Hydrogeological Assessment – Update 1

County Road 4, Peterborough, Ontario

Leahy Excavations Inc.

5 October 2023

→ The Power of Commitment

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1. Introduction

1.1 Purpose

With respect to comments and recommendations made by the Ministry of Environment, Conservation and Parks (MECP) dated April 27, 2023, GHD Limited (GHD) has prepared this Hydrogeological Assessment Update 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. 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 Update was completed to further 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 initial 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).

In order to address the comments and recommendations made by the MECP, GHD completed the following additional tasks at the Site:

3. Further exploration of the subsurface by completing the following:
    - Drilled five (5) boreholes, each terminated within bedrock, and installed monitoring wells in each of the boreholes;
    - Submitted soil samples for analysis of grain size and moisture content; and
    - Measured groundwater levels within the monitoring wells.

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 eleven (11) boreholes: MW1-22 through MW6-22 drilled on August 8, 2022, and MW2D-23, MW3D-23, MW5B-23, MW5D-23 and MW6D-23 drilled on June 12 and 16, 2023. The maximum depth of the boreholes was 10.6 m.

The geology underlying the Site to a depth of 10.6 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 in all locations to a maximum encountered depth of 9.1 m in MW6D-23. The till material was encountered in a very dense in-situ state.
- **Bedrock**: Some of the boreholes were advanced into the underlying limestone bedrock. Confirmed bedrock was encountered from 3.4 to 5.9 m. Shallow bedrock near the overburden interface was observed to be in a moderately weathered state, with competency increasing with depth in all locations. No significant vertical fractures / gaps or water bearing zone was identified within the bedrock during the drilling program. Fractures observed throughout the bedrock were horizontal and aligned with natural bedding planes.

The stratigraphic, coring and instrumentation logs, moisture and particle size analysis, and core photographs are presented in **Appendix B**.

4.5 Hydrogeology

4.5.1 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

4.5.2 Site Hydrogeology

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

4.5.2.1 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. Groundwater levels were measured August 22, 2022, October 26, 2022 and June 19, 2023. The water levels are summarized in the table below.

Table 2 Site Groundwater Depths

Monitoring Well	Ground Elevation (masl)	Depth of Well		Water Level (mbtp)	Groundwater Elevation (masl)	Water Level (mbtp)	Groundwater Elevation (masl)	Water Level (mbtp)	Groundwater Elevation (masl)
		mbgs	masl	August 22, 2022		October 26, 2022		June 19, 2023	
MW1-22	209.78	0.78	209.00	DRY	DRY	DRY	DRY	DRY	DRY
MW2-22	209.48	3.08	206.40	2.50	207.83	2.75	206.73	2.50	207.83
MW3-22	210.57	3.00	207.57	3.72	207.79	3.75	206.82	3.72	207.79
MW4-22	211.21	1.80	209.41	DRY	DRY	DRY	DRY	DRY	DRY
MW5-22	207.52	1.52	206.00	1.15	207.27	1.54	205.98	1.15	207.26
MW6-22	213.43	3.83	209.60	3.75	210.58	3.81	209.62	3.75	210.58
MW2D-23	209.44	7.79	201.65	-	-	-	-	6.25	203.93
MW3D-23	210.51	8.84	201.66	-	-	-	-	6.62	204.64
MW5B-23	207.51	4.96	202.55	-	-	-	-	4.90	203.42

Monitoring Well	Ground Elevation (masl)	Depth of Well		Water Level (mbtp)	Groundwater Elevation (masl)	Water Level (mbtp)	Groundwater Elevation (masl)	Water Level (mbtp)	Groundwater Elevation (masl)
		mbgs	masl	August 22, 2022		October 26, 2022		June 19, 2023	
MW5D-23	207.56	10.55	197.00	-	-	-	-	4.65	203.68
MW6D-23	213.28	8.85	204.43	-	-	-	-	4.63	209.47
mbgs = metres below ground surface, masl metres above sea level, mbtp = metres below top of pipe 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 6.25 mbtp. The shallow groundwater flow is in an east to southeast direction toward Meade Creek.

4.5.2.2 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	Gravelly Sand	FH-1	Bouwer-Rice	8.9×10^{-7}	1.0×10^{-6}
		RH-1	Bouwer-Rice	1.2×10^{-6}	
MW3-22	Gravelly Sand	FH-1	Bouwer-Rice	2.1×10^{-5}	2.1×10^{-5}
MW6-22	Silty Sand, with gravel and clay (SM)	FH-1	Bouwer-Rice	1.1×10^{-5}	3.5×10^{-6}
		RH-1	Bouwer-Rice	1.1×10^{-6}	
FH: falling head test; RH: rising head test *Geometric mean of falling and rising head tests.					

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

4.5.2.3 Vertical Hydraulic Gradient

The vertical hydraulic gradient was calculated for each of the nested monitoring wells. The results are summarized in the table below. The data suggests that there is a downward migration at MW2, MW3 and MW6 and a very slight upward migration of groundwater at MW5.

Nested Well Cluster	Monitoring Well	Screen Midpoint (masl)	Groundwater Elevation (masl)	Change in Groundwater Elevation (m)	Change in Screen Midpoint (m)	Vertical Hydraulic Gradient (m/m)
MW2	MW2-22	207.15	207.83	3.9	3.975	0.981
	MW2D-23	203.175	203.93			
MW3	MW3-22	208.32	207.79	3.15	5.135	0.613
	MW3D-23	203.185	204.64			
MW5	MW5B-23	203.30	203.42	-0.26	4.775	-0.054
	MW5D-23	198.525	203.68			
MW6	MW6-22	210.35	210.57	1.1	5.17	0.213
	MW6D-23	205.18	209.47			

4.5.3 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.

4.6 Site Water Quality

4.6.1 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. Groundwater samples were subsequently collected again on April 19, 2023 and analyzed for general chemistry. The analytical results are compared to the Ontario Drinking Water Quality Standards (ODWQS) and the MECP Table 8 Standards for all property use. The analytical data is summarized in **Tables 4** to **6**. The results meet the MECP Table 8 Standards. The results generally meet the ODWQS with the exception of hardness and turbidity from samples collected in 2022. Elevated hardness is common in Southern Ontario. The exceedances are not considered to be of an environmental concern for the ECA application. The Certificates of Analysis are presented in **Appendix E**.

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

Parameter – Inorganics	Units	Sample Identification				ODWQS	MECP Table 8 Standards
		MW2-22	MW6-22	MW2-22	MW6-22		
		Sample Date: August 17, 2022		Sample Date: April 19, 2023			
General Chemistry							
pH	No unit	7.86	7.90	7.96	8.02	6.5 – 8.5	NS
Conductivity	µmho/cm	749	649	423	647	NS	NS
Alkalinity	µg/L	253,000	280,000	195	206	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**	218	203	80,000 – 100,000	NS
Bromide	µg/L	< 400	< 400	-	-	NS	NS
Chloride	µg/L	47,400	36,900	59.7	11.5	250,000	NS
Fluoride	µg/L	< 100	< 100	<0.1	<0.1	1,500	NS
Nitrite (N)	µg/L	< 100	< 100	<0.05	<0.05	1,000	NS
Nitrate (N)	µg/L	7,900	400	<0.05	4.32	10,000	NS

Parameter – Inorganics	Units	Sample Identification				ODWQS	MECP Table 8 Standards
		MW2-22	MW6-22	MW2-22	MW6-22		
		Sample Date: August 17, 2022		Sample Date: April 19, 2023			
Sulphate	µg/L	40,000	8,000	37	3	500,000	NS
Colour	TCU	< 2	< 2	-	-	5	NS
Turbidity	NTU	**211**	**17.8**	5.1	0.7	5	NS
Total Organic Carbon	µg/L	1,700	1,700	-	-	NS	NS
Ammonia + Ammonium (N)	µg/L	< 10	< 10	0.08	<0.05	NS	NS
o-Phosphate (P)	µg/L	< 2	< 2	<0.004	<0.002	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	6
Arsenic	µg/L	0.2	0.1	-	-	25	25
Barium	µg/L	164	71	-	-	1,000	1,000
Beryllium	µg/L	< 2	< 2	-	-	NS	4
Boron	µg/L	59	13	-	-	5,000	5,000
Cadmium	µg/L	< 0.015	< 0.015	-	-	5	2.1
Calcium	µg/L	134,000	123,000	79.4	78.7	NS	NS
Chromium (total)	µg/L	< 2	< 2	-	-	50	50
Cobalt	µg/L	< 5	< 5	-	-	NS	3.8
Copper	µg/L	< 2	< 2	0.0296	0.0044	1,000	69
Iron	µg/L	< 5	< 5	<0.005	0.007	300	NS
Lead	µg/L	< 0.02	0.02	-	-	10	10
Magnesium	µg/L	9,670	5,390	4.70	1.41	NS	NS
Manganese	µg/L	30	7	0.001	<0.001	50	NS
Mercury	µg/L	< 0.02	< 0.02	-	-	1	0.29
Molybdenum	µg/L	2	0.3	-	-	NS	70
Nickel	µg/L	< 10	< 10	-	-	NS	100
Potassium	µg/L	4,600	1,700	0.8	0.1	NS	NS
Selenium	µg/L	< 1	< 1	-	-	10	10
Silver	µg/L	< 0.1	< 0.1	-	-	NS	1.2
Sodium	µg/L	37,800	6,200	20.0	13.3	200,000 (aesthetic)	NS
Thallium	µg/L	< 0.05	< 0.05	-	-	NS	2
Tin	µg/L	< 50	< 50	-	-	NS	NS
Titanium	µg/L	< 5	< 5	-	-	NS	NS
Uranium	µg/L	0.38	0.35	-	-	20	20
Vanadium	µg/L	< 5	< 5	-	-	NS	6.2
Zinc	µg/L	< 5	< 5	0.011	0.010	5,000	890

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

Table 5 Groundwater Quality: PHCs

Parameter – PHCs (F1-F4)	Units	Sample Identification		MECP Table 8 Standards
		MW2-22	MW6-22	
		Sample Date: August 17, 2022		
F1 (C_6-C_{10})	µg/L	< 25	< 25	420
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
< indicates parameter is below the laboratory reporting limit. Note: No ODWQS for PHCs				

Table 6 Groundwater Quality: VOCs

Parameter – VOCs	Units	Sample Identification		MECP Table 8 Standards	ODWQS
		MW2-22	MW6-22		
		Sample Date: August 17, 2022			
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

Parameter – VOCs	Units	Sample Identification		MECP Table 8 Standards	ODWQS
		MW2-22	MW6-22		
		Sample Date: August 17, 2022			
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
< indicates parameter is below the laboratory reporting limit. NS – No Standard					

4.6.1.1 Surface Water Quality

Two (2) surface water samples were collected on August 17, 2022 and analyzed for general chemistry, 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. Subsequent surface water samples were collected on April 19, 2023 in accordance with GHD's previous recommendations for seasonal monitoring data. These samples were analyzed for general chemistry. 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 taken in 2022. 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	Creek #1	Creek #2	PWQO[1]	Interim PWQO[2]
		August 17, 2022		April 19, 2023			
General Chemistry							
pH, Lab	No unit	8.28	8.21	8.05	8.09	6.5 – 8.5	NV
Conductivity	µmho/cm	849	720	700	627	NV	NV
Alkalinity(CaCO3)	µg/L	279,000	255,000	242	235	<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	255	240	NV	NV
Bromide	µg/L	< 400	< 400	-	-	NV	NV
Chloride	µg/L	106,000	81,500	79.1	59.5	NV	NV
Fluoride	µg/L	< 0.1	< 0.1	<0.1	<0.1	NV	NV
Nitrite (N)	µg/L	< 0.1	< 0.1	<0.05	<0.05	NV	NV
Nitrate (N)	µg/L	0.8	0.1	0.15	<0.05	NV	NV
Sulphate	µg/L	10	4	7	8	NV	NV
Colour	µg/L	28	47	-	-	NV	NV
Turbidity	µg/L	2.7	7	0.7	0.6	NV	NV
Total Organic Carbon	µg/L	5.8	9.4	-	-	NV	NV
Ammonia (N)-Total	µg/L	0.05	0.57	<0.05	0.07	20	NV
o-Phosphate (P)	µg/L	0.004	0.004	<0.002	<0.002	NV	NV
Phosphorus-Total	µg/L	0.05	0.09	-	-	NV	10
Silica	µg/L	8,320	14,900	-	-	NV	NV
Metals							
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

Parameter – Inorganics	Units	Creek #1	Creek #2	Creek #1	Creek #2	PWQO[1]	Interim PWQO[2]
		August 17, 2022		April 19, 2023			
Cadmium (total)	µg/L	< 0.015	< 0.015	-	-	0.2	0.1
Calcium	µg/L	118,000	104,000	93.2	87.1	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	0.0076	0.0044	NV	5
Iron (total)	µg/L	112	**520**	0.035	0.056	300	NV
Lead (total)	µg/L	0.05	0.1	-	-	5	1
Magnesium (total)	µg/L	9,510	8,420	5.37	5.31	NV	NV
Manganese (total)	µg/L	31	166	0.018	0.011	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	1.8	1.9	NV	NV
Selenium (total)	µg/L	< 1	< 1	-	-	100	NV
Silver (total)	µg/L	< 0.1	< 0.1	-	-	0.1	NV
Sodium (total)	µg/L	-	-	42.1	32.5	200,000(aesthetic)	NV
Strontium (total)	µg/L	434	363	-	-	NV	NV
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	0.023	0.029	30	20

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

Table 8 Surface Water Quality: PHCs

Parameter – PHCs (F1-F4)	Units	Creek #1	Creek #2	PWQO[1]	Interim PWQO[2]
		August 17, 2022			
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.
(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

Table 9 Surface Water Quality: VOCs

Parameter – Organics	Units	Creek #1	Creek #2	PWQO[1]	Interim PWQO[2]
		September 12, 2022			
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

Parameter – Organics	Units	Creek #1	Creek #2	PWQO[1]	Interim PWQO[2]
		September 12, 2022			
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
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.
(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

4.7 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 Table 1 Standards are more conservative than the Table 8 Standards which is why they were chosen in the data comparison. 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
pH	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
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 laboratory reporting limit. NS – no standard; HWS – hot water soluble			

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 laboratory reporting limit.			

Table 12 Soil Quality: VOCs

Parameter – VOCs	Units	Sample Identification GS-1 Sample Date: September 12, 2022	MECP Table 1 Standards
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

Parameter – VOCs	Units	Sample Identification	MECP Table 1 Standards
		GS-1	
		Sample Date: September 12, 2022	
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
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 laboratory reporting limit.			

Table 13 Soil Quality: PAHs

Parameter – VOCs	Units	Sample Identification	MECP Table 1 Standards
		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

Parameter – VOCs	Units	Sample Identification	MECP Table 1 Standards
		GS-1	
		Sample Date: September 12, 2022	
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
<: parameter is below the laboratory reporting limit. NS – no standard			

4.8 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 met the PWQOs at the upgradient and downgradient sampling locations with the exception of iron from the downgradient location (Creek #2). Subsequent surface water sampling met all PWQOs at both sampling locations.
– Baseline groundwater quality from monitoring wells MW2-22 and MW6-22 met the MECP Table 8 Standards for all property use and generally meets the ODWQS with the exception of hardness and turbidity. Subsequent monitoring of the wells met with MECP Table 8 Standards and all ODWQS.

- 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 which will be determined once a Design and Operations report has been prepared.
- The Site geology consists of gravelly sand underlain by glacial till and subsequent limestone bedrock. At depths ranging from 3.4 m to 5.9 m, bedrock was encountered within the boreholes MW2D-23, MW3D-23 and MW5D-23. Bedrock coring was conducted to confirm bedrock quality.
- 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, October 26, 2022 and June 19, 2023 ranged from 1.15 to 3.75 mbgs. The shallow groundwater flow is in an east to southeast direction toward Meade Creek.
- Groundwater levels were measured within the intermediate and deep wells on June 19, 2023 and ranged between 4.63 to 6.62 mbgs. Deeper groundwater flow is in an east to southeast direction toward Meade Creek.
- Given the results of the groundwater chemical analysis, the existing groundwater elevations, hydraulic conductivity data, and the in-situ nature of the existing soil and bedrock, Though there is evidence of vertical migration of groundwater throughout the Site, it is inferred to be minor based on the relatively small downward vertical gradient calculated for nested monitoring well locations MW2, MW3 and MW6. It is noted that MW5 displayed an upward vertical gradient.
- The bedrock is overlaid by a very dense layer of glacial till which further reduces the amount of vertical groundwater migration at the Site.
- 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 expected to impact the soil quality or downgradient groundwater or surface water quality.

5.2 Recommendations

GHD recommends that a monitoring program be continued at the Site to compare future analytical data with the current data and assess any trends or changes in the data. The monitoring is recommended to continue to evaluate 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:

- Continued surface water sampling at the locations Creek #1 and Creek #2.
- Groundwater sampling at select shallow and deep monitoring well locations. Water levels should continue to 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.

Once MECP technical support review is completed, a Design and Operational Report will be developed for the Site. Operational recommendations summarized from the MECP memo include:

- The settling pond that receives hydrovac material be sampled on a regular basis and that visual / olfactory observation of hydrovac material is undertaken with each load received at the Site. If a sheen or odour (e.g. petroleum hydrocarbon sheen or odour) is observed then the material should be contained and appropriate sampling should be undertaken.
- Incoming soil quality should be specified, in terms of quantity and quality, as the level of contamination will drive the risk for potential impacts to receptors. The owner or operator of a reuse site and the qualified person must evaluate the potential cumulative impact of soil of various qualities as per Reg. 406/19. A design and operations

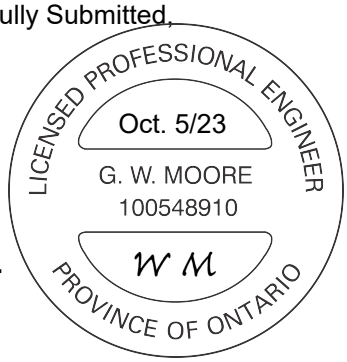
report will be prepared for the Site which will outline the minimum soil quality standards which must be met for incoming excess soil.

– A detailed monitoring plan proposal, with sampling schedules and additional monitoring wells that may be installed downgradient from the soil stock location. Controls and monitoring of incoming material may not require the installation of new wells.

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



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Senior Geoscientist, Project Director

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

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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.

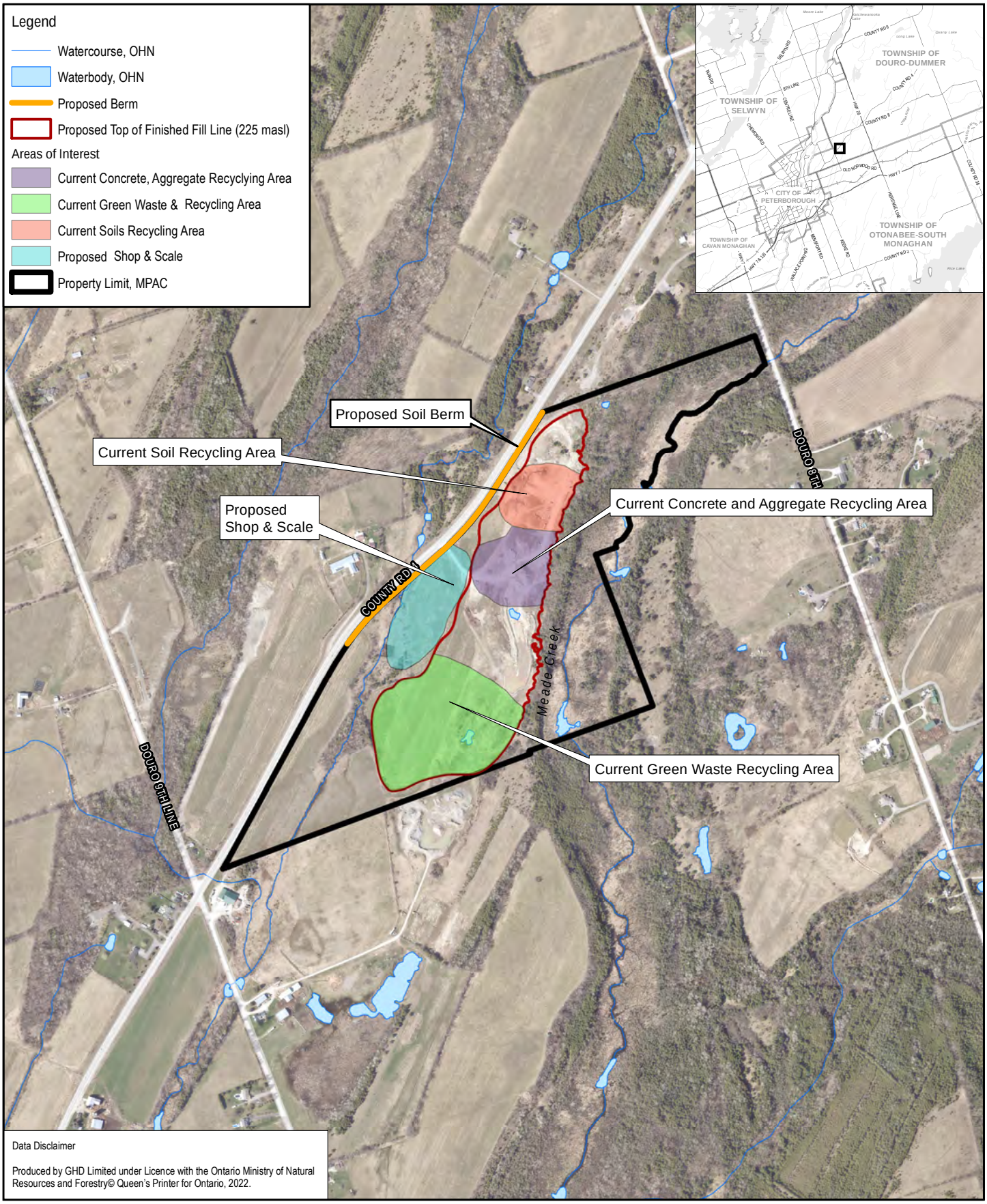
GHD otherwise disclaims responsibility to any person other than Leahy Excavations Inc. arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

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.

Figures



1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

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

Hydrogeological Assessment

Site Location Plan

Project No. 12583956
Revision No.
Date Jan 18, 2023

Figure 1

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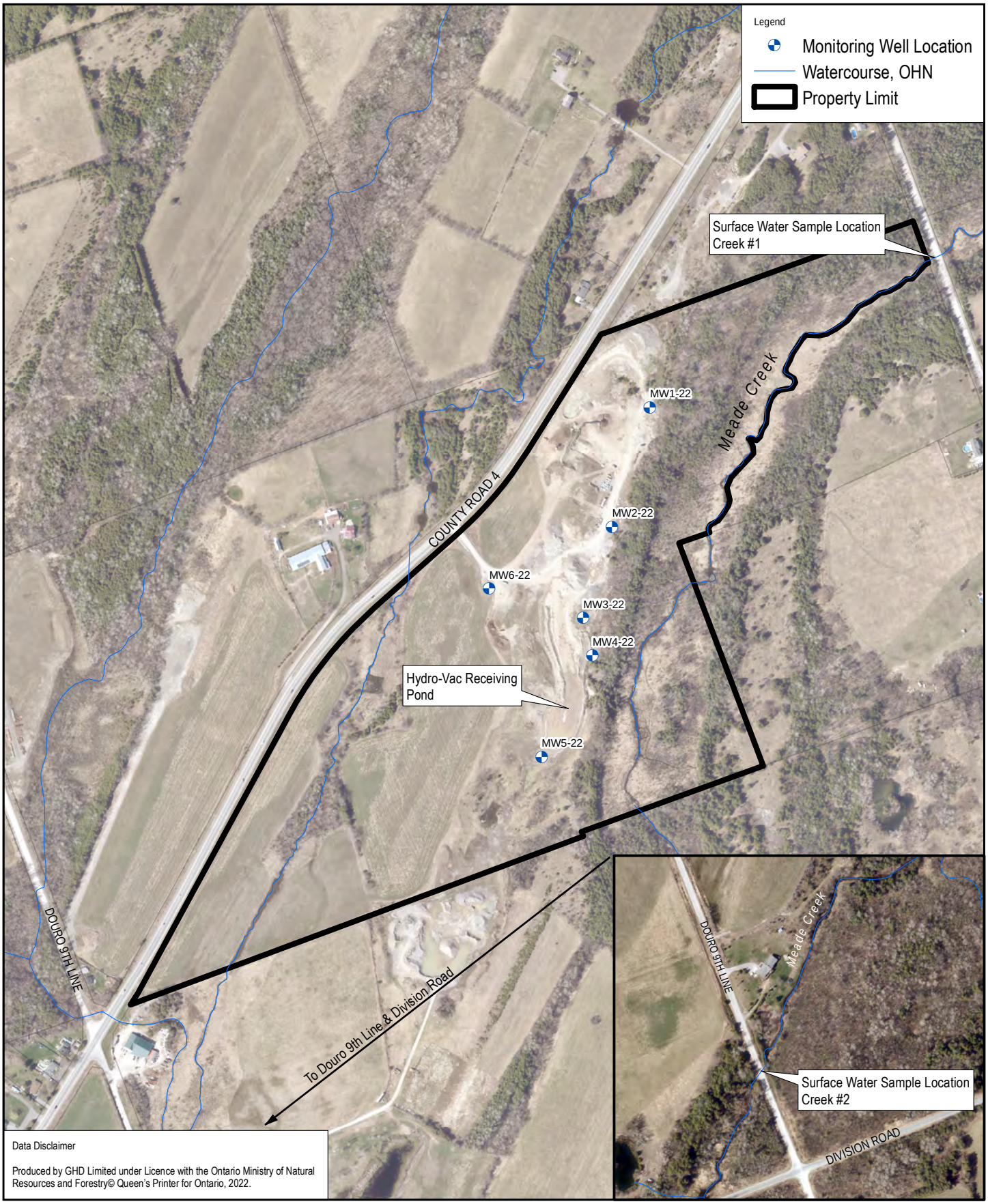

Data Disclaimer

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1 cm = 68 meters

0 40 80 120 160

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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

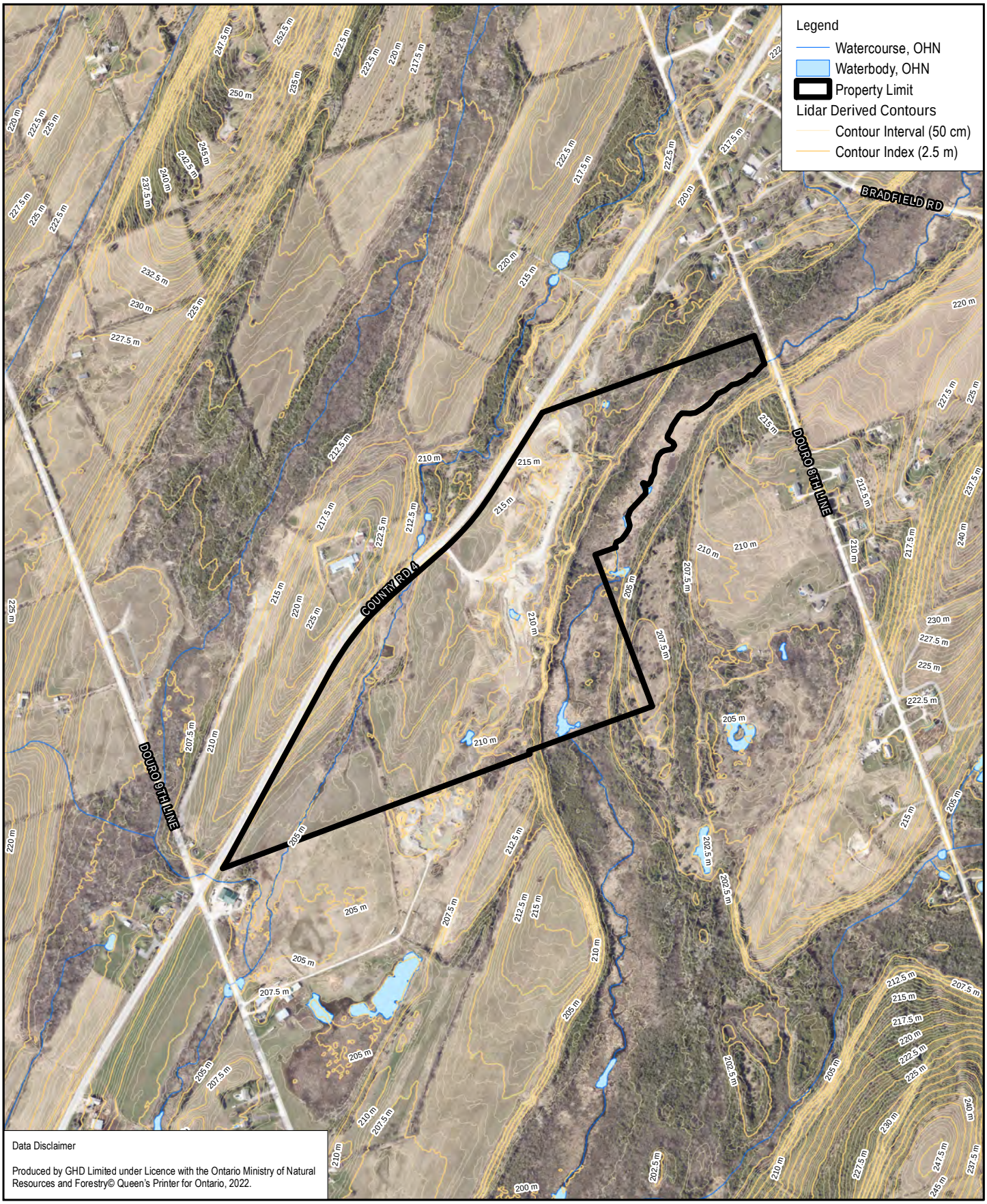
Hydrogeological Assessment

Investigative Locations

Project No. 12583956
Revision No.
Date Dec 2, 2022

Figure 2

Image Source: © City of Peterborough, 2022.



