	Units	R.L.		
Acetone	μg/g	0.5	< 0.5	0.5
Benzene	μg/g	0.02	< 0.02	0.02
Bromodichloromethane	μg/g	0.02	< 0.02	0.05
Bromoform	μg/g	0.02	< 0.02	0.05
Bromomethane	μg/g	0.05	< 0.05	0.05
Carbon Tetrachloride	μg/g	0.05	< 0.05	0.05
Monochlorobenzene (Chlorobenzene)	μg/g	0.02	< 0.02	0.05
Chloroform	μg/g	0.02	< 0.02	0.05
Dibromochloromethane	μg/g	0.02	< 0.02	0.05
Dichlorobenzene,1,2-	μg/g	0.05	< 0.05	0.05
Dichlorobenzene,1,3-	μg/g	0.05	< 0.05	0.05
Dichlorobenzene,1,4-	μg/g	0.05	< 0.05	0.05
Dichlorodifluoromethane	μg/g	0.05	< 0.05	0.05
Dichloroethane,1,1-	μg/g	0.02	< 0.02	0.05
Dichloroethane,1,2-	μg/g	0.02	< 0.02	0.05
Dichloroethylene,1,1-	μg/g	0.02	< 0.02	0.05
Dichloroethene, cis-1,2-	μg/g	0.02	< 0.02	0.05
Dichloroethene, trans-1,2-	μg/g	0.02	< 0.02	0.05
Dichloropropane,1,2-	μg/g	0.02	< 0.02	0.05
Dichloropropene, cis-1,3-	μg/g	0.02	< 0.02	
Dichloropropene, trans- 1,3-	μg/g	0.02	< 0.02	
Dichloropropene 1,3- cis+trans	μg/g	0.02	< 0.02	0.05
Ethylbenzene	μg/g	0.05	< 0.05	0.05

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

R.L. = Reporting Limit

Steve Garrett

Test methods may be modified from specified reference method unless indicated by an $^{\star}\,$

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Director of Laboratory Services



Final Report

C.O.C.: --- REPORT No. B22-29497 (ii)

Report To:
GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22

DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

	Client I.D. Sample I.I Date Colle) .	GS-1 B22-29497-1 12-Sep-22	O. Reg. 153 Tbl. 1 - Agricultural
Parameter	Units	R.L.		
Dibromoethane,1,2- (Ethylene Dibromide)	μg/g	0.02	< 0.02	0.05
Hexane	μg/g	0.02	< 0.02	0.05
Methyl Ethyl Ketone	μg/g	0.5	< 0.5	0.5
Methyl Isobutyl Ketone	μg/g	0.5	< 0.5	0.5
Methyl-t-butyl Ether	μg/g	0.05	< 0.05	0.05
Dichloromethane (Methylene Chloride)	μg/g	0.05	< 0.05	0.05
Styrene	μg/g	0.05	< 0.05	0.05
Tetrachloroethane,1,1,1,2	μg/g	0.02	< 0.02	0.05
Tetrachloroethane,1,1,2,2	μg/g	0.05	< 0.05	0.05
Tetrachloroethylene	μg/g	0.05	< 0.05	0.05
Toluene	μg/g	0.2	< 0.2	0.2
Trichloroethane,1,1,1-	μg/g	0.02	< 0.02	0.05
Trichloroethane,1,1,2-	μg/g	0.02	< 0.02	0.05
Trichloroethylene	μg/g	0.05	< 0.05	0.05
Trichlorofluoromethane	μg/g	0.02	< 0.02	0.05
Vinyl Chloride	μg/g	0.02	< 0.02	0.02
Xylene, m,p-	μg/g	0.03	< 0.03	
Xylene, o-	μg/g	0.03	< 0.03	
Xylene, m,p,o-	μg/g	0.03	< 0.03	0.05
PHC F1 (C6-C10)	μg/g	10	< 10	17
PHC F2 (>C10-C16)	μg/g	5	< 5	10
PHC F3 (>C16-C34)	μg/g	10	27	240
PHC F4 (>C34-C50)	μg/g	10	24	120