1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

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

Hydrogeological Assessment

Regional Topography

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

Figure 3

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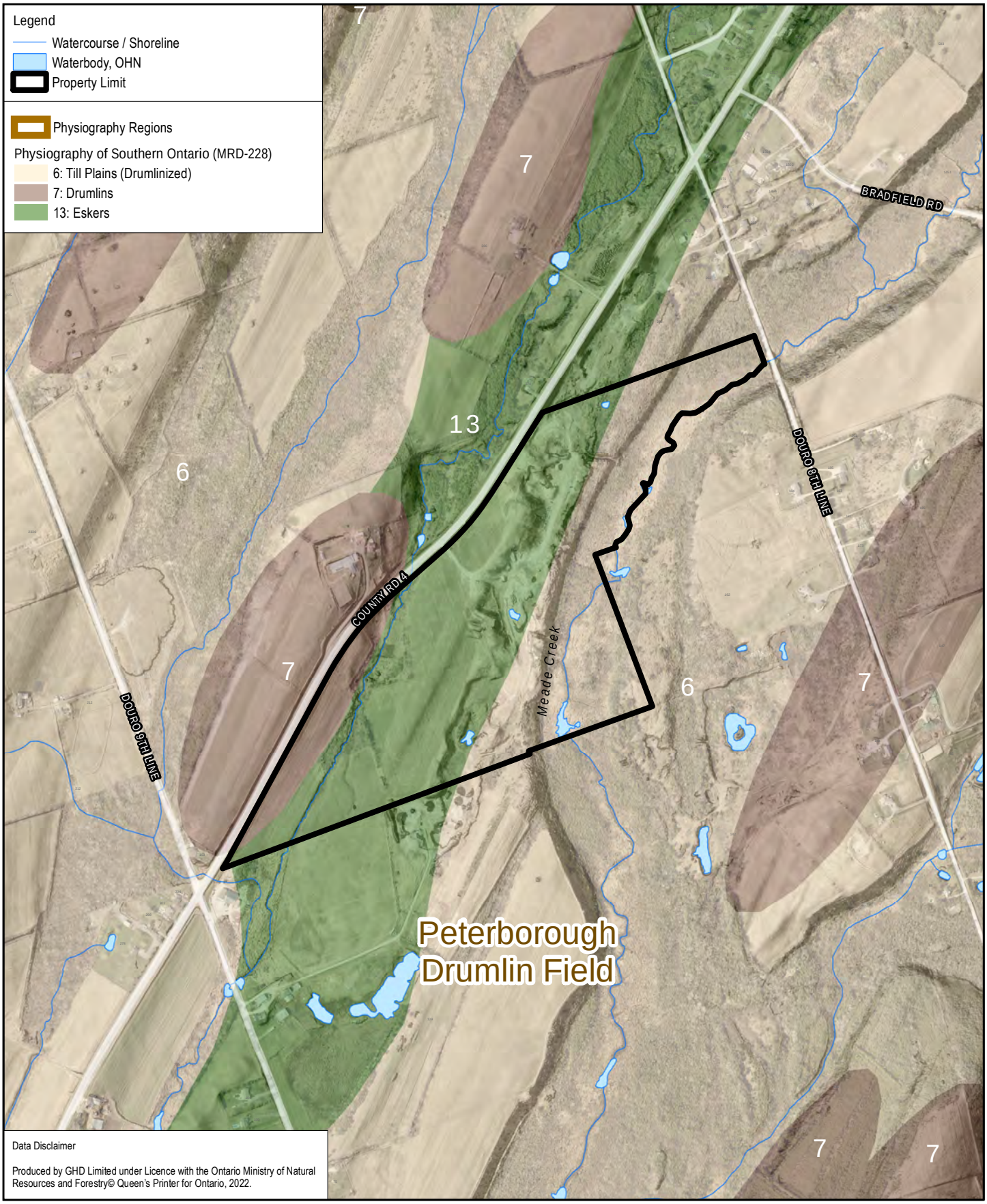
Print date: 08 Sep 2022 - 13:58

Image Source: © City of Peterborough, 2022; Data Source: ODTM County of Peterborough 2016-217 (50 cm).



1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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

Hydrogeological Assessment

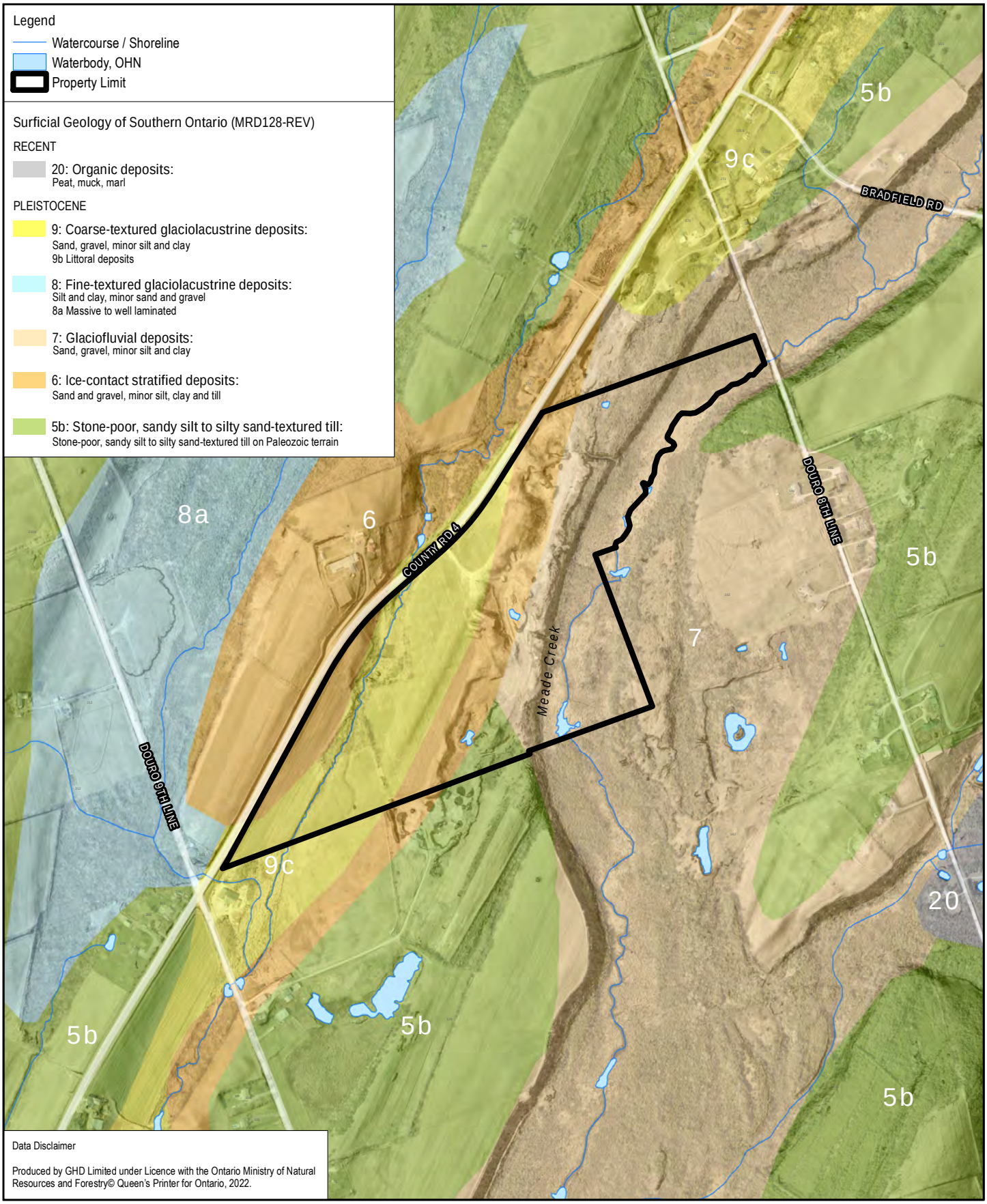
Physiography

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

Figure 4

Q:\GIS\PROJECTS\12583000s\12583956\Layouts\202209_HYD001\12583956_202209_HYD001_GIS004 - Physiography.mxd
Print date: 08 Sep 2022 - 14:49

Data source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 228 ISBN 978-1-4249-5158-1.,



1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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

Hydrogeological Assessment

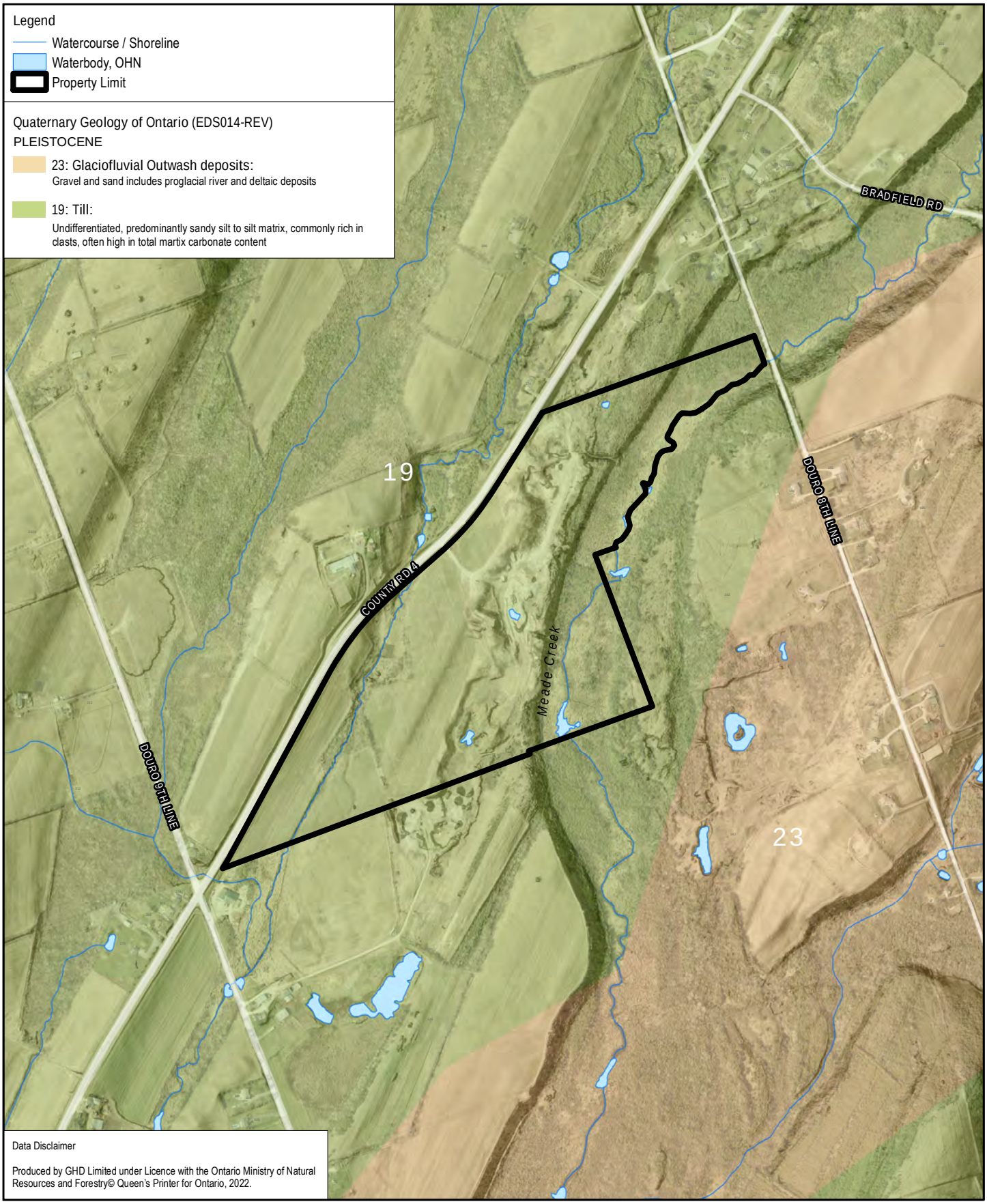
Surficial Geology

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

Figure 5

Q:\GIS\PROJECTS\12583000s\12583956\Layouts\202209_HYD001\12583956_202209_HYD001_GIS005 - Surficial Geology.mxd
Print date: 08 Sep 2022 - 15:10

Data source: MRD128-REV. Ontario Geological Survey 2010. Surficial geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release—Data 128 – Revised., © City of Peterborough, 2022.



1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

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

Hydrogeological Assessment

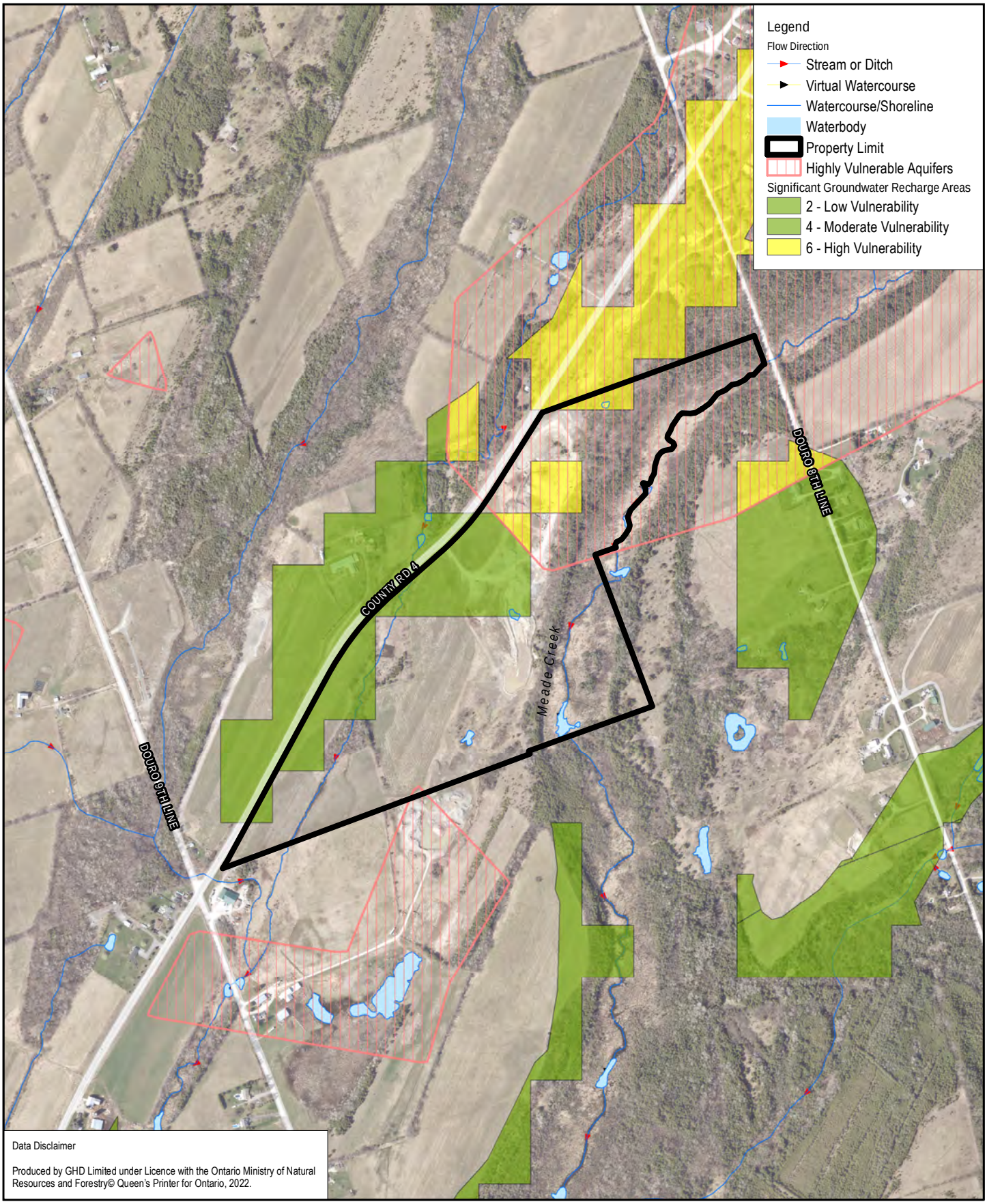
Quaternary Geology

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

Figure 6

Q:\GIS\PROJECTS\12583000s\12583956\Layouts\202209_HYD001\12583956_202209_HYD001_GIS006 - Quaternary Geology.mxd
Print date: 08 Sep 2022 - 15:31

Data source: EDS014-REV. Ontario Geological Survey, 1997. Quaternary geology, seamless coverage of the province of Ontario: Ontario Geological Survey, Data Set 14., © City of Peterborough, 2022.



Data Disclaimer

Produced by GHD Limited under Licence with the Ontario Ministry of Natural Resources and Forestry© Queen's Printer for Ontario, 2022.

1 cm = 100 meters

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

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

Hydrogeological Assessment

Source Protection

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

Figure 7

O:\GIS\PROJECTS\12583000s\12583956\Layouts\202209_HYD001\12583956_202209_HYD001_GIS007 - Source Protection.mxd
Print date: 08 Sep 2022 - 15:40

Data source: Source Protection Information Atlas. Ministry of Environment, Conservation and Parks. Web Application., © City of Peterborough, 2022.

1 cm = 36 meters

0 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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

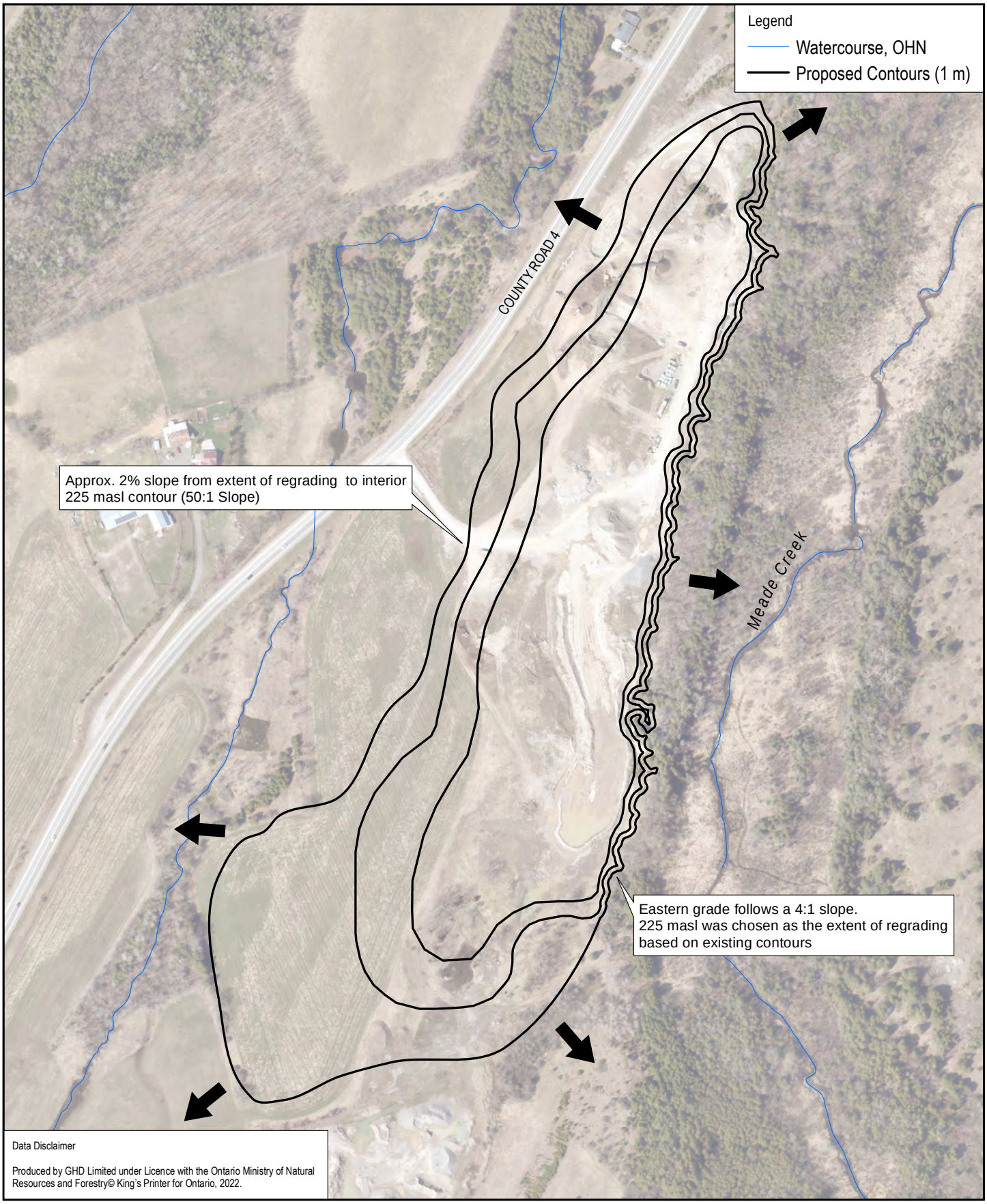
Existing Contours

Project No. 12583956
Revision No.
Date Jan 18, 2023

Figure 8

O:\GIS\PROJECTS\12583000s\12583956\Layouts\202211_CTR001\12583956_202211_CTR001_GIS001 - Existing Contours.mxd
Print date: 18 Jan 2023 - 15:35

Image Source: © City of Peterborough, 2022.



1 cm = 38 meters

0 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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

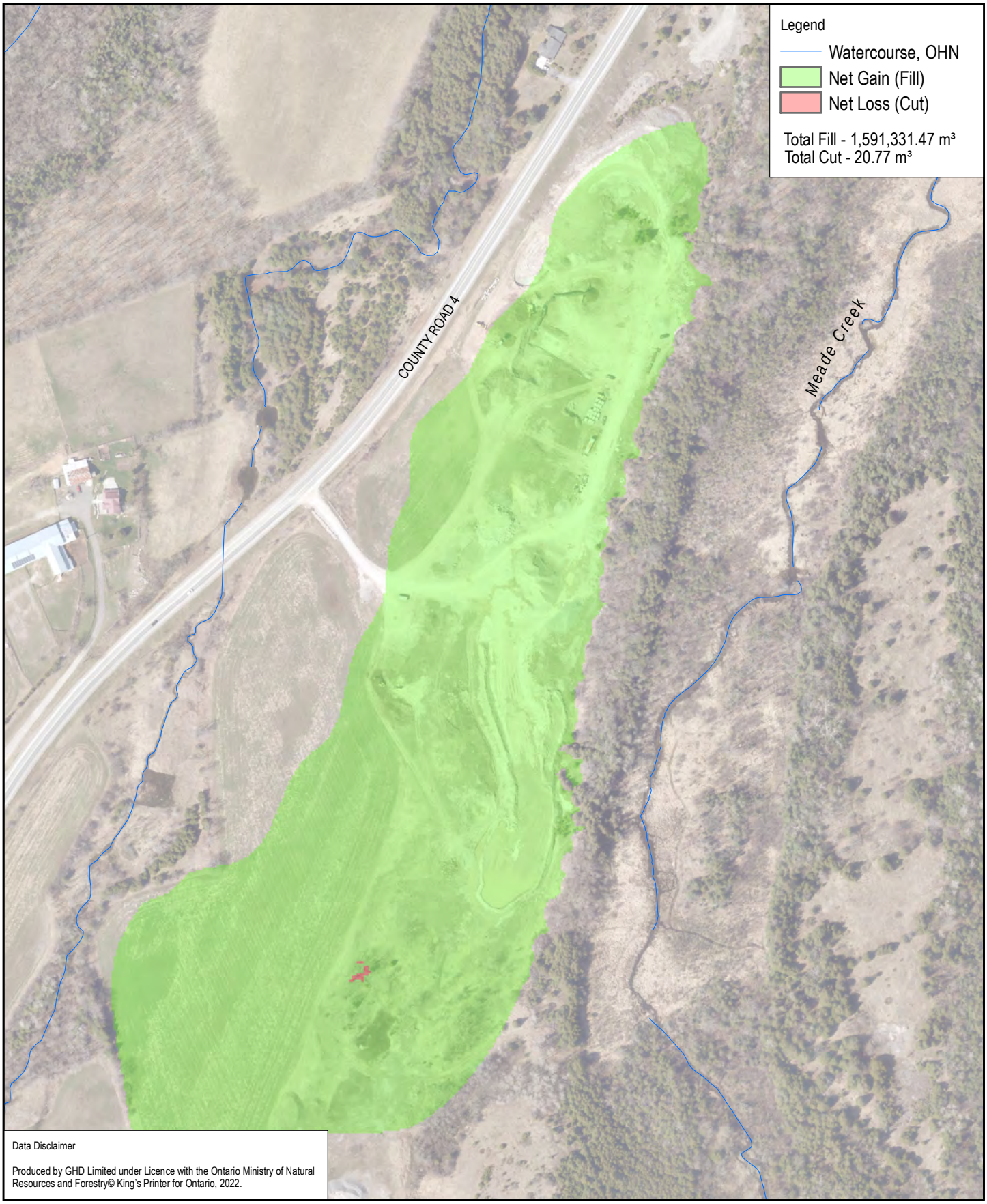
Proposed Contours

Project No. 12583956
Revision No.
Date Jan 18, 2023

Figure 9

O:\GIS\PROJECTS\12583000s\12583956\Layouts\202211_CTR001\12583956_202211_CTR001_GIS002 - Proposed Contours.mxd
Print date: 18 Jan 2023 - 16:15

Image Source: © City of Peterborough, 2022.



1 cm = 36 meters

0 25 50 75 100

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

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. 12583956
Revision No.
Date Jan 18, 2023

Figure 10

O:\GIS\PROJECTS\12583000s\12583956\Layouts\202211_CTR001\12583956_202211_CTR001_GIS003 - Cut-Fill Analysis.mxd
Print date: 18 Jan 2023 - 16:15

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.

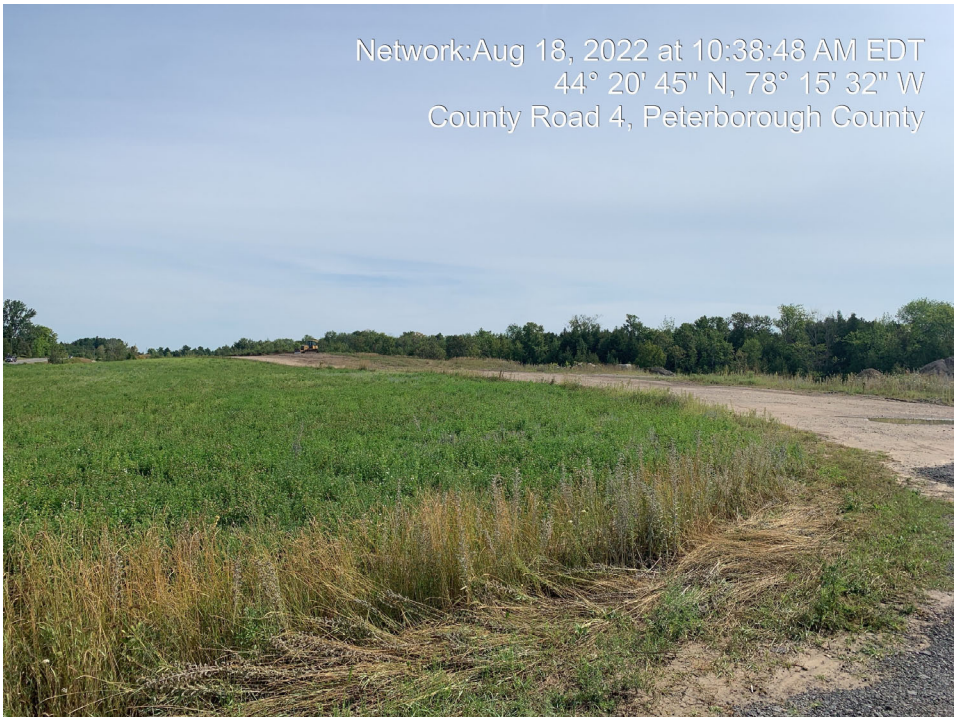


Photo 2 - View of the Site, facing east, showing future soil filling area in background

Site Photographs

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.: B-1

BOREHOLE No.: MW1-22

ELEVATION: 209.78 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA					
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	PID	Penetration Index / RQD %	SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa
metres	209.78		GROUND SURFACE				%	ppm	N	10 20 30 40 50 60 70 80 90
			GRAVELLY SAND - Brown, Very Dense, Moist	0.9 — Riser packed in Bentonite; 0.3 — 0.5 — Screen packed in Sand; 1.2 —		SS-1	78		50+	
0.5										
						SS-2	100		50+	
1.0										
	208.53		**NOTES:** - Inferred bedrock at 1.24 mbgs.							
1.5										
2.0										
2.5										
3.0										
3.5										
4.0										
4.5										

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956-01 ENCLOSURE No.: B-2

BOREHOLE No.: MW2-22

ELEVATION: 209.48 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA				
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	PID	Penetration Index / RQD %
metres	209.48		GROUND SURFACE	0.9			%	ppm	N
0.5			**GRAVELLY SAND** - Light Brown, Compact, Moist	Riser packed in Bentonite		SS-1	67		25
1.0	208.72		Sand coarsens slightly	1.2 Riser packed in Sand		SS-2	83		31
1.5				1.5 WL 1.7 8/17/2022					
2.0	207.50		Wet	Screen packed in Sand		SS-3	67		37
2.5	207.19		**TILL** - Gravelly Sand, Trace Silt and Clay, Very Dense			SS-4	92		97
3.0	206.43		**NOTES:** - Auger Refusal, inferred bed rock at 3.05 mbgs.	3.0					
3.5									
4.0									
4.5									

SCALE FOR TEST RESULTS
50kPa 100kPa 150kPa 200kPa
10 20 30 40 50 60 70 80 90

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956-01 ENCLOSURE No.: B-3

BOREHOLE No.: MW3-22

ELEVATION: 210.57 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	MONITOR WELL	State	Type and Number	Recovery	PID	Penetration Index / RQD %
metres	210.57		GROUND SURFACE	0.9			%	ppm	N
0.5			**GRAVELLY SAND** - Brown, Dense, Moist	Riser packed in Bentonite		SS-1	83		32
	209.81		Silty						
1.0	209.66		Grading Grey			SS-2A	88		4
	209.51		Moist-Wet						
	209.35		**SANDY SILT** - Trace Gravel and Clay, Compact, Trace Organics	1.2 Riser packed in Sand		SS-2B			
1.5				1.5					
	209.05		**GRAVELLY SAND** - Brown, Compact, Moist	Screen packed in Sand		SS-3	96		29
2.0									
	208.29		**TILL** - Gravelly Sand, Trace Silt, Brown, Dense, Moist-Wet			SS-4	100		50+
2.5				WL 2.8 8/22/2022					
3.0				3.0					
	207.53		**NOTES:** - Augered to 3.05 mbgs for monitoring well install. (Inferred Bedrock)						
3.5									
4.0									
4.5									

SCALE FOR TEST RESULTS
50kPa 100kPa 150kPa 200kPa
10 20 30 40 50 60 70 80 90

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956-01 ENCLOSURE No.: B-4

BOREHOLE No.: MW4-22

ELEVATION: 211.21 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA				
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	PID	Penetration Index / RQD %
metres	211.21		GROUND SURFACE				%	ppm	N
			GRAVELLY SAND - Brown, Compact, Moist	0.7 Riser packed in Bentonite; 0.6 Riser packed in Sand; 0.9 Screen packed in Sand; 1.8		SS-1	67		10
0.5									
1.0						SS-2	83		27
1.5									
2.0						SS-3	67		29
	208.92		Dense						
2.5						SS-4	100		34
3.0	208.31		**NOTES:** - Auger Refusal, inferred bed rock at 2.90 mbgs. - Borehole caved to 1.83 mbgs.						
3.5									
4.0									
4.5									

SCALE FOR TEST RESULTS: 50kPa 100kPa 150kPa 200kPa; 10 20 30 40 50 60 70 80 90

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956-01 ENCLOSURE No.: B-5

BOREHOLE No.: MW5-22

ELEVATION: 207.51 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

SCALE		STRATIGRAPHY		MONITOR WELL	SAMPLE DATA					
Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK		State	Type and Number	Recovery	PID	Penetration Index / RQD %	SCALE FOR TEST RESULTS 50kPa 100kPa 150kPa 200kPa
metres	207.51		GROUND SURFACE	0.9			%	ppm	N	10 20 30 40 50 60 70 80 90
0.5			**GRAVELLY SAND** - Brown, Very Dense, Moist	WL 0.2 8/22/2022		SS-1	84		50+	
	206.90		**TILL** - Silty Sand, With Gravel, Brown, Very Dense, Moist	0.6 Riser packed in Sand 0.9		SS-2	100		50+	
1.0				Screen packed in Sand						
1.5	205.99		**NOTES:** - Auger Refusal, inferred bed rock at 1.52 mbgs.	1.5						
2.0										
2.5										
3.0										
3.5										
4.0										
4.5										

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956-01 ENCLOSURE No.: B-6

BOREHOLE No.: MW6-22

ELEVATION: 213.43 m

BOREHOLE LOG

Page: 1 of 1

CLIENT: Leahy Excavations Inc.