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

R.L. = Reporting Limit

Steve Garrett

Test methods may be modified from specified reference method unless indicated by an *

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Director of Laboratory Services



Final Report

C.O.C.: --- REPORT No. B22-29497 (ii)

Report To:

GHD Limited455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22 DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

	Client I.D. Sample I.D. Date Collected		GS-1 B22-29497-1 12-Sep-22		O. Re Tbl. 1 - Agricultural	g. 153
Parameter	Units	R.L.				
% moisture	%		12.9			

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

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AVA



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DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

AVA

R.L. = Reporting Limit

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Final Report

C.O.C.: --- REPORT No. B22-29497 (iii)

Report To:

GHD Limited 455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22

DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER:

735-004065

WATERWORKS NO.

Parameter	Qty	Site Analyzed	Analyst Initials	Date Analyzed	Lab Method	Reference Method
SVOC	1	Kingston	law	19-Sep-22	C-NAB-S-001 (k)	EPA 8270

μg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in μg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in μ g/g, (F2-napth if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in μg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met. If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

 $\mathcal{A}\mathcal{U}$

R.L. = Reporting Limit

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Final Report

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Report To: GHD Limited

455 Phillip Street,

Waterloo Ontario N2L 3X2 Canada

Attention: Wesley Moore

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

Caduceon Environmental Laboratories

110 West Beaver Creek Rd Unit 14

Richmond Hill ON L4B 1J9

Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

	Client I.D. Sample I.D.		GS-1 B22-29497-1	O. Reg. 153 Tbl. 1 -
	Date Colle	ected	12-Sep-22	Agricultural Agricultural
Parameter	Units	R.L.		
Acenaphthene	μg/g	0.05	< 0.05	0.05
Acenaphthylene	μg/g	0.05	< 0.05	0.093
Anthracene	μg/g	0.05	< 0.05	0.05
Benzo(a)anthracene	μg/g	0.05	< 0.05	0.095
Benzo(a)pyrene	μg/g	0.05	< 0.05	0.05
Benzo(b)fluoranthene	μg/g	0.05	< 0.05	0.3
Benzo(b+k)fluoranthene	μg/g	0.05	< 0.05	
Benzo(g,h,i)perylene	μg/g	0.05	< 0.05	0.2
Benzo(k)fluoranthene	μg/g	0.05	< 0.05	0.05
Chrysene	μg/g	0.05	< 0.05	0.18
Dibenzo(a,h)anthracene	μg/g	0.05	< 0.05	0.1
Fluoranthene	μg/g	0.05	< 0.05	0.24
Fluorene	μg/g	0.05	< 0.05	0.05
Indeno(1,2,3,-cd)pyrene	μg/g	0.05	< 0.05	0.11
Methylnaphthalene,1-	μg/g	0.05	< 0.05	0.05
Methylnaphthalene,2-	μg/g	0.05	< 0.05	0.05
Methylnaphthalene 2-(1-)	μg/g	0.05	< 0.05	0.05
Naphthalene	μg/g	0.05	< 0.05	0.05
Phenanthrene	μg/g	0.05	< 0.05	0.19
Pyrene	μg/g	0.05	< 0.05	0.19

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

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Steve Garrett

Director of Laboratory Services



Final Report

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Waterloo Ontario N2L 3X2 Canada

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DATE RECEIVED: 14-Sep-22 DATE REPORTED: 20-Sep-22

SAMPLE MATRIX: Soil

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Tel: 289-475-5442 Fax: 289-562-1963

JOB/PROJECT NO.: 12583956-01

P.O. NUMBER: 735-004065

WATERWORKS NO.

Summary of Exceedances

O. Reg. 153 - Soil, Ground Water and Sediment Standards Tbl. 1 - Agricultural - Table 1 - Agricultural/Other Soil Std

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AVA



→ The Power of Commitment