PROJECT: Environmental Compliance Approval for Soil Bank

LOCATION: Part lot 3, Concession 9, County Road 4, Peterborough, Ontario

DESCRIBED BY: J. Scott CHECKED BY: W. Moore

DATE (START): 8 August 2022 DATE (FINISH): 8 August 2022

LEGEND

- SS Split Spoon
- ST Shelby Tube
- RC Rock Core
- Water Level
- Water content (%)
- Atterberg limits (%)
- N Penetration Index based on Split Spoon sample
- N Penetration Index based on Dynamic Cone sample
- Cu Shear Strength based on Field Vane
- Cu Shear Strength based on Lab Vane
- S Sensitivity Value of Soil
- Shear Strength based on Pocket Penetrometer

Depth BGS	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	MONITOR WELL	State	Type and Number	Recovery	PID	Penetration Index / RQD %
metres	213.43		GROUND SURFACE	0.9			%	ppm	N
	213.40		**TOPSOIL** - (25 mm)						
	213.27		**GRAVELLY SAND** - Brown, Compact, Moist						
0.5			**SAND** - Trace Silt, Compact, Moist	Riser packed in Bentonite		SS-1			15
	212.67		**SILTY SAND** - Compact, Moist						
1.0						SS-2			10
1.5	211.90		**TILL** - Silty Sand, With Gravel, Trace Clay, Compact, Moist						
						SS-3	63		11
2.0				2.0 Riser packed in Sand					
	211.14		Very Dense	2.3		SS-4	84		50+
2.5				Screen packed in Sand					
3.0				WL 2.9 8/17/2022					
	210.38		Wet						
3.5						SS-5			52
	209.62		**NOTES:** - Auger Refusal, inferred bed rock at 3.81 mbgs.	3.8					
4.0									
4.5									

SCALE FOR TEST RESULTS

50kPa 100kPa 150kPa 200kPa

10 20 30 40 50 60 70 80 90

NOTES:

File: \\GHDNET\GHD\CA\PETERBOROUGH\PROJECTS\662\12583956\WORKSHARE\FIELD\12583956-FLD-22-08-12 BOREHOLE LOGS.GPJ Library File: GHD_GEOTECH_V10.GLB Report: BOREHOLE LOG Date: 1/12/22

REFERENCE No.: 12583956 ENCLOSURE No.:

BOREHOLE No.: MW2D-23
ELEVATION: 209.44 m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Leahy Excavating
PROJECT: Excess Soil Management
LOCATION: County Road 4, Peterborough, ON
DESCRIBED BY: J. Scott CHECKED BY: W. Moore
DATE (START): 12 June 2023 DATE (FINISH): 12 June 2023

NORTHING: 4913991 EASTING: 718639

LEGEND

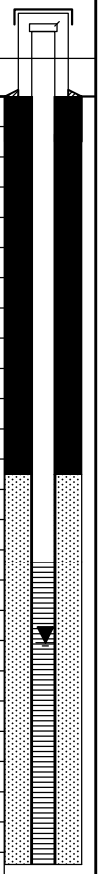
- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery/ TCR(%)	Moisture Content	Blows per 15cm/ RQD(%)	'N' Value/ SCR(%)
		209.44		GROUND SURFACE				%		
0				**FILL:**						
1				**GRAVELLY SAND**, compact, brown, moist						
2				Coarse						
3	1.0									
4										
5										
6										
7	2.0			Wet						
8		207.15		**TILL:**						
9				**GRAVELLY SAND**, with silt, trace clay, very dense						
10	3.0	206.54		**BEDROCK:**						
11				**LIMESTONE** with shale partings, grey						
12										
13	4.0					RC-1	107	--	60	--
14										
15										
16	5.0									
17										
18						RC-2	97	--	85	--
19										
20	6.0									
21										
22										
23	7.0					RC-3	100	--	67	--
24										
25				Vertical fracture (approx. 12" long)						
26	8.0	201.67		**END OF BOREHOLE**						
27				**NOTES:**						
28				- End of borehole at 7.7 mbgs						
29				- Groundwater seepage encountered at 3.0 mbgs (206.4 masl)						
30	9.0			- mbgs denotes 'metres below ground surface'						
31										
32				**WATER LEVELS:**						
33	10.0			06/19/23 - 5.51 mbgs						
34										
35										
36	11.0									
37										
38										
39	12.0									
40										
41										
42										
43	13.0									
44										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

m
m
m
3.81 m
4.69 m
6/19/2023
7.74 m



File: N:\CA\PETERBOROUGH\PROJECTS\66211258395 6\WORKSHARE\FIELD\125883956-23-06-19 LEAHY EXCAVATING BOREHOLE LOGS RS.GPJ Library File: GHD_GEOTECH_V05.GLB Report: SOIL LOG WITH GRAPH+WELL Date: 3/10/23

REFERENCE No.: 12583956 ENCLOSURE No.:

BOREHOLE No.: MW3D-23
ELEVATION: 210.51 m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Leahy Excavating
PROJECT: Excess Soil Management
LOCATION: County Road 4, Peterborough, ON
DESCRIBED BY: J. Scott CHECKED BY: W. Moore
DATE (START): 16 June 2023 DATE (FINISH): 16 June 2023

NORTHING: 4913868 EASTING: 718602

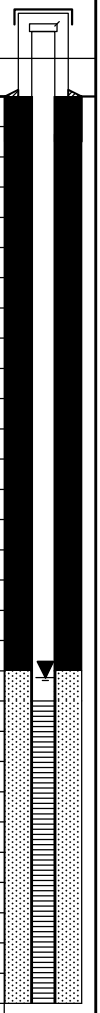
LEGEND

- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery/ TCR(%)	Moisture Content	Blows per 15cm/ RQD(%)	'N' Value/ SCR(%)
		210.51		GROUND SURFACE				%		
0				**FILL:**						
1				**GRAVELLY SAND**, dense, brown, moist						
2				Silty						
3	1.0			Grey						
4		209.29		**SANDY SILT**, trace gravel, trace clay, trace organics, soft, brown, moist						
5		208.99		**GRAVELLY SAND**, compact, brown, moist						
6										
7	2.0									
8		208.22		**TILL:**						
9				**GRAVELLY SAND**, with silt, brown, moist to wet						
10	3.0			Cobbles, very dense						
11										
12						RC-1	35	--	0	--
13	4.0									
14										
15										
16	5.0									
17						RC-2	67	--	8	--
18										
19		204.82		**BEDROCK:**						
20	6.0			**LIMESTONE**, with shale partings, grey						
21										
22										
23	7.0					RC-3	98	--	68	--
24										
25										
26	8.0									
27										
28						RC-4	100	--	82	--
29										
30	9.0	201.37		**END OF BOREHOLE**						
31				**NOTES:**						
32				- End of borehole at 9.1 m bgs						
33	10.0			- Groundwater seepage encountered at 3.0 m bgs (207.5 masl)						
34				- mbgs denotes 'metres below ground surface'						
35										
36	11.0			**WATER LEVELS:**						
37				06/19/23 - 5.86 m bgs						
38										
39										
40	12.0									
41										
42										
43	13.0									
44										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90



File: N:\CA\PETERBOROUGH\PROJECTS\66211258395 6\WORKSHARE\FIELD\125883956-23-06-19 LEAHY EXCAVATING BOREHOLE LOGS RS.GPJ Library File: GHD_GEOTECH_V05.GLB Report: SOIL LOG WITH GRAPH+WELL Date: 3/10/23

REFERENCE No.: 12583956 ENCLOSURE No.:

BOREHOLE No.: MW5B-23
ELEVATION: 207.51 m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Leahy Excavating
PROJECT: Excess Soil Management
LOCATION: County Road 4, Peterborough, ON
DESCRIBED BY: J. Scott CHECKED BY: W. Moore
DATE (START): 12 June 2023 DATE (FINISH): 12 June 2023

NORTHING: 4913688 EASTING: 718545

LEGEND

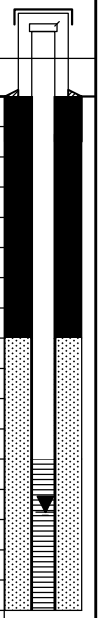
- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery/ TCR(%)	Moisture Content	Blows per 15cm/ RQD(%)	'N' Value/ SCR(%)
		207.51		GROUND SURFACE				%		
0				**FILL:**						
1				**GRAVELLY SAND**, very dense, brown,						
2		206.90		moist, rootlets in top inch						
3	1.0			**TILL:**						
4				**SILTY SAND**, with gravel, trace clay,						
5				very dense, brown, moist	☒	SS-1	100	--	50/6"	50+
6										
7	2.0									
8										
9										
10	3.0			Auger grinding	=	SS-2	100	--	50/2"	50+
11										
12										
13	4.0									
14										
15										
16					☒	SS-3	100	--	37-42-50/4"	92+
17	5.0	202.33				SS-4	0	--	50/0	50+
18				**END OF BOREHOLE**						
19				**NOTES:**						
20	6.0			- End of borehole at 5.2 m bgs						
21				- mbgs denotes 'metres below ground						
22				surface'						
23	7.0									
24				**WATER LEVELS:**						
25				06/19/23 - 4.19 m bgs						
26	8.0									
27										
28										
29	9.0									
30										
31										
32										
33	10.0									
34										
35										
36	11.0									
37										
38										
39	12.0									
40										
41										
42										
43	13.0									
44										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
W_p W_l Atterberg limits (%)
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

m
2.44 m
3.66 m
6/19/2023
5.18 m



File: N:\CA\PETERBOROUGH\PROJECTS\66211258395 6\WORKSHARE\FIELD\125883956-23-06-19 LEAHY EXCAVATING BOREHOLE LOGS RS.GPJ Library File: GHD_GEOTECH_V05.GLB Report: SOIL LOG WITH GRAPH+WELL Date: 3/10/23

REFERENCE No.: 12583956 ENCLOSURE No.:

GHD

BOREHOLE No.: MW5D-23
ELEVATION: 207.56 m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Leahy Excavating
PROJECT: Excess Soil Management
LOCATION: County Road 4, Peterborough, ON
DESCRIBED BY: J. Scott CHECKED BY: W. Moore
DATE (START): 12 June 2023 DATE (FINISH): 12 June 2023

LEGEND

- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- ▼ - WATER LEVEL

NORTHING: 4913687 EASTING: 718546

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery/ TCR(%)	Moisture Content	Blows per 15cm/ RQD(%)	'N' Value/ SCR(%)
		207.56		GROUND SURFACE				%		
0				**FILL:**						
1				**GRAVELLY SAND**, brown, moist						
2		206.95		**TILL:**						
3	1.0			**SILTY SAND**, with gravel, trace clay, very dense, brown, moist						
4										
5										
6	2.0									
7										
8										
9						AS-1		--	--	--
10	3.0			Wet						
11										
12										
13	4.0									
14						AS-2		--	--	--
15										
16	5.0					AS-3		--	--	--
17										
18										
19						AS-4		--	--	--
20	6.0	201.61		**BEDROCK:**						
21		201.51		**LIMESTONE**, weathered, grey						
22				Fresh		RC-1	95	--	49	--
23	7.0									
24										
25										
26	8.0					RC-2	97	--	64	--
27										
28										
29	9.0									
30										
31										
32	10.0					RC-3	100	--	84	--
33										
34										
35		196.91		**END OF BOREHOLE**						
36	11.0			**NOTES:**						
37				- End of borehole at 10.6 m bgs						
38				- Groundwater seepage encountered at 3.0 mbgs (204.6 masl)						
39	12.0			- mbgs denotes 'metres below ground surface'						
40										
41				**WATER LEVELS:**						
42				06/19/23 - 3.87 m bgs						
43	13.0									
44										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
Atterberg limits (%) w_p w_l
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

m
m
m
6/19/2023
6.40 m
7.59 m
10.64 m

File: N:\CA\PETERBOROUGH\PROJECTS\62\12583956\WORKSHARE\FIELD\125883956-23-06-19 LEAHY EXCAVATING BOREHOLE LOGS RS.GPJ Library File: GHD_GEOTECH_V05.GLB Report: SOIL LOG WITH GRAPH+WELL Date: 3/10/23

REFERENCE No.: 12583956 ENCLOSURE No.:

GHD

BOREHOLE No.: MW6D-23
ELEVATION: 213.28 m

BOREHOLE REPORT

Page: 1 of 1

CLIENT: Leahy Excavating
PROJECT: Excess Soil Management
LOCATION: County Road 4, Peterborough, ON
DESCRIBED BY: J. Scott CHECKED BY: W. Moore
DATE (START): 16 June 2023 DATE (FINISH): 16 June 2023

NORTHING: 4913907 EASTING: 718473

LEGEND

- SS - SPLIT SPOON
- ST - SHELBY TUBE
- RC - ROCK CORE
- WATER LEVEL

Depth Feet	Depth Metres	Elevation (m)	Stratigraphy	DESCRIPTION OF SOIL AND BEDROCK	State	Type and Number	Recovery/ TCR(%)	Moisture Content	Blows per 15cm/ RQD(%)	'N' Value/ SCR(%)
		213.28		GROUND SURFACE				%		
0		213.26		**TOPSOIL** - 30mm						
1		213.13		**FILL:**						
2				**GRAVELLY SAND**, compact, brown, moist						
3	1.0	212.52		**SAND**, with silt, compact, brown, moist						
4				**SILTY SAND**, compact, brown, moist						
5		211.76		**TILL:**						
6				**SANDY SILT**, with gravel, compact, brown, trace clay						
7	2.0			Very dense						
8										
9				Wet						
10	3.0									
11										
12										
13	4.0									
14										
15										
16	5.0					SS-1	92	--	--	91
17										
18										
19										
20	6.0									
21						SS-2	100	--	--	54
22										
23	7.0									
24										
25						SS-3	100	--	--	50+
26	8.0									
27										
28										
29										
30	9.0					SS-4	100	--	--	50+
31		203.99		**END OF BOREHOLE**						
32				**NOTES:**						
33	10.0			- End of borehole at 9.3 m bgs						
34				- Groundwater seepage encountered at 3.0 mbgs (210.3 masl)						
35				- mbgs denotes 'metres below ground surface'						
36	11.0									
37				**WATER LEVELS:**						
38				06/19/23 - 3.81 m bgs						
39										
40	12.0									
41										
42										
43	13.0									
44										

Shear test (Cu) △ Field
Sensitivity (S) □ Lab
○ Water content (%)
Atterberg limits (%) w_p w_l
● "N" Value (blows / 12 in.-30 cm)

10 20 30 40 50 60 70 80 90

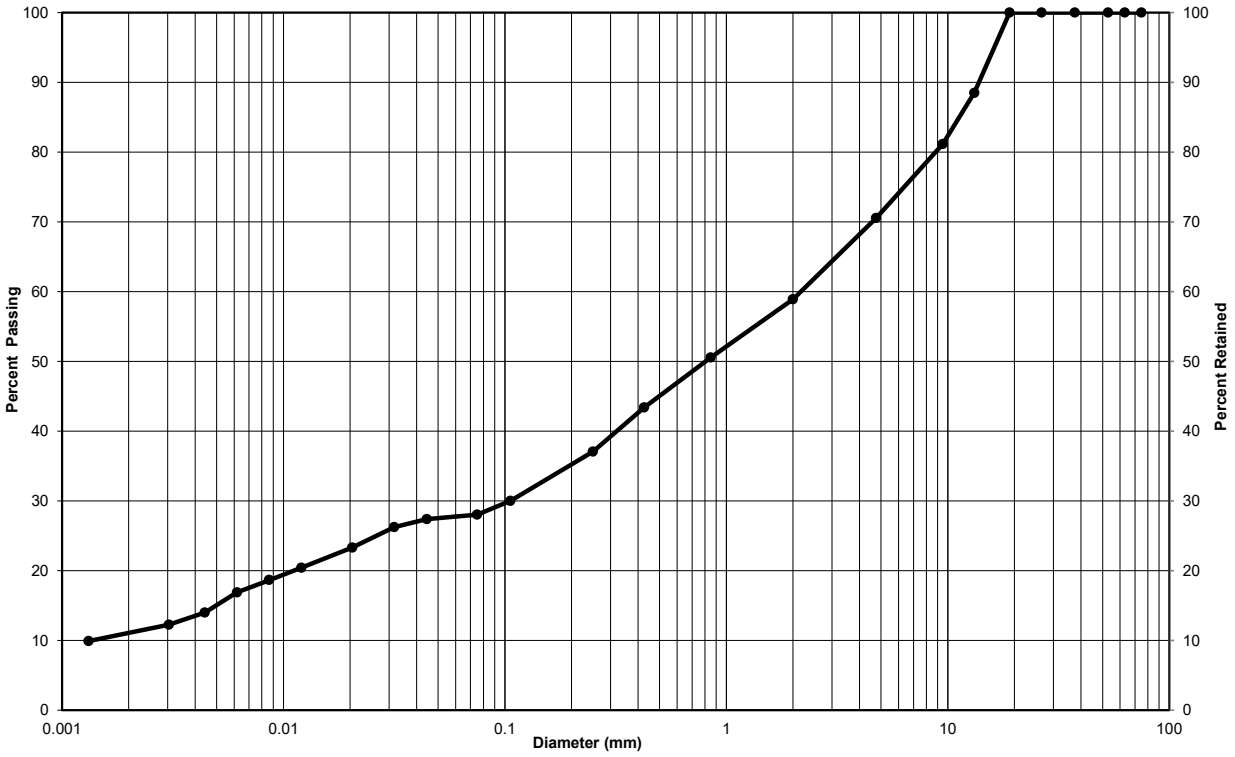
m
m
m

6/19/2023
6.71 m
7.62 m
9.14 m

File: N:\CA\PETERBOROUGH\PROJECTS\66211258395\6\WORKSHARE\FIELD\125883956-23-06-19 LEAHY EXCAVATING BOREHOLE LOGS RS.GPJ Library File: GHD_GEOTECH_V05.GLB Report: SOIL LOG WITH GRAPH+WELL Date: 3/10/23

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

Client:	Leahy Excavations	**Lab No.:**	SS-22-42
Project, Site:	County Road 4, Peterborough	**Project No.:**	12583956
Borehole No.:	MW-2	Sample No.:	SS-4
Depth:	7.5-9.5'	Enclosure:	-



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

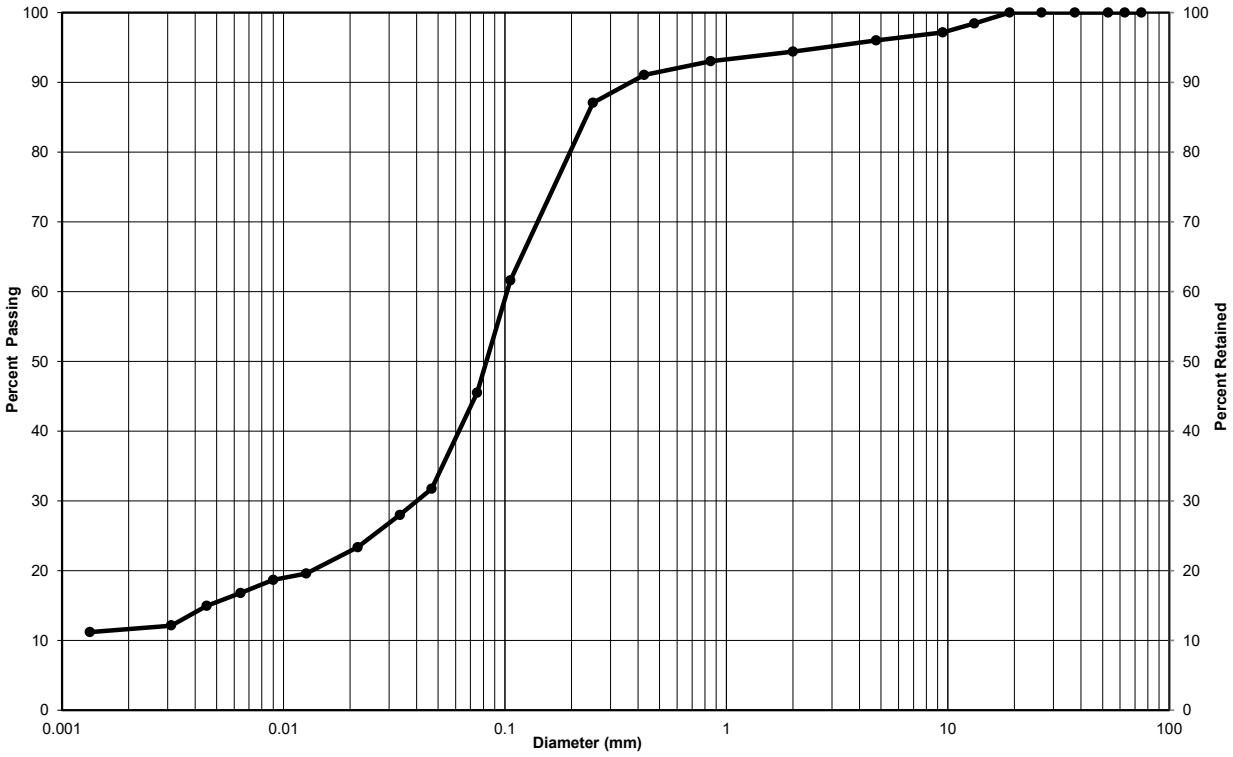
Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Gravelly, silty sand with clay	29	43	28
Silt-size particles (%) :	17		
Clay-size particles (%) (<0.002 mm):	11		

Additional laboratory reporting information available upon request.

Performed by:	Reanna McIlveen	**Date:**	September 7, 2022
Verified by:	Joe Sullivan	**Date:**	September 7, 2022
Laboratory Location:	GHD Limited - 347 Pido Road, Unit 29, Peterborough, ON		

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

Client:	Leahy Excavations	**Lab No.:**	SS-22-42
Project, Site:	County Road 4, Peterborough	**Project No.:**	12583956
Borehole No.:	MW-6	Sample No.:	SS-2
Depth:	2.5-4.5'	Enclosure:	-



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

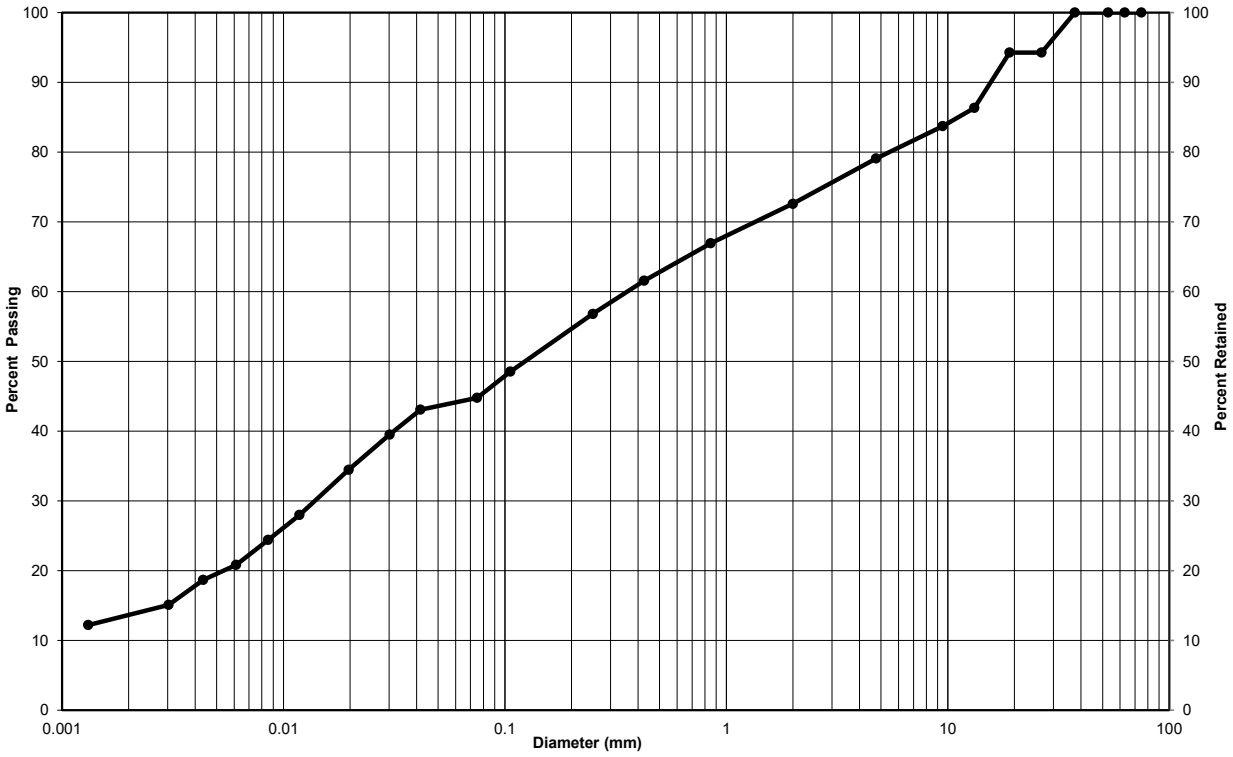
Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Silty sand with clay, trace gravel	4	50	46
Silt-size particles (%) :	34		
Clay-size particles (%) (<0.002 mm):	12		

Additional laboratory reporting information available upon request.

Performed by:	Reanna McIlveen	**Date:**	September 7, 2022
Verified by:	Joe Sullivan	**Date:**	September 7, 2022
Laboratory Location:	GHD Limited - 347 Pido Road, Unit 29, Peterborough, ON		

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

Client:	Leahy Excavations	**Lab No.:**	SS-22-42
Project, Site:	County Road 4, Peterborough	**Project No.:**	12583956
Borehole No.:	MW-6	Sample No.:	SS-3
Depth:	5-7'	Enclosure:	-



Clay & Silt	Sand			Gravel	
	Fine	Medium	Coarse	Fine	Coarse
Particle-Size Limits as per USCS (ASTM D-2487)					

Soil Description	Gravel (%)	Sand (%)	Clay & Silt (%)
Gravelly, silty sand with clay	21	34	45
Silt-size particles (%) :	32		
Clay-size particles (%) (<0.002 mm):	13		

Additional laboratory reporting information available upon request.

Performed by:	Reanna McIlveen	**Date:**	September 7, 2022
Verified by:	Joe Sullivan	**Date:**	September 7, 2022
Laboratory Location:	GHD Limited - 347 Pido Road, Unit 29, Peterborough, ON		

Appendix C

MECP Well Records

3108E

UTM 17 Z 719384 E
5R 4913228 N

Elev. 5R 10675

Basin 24 Peterborough

County or District

Con. 8 ✓ WH Lot 21 ✓

Township, Village, Town or City Dummer

Date completed 6 (day) 8 (month) 62 (year)

Address RR#10 Peterborough

GROUND WATER BRANCH
51 No 732
OCT 2 1962
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act

WATER WELL RECORD

Casing and Screen Record

Inside diameter of casing 6 5/4"

Total length of casing 65'

Type of screen mil

Length of screen

Depth to top of screen

Diameter of finished hole 6 1/4

Pumping Test

Static level 25'

Test-pumping rate 7 G.P.M.

Pumping level 25'

Duration of test pumping 2 hrs

Water clear or cloudy at end of test clear

Recommended pumping rate 5 G.P.M.

with pump setting of 50' feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Black muck dug.	0	27		
Clay & stones	27	63		
Sandy gravel	63	65	65'	fresh

For what purpose(s) is the water to be used? Farm Supply

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm W. Sanderson

Address Peterboro

Licence Number 624

Name of Driller or Borer Same

Address

Date Sept 17/62

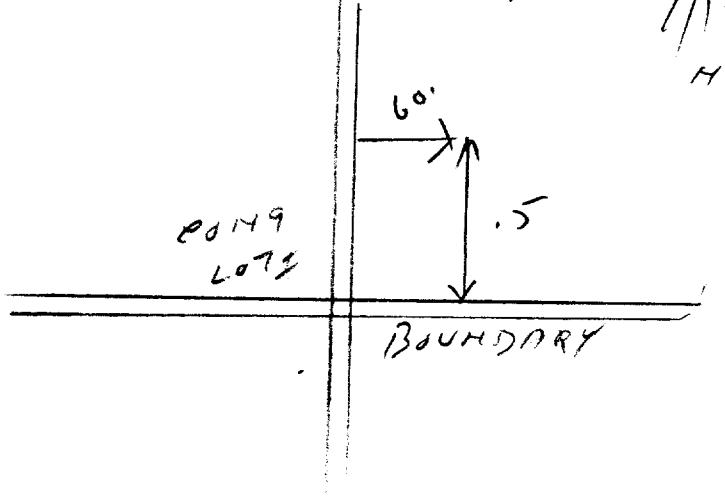
W. Sanderson
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



ENL 08 3108W

UTM Z 17 | 719020 E | 4914620 N

Elev. R 80725

Basin 7A4

ONTARIO

The Water-well Drillers Act, 1954

Department of Mines

RECEIVED
DEC 23 1954
GEOLOGICAL BRANCH
DEPARTMENT of MINES

51 No 734

Water-Well Record

County or Territorial District Peterboro Township, ~~Village, Town or City~~ Duoro

[redacted]

Village, Town or City)

Address Peterboro R.R. #10

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6"

Length(s) 30'

Type of screen

Length of screen

Pumping Test

Static level 10'

Pumping rate 100 gals per hr.

Pumping level 18'

Duration of test 2 hrs 30 mins.

Well Log

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	0	1'	30'	20'	fresh.
Brown sand + Brown clay	1'	18'			
blue clay					
with fine gravel	18'	30'			

For what purpose(s) is the water to be used? Domestic

Is water clear or cloudy? clear.

Is well on upland, in valley, or on hillside? upland

Drilling firm N. N. Faulkner

Address 687 Water St. Peterboro

Name of Driller F. G. Tang.

Address Sturgeon St. Omemee

Licence Number 456

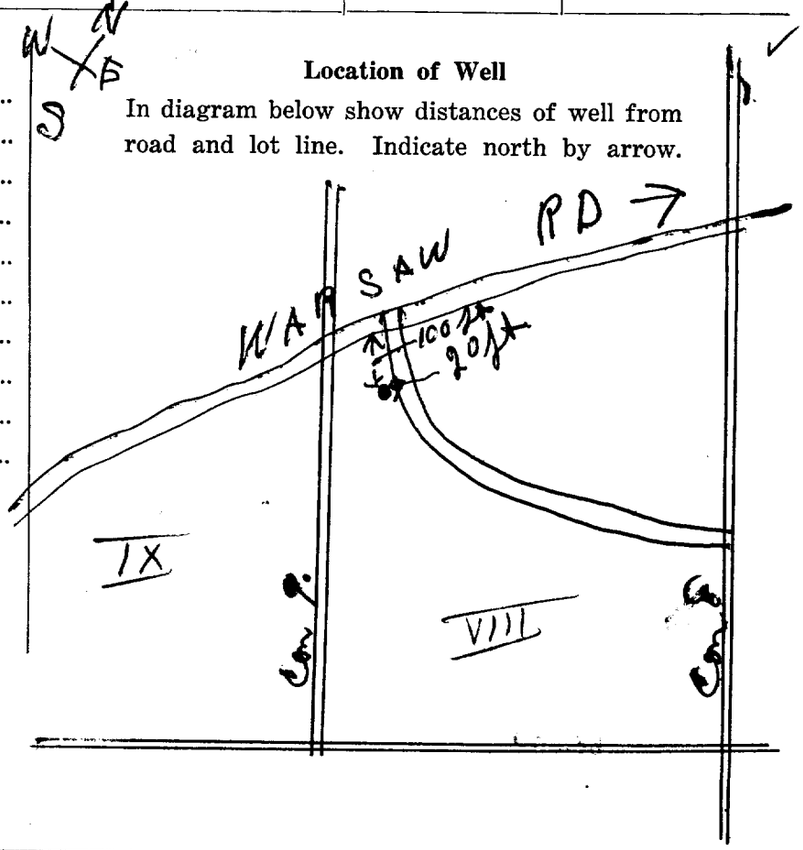
I certify that the foregoing statements of fact are true.

Date Dec 19 F. G. Tang

Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

E

ENL 08 3108W

UTM 17 Z 718902 E

19 R 4914597 N

Elev. 19 R 10725

Basin 2A

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

RECEIVED
APR 18 1956
GEOLOGICAL BRANCH
DEPARTMENT of MINES

No. 735

Water-Well Record

County ~~or Territorial District~~ Peterboro Township, ~~Village, Town or City~~ Dummer

[redacted] n Village, Town or City)

Address R.R. #10 Peterboro

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6"

Length(s) 38'

Type of screen —

Length of screen —

Pumping Test

Static level 38'

Pumping rate 500 gals per hr.

Pumping level 69'

Duration of test 8 hrs.

Well Log

Overburden and Bedrock Record	From ft.	To ft.
Top soil	0	1'
gravel, some yellow clay & smallstones	1'	38'
grey limestone	38'	94'

Water Record

Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
94'	56'	fresh

For what purpose(s) is the water to be used?
domestic or house

Is water clear or cloudy? clear

Is well on upland, in valley, or on hillside?
upland

Drilling firm N. N. Faulkner

Address 687 Water St
Peterboro

Name of Driller F. G. Lang

Address Sturgeon Str
Omemee

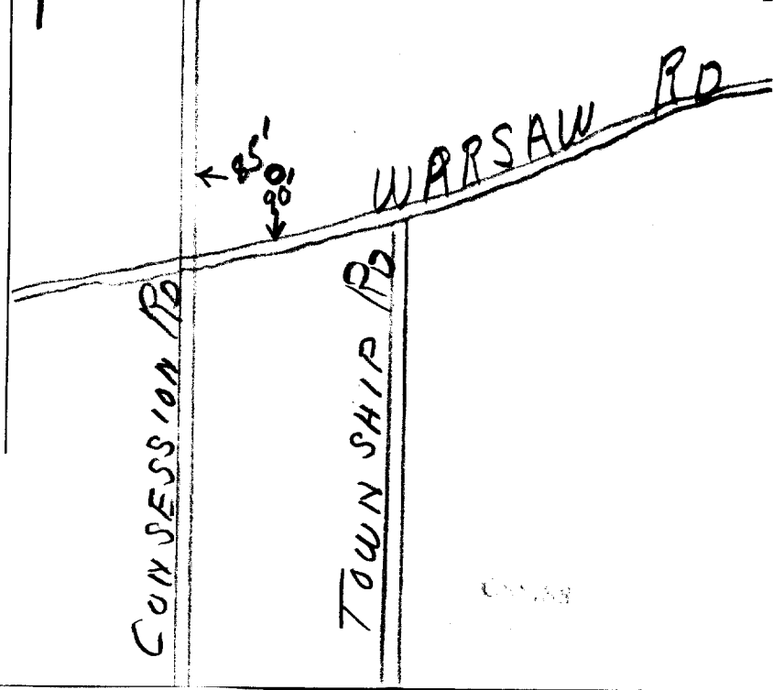
Licence Number 956

I certify that the foregoing statements of fact are true.

Date Apr. 7 F. G. Lang
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

E

ENL 08 3108W

UTM 17 Z 719047 E

19 R 4914680 N

Elev 19 R VII 07 25

Basin 12 of 4

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

No. 736

Water-Well Record

County ~~or Territorial District~~ Peterboro Township, ~~Village, Town or City~~ Dummer

[redacted] Village, Town or City)

Address R.R. #10 Peterboro

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6"

Length(s) 17'

Type of screen —

Length of screen —

Pumping Test

Static level 8'

Pumping rate 500 gals per hr.

Pumping level 13'

Duration of test 1 hr 30 min.

Well Log

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	0	2'	23'	15'	fresh
some gravel small stones & yellow clay	2'	17'			
grey limestone	17'	23'			

Water Record

For what purpose(s) is the water to be used?

House

Is water clear or cloudy? clear

Is well on upland, in valley, or on hillside?

hillside

Drilling firm N. N. Faulkner

Address 687 Water St.

Peterboro

Name of Driller F. G. Tang

Address Sturgeon Sta

Omemee

Licence Number 56

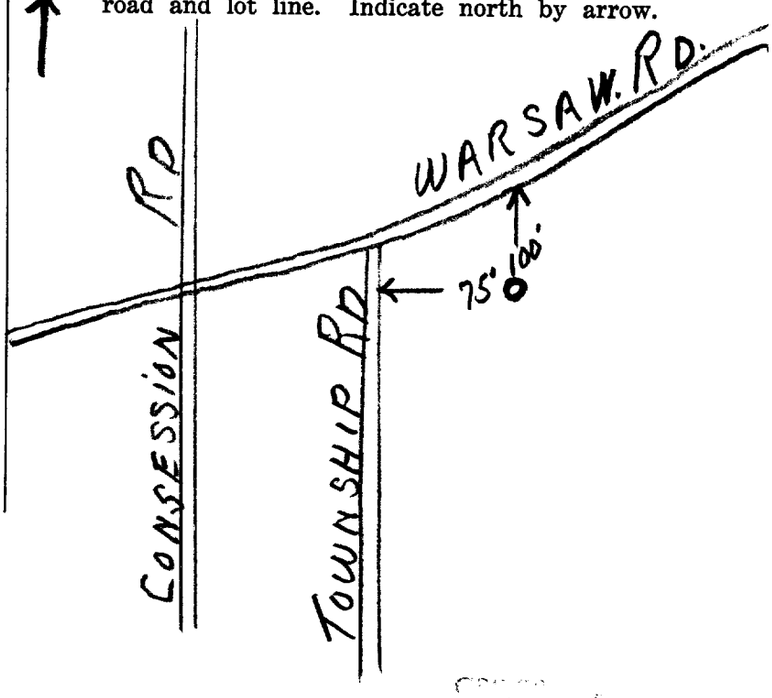
I certify that the foregoing statements of fact are true.

Date Apr. 7 F. G. Tang

Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

ENR 08 3108W

UTM 17 718971 E
R 4914581 N
Elev. [illegible] 10 725
Basin 2A4

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

RECEIVED
OCT 22 1956
GEOLOGICAL BRANCH
DEPARTMENT OF MINES

51 No. 737

Water-Well Record

County or Territorial District. Peterborough Township, Village, Town or City. Dours

[redacted] Village, Town or City)

Address R.R.#10 Peterboro

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6 1/4"
Length(s) 10'
Type of screen
Length of screen

Pumping Test

Static level 15'
Pumping rate 1/2 gpm
Pumping level 80'
Duration of test n.a.

Well Log

Overburden and Bedrock Record	From ft.	To ft.
Top soil	0	1
Brown clay & Stones	1	10
Chalky limestone	10	25
Dark limestone	25	80

Water Record

Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
80	65'	fresh

For what purpose(s) is the water to be used?
Domestic
Is water clear or cloudy? Clear
Is well on upland, in valley, or on hillside?
hillside
Drilling firm
Address

Name of Driller J. McSanderson
Address Peterborough

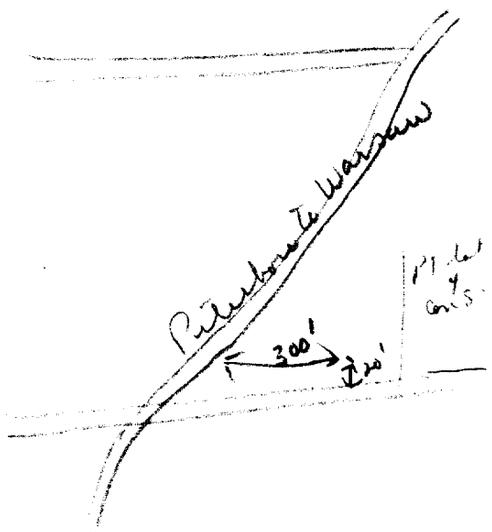
Licence Number 209

I certify that the foregoing statements of fact are true.

Date Oct 17/56 J. McSanderson
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

ENL 08 3108W

57-19

UTM 17 Z 718931 E

15 R 4941451 4

Elev. 15 R 07125

Basin 1244

51 No. 738

GROUND WATER BRANCH
AUG 10 1959
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District Peterborough Township, Village, Town or City Dorset

Con. [redacted] Lot 44 Date completed 17 (day) July (month) 59 (year)

Address [redacted] RR#10 Peterborough

Casing and Screen Record

Inside diameter of casing 6 5/4"

Total length of casing 25'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 6 1/4

Pumping Test

Static level 15'

Test-pumping rate 10 G.P.M.

Pumping level 17

Duration of test pumping 2 hrs.

Water clear or cloudy at end of test clear

Recommended pumping rate 3 G.P.M.

with pumping level of 20'

Well Log

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, sulphur)
Sand	0	25'			
Limestone	25	32	32	17	fresh

Water Record

For what purpose(s) is the water to be used?

Domestic

Is well on upland, in valley, or on hillside?

Drilling Firm Wm Sanderson

Address Peterborough

Licence Number 99

Name of Driller W. R. Orser

Address Peterborough

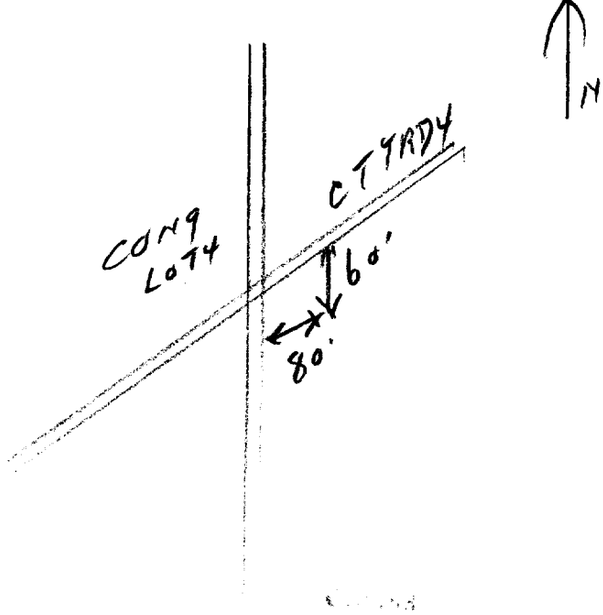
Date Aug 4/59

W. Sanderson

(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5
15M-58-4149

ENR 08 3108W

UTM 17 Z 718097 E
19 R 4913419 N

Elev. 19 R 07120

Basin 2A

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

51 No. 753

Water-Well Record

County or Territorial District Peterborough Township, Village, Town or City Dorset

[redacted] Village, Town or City)

[redacted] ddress Peterborough

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6 1/4"
Length(s) 110
Type of screen
Length of screen

Pumping Test

Static level
Pumping rate DRY
Pumping level
Duration of test

Well Log

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	0	1			
Sand	1	21		DRY	
Brown clay &					
Shaly rock	21	36			
Lime stone	36	110	Some gas at 110		

For what purpose(s) is the water to be used?

Is water clear or cloudy?
Is well on upland, in valley, or on hillside? upland

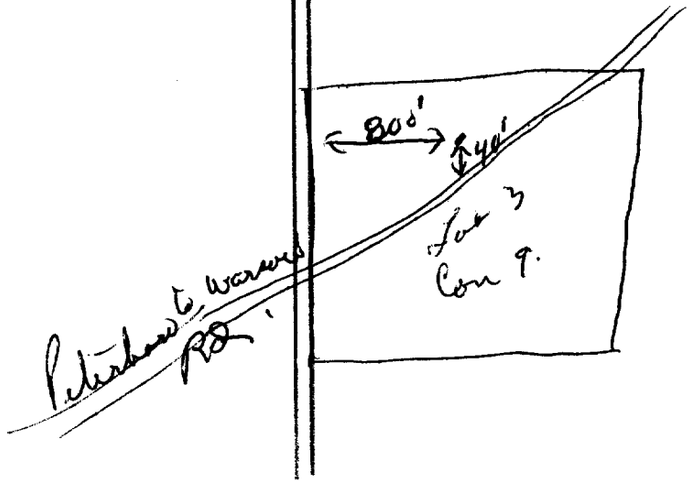
Drilling firm W. Henderson
Address 153 Maria St.
Peterborough Ont.
Name of Driller H. H. Hammers
Address 153 Maria St.
Peterborough Ont.
Licence Number 769

I certify that the foregoing statements of fact are true.

Date May 17/56 H. H. Hammers
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

ENL08 3108W

UTM 17 717963 E
S 4913164 N
Elev. S 8703
Basin 24

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

GROUND WATER BRANCH 1959 RECEIVED WATER RESOURCES COMMISSION

51 NW 754

Water-Well Record

[redacted] ship, Village, Town or City Dowo
in Village, Town or City)
Address R.R.no. 10. Peterborough

Date completed 26 (day) March (month) 1958 (year)

Pipe and Casing Record

Casing diameter(s) 6¼"
Length(s) 59'
Type of screen None
Length of screen

Pumping Test

Static level 12'
Pumping rate 90 g.p.h.
Pumping level 60'
Duration of test 3 hrs

Well Log

Overburden and Bedrock Record	From ft.	To ft.
Top soil	0'	2'
Grey clay & gravel Feldspar	2'	58' 6"
Limestone rock	58' 6"	66'

Water Record

Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
60'	54'	Fresh.

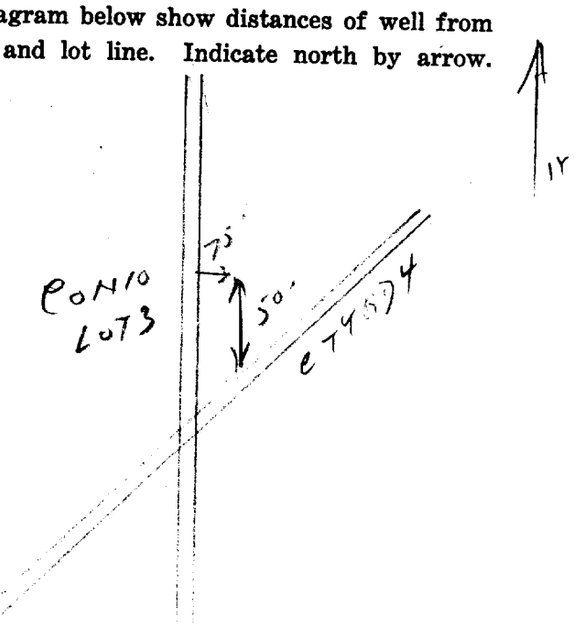
For what purpose(s) is the water to be used? Household
Is water clear or cloudy? clear
Is well on upland, in valley, or on hillside? upland
Drilling firm W. H. Faulkner
Address 687 Water St
Peterborough Ont.
Name of Driller Edward J Taylor
Address R.R. No. 10 Peterborough
Ont.
Licence Number 706

I certify that the foregoing statements of fact are true.

Date 7/4/58 Edward J Taylor
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

EN 08 3108W

59.11

UTM 17 Z 718613 E

5 R 4914127 N

Elev. 5 7X0720

Basin 24

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District Peterboro

Township, Village, Town or City Douro

Con. 8 Pt. Lot 4

[redacted]

Date completed 27 (day) May (month) 59 (year)

Address RR #10 Peterboro

Casing and Screen Record

Inside diameter of casing 6 1/4"

Total length of casing 36'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 6 1/4"

Pumping Test

Static level 20'

Test-pumping rate 4 G.P.M.

Pumping level 35'

Duration of test pumping 2 hrs.

Water clear or cloudy at end of test Clear

Recommended pumping rate 3 G.P.M.

with pumping level of 30'

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, sulphur)
Top soil	0	2			
Sand	2	36			
Limestone	36	41	41	21'	fresh

For what purpose(s) is the water to be used?

Domestic

Is well on upland, in valley, or on hillside?

Drilling Firm Thel Anderson

Address Peterboro

Licence Number 89

Name of Driller N. Orser

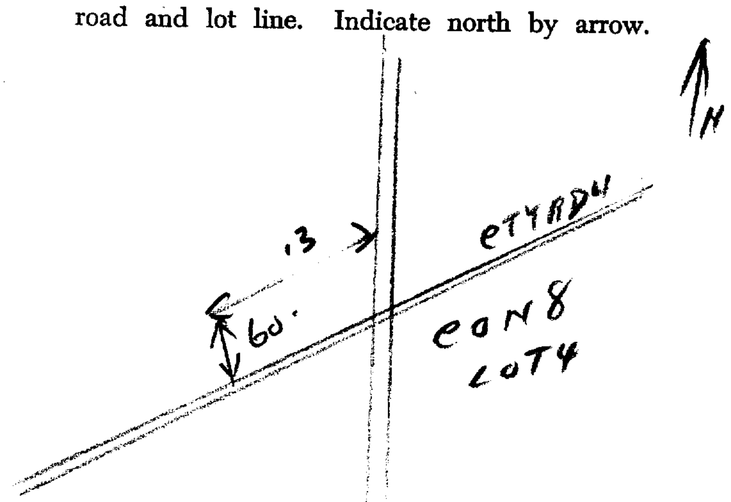
Address

Date Aug 4/59

Thel Anderson
(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5
15M-58-4149

ENL08 31D8W

UTM 17 Z 718586 E
15 R 4914413 N

Elev. 5 R 01725

Basin CA IX

Lot 4

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

51 No. 756
GROUND WATER BRANCH
MAY 8 1961
ONTARIO WATER RESOURCES COMMISSION

County or District Peterboro Township, Village, Town or City Dorena

Con 8 Lot 16

[redacted]

Date completed 11 (day) 4 (month) 61 (year)

Address RR #10 Dorena Peterboro

Casing and Screen Record

Inside diameter of casing 6 1/4"

Total length of casing 25'-1

Type of screen —

Length of screen —

Depth to top of screen

Diameter of finished hole 6 1/4

Pumping Test

Static level 12'

Test-pumping rate 5 G.P.M.

Pumping level 45'-1

Duration of test pumping 2 hrs

Water clear or cloudy at end of test clear

Recommended pumping rate 3 G.P.M.

with pumping level of 40'

Well Log

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, sulphur)
Top Soil	0	2			
Clay & stones	2	25'			
GREY Limestone	25'	53'	53'	41	fresh

For what purpose(s) is the water to be used?

Farm Supply

Is well on upland, in valley, or on hillside?

Drilling Firm Wm Sanderson

Address Peterboro

Licence Number 550

Name of Driller S - Harris

Address

Date Mar 15/61

Wm Sanderson
(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.

Form 5
15M-58-4149

ENC08 31D8W 16

UTM 17 717883 E
9 R 4913086 N
Elev. 9 R 0690
Basin 2A

ONTARIO

The Well Drillers Act
Department of Mines, Province of Ontario

51-7
51 No. 773

RECEIVED
MAR 19 1951
GEOLOGICAL BRANCH
DEPARTMENT OF MINES

Water Well Record

County or Territorial District Peterboro Township, ~~Village, Town or City~~ Douro
[redacted] own or City) Peterboro
Date Completed (day) (month) (year) Cost of Well (excluding pump) $ 131.75

Pipe and Casing Record

Casing diameter(s) 5-11
Length(s) of casing(s) 31'
Type of screen
Length of screen
Distance from top of screen to ground level
Is well a gravel-wall type?

Pumping Test

Date Jan. 24
Static level 5'
Pumping level 36
Pumping rate 180 G.P.H.
Duration of test 2 Hrs.
Distance from cylinder or bowls to ground level

Water Record

Kind (fresh or mineral) fresh
Quality (hard, soft, contains iron, sulphur, etc.) Soft
Appearance (clear, cloudy, coloured) Cloudy
For what purpose(s) is the water to be used? Domestic

How far is well from possible source of contamination? 50'
What is the source of contamination? Septic tank
Enclose a copy of any mineral analysis that has been made of water

Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
46'	fresh	41'

Well Log

Overburden and Bedrock Record	From	To
Tiled well 3' diameter	0 ft.	15 ft.
Grey Till	15	45
gravel and Rock	45	46

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.

N

Peterboro

1½ miles

140'

Concession Rd or Warsaw Rd. Co Rd

1½ miles east of Lansdale on Warsaw road. 145' in from concession on north side.

Situation: Is well on upland, in valley, or on hillside? upland
Drilling Firm Lansdale & Lansdale
Address 163 Hunter St. Peterboro
Name of Driller W. J. Lansdale Address 13 Maple St.
Date Jan. 26/51 Licence Number 209

W. J. Lansdale
Signature of Licensee

FORM 5

ENL08 31D8W

UTM 17 Z 717956 E
19 R 4913145 N
Elev. 19 R 07000
Basin 24

ONTARIO

The Well Drillers Act
Department of Mines, Province of Ontario

51 No. 785

RECEIVED
JAN 29 1953
GEOLOGICAL BRANCH
DEPARTMENT of MINES

CONC IX FROM SKETCH.

Water Well Record

County or Territorial District Peterboro

[redacted], Village, ~~Town or City~~ Douro

Town or City)

R.R.# 10 Peterboro

Cost of Well (excluding pump)

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) ~~XXX~~ 6"
Length(s) of casing(s) 52 ft.
Type of screen
Length of screen
Distance from top of screen to ground level
Is well a gravel-wall type?

Pumping Test

Date Dec. 17
Static level 27 ft.
Pumping level 40 ft. from top
Pumping rate 250 gph.
Duration of test 3hrs.
Distance from cylinder or bowls to ground level

Water Record

Kind (fresh or mineral) Fresh
Quality (hard, soft, contains iron, sulphur, etc.) Hard
Appearance (clear, cloudy, coloured) clear
For what purpose(s) is the water to be used? House

How far is well from possible source of contamination?
What is the source of contamination?
Enclose a copy of any mineral analysis that has been made of water

Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
70-73	Fresh	46 ft.

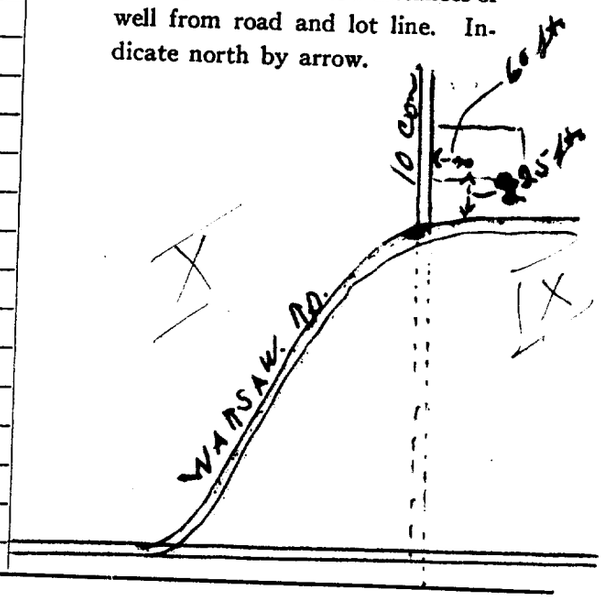
Well Log

Overburden and Bedrock Record	From	To
	0 ft.	....ft.
Old Well		21
Till	21	70
~~XXXXX~~ Gravel	70	73

Location of Well

W N E S

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Situation: Is well on upland, in valley, or on hillside? Hillside
Drilling Firm N.N. Faulkner
Address 167 Aylmer St. Peterboro.
Name of Driller F.G. Lang
Address Omemee
Date Dec. 17
Licence Number 456

FORM 5

F G Lang
Signature of Licensee

ENL08 31D8W

UTM 17 Z 717888 E
9 R 4913054 N
Elev. 9 R 0700
Basin 34
Lot 3

51 No 786

RECEIVED NOV 20 1956 GEOLOGICAL BRANCH DEPARTMENT OF MINES

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

County or Territorial District Peterboro Township, Village, Town or City Douro
[redacted] in Village, Town or City)
Address R.R. No. 10 Peterboro Ontario
(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 6¼"
Length(s) 60'
Type of screen
Length of screen

Pumping Test

Static level 8'
Pumping rate 30 GPH
Pumping level 103'
Duration of test 2 hrs

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 soil	0'	1'			
Gravel Hardpan and stones	1'	12'			
Grey Clay and stones	12'	45'			
Gravely Hardpan	45'	60'	60'	95'	Fresh
Lime Stone Rock	60'	103'			

For what purpose(s) is the water to be used? Household
Is water clear or cloudy? clear
Is well on upland, in valley, or on hillside? upland

Drilling firm W.M. Faulkner
Address 687 Water St
Peterboro Ontario
Name of Driller Edward Taylor
Address 80 Victoria Ave
Peterboro Ontario
Licence Number 766

I certify that the foregoing statements of fact are true.

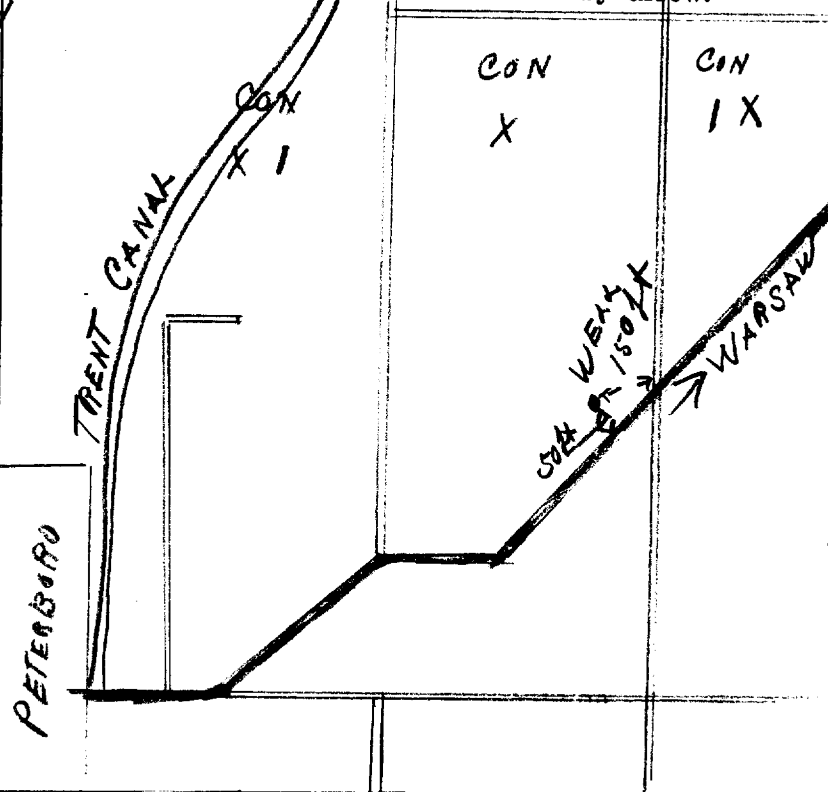
Date Oct 15/56 Edward L Taylor
Signature of Licensee

Form 5

34

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



ENL 08 3108W

UTM 17 Z 711514 E
5 R 4913513 N

Elev. 5 R 0735

Basin 24 10

County or District [redacted]

Con. 10 W Lot 35 W

GROUND WATER BRANCH
51 No. 787
PETERBOROUGH

The Ontario Water Resources Commission Act

WATER WELL RECORD

Township, Village, Town or City [redacted]

Date completed 9 (day) [redacted] month [redacted] year)

[redacted]

Casing and Screen Record

Inside diameter of casing 6"
Total length of casing 35'
Type of screen none
Length of screen
Depth to top of screen
Diameter of finished hole 6"

Pumping Test

Static level 30'
Test-pumping rate 1/2 G.P.M.
Pumping level 80
Duration of test pumping 3 hrs.
Water clear or cloudy at end of test clear
Recommended pumping rate 1/2 G.P.M.
with pump setting of 70 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Top soil	0	1		
grey clay & gravel	1	34		
& limestone bedrock	34	50		
brown " "	50	60	40-82	fresh

For what purpose(s) is the water to be used?
Farm

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm [redacted]

Address [redacted]

Licence Number [redacted]

Name of Driller or Borer [redacted]

Address [redacted]

Date [redacted]

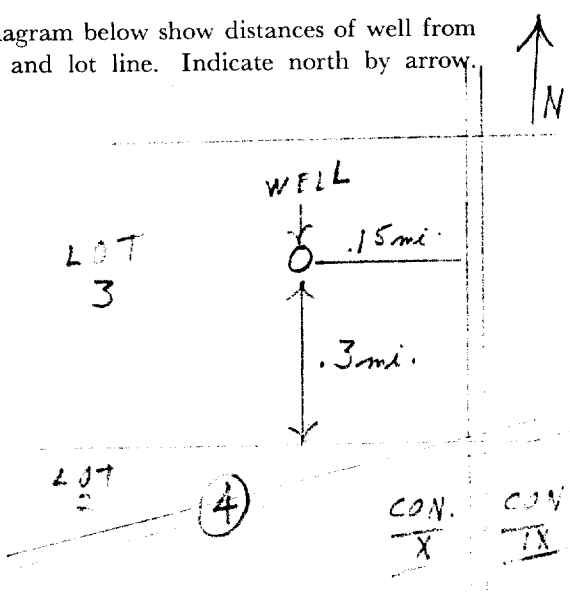
[redacted]
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



17 7 17900 Con X
5 49 13 050
5B 0695
24

CODED

Water management in Ontario

5104570
3 9

B

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Peterboro
Township, Village, Town or City Dummer
Con. X Lot 2
Date completed 1 (day) Nov (month) 68 (year)
Address Peterboro

[redacted]

Casing and Screen Record

Inside diameter of casing 6 ¼"
Total length of casing 18'
Type of screen —
Length of screen —
Depth to top of screen
Diameter of finished hole 6 ¼

Pumping Test

Static level 22
Test-pumping rate 3 G.P.M.
Pumping level 70'
Duration of test pumping 2 hrs
Water clear or cloudy at end of test Clear
Recommended pumping rate 3 G.P.M.
with pump setting of 30' feet below ground surface

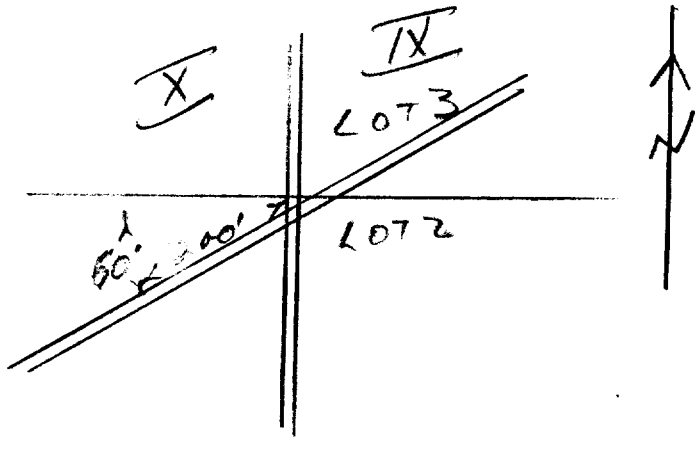
Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Dug	0	5		
Brown clay & stones	5	23		
Grey limestone	23	85	83-85	fresh
				untested

For what purpose(s) is the water to be used?
Domestic
Is well on upland, in valley, or on hillside?
Drilling or Boring Firm W J Anderson
Address Peterboro
Licence Number 255-1
Name of Driller or Borer J C Miller
Address
Date Dec 31/68
W J Anderson
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7
OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

B108W

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5105837 | MUNICIP. 51007 | CON. GRN | 08

COUNTY OR DISTRICT: PETERBORO

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: DOURO

CON., BLOCK, TRACT, SURVEY, ETC.: 8

LOT: ~~X~~ 004

OWNER (SURNAME FIRST): [redacted]

ADDRESS: RR#10 PETERBORO

DATE COMPLETED: DAY 03 MO ~~FEB~~ 02 YR 72

21 | UTM ZONE 17 | EASTING 719070 | NORTHING 4914500 | RC. 4 | ELEVATION 0705 | RC. 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	TOP SOIL			0	1
BROWN	CLAY	BOULDERS		1	18
GREY	LIMESTONE			18	38

APL

31 | 0001 02 | 0018 0951 3 | 0038 215

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0036	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0020 ~~20~~
~~6~~ 5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0038
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	80

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	80

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	0020 GPM.	03 HOURS 15 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
004 FEET	004 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	004 FEET	004 FEET	004 FEET	004 FEET

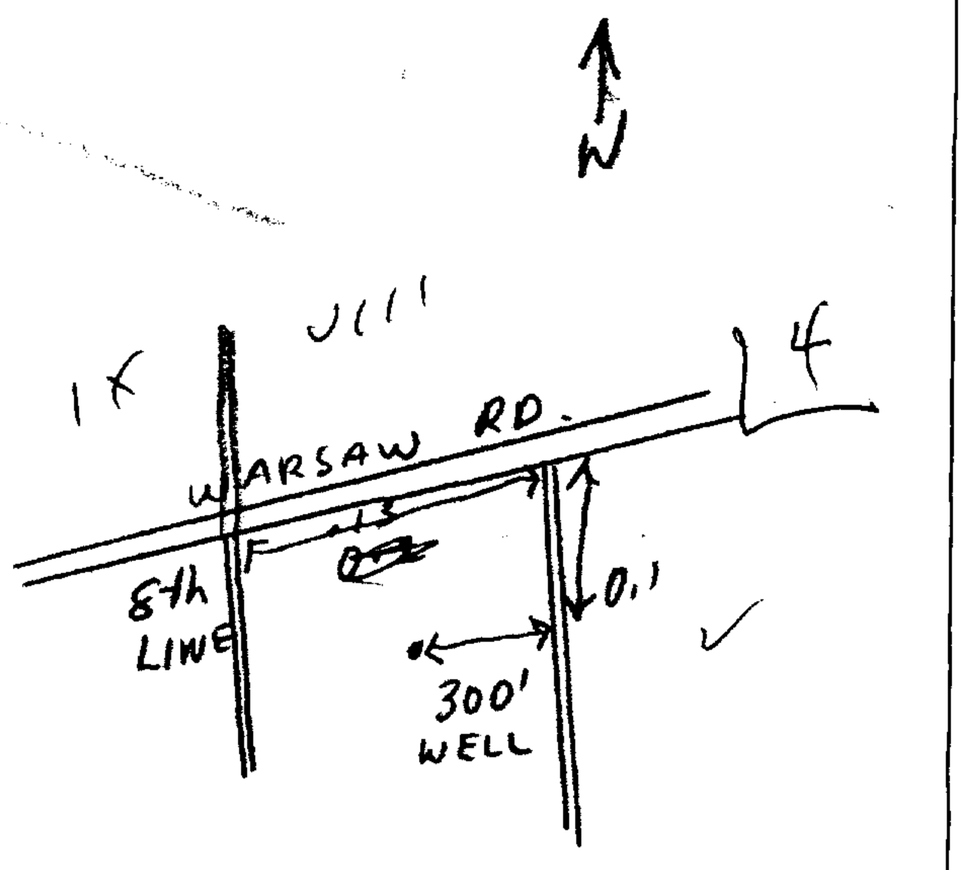
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM.	35 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	035 FEET	0015 GPM.

~~040.0~~ GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☒ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

04

METHOD OF DRILLING

1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: ANTON URBAN — LICENCE NUMBER: 5102

ADDRESS: RR#10 PETERBORO

NAME OF DRILLER OR BORER: ANTON URBAN — LICENCE NUMBER: 5102

SIGNATURE OF CONTRACTOR: Anton Urban — SUBMISSION DATE: DAY 3 MO FEB YR 72

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 5102 | DATE RECEIVED: 080372

DATE OF INSPECTION | INSPECTOR

REMARKS: P ✓ WI

OWRC COPY

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5106750 | MUNICIP. 51007 | CON. CON 09

COUNTY OR DISTRICT: PETERBOROUGH | TOWNSHIP, BOROUGH, CITY, TOWN OR VILLAGE: DOURO | CON., BLOCK, TRACT, SURVEY, ETC.: 9 | LOT: IX | 25-27: 004

[redacted] 10 PETERBOROUGH ONT

DATE COMPLETED: DAY 13 MO. 11 YR. 73

RC 14144 | RC 4 | ELEVATION 0730 | RC 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	TOP SOIL.			0	2.
GRAY	CLAY & STONES		PACKED.	2	47.
"	LIMESTONE ROCK.		HARD	47	147.

31 | 0002602 | 0014720512 | 0147215

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13: 0053-FRESH	1 ☒ FRESH 3 ☐ SULPHUR 14; 2 ☐ SALTY 4 ☐ MINERAL
15-18	1 ☐ FRESH 3 ☐ SULPHUR 19; 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 24; 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 29; 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 34; 2 ☐ SALTY 4 ☐ MINERAL 80

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
10-11: 6 4.0 06	1 ☒ STEEL 12; 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	12: 1-55	0	15-16: 0047
17-18: 06	1 ☐ STEEL 19; 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		47	20-23: 0147
24-25	1 ☐ STEEL 26; 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 31-33	DIAMETER 34-38 INCHES	LENGTH 39-40 FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN 41-44 FEET	80

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33 80	

71 PUMPING TEST

PUMPING TEST METHOD 10: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE 11-14: 0004 GPM | DURATION OF PUMPING 15-16 HOURS 02 17-18 MINS 00

STATIC LEVEL 19-21	WATER LEVEL END OF PUMPING 22-24	WATER LEVELS DURING 25: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES 26-28	30 MINUTES 29-31	45 MINUTES 32-34	60 MINUTES 35-37
045 FEET	140 FEET		100 FEET	140 FEET	140 FEET	140 FEET

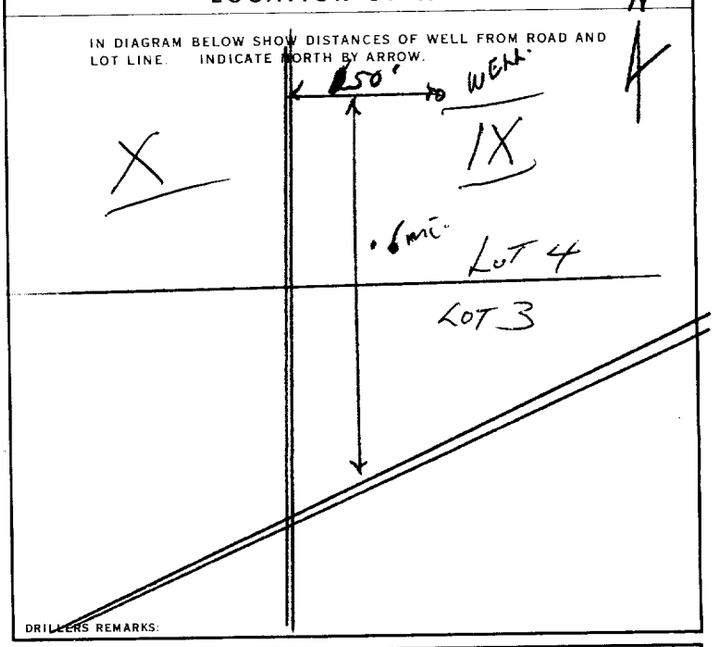
IF FLOWING, GIVE RATE 38-41 GPM | PUMP INTAKE SET AT FEET | WATER AT END OF TEST 42: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING 43-45: 142. FEET | RECOMMENDED PUMPING RATE 46-49: 0004 GPM

50-53: 000.0

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE 55-56: 02 — 1 ☐ DOMESTIC; 2 ☒ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING 57: 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: FAULKNER WELL DRILLING CO LTD | LICENCE NUMBER: 2104

ADDRESS: 789 ERSKINE AVE PETERBOROUGH ONT

NAME OF DRILLER OR BORER: DAVID TATE | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: T Faulkner. | SUBMISSION DATE: DAY 13 MO. NOV YR. 73

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 2104 | DATE RECEIVED 63-68: 23 01 74 | 80

DATE OF INSPECTION: May 14/75 | INSPECTOR: K

REMARKS: P KD

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FORM 7 07-091

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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11 | 5106978 | MUNICIP. 51007 | CON. CON 09

COUNTY OR ~~DISTRICT~~	TOWNSHIP, ~~BOROUGH, CITY, TOWN, VILLAGE~~	CON., BLOCK, ~~TRACT, SURVEY,~~ ETC.	LOT 25-27
Peterborough	Douro	9	004

[redacted]R. 10, Peterborough, Ont.

DATE COMPLETED 48-53: DAY 18 MO. 05 YR. 74

[redacted] 14093 | RC. 4 | ELEVATION 0730 | RC. 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
		Top soil		0	1
Brown	Clay	Stones	Dense	1	10
Grey	Clay	Stones	Dense	10	42
Grey	Limestones	Rock	Porous	42	150

31 | 0001 02 | 0010 60512 | 0042 20512 | 0150 215

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
Untested	☒ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06¼"	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	.188	0	0042
06¼	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE		42	0150
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: X AIR ☐ PUMP ☐ BAILER | PUMPING RATE GPM. | DURATION OF PUMPING HOURS MINS

STATIC LEVEL FEET | WATER LEVEL END OF PUMPING FEET | WATER LEVELS DURING ☐ PUMPING ☐ RECOVERY: 15 MINUTES FEET, 30 MINUTES FEET, 45 MINUTES FEET, 60 MINUTES FEET

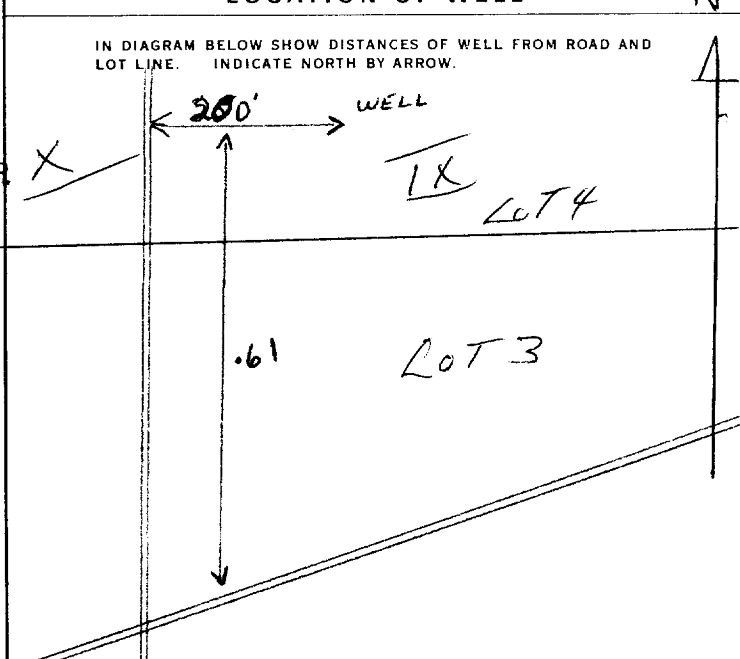
IF FLOWING, GIVE RATE GPM. | PUMP INTAKE SET AT FEET | WATER AT END OF TEST ☐ CLEAR ☐ CLOUDY X OTHER

RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING FEET | RECOMMENDED PUMPING RATE GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

☐ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☒ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE 09

☐ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☒ NOT USED

METHOD OF DRILLING

☐ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☒ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Faulkner Well Drilling Co.Ltd | LICENCE NUMBER: 2104

ADDRESS: 789 Erskine Ave., Peterborough, Ont.

NAME OF DRILLER OR BORER: Wm. Burgess | LICENCE NUMBER

SIGNATURE OF CONTRACTOR: W. N. Faulkner | SUBMISSION DATE DAY 18 MO. 5 YR. 74

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 2104 | DATE RECEIVED 270674

DATE OF INSPECTION MAY, 14/75 | INSPECTOR J.B.

REMARKS: P/J.B. WI

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The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Peterborough	Douro	9	004

[redacted] R. 10, Peterborough, Ont.

DATE COMPLETED: DAY 23 MO. 05 YR. 74

UTM ZONE 21 | 408.3 | RC 4 | ELEVATION 0730 | RC 5 | BASIN CODE 2

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
		Top soil		0	1
Brown	Clay	Stones	Dense	1	8
Grey	Clay	Stones	Dense	8	47
Grey	Limestones	Rock	Porous, Hard	47	150

31 | 0001 012 | 0018605 12 | 0017205 12 | 0150215

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 ☐ FRESH 3 ☐ SULPHUR 14 / 2 ☐ SALTY 4 ☐ MINERAL
Untested	
15-18	1 ☐ FRESH 3 ☐ SULPHUR 19 / 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 24 / 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 29 / 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 34 / 2 ☐ SALTY 4 ☐ MINERAL 80

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
10-11 06 5/8 in	1 ☒ STEEL 12 / 2 ☐ GALVANIZED / 3 ☐ CONCRETE / 4 ☐ OPEN HOLE	.188	0 0047	13-16
17-18 06 5/8	1 ☐ STEEL 19 / 2 ☐ GALVANIZED / 3 ☐ CONCRETE / 4 ☒ OPEN HOLE		47 0150	20-23
24-25	1 ☐ STEEL 26 / 2 ☐ GALVANIZED / 3 ☐ CONCRETE / 4 ☐ OPEN HOLE			27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.) 31-33	DIAMETER 34-38 INCHES	LENGTH 39-40 FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN 41-44 FEET	80

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33 80	

71 PUMPING TEST

PUMPING TEST METHOD 10: 1 ☐ PUMP 2 ☐ BAILER

PUMPING RATE 11-14 GPM | DURATION OF PUMPING 15-16 HOURS 17-18 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING 25: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
19-21 FEET	22-24 FEET		26-28 FEET	29-31 FEET	32-34 FEET	35-37 FEET

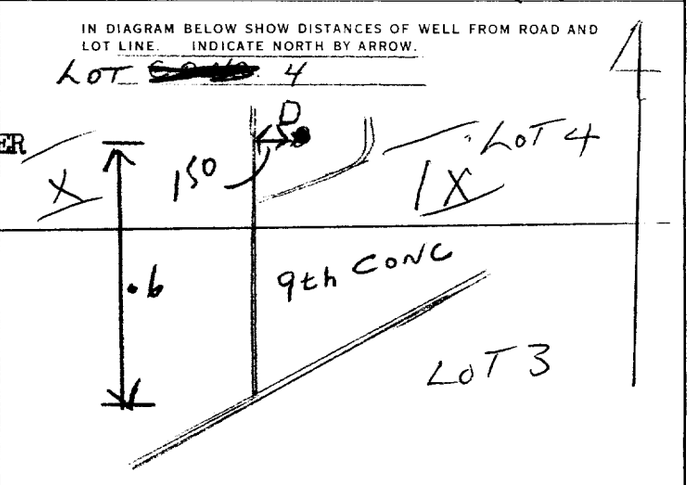
IF FLOWING, GIVE RATE 38-41 GPM | PUMP INTAKE SET AT FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY x OTHER

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING 43-45 FEET | RECOMMENDED PUMPING RATE 46-49 GPM

50-53 ____.____ GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1714 N

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

54 FINAL STATUS OF WELL

1 ☐ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☒ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

x no water

55-56 WATER USE

1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

57 METHOD OF DRILLING

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Faulkner Well Drilling Co.Ltd | LICENCE NUMBER: 2104

ADDRESS: 789 Erskine Ave., Peterborough, Ont.

NAME OF DRILLER OR BORER: Wm. Burgess | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE: DAY 23 MO. 5 YR. 74

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 2104 | DATE RECEIVED: 27 06 74

DATE OF INSPECTION: May 14/75 | INSPECTOR: J.A.

REMARKS: P WI

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MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

31 D/8 W

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11 | 5107233 | MUNICIP. 5(.007 | CON. C4N | 09

COUNTY OR ~~DISTRICT~~: Peterborough
TOWNSHIP, ~~BOROUGH, CITY, TOWN, VILLAGE~~: Douro
CON., ~~BLOCK, TRACT, SURVEY, ETC.~~: 9
LOT: 004
[redacted] R. 10, Peterborough, Ont.
DATE COMPLETED: DAY 25 MO. 11 YR. 74
UTM: 141544 | RC. 4 | ELEVATION 0725 | RC. 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Sandy fill		Soft	0	4
Grey	Clay		Packed	4	25
Grey	Gravel		Loose	25	28
Grey	Shale		Loose	28	31
Grey	Limestone		Porous, hard	31	41

31: 0004 2801 | 0025205 | 0028211 | 0031217 | 0041215
32:

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0031-41	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
Untested	
15-18	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0032
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		32	041
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	0003 GPM.	02 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
006 FEET	040 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	040 FEET	040 FEET	040 FEET	040 FEET

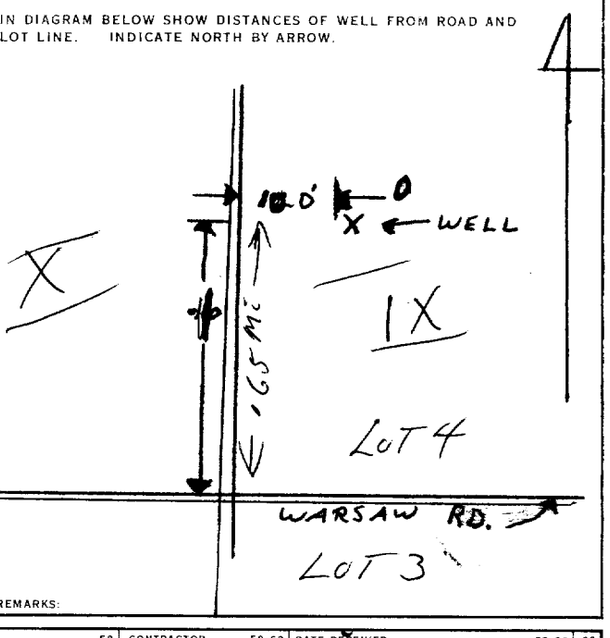
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
-- GPM	36 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	036 FEET	0003 GPM.

50-53: 000.1 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 1214

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

54: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE

55-56: 1 ☒ DOMESTIC; 2 ☒ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

12

METHOD OF DRILLING

57: 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Faulkner Well Drilling Co.Ltd | LICENCE NUMBER: 2104
ADDRESS: 789 Erskine Ave., Peterborough, Ont.
NAME OF DRILLER OR BORER: Donald Miller | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: N. H. Faulkner
SUBMISSION DATE: DAY 25 MO. 11 YR. 74

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 2104 | DATE RECEIVED 63-68: 091274
DATE OF INSPECTION: May 14/75 | INSPECTOR: J.B.
REMARKS: P WI

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FORM 7 07-091

Ministry of the Environment

Ontario

The Ontario Water Resources Act

WATER WELL RECORD

31 D/9 W

1. PRINT ONLY IN SPACES PROVIDED
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(11) 5109114 MUNICIP 51007 CON 09

COUNTY OR DISTRICT [redacted] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Dummer CON. BLOCK, TRACT, SURVEY, ET. Con. 9 LOT 004

[redacted] George ST. DATE COMPLETED DAY 16 MO. JUNE YR 78

UTM 14650 5 ELEVATION 0700 5 BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	SOIL	STONES		0	5
GREY	SHALE			5	28
GREY	LIMESTONE			28	61

(31) 000560212 00282171 00611215

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
15-18	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
20-23	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
25-28	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
30-33	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
10-11	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0028
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		06	0061
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

(71) PUMPING TEST

PUMPING TEST METHOD 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE 0005 GPM | DURATION OF PUMPING 01 HOURS 40 MINS

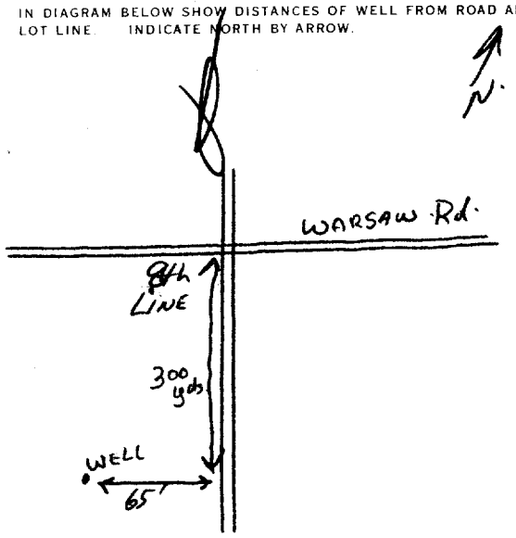
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☒ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
015 FEET	055 FEET		020 FEET	015 FEET	015 FEET	015 FEET

IF FLOWING, GIVE RATE GPM | PUMP INTAKE SET AT 57 FEET | WATER AT END OF TEST 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 057 FEET | RECOMMENDED PUMPING RATE 0005 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL (54) 1
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED POOR QUALITY 7 ☐ UNFINISHED

WATER USE (55-56) 01
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING (57) 1
1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR Anton Urban | LICENCE NUMBER 5102

ADDRESS RR#10 Peterboro

NAME OF DRILLER OR BORER J. Cook | LICENCE NUMBER —

SIGNATURE OF CONTRACTOR Anton Urban | SUBMISSION DATE DAY 16 MO JUNE YR 78

OFFICE USE ONLY

DATA SOURCE (58) 1 | CONTRACTOR (59-62) 5102 | DATE RECEIVED (63-68) 160878

DATE OF INSPECTION | INSPECTOR

REMARKS: PLOTTED JUNE 17/79

FORM NO. 0506—4—77

MINISTRY OF THE ENVIRONMENT COPY

Ministry of the Environment
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 — 5109603 — MUNICIP. 51007 — CON. CON 3108W — 08

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	
Peterboro	Douro	Con. 8	~~004~~ ~~PT 2~~

OWNER (SURNAME FIRST): [redacted]
ADDRESS: RR#10 Peterboro
DATE COMPLETED: DAY 26 MO ~~OCT~~ 10 YR 79

21 — UTM ZONE 17 — EASTING 719000 — NORTHING 4914700 — RC. 5 — ELEVATION 0710 — RC. 5 — BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
BROWN	SAND			0	15
GREY	LIMESTONE			15	27

31 — 0015628 — 0027215
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0015-27	#5 (6.7) ☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
06 (6 1/4)	☒ STEEL	6 1/4	0	0016
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.): — DIAMETER: INCHES — LENGTH: FEET
MATERIAL AND TYPE: — DEPTH TO TOP OF SCREEN: FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: ☐ PUMP ☒ BAILER
PUMPING RATE: 0004 GPM
DURATION OF PUMPING: 01 HOURS 40 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
005 FEET	022 FEET	008 FEET	005 FEET	005 FEET	005 FEET

WATER LEVELS DURING: ☐ PUMPING ☒ RECOVERY
IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 24 FEET
WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 024 FEET
RECOMMENDED PUMPING RATE: 0004 GPM

FINAL STATUS OF WELL: 1

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE: 01

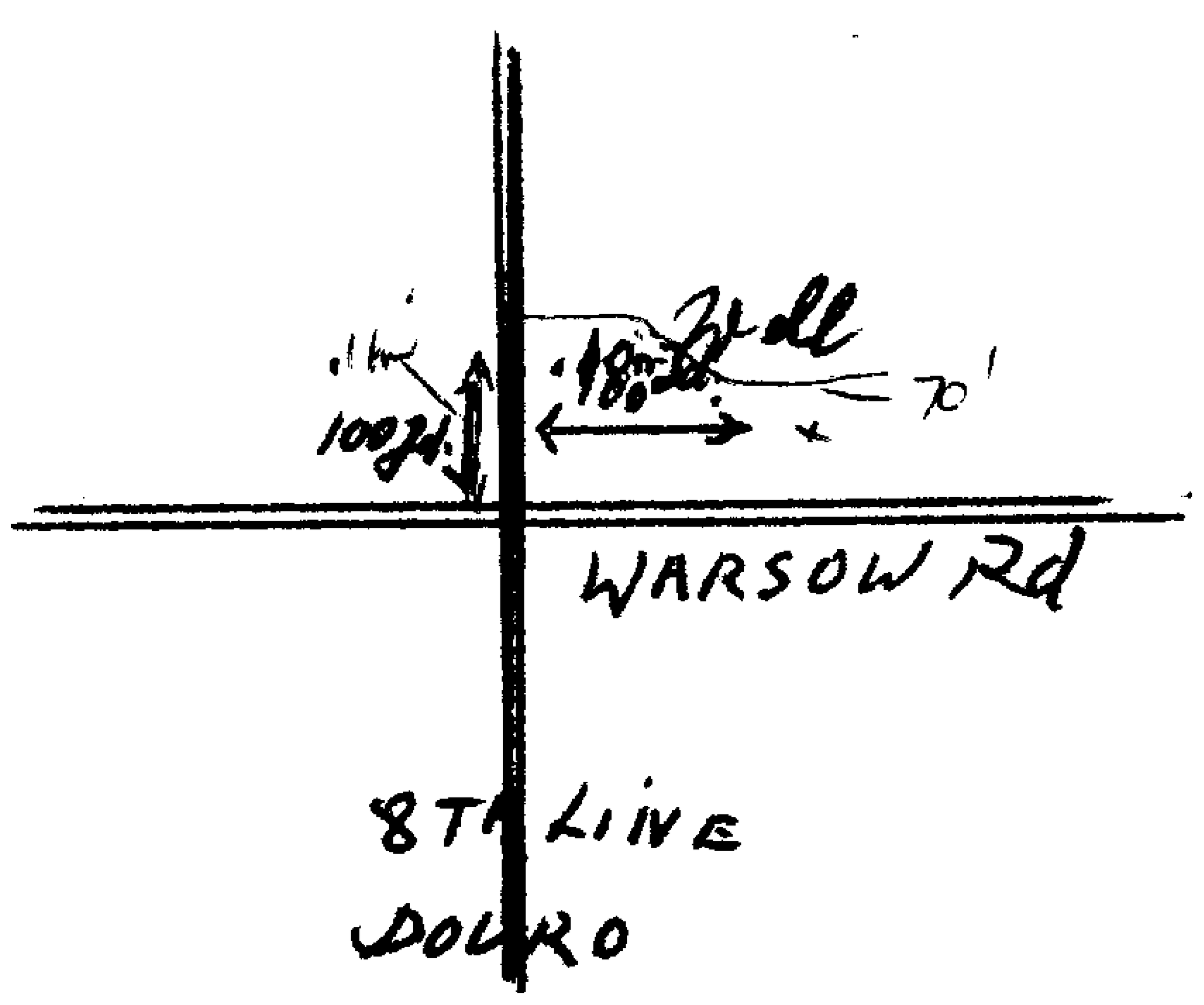
☒ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING: 1

☒ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: Anton Urban — LICENCE NUMBER: 5102
ADDRESS: RR#10 Peterboro
NAME OF DRILLER OR BORER: Anton Urban — LICENCE NUMBER: 5C
SIGNATURE OF CONTRACTOR: Anton Urban — SUBMISSION DATE: DAY 26 MO Oct YR 79

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 5102 — DATE RECEIVED: 201179
DATE OF INSPECTION: 27/6/80 — INSPECTOR:
REMARKS: Not rented property owner advise 79

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FORM NO. 0506-4-77

Ministry of the Environment

Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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(11) 5109660 MUNICIP. 51007 CON. CON 09 3108W

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT 25-27
[redacted]	RO	CON 9	004

R#10 PETERBOROUGH — DATE COMPLETED 48-53: DAY 26 MO 06 YR 79

NORTHING 9/14350 | RC. 5 | ELEVATION 0710 | RC. 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BLACK	TOP SOIL			0	1
GREY	GRAVELY CLAY			1	10
GREY	LIMESTONE SHALE			10	18
GREY	LIMESTONE			18	36

(31) 0001802 | 0010205772 | 0018215117 | 00362115

32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0018	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
10	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	375	0	0011
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

(61) PLUGGING & SEALING RECORD

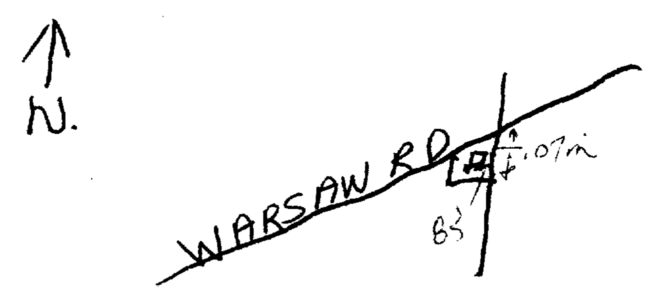
DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD	1 ☐ PUMP 2 ☒ BAILER
PUMPING RATE	0001 GPM
DURATION OF PUMPING	02 HOURS 30 MINS
STATIC LEVEL	010 FEET
WATER LEVEL END OF PUMPING	030 FEET
WATER LEVELS DURING	1 ☒ PUMPING 2 ☐ RECOVERY
15 MINUTES	020 FEET
30 MINUTES	030 FEET
45 MINUTES	030 FEET
60 MINUTES	030 FEET
IF FLOWING GIVE RATE	GPM
PUMP INTAKE SET AT	34 FEET
WATER AT END OF TEST	1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE	☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING	034 FEET
RECOMMENDED PUMPING RATE	0001 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL	1	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE	01	1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING	1	1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Tate Well Drilling — LICENCE NUMBER: 4923

ADDRESS: RR#2 Peterboro Ont.

NAME OF DRILLER OR BORER: David Tate — LICENCE NUMBER: 4923

SIGNATURE OF CONTRACTOR: David Tate

SUBMISSION DATE DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 4923 | DATE RECEIVED: 020180

DATE OF INSPECTION | INSPECTOR

REMARKS: [illegible]

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FORM NO. 0506-4-77

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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9 5113195 51007

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Peterborough	Harvey	9	2

[redacted] P.O. Box 1100, Bakefield, Ont. K0L2H0 — DATE COMPLETED DAY 28 MO 6 YR 88

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	fill		Medium	0	47
Grey	limestone		porous	47	66

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
46	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
untested	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	47
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☐ BAILER	4 GPM	2 HOURS — MINS

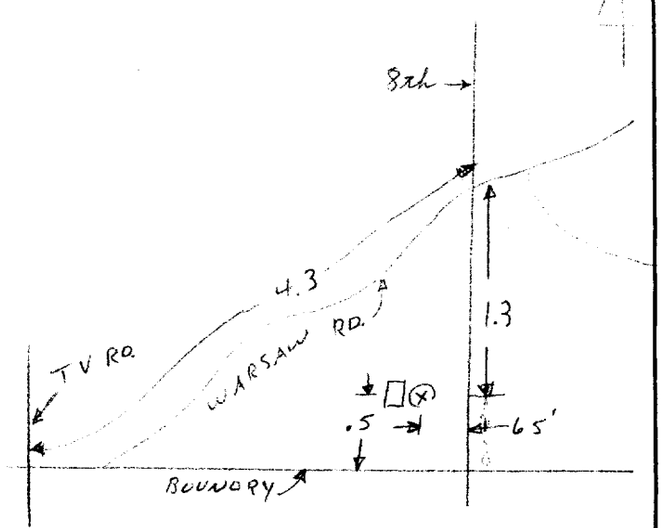
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
9 FEET	60 FEET		25 FEET	40 FEET	60 FEET	60 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
— GPM	62 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	62 FEET	4 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS 5 Y W

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE

1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING

1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☒ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Faulkner Well Drilling Co. Ltd	2104

ADDRESS: 789 Erskine Ave., Peterborough, Ont.

NAME OF DRILLER OR BORER	LICENCE NUMBER
Robert McLean	13

SIGNATURE OF CONTRACTOR: Ken Faulkner — SUBMISSION DATE: DAY 29 MO. 6 YR. 88

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 2104 | DATE RECEIVED JUL 14 1988

DATE OF INSPECTION | INSPECTOR

REMARKS

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FORM NO. 0506—4—77 FORM 7

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 (1 2) 5117723

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

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25–27)
[redacted]	Duro	9	3

Address: RR#10 Peterborough

Date completed (48–53): 29 day 7 month 97 year

21 (1 2) T M (10) Northing (12–17) RC (18–24) Elevation (25) RC (26–30) Basin Code (31) ii iii iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown					
Clay & Sand				0	30
Brown	Limestone			30	40

31 (10 14 15 21 32 43 54 65 75 80)

32 (10 14 15 21 32 43 54 65 75 80)

41 WATER RECORD

Water found at – feet	Kind of water
35 (10–13)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
(15–18)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
(20–23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25–28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30–33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4 (10–11)	1 ☑ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	0	32 (13–16)
(17–18)	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(20–23)
(24–25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27–30)

SCREEN

Sizes of opening (Slot No.) (31–33)	Diameter inches (34–38)	Length feet (39–40)
Material and type	Depth at top of screen feet (41–44)	(30)

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
(10–13)	(14–17)	
(18–21)	(22–25)	
(26–29)	(30–33) (80)	

71 PUMPING TEST

Pumping test method (10): 1 ☑ Pump 2 ☐ Bailer
Pumping rate (11–14): 3 GPM
Duration of pumping (15–16): 2 Hours (17–18) Mins

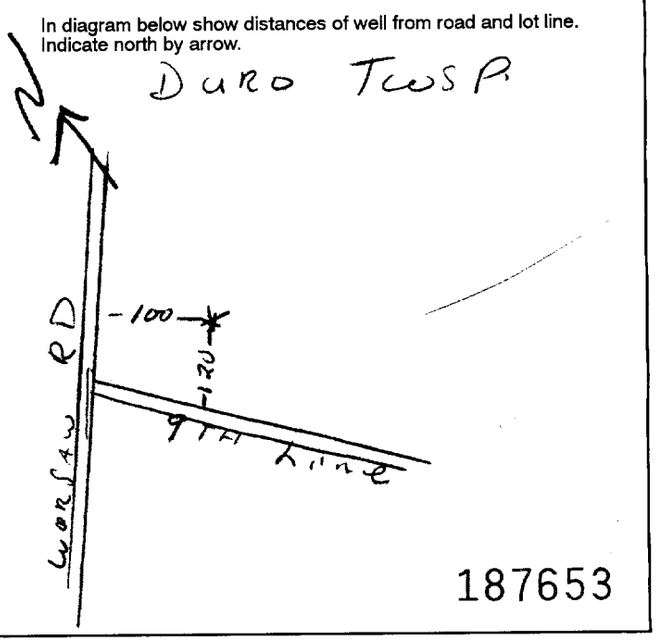
Static level	Water level end of pumping	Water levels during (25): 1 ☑ Pumping 2 ☐ Recovery			
(19–21)	(22–24)	15 minutes (26–28)	30 minutes (29–31)	45 minutes (32–34)	60 minutes (35–37)
8 feet	35 feet	30 feet	35 feet	35 feet	35 feet

If flowing give rate (38–41)	Pump intake set at	Water at end of test (42)
GPM	40 feet	☑ Clear ☐ Cloudy
Recommended pump type: ☑ Shallow ☐ Deep	Recommended pump setting (43–45): 30 feet	Recommended pump rate (46–49): 3 GPM

(50–53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



187653

FINAL STATUS OF WELL (54)

1 ☑ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55–56)

1 ☑ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not used 10 ☐ Other .....

METHOD OF CONSTRUCTION (57)

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☑ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

Name of Well Contractor	Well Contractor's Licence No.
Mountain Well Drilling	6851
Address: RR#10 Peterborough	
Name of Well Technician: ROBERT SAUNDERS	Well Technician's Licence No. T2322
Signature of Technician/Contractor: Robert Saunders	Submission date: day 10 mo 8 yr 97

MINISTRY USE ONLY

Data source (58)	Contractor (59–62): 6851	Date received (63–68) (80): JAN 05 1998
Date of inspection	Inspector	
Remarks		

0506 (07/94) Front Form 9

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11

5117915

Municipality: 51007 | Con.: CON 09

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	DURO	9	4
	Address: RR10 PETERBOROUGH	Date completed	20 (day) 8 (month) 98 (year)

21 | Northing | RC | Elevation | RC | Basin Code | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	To
GREY	LIMESTONE			61	100

31

32 DEEPEN EXISTING WELL

41 WATER RECORD

Water found at – feet	Kind of water
NIL	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	To
	☐ Steel ☐ Galvanized ☐ Concrete ☒ Open hole ☐ Plastic		-61	-100
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter	Length
	inches	feet
Material and type	Depth at top of screen	
	feet	

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	To	Material and type (Cement grout, bentonite, etc.)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
☐ Pump ☐ Bailer	.5 GPM	DRY HOLE Hours

Static level	Water level end of pumping	Water levels during ☐ Pumping ☐ Recovery: 15 minutes	30 minutes	45 minutes	60 minutes
feet	feet	feet	feet	feet	feet

If flowing give rate: GPM | Pump intake set at: feet | Water at end of test: ☐ Clear ☐ Cloudy

Recommended pump type: ☐ Shallow ☐ Deep | Recommended pump setting: feet | Recommended pump rate: GPM

FINAL STATUS OF WELL

☐ Water supply ☐ Observation well ☐ Test hole ☐ Recharge well ☐ Abandoned, insufficient supply ☐ Abandoned, poor quality ☐ Abandoned (Other) ☐ Dewatering ☐ Unfinished ☐ Replacement well

DEEPEN EXISTING WELL

WATER USE

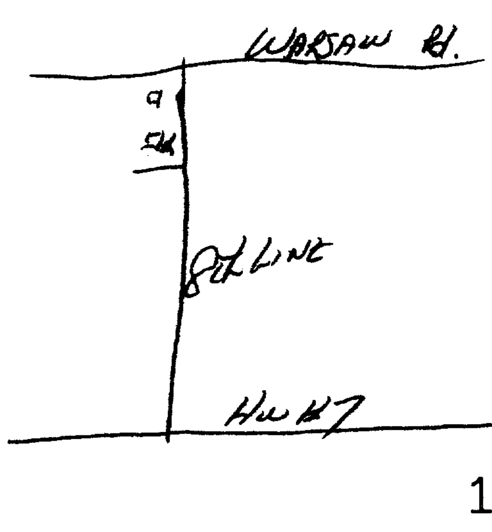
☒ Domestic ☐ Stock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☐ Public supply ☐ Cooling & air conditioning ☐ Not used ☐ Other

METHOD OF CONSTRUCTION

☒ Cable tool ☐ Rotary (conventional) ☐ Rotary (reverse) ☐ Rotary (air) ☐ Air percussion ☐ Boring ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Other

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



198042

Name of Well Contractor	Well Contractor's Licence No.
KEITH WHITE	6564
Address: RR2 HAVELOCK	
Name of Well Technician: KEITH WHITE	Well Technician's Licence No.: T1732
Signature of Technician/Contractor	Submission date: 20 8 98

MINISTRY USE ONLY

Data source	Contractor	Date received
	6564	OCT 02 1998
Date of inspection	Inspector	
Remarks		CSS. ES9

0506 (07/94) Front Form 9

2 - MINISTER OF ENVIRONMENT & ENERGY COPY

Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 — 5117939 — Municipality 51007 — Con. CON 09

County or District: Peterborough
Township/Borough/City/Town/Village: Douro Township
Con block tract survey, etc.: Con. 9
Lot: 3
Address: R.R #10 Peterborough, Ont
Date completed: 19 day 10 month 98 year
Zone — Easting — Northing — KJ — Elevation — RC — Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
Brown		Clay	Soft	1	15
Grey		Gravel	Soft	15	20

41 WATER RECORD

Water found at – feet	Kind of water
15	1 [X] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 5 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 5 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 5 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 5 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 5 [ ] Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
36	1 [ ] Steel 2 [ ] Galvanized 3 [X] Concrete 4 [ ] Open hole 5 [ ] Plastic	2 1/2	1	20
	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			
	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
12x10		

Material and type: Clear Stone
Depth at top of screen: 14 feet

61 PLUGGING & SEALING RECORD

[ ] Annular space [ ] Abandonment

Depth set at – feet From	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
0	15	Cement
15	0	Clayee Slurr

71 PUMPING TEST

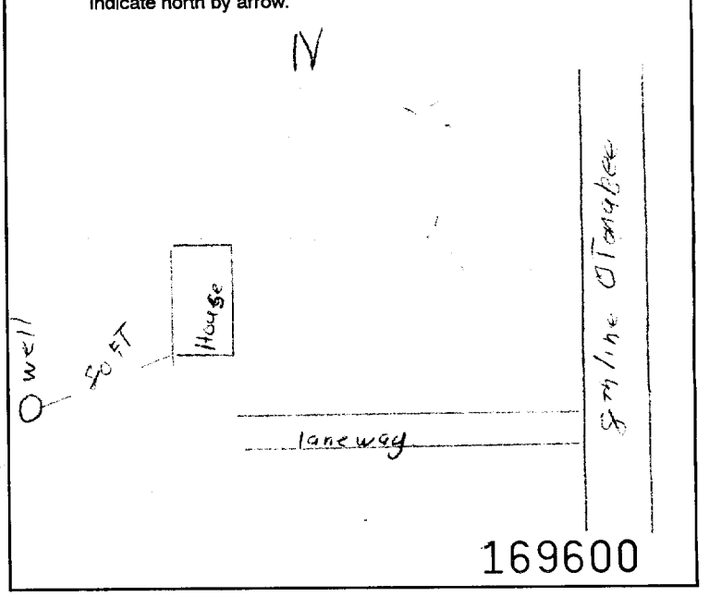
Pumping test method: 1 [X] Pump 2 [ ] Bailer
Pumping rate: 3.52 GPM
Duration of pumping: 3.0 Hours Mins

Static level	Water level end of pumping	Water levels during: 1 [X] Pumping 2 [ ] Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
8 feet	0 feet	16 feet	20 feet	feet	feet

If flowing give rate: GPM
Pump intake set at: 1.5 feet
Water at end of test: [X] Clear [ ] Cloudy
Recommended pump type: [X] Shallow [ ] Deep
Recommended pump setting: 1.5 feet
Recommended pump rate: 6 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



FINAL STATUS OF WELL

1 [X] Water supply 2 [ ] Observation well 3 [ ] Test hole 4 [ ] Recharge well 5 [ ] Abandoned, insufficient supply 6 [ ] Abandoned, poor quality 7 [ ] Abandoned (Other) 8 [ ] Dewatering 9 [ ] Unfinished 10 [ ] Replacement well

WATER USE

1 [X] Domestic 2 [ ] Stock 3 [ ] Irrigation 4 [ ] Industrial 5 [ ] Commercial 6 [ ] Municipal 7 [ ] Public supply 8 [ ] Cooling & air conditioning 9 [ ] Not used 10 [ ] Other

METHOD OF CONSTRUCTION

1 [ ] Cable tool 2 [ ] Rotary (conventional) 3 [ ] Rotary (reverse) 4 [ ] Rotary (air) 5 [ ] Air percussion 6 [ ] Boring 7 [ ] Diamond 8 [ ] Jetting 9 [ ] Driving 10 [X] Digging 11 [ ] Other

Name of Well Contractor: Jeff Fallis Excavating ltd
Well Contractor's Licence No.: 6023
Address: R.R #11 Peterborough Ont.
Name of Well Technician: Jeff Fallis
Well Technician's Licence No.: T-0451
Signature of Technician/Contractor: Jeff Fallis
Submission date: day 14 mo 11 yr 97

MINISTRY USE ONLY

Data source
Contractor: 6023
Date received: NOV 19 1998
Date of inspection
Inspector
Remarks

CSS. ES9

0506 (07/94) Front Form 9

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Ontario **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.

11 (1 2) **5119012**

Municipality (10 14) 5 1 0 0 7 | Con. (15 22 23 24) CON | 0 9

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
PETERBOROUGH.	DOURO.	9	4

Address: Peterboro

Date completed (48-53): 23 day | 11 month | 01 year

(21 1 2) | (O T M 10) | (12 17) Northing (18 24) | RC (25) | Elevation (26) | RC (30) | Basin Code (31) i ii iii iv (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
BROWN	TOPSOIL			0	1
BROWN	CLAY. STONE			1	14
GREY.	CLAY, STONE			14	61
GREY.	SHALE ROCK			61	62
GREY.	LIMESTONE ROCK.			62	100

31 (10 14 15 21) | 32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet	Kind of water
10-13: 61-62	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
15-18	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
20-23	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
25-28	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
30-33	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
10-11: 6 1/4"	1 ☑ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188W	0	62 (13-16)
17-18	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(20-23)
24-25	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☑ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
0 (13-13)	10 (14-17)	BENSEAL-EZMUD MIX.
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10): 1 ☐ Pump 2 ☑ Bailer

Pumping rate (11-14): 3 GPM

Duration of pumping (15-16) Hours 2 (17-18) Mins 0

Static level (19-21): 30 feet

Water level end of pumping (22-24): 80 feet

Water levels during (25): 1 ☐ Pumping 2 ☑ Recovery

15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
70 feet	55 feet	40 feet	34 feet

If flowing give rate (38-41): GPM

Pump intake set at: 95 feet

Water at end of test (42): ☑ Clear ☐ Cloudy

Recommended pump type: ☐ Shallow ☑ Deep

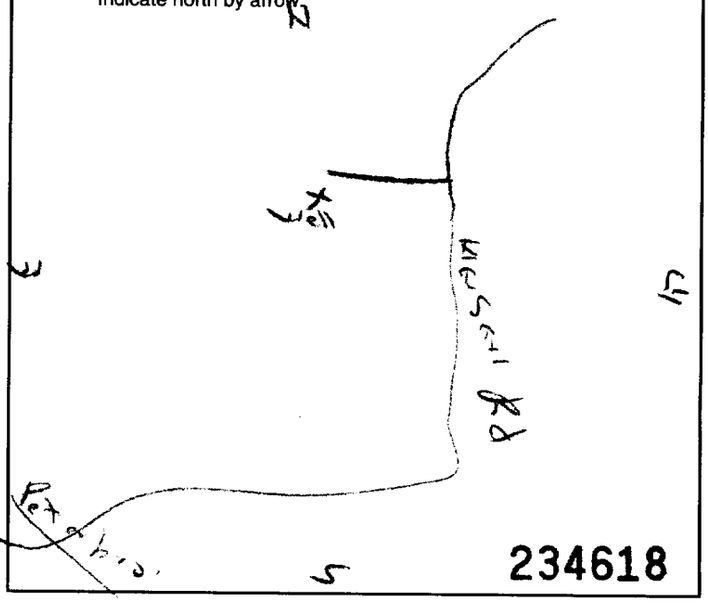
Recommended pump setting (43-45): 75 feet

Recommended pump rate (46-49): 3 GPM

(50-53)

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



234618

FINAL STATUS OF WELL (54)

1 ☑ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE (55-56)

1 ☑ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION (57)

1 ☑ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
BURGESS WELL Drilling	1455
Address: RR#1 ORMSTOWN	
Name of Well Technician: BILL S. BURGESS	Well Technician's Licence No.: T0836
Signature of Technician/Contractor	Submission date: 12 day 12 mo 01 yr

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1455	MAY 06 2002
Date of inspection	Inspector	
Remarks		

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Ontario Ministry of the Environment

Well Record
Regulation 903 Ontario Water Resources Act

page ___ of ___

Well number below) A033018

A033018

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

[redacted]

Address of Well Location (County/District/Municipality): PETER BOUGH.

Township: DOURO

Lot: 26

Concession: 9.

RR#/Street Number/Name: 8th Line Douro.

City/Town/Village:

Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 17 | Easting 718837 | Northing 4911423

Unit Make/Model: GAEMN

Mode of Operation: ☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify TM.

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To
BROWN	TOPSOIL			0	.30
BROWN	CLAY, COBBLES,			.30	3.81
GREY.	CLAY, STONE			3.81	5.48
GRY.	SHALE, GRAVEL, LAYERS.			5.48	6.09
GREY.	LIMESTONE ROCK			6.09	32.30

Hole Diameter

Depth From	Depth To	Diameter Centimetres
0	32.80	159

Water Record

Water found at ___ Metres / Kind of Water

5.48 m ☑ Fresh ☐ Sulphur
☐ Gas ☐ Salty ☐ Minerals
☐ Other:

___ m ☐ Fresh ☐ Sulphur
☐ Gas ☐ Salty ☐ Minerals
☐ Other:

___ m ☐ Fresh ☐ Sulphur
☐ Gas ☐ Salty ☐ Minerals
☐ Other:

After test of well yield, water was
☑ Clear and sediment free
☐ Other, specify

Chlorinated ☑ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To
Casing				
15.9	☑ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	RSW	0	5.48
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
No Casing or Screen				
	☑ Open hole		5.48	32.30

Test of Well Yield

Pumping test method: PUMP

Pump intake set at - (metres): 31.08

Pumping rate - (litres/min): 9.09

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping: ___ metres

Recommended pump type: ☐ Shallow ☑ Deep

Recommended pump depth: 31.08 metres

Recommended pump rate: 9.09 (litres/min)

If flowing give rate - (litres/min)

If pumping discontinued, give reason.

	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level		2.43		
1	3.04		1	27.58
2	3.65		2	27.00
3	4.26		3	26.21
4	4.87		4	25.60
5	5.48		5	24.38
10	8.07		10	23.01
15	9.75		15	21.73
20	12.34		20	20.87
25	14.63		25	19.20
30	17.06		30	18.57
40	21.03		40	16.79
50	23.77		50	15.24
60	28.04		60	13.96

Plugging and Sealing Record ☑ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	5.48	BENTONITE SLURRY	
5.48	6.09	GRAVEL.	

Method of Construction

☑ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

☑ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☑ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor: BUGGESS WELL DRILLING

Well Contractor's Licence No.: 1455

Business Address (street name, number, city etc.): RR#1 Ompmee, ONT.

Name of Well Technician (last name, first name): LANG BERT

Well Technician's Licence No.: 1-10

Signature of Technician/Contractor: X

Date Submitted: YYYY 2006 MM 08 DD 01

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.

Audit No. Z 36084

Date Well Completed: YYYY 2006 MM 07 DD 31

Was the well owner's information package delivered? ☑ Yes ☐ No

Date Delivered: YYYY 2006 MM 08 DD 01

Ministry Use Only

Data Source

Contractor: 1455

Date Received: APR 16 2007 YYYY MM DD

Date of Inspection: YYYY MM DD

Remarks

Well Record Number

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐ *Cette formule est disponible en français*

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A067046

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

[redacted]

Address of Well Location (Street Number/Name): 142 8th line Douro.

Township: Douro.

Lot: 2 Concession: 9

County/District/Municipality: Peterborough.

City/Town/Village: Lakefield.

Province: Ontario

Postal Code:

UTM Coordinates: NAD 8 3 Zone 17 Easting 719298 Northing 4913519

Municipal Plan and Sublot Number: 45R-14180

Other:

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Clay	Boulders, Gravel,		0	36
Grey.	Gravel.	Clay, Cobbles, Sand.		36	75
Grey	Limestone Rock			75	90

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20'	Bentonite Slurry.	

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used
☑ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼"	Steel	188W	0	75'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

☑ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
75-90	☑ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	90	6¼

Results of Well Yield Testing

After test of well yield, water was:
☑ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft): 85'

Pumping rate (l/min / GPM): 5.G.P.M.

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 48'

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft): 85'

Recommended pump rate (l/min / GPM): 5G.P.M

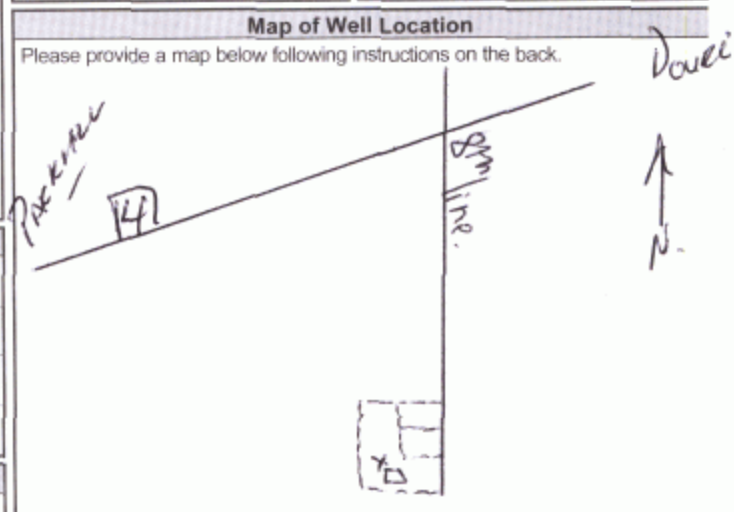
Well production (l/min / GPM): 5. G.P.M

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	26		
1	30.1	1	45.5
2	33	2	43.4
3	35.4	3	41.5
4	37	4	39.8
5	39.5	5	38.3
10	46.7	10	32.6
15	51.3	15	29.4
20	54.2	20	27.8
25	56.2	25	26.7
30	57.5	30	26.
40	59	40	
50	56.2	50	
60	48	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Burgess Well Drilling

Well Contractor's Licence No.: 1455

Business Address (Street Number/Name): 467 Emily Pack Rd.

Municipality: Omemee

Province: Ont.

Postal Code: K0L2W0

Business E-mail Address:

Bus. Telephone No. (inc. area code): 705 799 5871

Name of Well Technician (Last Name, First Name): Watson, Kyle

Well Technician's Licence No.: 3424

Signature of Technician and/or Contractor:

Date Submitted: 2008 09 15

Well owner's information package delivered: ☑ Yes ☐ No

Date Package Delivered: 2008 09 24

Date Work Completed: 2008 09 [illegible]

Ministry Use Only

Audit No. Z 85441

Received APR 0 6 2009

0506E (12/2007)

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

A 067031 (and/or Print Below)

A067031

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
312 County Rd No. 1	Dour Dummer	PT 3	9

County/District/Municipality	City/Town/Village	Province	Postal Code
Peterboro	Peterboro	Ontario	K9J 6Y2

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	718327	4913964		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
DK BROWN	TOPSOIL			0	2.5
BROWN	CLAY,	COBBLES		2.5	41
GREY	CLAY.	Cobbles, gravel.		41	85
GREY,	GRAVEL, SHALE,	SAND, CLAY.		85	89
GREY	LIMESTONE ROCK			89	100

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20'	BENTONITE SLURRY.	

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6¼	STEEL.	SCH	0	89

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
89-100 (m/ft) ☐ Gas	☑ Fresh ☐ Untested ☐ Other, specify	0	100	6¼
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

After test of well yield, water was:
☑ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM) 15 G.P.M

Duration of pumping 1 hrs + 0 min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft) 90'

Recommended pump rate (l/min / GPM) 5

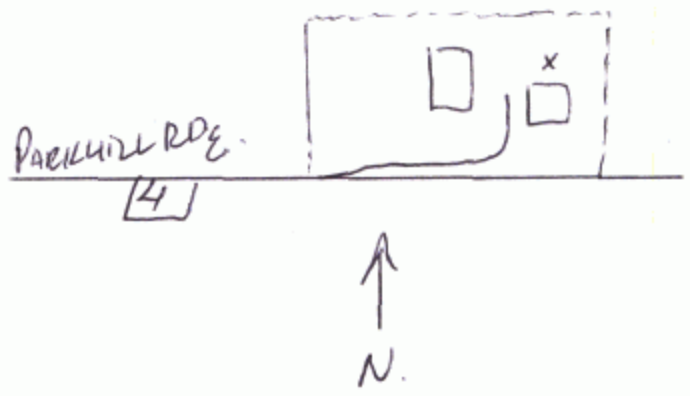
Well production (l/min / GPM) 15 G.P.M

Disinfected? ☑ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		38-5		
1	40		1	67
2	42		2	62
3	44.5		3	59-5
4	47		4	54-9
5	49-7		5	51-7
10	56		10	46-1
15	61		15	44-
20	66		20	40-2
25	71-5		25	394
30	740		30	38.7
40	"		40	38.5
50	"		50	
60	"		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
BURGESS WELL DRILLING	1455

Business Address (Street Number/Name)	Municipality
467 EMILY PARK RD.	OMEMEE

Province	Postal Code	Business E-mail Address
ONT.	K0L 2W0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
7057995871	WATSON, KYLE

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3424		2008 08 20

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	2008 08 24	2008 08 04

Ministry Use Only

Audit No. Z 80941

APR 06 2009

Received

0506E (12/2007)

Ministry's Copy

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* 087998 A 097000

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
465 County Rd. 4	Douro / Dummer	4	8

County/District/Municipality	City/Town/Village	Province	Postal Code
Peterborough	Peterborough	Ontario	K9J6Y2

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	728128	4914841		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Soil			0	1
	C. Gravel	Cobbles, Stones		1	29
Yellowish	Stone (Rock)		Weathered	29	38
Grey	Limestone		Hard	38	225

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	223	Bentonite Quik Grout	

Method of Construction

- ☐ Cable Tool
- ☑ Rotary (Conventional)
- ☐ Rotary (Reverse)
- ☐ Boring
- ☐ Air percussion
- ☐ Other, specify

- ☐ Diamond
- ☐ Jetting
- ☐ Driving
- ☐ Digging

Well Use

- ☐ Public
- ☐ Domestic
- ☐ Livestock
- ☐ Irrigation
- ☐ Industrial
- ☑ Other, specify: Geothermal Loop System
- ☐ Commercial
- ☐ Municipal
- ☐ Test Hole
- ☐ Cooling & Air Conditioning
- ☐ Not used
- ☐ Dewatering
- ☐ Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1¼	Plastic		+2	223

Status of Well

- ☐ Water Supply
- ☐ Replacement Well
- ☐ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, specify
- ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify	0	223	6⅛
☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

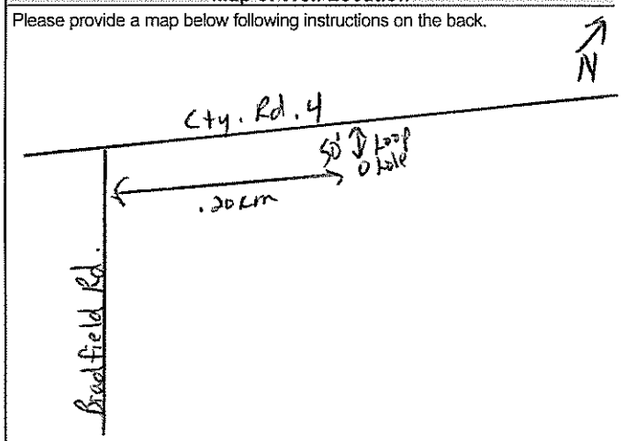
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Roger Boadway Ent. Ltd.	1113

Business Address (Street Number/Name)	Municipality
Box 397, Sutton West, ON	York

Province	Postal Code	Business E-mail Address
ON	L0E1R0	boadwayservices@aol.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057225362	Brown, Phil

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0035	Phil Brown	2010/02/09

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2009/12/01

Ministry Use Only

Audit No. Z 106741

Received FEB 17 2010

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* D87998

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
465 County Rd. 4	Dnaro / Dummer	4	8

County/District/Municipality	City/Town/Village	Province	Postal Code
Peterborough	Peterborough	Ontario	K9J6Y2

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	719127	4911480		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Soil			0	1
	C. Gravel	Cobbles + Stones		1	28
Yellowish	Stone (Rock)		Weathered	28	37
Grey	Limestone		Hard	37	225

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	215	Bentonite Quik Grout	

Method of Construction

- ☐ Cable Tool
- ☑ Rotary (Conventional)
- ☐ Rotary (Reverse)
- ☐ Boring
- ☐ Air percussion
- ☐ Other, *specify* _____
- ☐ Diamond
- ☐ Jetting
- ☐ Driving
- ☐ Digging

Well Use

- ☐ Public
- ☐ Domestic
- ☐ Livestock
- ☐ Irrigation
- ☐ Industrial
- ☑ Other, *specify* Geothermal Loop System
- ☐ Commercial
- ☐ Municipal
- ☐ Test Hole
- ☐ Cooling & Air Conditioning
- ☐ Not used
- ☐ Dewatering
- ☐ Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1¼	Plastic		+2	215

Status of Well

- ☐ Water Supply
- ☐ Replacement Well
- ☐ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, *specify*
- ☐ Other, *specify*

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	215	6 1/8

Results of Well Yield Testing

After test of well yield, water was:
- ☐ Clear and sand free
- ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

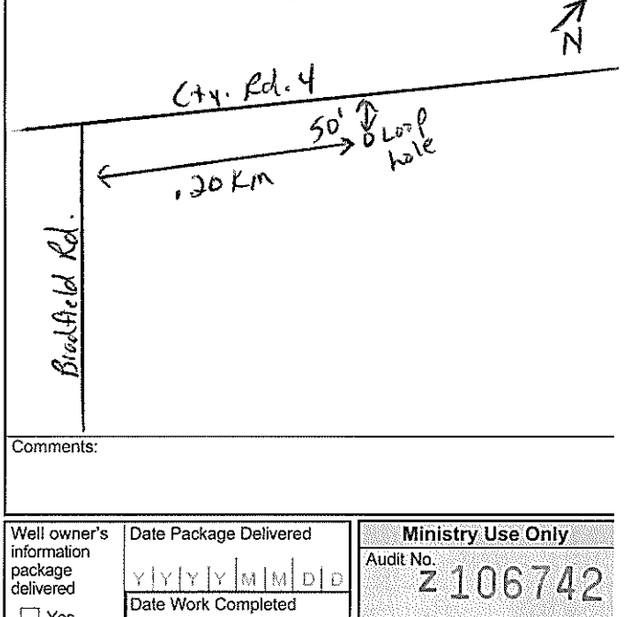
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Roger Broadway Ent. Ltd.	1113

Business Address (Street Number/Name)	Municipality
Box 397, Sutton West	York

Province	Postal Code	Business E-mail Address
ON	L0E1R0	broadwayservices@aol.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057225362	Brown, Phil

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0035	Phil Brown.	2010/02/09

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2009/12/04

Ministry Use Only

Audit No. Z106742

FEB 17 2010

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* D87998

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
465 County Rd. 4	Duoro) Dummer	4	8

County/District/Municipality	City/Town/Village	Province	Postal Code
Peterborough	Peterborough	Ontario	K9J6Y2

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	711911	4911483 8		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Soil			0	1
	C. Gravel	Cobbles + Stones		1	28
Yellowish	Stone (Rock)		Weathered	28	37
Grey	Limestone		Bedrock	37	225

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	223	Bentonite Quik Grout	

Method of Construction

- ☐ Cable Tool
- ☑ Rotary (Conventional)
- ☐ Rotary (Reverse)
- ☐ Boring
- ☐ Air percussion
- ☐ Other, specify _____
- ☐ Diamond
- ☐ Jetting
- ☐ Driving
- ☐ Digging

Well Use

- ☐ Public
- ☐ Domestic
- ☐ Livestock
- ☐ Irrigation
- ☐ Industrial
- ☑ Other, specify Geothermal Loop System
- ☐ Commercial
- ☐ Municipal
- ☐ Test Hole
- ☐ Cooling & Air Conditioning
- ☐ Not used
- ☐ Dewatering
- ☐ Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1¼	Plastic		+2	223

Status of Well

- ☐ Water Supply
- ☐ Replacement Well
- ☐ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, specify
- ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested	0	223	6⅛
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested			
☐ Gas ☐ Other, specify	☐ Fresh ☐ Untested			

Results of Well Yield Testing

After test of well yield, water was:
- ☐ Clear and sand free
- ☐ Other, specify _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

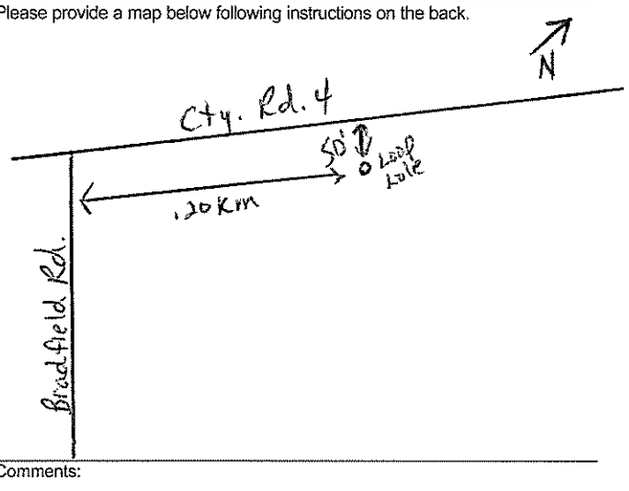
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Roger Boadway Ent. Ltd.	1413

Business Address (Street Number/Name)	Municipality
Box 397, Sutton West	York

Province	Postal Code	Business E-mail Address
ON	L0E1R0	boadwayservices@aol.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057225362	Brown, Phil

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0035	Phil Brown	2010/02/09

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2009/12/14

Ministry Use Only

Audit No. Z106743

Received FEB 17 2010

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* 087998

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
465 County Rd. 4	Douro / Dummer	4	8

County/District/Municipality	City/Town/Village	Province	Postal Code
Peterborough	Peterborough	Ontario	K9J6Y2

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	719124	4914837		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Soil			0	1
	C. Gravel	Cobbles + Stones		1	27
Yellowish	Stone, Rock		Weathered	27	37
Grey	Limestone		Hard	37	225

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	222	Bentonite Quik Grout	

Method of Construction

- [ ] Cable Tool
- [x] Rotary (Conventional)
- [ ] Rotary (Reverse)
- [ ] Boring
- [ ] Air percussion
- [ ] Other, specify _____
- [ ] Diamond
- [ ] Jetting
- [ ] Driving
- [ ] Digging

Well Use

- [ ] Public
- [ ] Domestic
- [ ] Livestock
- [ ] Irrigation
- [ ] Industrial
- [x] Other, specify Geothermal Loop System
- [ ] Commercial
- [ ] Municipal
- [ ] Test Hole
- [ ] Cooling & Air Conditioning
- [ ] Not used
- [ ] Dewatering
- [ ] Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1¼	Plastic		+2	222

Status of Well

- [ ] Water Supply
- [ ] Replacement Well
- [ ] Test Hole
- [ ] Recharge Well
- [ ] Dewatering Well
- [ ] Observation and/or Monitoring Hole
- [ ] Alteration (Construction)
- [ ] Abandoned, Insufficient Supply
- [ ] Abandoned, Poor Water Quality
- [ ] Abandoned, other, specify _____
- [ ] Other, specify _____

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh / Untested / Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	222	6⅛

Results of Well Yield Testing

After test of well yield, water was:
- [ ] Clear and sand free
- [ ] Other, specify _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

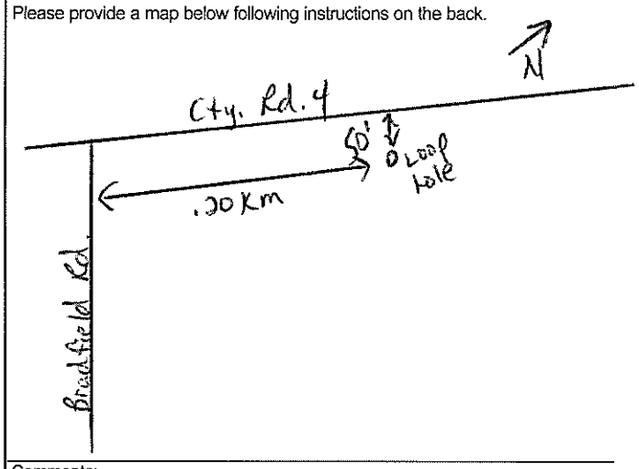
Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Roger Roadway Ent., Ltd.	1413

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
Box 397, Sutton West	York	ON	L0E1R0	roadwayservices@aol.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
9057225362	Brown, Phil	0035	Phil Brown.	2010/02/09

Well owner's information package delivered
- [ ] Yes
- [ ] No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2009/12/21

Ministry Use Only

Audit No. Z 106744

Received FEB 17 2010

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* **A103577**

Well Record

Regulation 903 Ontario Water Resources Act

Page of

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
163 9TH LINE	DOURO	3	9

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH	PETERBOROUGH	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	717970	4913375		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
GREY	CLAY	STONES	PACKED	0	50
GREY	CLAY	GRAVEL SAND	PACKED	50	61
GREY	LIMESTONE SHALE	CLAY SAND	LAYERED	61	67
GREY	LIMESTONE LAYERS		MEDIUM HARD	67	91

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	BENTONITE CHIPS	6 BAGS

Method of Construction

☒ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☐ Not used
☒ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4	Steel	.188	0	64
6 1/4	OPEN HOLE		64	91

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

☒ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Other, specify
64 (m/ft) ☐ Gas	☒ Fresh ☒ Untested	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	8"
0	91	6 1/4"

Results of Well Yield Testing

After test of well yield, water was:
☒ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft): 89

Pumping rate (l/min / GPM): 3 GPM

Duration of pumping: 1 hrs + 30 min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft): 89

Recommended pump rate (l/min / GPM): 3 GPM

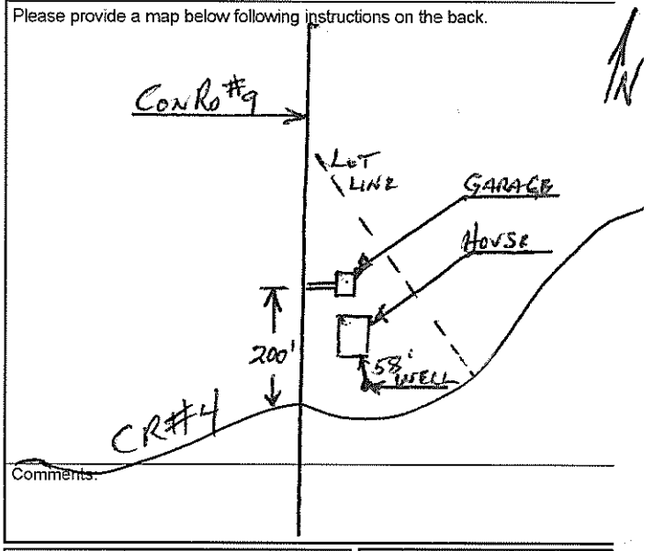
Well production (l/min / GPM): 2 GPM

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		18'8		
1	1	21'2	1	62'5
2	2	22'6	2	62'
3	3	24	3	61'5
4	4	26'1	4	60'8
5	5	27'3	5	60'1
10	10	33'7	10	56'2
15	15	40	15	52'3
20	20	44'7	20	49'2
25	25	49'5	25	48'7
30	30	52'6	30	44'4
40	40	58'8	40	38'7
50	50	64'2	50	36'5
60	60	64'6	60	34'2

Map of Well Location

Please provide a map below following instructions on the back.



Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
HERB LANG WELL DRILLING LTD	3167

Business Address (Street Number/Name)	Municipality
4852 HWY #7 RR#1	OMEMEE

Province	Postal Code	Business E-mail Address
ON	K0L 2W0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
	MASK KEVIN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3460		2010/12/15

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2010/10/13	2010/12/15

Ministry Use Only

Audit No. Z124967

Received JAN 18 2011

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Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* NO TAG - DECOMMISSION

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☑ Imperial

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
163 9TH LINE	DOURO	3	9

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH	PETERBOROUGH	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	719427	4913433		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
GREY	CLAY		WET	0	9
GREY	CLAY	STONES	PACKED	9	27
GREY	CLAY	GRAVEL SAND	PACKED	27	40
GREY	LIMESTONE SHALE	SAND CLAY	LAYERED	40	62
GREY	LIMESTONE LAYERS		MED HARD	62	100

INSUFFICIENT SUPPLY - PULLED CASING + DECOMMISSIONED WELL

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	100	BENTONITE SLURRY	120 GAL
		LIMESTONE SCREENINGS	

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☒ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☒ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth (m/ft) From	To	Diameter (cm/in)
☐ Gas	☒ Other, *specify* ABANDONED	0	20	8"
☐ Gas	☐ Other, *specify* _____	0	100	6 1/4"
☐ Gas	☐ Other, *specify* _____			

(Kind of Water: ☐ Fresh ☐ Untested)

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☒ Other, *specify* ABONDED

If pumping discontinued, give reason: N/A

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

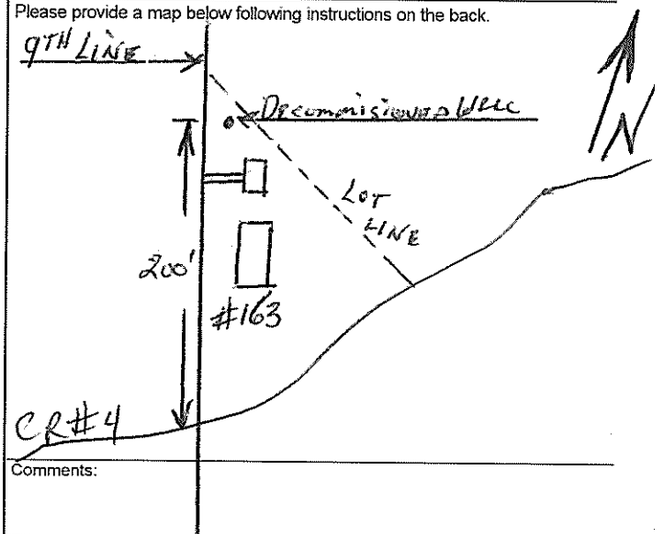
Well production (l/min / GPM)

Disinfected? ☑ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
HERB LANG WELL DRILLING LTD	3167

Business Address (Street Number/Name)	Municipality
4852 HWY #7 RR#1	OMEMEE

Province	Postal Code	Business E-mail Address
ON	K0L2W0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
	MASK KEVIN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3160	Herb Lang	2010/12/14

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2010/12/14

Ministry Use Only

Audit No. Z124968

Received JAN 18 2011

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* **A103618**

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial — Page ___ of ___

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
185 DOURO 8TH LINE	DOURO	3	8

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH		Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	719395	4914113		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	TOPSOIL		SOFT	0	6
BROWN	CLAY		SOFT	6	18
GREY	GRAVEL	COBBLES	LOOSE	18	23
GREY	CLAY	GRAVEL	HARD PACKED	23	42
GREY	SHALE LIMESTONE		LAYERED	42	43
GREY	LIMESTONE		HARD	43	61

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/gal)
0	20	BENTONITE SLURRY	30 GAL
		1 BAG HOLE PLUG	50 LBS

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* ___

Well Use

☐ Public ☐ Commercial ☐ Not used
☑ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* ___

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4	STEEL	.188	+2	43'
6 1/4	OPEN HOLE		43'	61'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

☒ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify* ___
☐ Other, *specify* ___

Water Details

Water found at Depth (m/ft)	Kind of Water	
43	☐ Fresh ☑ Untested	☐ Gas ☐ Other, *specify* ___
	☐ Fresh ☐ Untested	(m/ft) ☐ Gas ☐ Other, *specify* ___
	☐ Fresh ☐ Untested	(m/ft) ☐ Gas ☐ Other, *specify* ___

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	61'	6 1/4

Results of Well Yield Testing

After test of well yield, water was:
☑ Clear and sand free
☐ Other, *specify* ___

If pumping discontinued, give reason: /

Pump intake set at (m/ft): 58'

Pumping rate (l/min / GPM): 4 GPM

Duration of pumping: 1 hrs + 00 min

Final water level end of pumping (m/ft): 56'4

If flowing give rate (l/min / GPM): /

Recommended pump depth (m/ft): 58

Recommended pump rate (l/min / GPM): 3 GPM

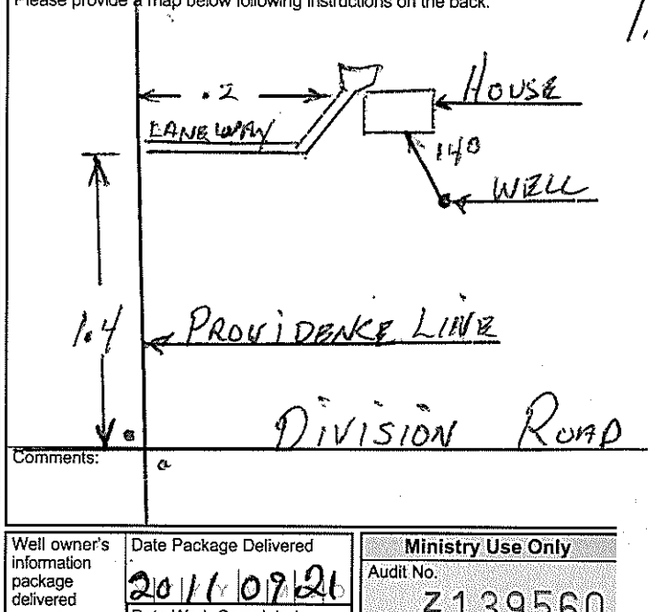
Well production (l/min / GPM): 2'12 GPM

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	8'		
1	11'	1	53'
2	12'9	2	51'2
3	14'7	3	50'
4	16'9	4	49'1
5	18'	5	48'6
10	24'2	10	44'6
15	27'	15	42'8
20	29'3	20	43'
25	31'	25	42'
30	33'8	30	41'3
40	41'	40	37'4
50	43'5	50	33'2
60	48	60	31'6

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
HERB LANG WELL DRILLING LTD	3367

Business Address (Street Number/Name)	Municipality
4852 HWY #7	OMEMEE

Province	Postal Code	Business E-mail Address
ON	K0L2W0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
	FRANKS TED

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
2631	[signature]	2011/10/03

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☑ Yes ☐ No	2011/09/21	Audit No. Z139560
	Date Work Completed: 2011/10/03	Received JAN 19 2012

  Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)*: NO TAG - DECOMMISSION

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
311 NINTH LINE	DOURO	4	9

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH		Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	717737	4914340		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
BROWN	CLAY		SOFT	0	14
GREY	CLAY	COBBLES	PACKED	14	33
GREY	CLAY	GRAVEL	HARD PACKED	33	46
GREY	LIMESTONE		HARD	46	76
	NOTE: INSUFFICIENT WATER				
	PULLED CASING + DECOMMISSIONED			WELL	

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	76	BENTONITE CHIPS	150LBS
		LIMESTONE SCREENING	
LAYERED		BENTONITE SLURRY	1.5 TONS

Method of Construction

☒ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☒ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6 1/4	STEEL	.188	0	46
6 1/4	OPEN HOLE		46	76

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☒ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	
46	☐ Fresh ☐ Untested ☐ Gas ☒ Other, *specify* INSUFFICIENT	
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*	
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, *specify*	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	8"
0	76	6 1/4"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM): N/A

Duration of pumping: ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

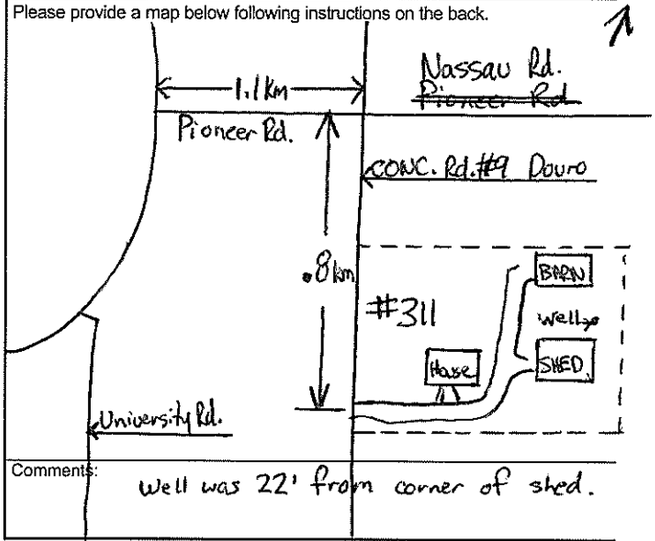
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: Well was 22' from corner of shed.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
HERB LANG WELL DRILLING LTD	3167

Business Address (Street Number/Name)	Municipality
4852 HWY #7	OMEMEE

Province	Postal Code	Business E-mail Address
ON	K0L2W0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
	MASK KEVIN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3460	[signature]	2011/12/16

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2011/11/02	2011/12/16

Ministry Use Only

Audit No. Z139604

Received FEB 21 2012

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. (Place Sticker and/or Print Below)
A121750

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
CTY RD 4 + 8th Line.	DOURO	4	9

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH	DOURO	Ontario	K9J 6Z8

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	718874	4914724	Ø	Ø

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
			TOP SOIL	0	3
GREY	GRAVEL			3	36
GREY	LIMESTONES			36	54
BROWN	LIMESTONE			54	57
GREY	LIMESTONE			57	96

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	20	HOLE PLUG	

Method of Construction

☒ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify*

Well Use

☐ Public ☐ Commercial ☐ Not used
☒ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6 1/4	STEEL	188	0	36
6	OPEN HOLE	Ø	36	96

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
	Ø			

Status of Well

☒ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	
54 (m/ft) ☐ Gas	☐ Fresh ☒ Untested	☐ Other, *specify*
Water found at Depth (m/ft) ☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*
Water found at Depth (m/ft) ☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	96	6

Results of Well Yield Testing

After test of well yield, water was:
☒ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason: Ø

Pump intake set at (m/ft): 96

Pumping rate (l/min / GPM): 2

Duration of pumping: 1 hrs + 06 min

Final water level end of pumping (m/ft): 88

If flowing give rate (l/min / GPM): Ø

Recommended pump depth (m/ft): 95

Recommended pump rate (l/min / GPM): 1

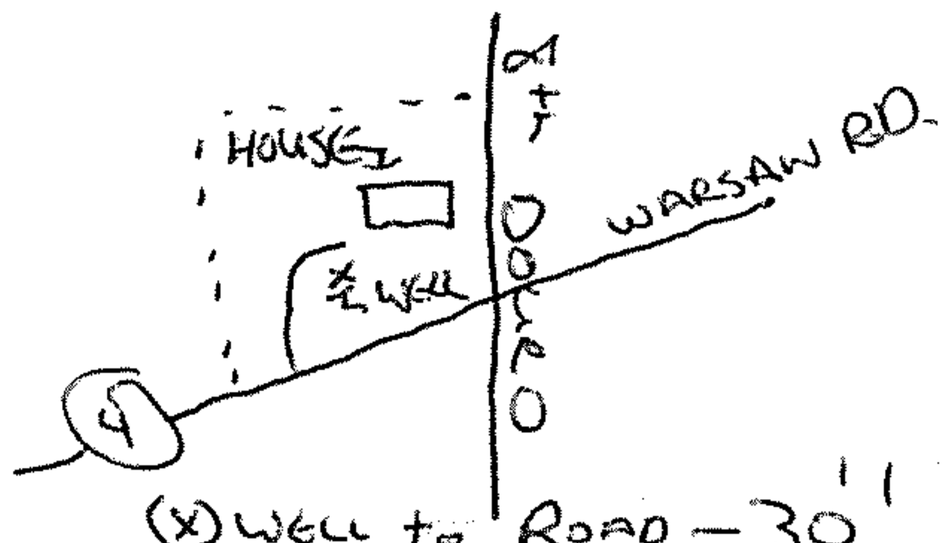
Well production (l/min / GPM): 1

Disinfected?
☐ Yes ☒ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	31	140	95
1	32	1	94
2	32	2	93
3	32	3	92
4	32	4	92
5	32	5	92
10	35	10	90
15	41	15	88
20	46	20	86
25	52	25	84
30	57	30	83
40	68	40	79
50	78	50	75
60	88	60	71

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
ROBERT RUTH WELLDRILLING LTD	4635

Business Address (Street Number/Name)	Municipality
832 WILSON Line	CAVAN

Province	Postal Code	Business E-mail Address
ONT	L0A1C0	Ø

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
7057995343	RUTH, BOB

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T2912	[signature]	20140920

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	unknown	20140714

Ministry Use Only

Audit No. Z139203

Received MAR 30 2015

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

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

Tag#: A248967

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
BRADFIELD ROAD	~~SELWYN~~ DURO	Pt 4	8

County/District/Municipality	City/Town/Village	Province	Postal Code
PETERBOROUGH	DURO	Ontario	K9J 6X3

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	719301	4914722		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	SANDY CLAY (TOPSOIL)			0	3
BROWN	SANDY GRAVEL WITH STONE			3	38
BROWN	SAND TRACES OF SILT			38	42
BROWN	COARSE SAND WITH GRAVEL			42	58
GREY	COARSE GRAVEL			58	60

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	21	BENTONITE GRANULAR	2 Ft³

Method of Construction

☑ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☑ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4	STEEL	.188	0	60

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
N/A				

Status of Well

☑ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify* _____
☐ Other, *specify* _____

Results of Well Yield Testing

After test of well yield, water was:
☑ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at (m/ft): 57'

Pumping rate (l/min / GPM): 4 GPM

Duration of pumping: 1 hrs + 15 min

Final water level end of pumping (m/ft): 49'9"

If flowing give rate (l/min / GPM): N/A

Recommended pump depth (m/ft): 57'

Recommended pump rate (l/min / GPM): 4

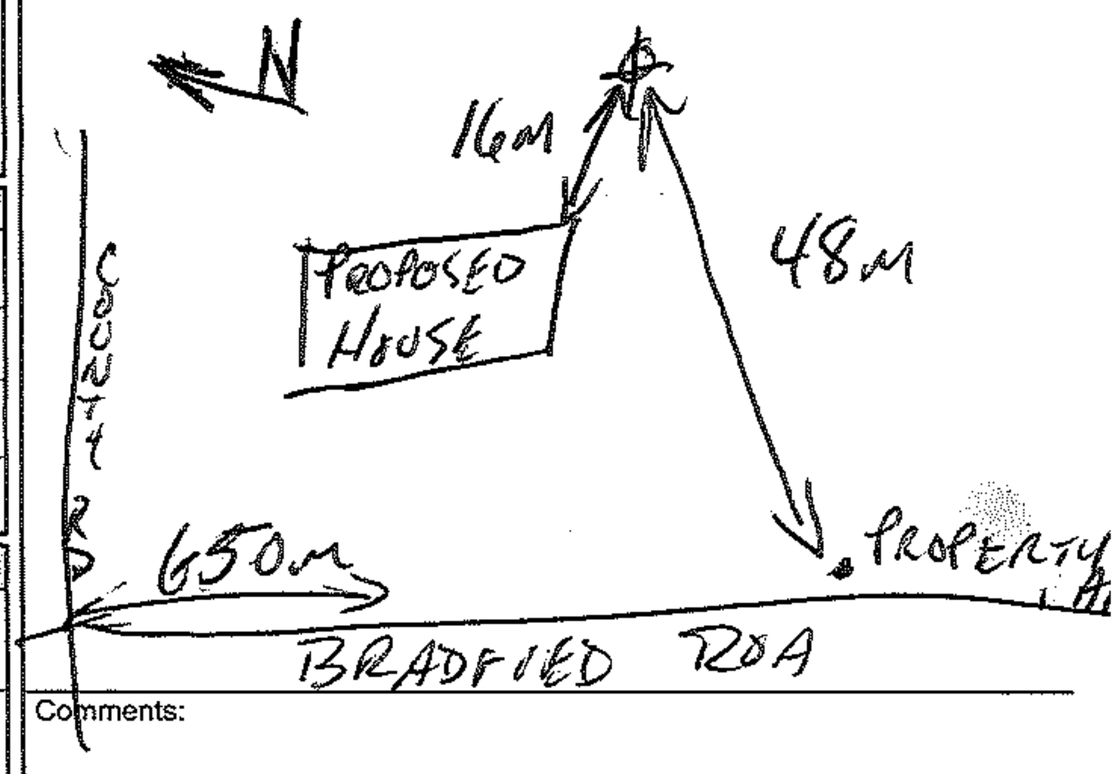
Well production (l/min / GPM): 4

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	46		
1	48'5"	1	
2	48'6"	2	
3	48'6"	3	
4	48'6"	4	
5	48'6"	5	
10	50'1"	10	
15	50'1"	15	
20	50	20	
25	49'9"	25	
30	49	30	
40	49	40	
50	49	50	
60	49	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth From	Hole Diameter Depth To	Hole Diameter Diameter (cm/in)
58 (m/ft) ☐ Gas	☑ Fresh ☐ Untested ☐ Other, *specify*	0	60	6 1/4
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
BRAITHWAITE DRILLING SERVICES	7647

Business Address (Street Number/Name)	Municipality
775 KISTOWEL LINE	ENNISMORE

Province	Postal Code	Business E-mail Address
ON	K0L 1T0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
7059336106	ANDY BRAITHWAITE

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
4019	[signature]	2019 07 16

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2019 07 16	2019 07 16

Ministry Use Only

Audit No. Z288346

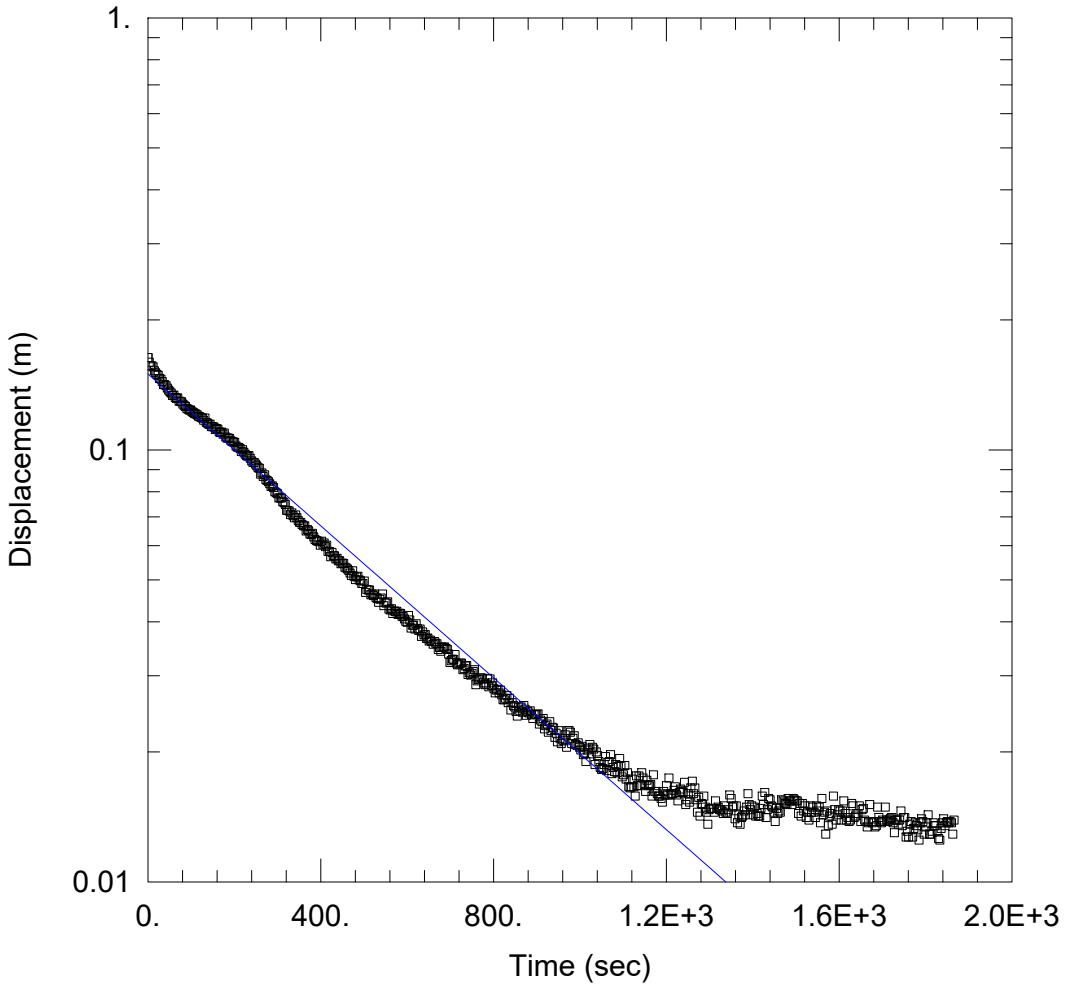
JUL 19 2019

Received

0506E (2014/11) — Ministry's Copy

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

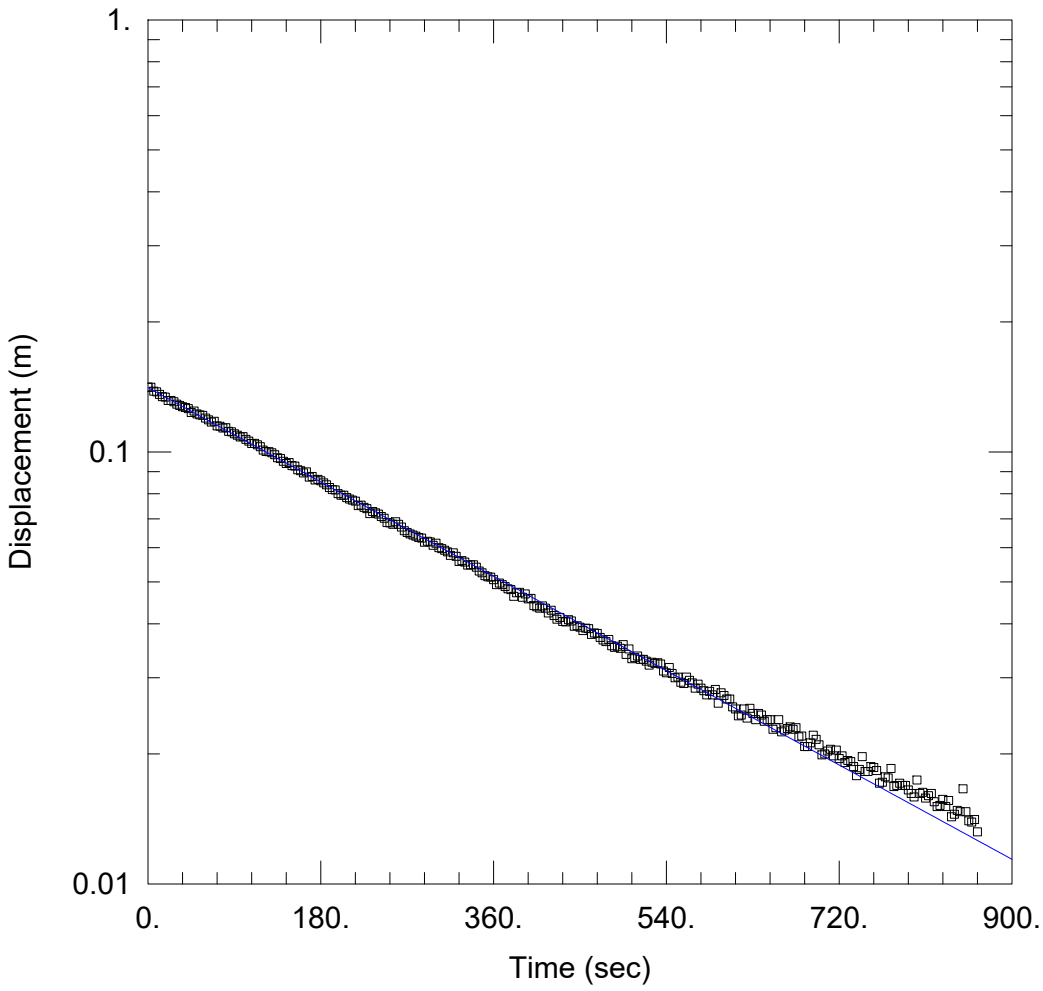
Saturated Thickness: 1.2 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW2)

Initial Displacement: 0.1636 m
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 = 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

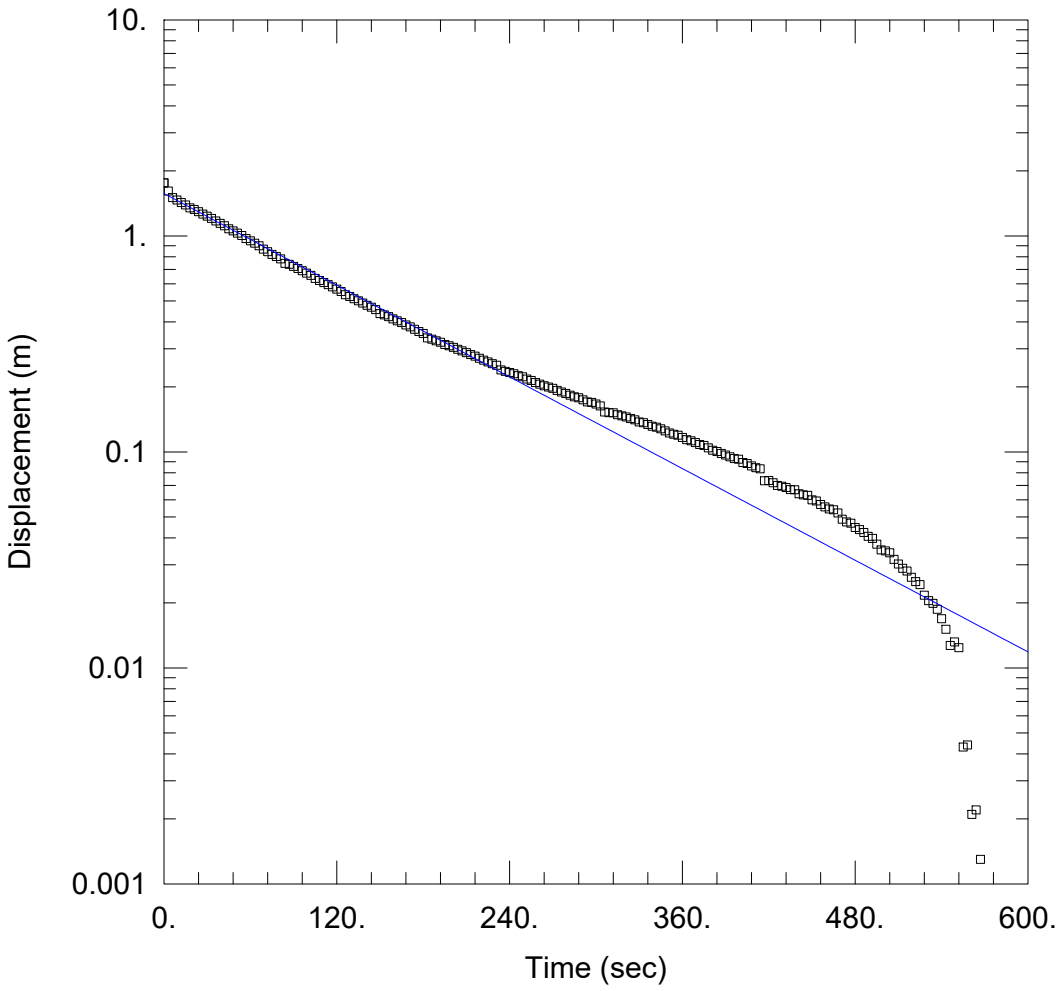
Saturated Thickness: 1.2 m
Anisotropy Ratio (Kz/Kr): 1.

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

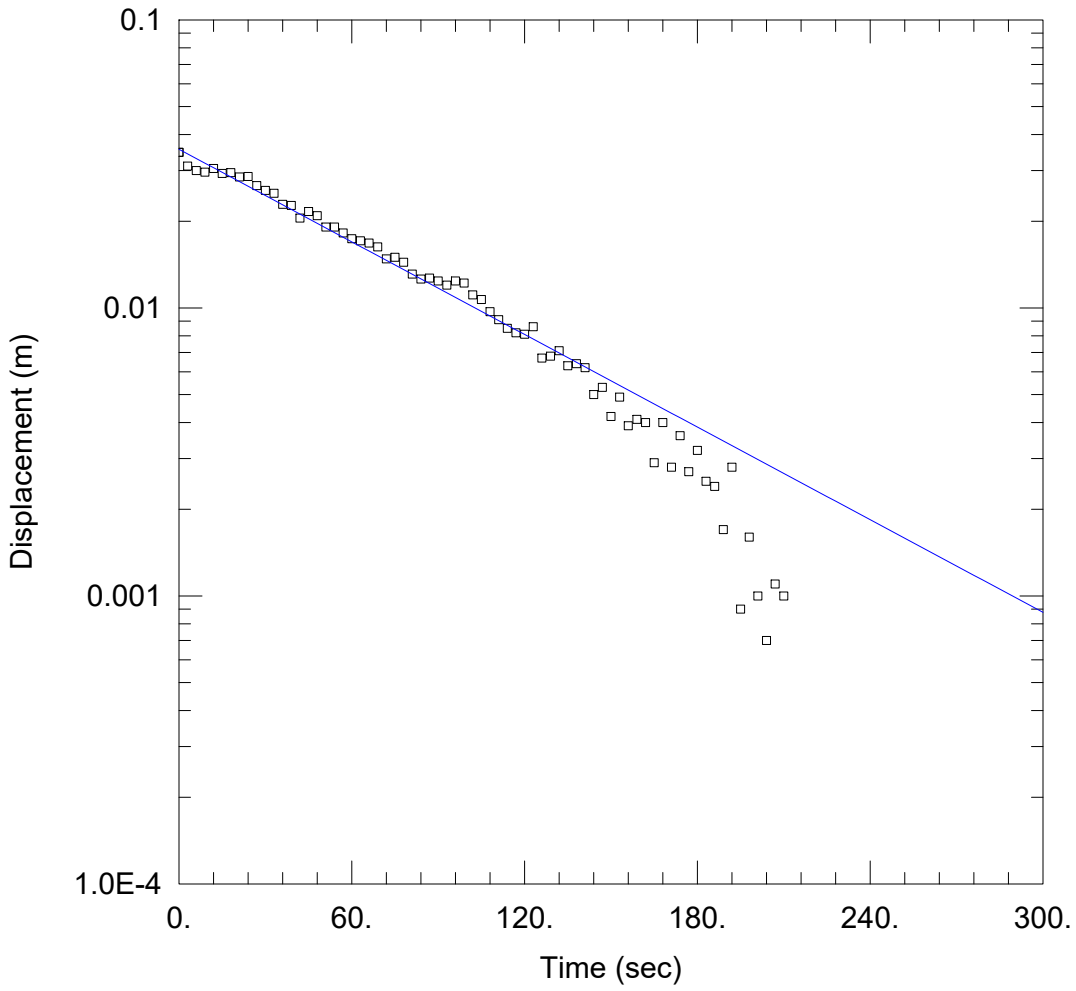
Saturated Thickness: 0.155 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW3)

Initial Displacement: 1.759 m
Total Well Penetration Depth: 1.52 m
Casing Radius: 0.0254 m
Static Water Column Height: 0.155 m
Screen Length: 1.52 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002063 cm/sec
y0 = 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

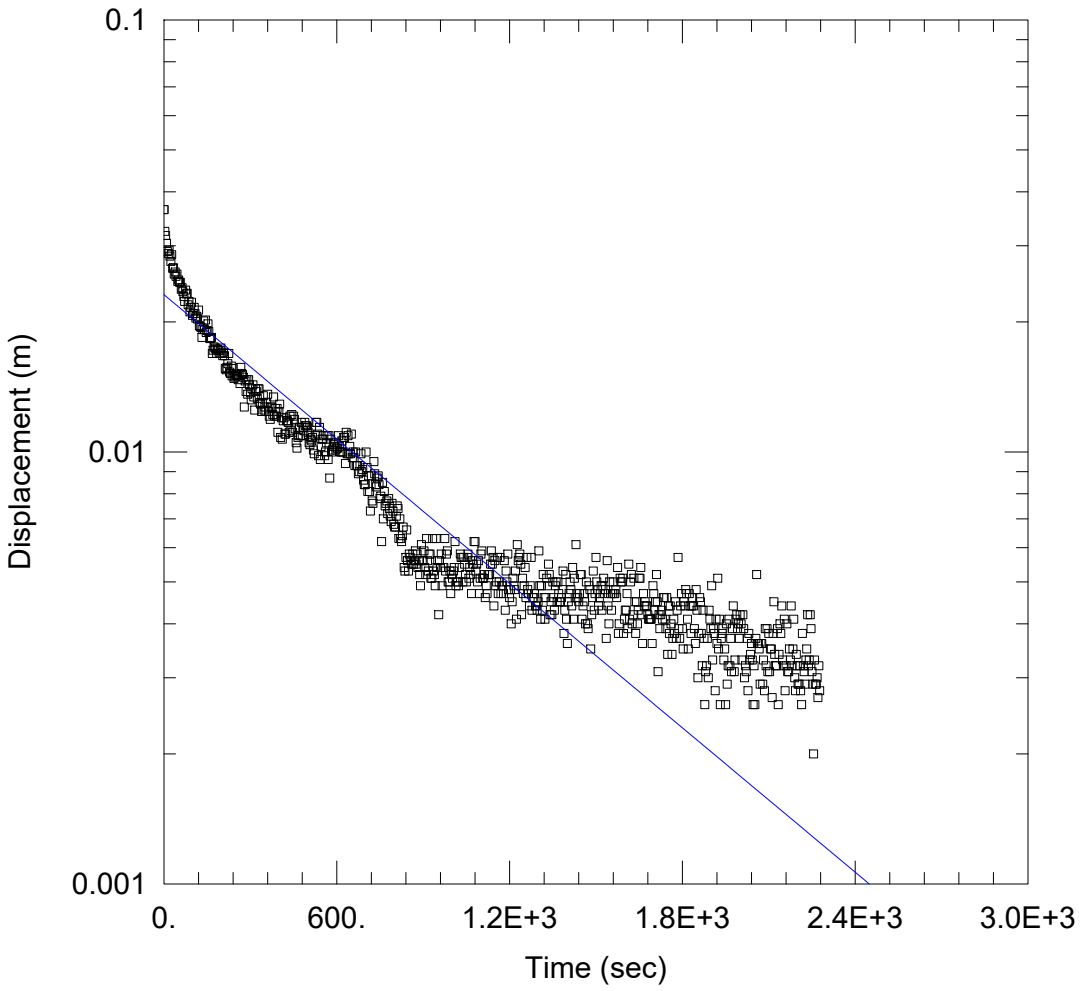
Saturated Thickness: 0.56 m
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW6)

Initial Displacement: 0.0347 m
Total Well Penetration Depth: 1.52 m
Casing Radius: 0.0254 m
Static Water Column Height: 0.56 m
Screen Length: 1.52 m
Well 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: 0.56 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW6)

Initial Displacement: 0.0364 m
Total Well Penetration Depth: 1.52 m
Casing Radius: 0.0254 m
Static Water Column Height: 0.56 m
Screen Length: 1.52 m
Well Radius: 0.0254 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0001118 cm/sec
y0 = 0.02311 m

Appendix E

Laboratory Analytical Data

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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

CADUCEON ENVIRONMENTAL LABORATORIES
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REPORT No. B22-26592 (i)

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GHD Limited
455 Phillip Street,
Waterloo Ontario N2L 3X2 Canada
Attention: Wesley Moore

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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

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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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110 West Beaver Creek Rd Unit 14
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Tel: 289-475-5442
Fax: 289-562-1963

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

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 Collected		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		

Christine Burke
Lab Manager

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REPORT No. B22-26601 (ii)

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Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
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Tel: 289-475-5442
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DATE RECEIVED: 19-Aug-22
DATE REPORTED: 01-Sep-22
SAMPLE MATRIX: Surface Water

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 Collected		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		

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Lab Manager

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

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

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 Collected		17-Aug-22	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		

Christine Burke
Lab Manager

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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.: 12583956-01
P.O. NUMBER: 735-004065
WATERWORKS NO.

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
pH	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

Steve Garrett
Director of Laboratory Services

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DATE RECEIVED: 14-Sep-22
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SAMPLE MATRIX: Soil

JOB/PROJECT NO.: 12583956-01
P.O. NUMBER: 735-004065
WATERWORKS NO.

	Client I.D.		GS-1				O. Reg. 153 Tbl. 1 - Agricultural	
	Sample I.D.		B22-29497-1					
	Date Collected		12-Sep-22					
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

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SAMPLE MATRIX: Soil

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

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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

Steve Garrett
Director of Laboratory Services

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

C.O.C.: ---

REPORT No. B22-29497 (ii)

Report To:

GHD Limited
455 Phillip Street,
Waterloo Ontario N2L 3X2 Canada
Attention: Wesley Moore

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

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

Steve Garrett
Director of Laboratory Services

C.O.C.: ---

REPORT No. B22-29497 (ii)

Report To:

GHD Limited
455 Phillip Street,
Waterloo Ontario N2L 3X2 Canada
Attention: Wesley Moore

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

JOB/PROJECT NO.: 12583956-01
P.O. NUMBER: 735-004065
WATERWORKS NO.

	Client I.D.		GS-1				O. Reg. 153 Tbl. 1 - Agricultural	
	Sample I.D.		B22-29497-1					
	Date Collected		12-Sep-22					
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
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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Steve Garrett
Director of Laboratory Services

CADUCEON™ ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

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

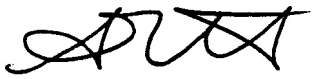
Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

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.**						
% moisture	%		12.9					

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



Steve Garrett
Director of Laboratory Services

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Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22	JOB/PROJECT NO.: 12583956-01
DATE REPORTED: 20-Sep-22	P.O. NUMBER: 735-004065
SAMPLE MATRIX: Soil	WATERWORKS NO.

Summary of Exceedances

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

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Final Report

C.O.C.: ---

REPORT No. B22-29497 (iii)

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Attention: Wesley Moore

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

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 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

Steve Garrett
Director of Laboratory Services

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110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

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.**						
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

Steve Garrett
Director of Laboratory Services

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

CADUCEON ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

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

Caduceon Environmental Laboratories
110 West Beaver Creek Rd Unit 14
Richmond Hill ON L4B 1J9
Tel: 289-475-5442
Fax: 289-562-1963

DATE RECEIVED: 14-Sep-22
DATE REPORTED: 20-Sep-22
SAMPLE MATRIX: Soil

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

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

Steve Garrett
Director of Laboratory Services

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: 12583956-02-SW **REPORT No: 23-008134 - Rev. 0**

Report To:
GHD Limited
455 Phillip Street
Waterloo, ON N2L 3X2

CADUCEON Environmental Laboratories
285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Wesley Moore

DATE RECEIVED: 2023-Apr-21
DATE REPORTED: 2023-May-10
SAMPLE MATRIX: Surface Water

CUSTOMER PROJECT: 12583956-02
P.O. NUMBER: 735-004065

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2023-Apr-25	A-IC-01	SM 4110B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2023-Apr-25	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
ICP/MS Total (Liquid)	2	OTTAWA	TPRICE	2023-Apr-28	D-ICPMS-01	EPA 6020
ICP/OES Total (Liquid)	2	OTTAWA	NHOGAN	2023-Apr-28	D-ICP-01	SM 3120B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	AMANIYA	2023-Apr-28	NH3-001	SM 4500NH3
Turbidity (Liquid)	2	OTTAWA	LMACGREGOR	2023-Apr-26	A-TURB-01	SM 2130B

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Michelle Dubien
Laboratory Manager

	Client I.D.		Creek 1	Creek 2
	Sample I.D.		23-008134-1	23-008134-2
	Date Collected		2023-04-19	2023-04-19
Parameter	**Units**	**R.L.**	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	242	235
pH @25°C	pH units	-	8.05	8.09
Conductivity @25°C	uS/cm	1	700	627
Turbidity	NTU	0.1	0.7	0.6
Fluoride	mg/L	0.1	<0.1	<0.1
Chloride	mg/L	0.5	79.1	59.5
Nitrate (N)	mg/L	0.05	0.15	<0.05
Nitrite (N)	mg/L	0.05	<0.05	<0.05
Sulphate	mg/L	1	7	8
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	<0.05	0.07
o-Phosphate (P)	mg/L	0.002	<0.002	<0.002
Hardness (as CaCO3)	mg/L	-	255	240
Calcium (Total)	mg/L	0.02	93.2	87.1
Iron (Total)	mg/L	0.005	0.035	0.056
Magnesium (Total)	mg/L	0.02	5.37	5.31
Manganese (Total)	mg/L	0.001	0.018	0.011
Potassium (Total)	mg/L	0.1	1.8	1.9
Sodium (Total)	mg/L	0.2	42.1	32.5
Zinc (Total)	mg/L	0.005	0.023	0.029
Copper (Total)	mg/L	0.0001	0.0076	0.0044

Michelle Dubien
Laboratory Manager

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: 12583956-02-GW **REPORT No: 23-008137 - Rev. 0**

Report To:
GHD Limited
455 Phillip Street
Waterloo, ON N2L 3X2

CADUCEON Environmental Laboratories
285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Wesley Moore

DATE RECEIVED: 2023-Apr-21
DATE REPORTED: 2023-May-10
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 12583956-02
P.O. NUMBER: 735-004065

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	2	OTTAWA	PCURIEL	2023-Apr-25	A-IC-01	SM 4110B
Cond/pH/Alk Auto (Liquid)	2	OTTAWA	SBOUDREAU	2023-Apr-25	COND-02/PH-02/ALK-02	SM 2510B/4500H/2320B
ICP/MS (Liquid)	2	OTTAWA	TPRICE	2023-Apr-27	D-ICPMS-01	EPA 200.8
ICP/OES (Liquid)	2	OTTAWA	NHOGAN	2023-Apr-25	D-ICP-01	SM 3120B
Ammonia & o-Phosphate (Liquid)	2	KINGSTON	KDIBBITS	2023-Apr-26	NH3-001	SM 4500NH3
Turbidity (Liquid)	2	OTTAWA	LMACGREGOR	2023-Apr-26	A-TURB-01	SM 2130B

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Michelle Dubien
Laboratory Manager

		Client I.D.	BH6	BH2
		Sample I.D.	23-008137-1	23-008137-2
		Date Collected	2023-04-19	2023-04-19
Parameter	**Units**	**R.L.**	-	-
Alkalinity(CaCO3) to pH4.5	mg/L	5	206	195
pH @25°C	pH units	-	8.02	7.96
Conductivity @25°C	uS/cm	1	423	647
Turbidity	NTU	0.1	0.7	5.1
Fluoride	mg/L	0.1	<0.1	<0.1
Chloride	mg/L	0.5	11.5	59.7
Nitrate (N)	mg/L	0.05	<0.05	4.32
Nitrite (N)	mg/L	0.05	<0.05	<0.05
Sulphate	mg/L	1	3	37
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05	<0.05	0.08
o-Phosphate (P)	mg/L	0.002	<0.002	0.004
Hardness (as CaCO3)	mg/L as CaCO3	0.02	203	218
Calcium	mg/L	0.02	78.7	79.4
Iron	mg/L	0.005	0.007	<0.005
Magnesium	mg/L	0.02	1.41	4.70
Manganese	mg/L	0.001	<0.001	0.001
Potassium	mg/L	0.1	0.1	0.8
Sodium	mg/L	0.2	13.3	20.0
Zinc	mg/L	0.005	0.010	0.011
Copper	mg/L	0.0001	0.0044	0.0296

Michelle Dubien
Laboratory Manager