

March 26, 2024 (Revision 02)

Our File Ref.: 210341

Al Roberts 61 Strachan St, Box 1305 Richmond, Ontario K0A 2Z0

Subject: Hydrogeological Assessment and Terrain Analysis - Proposed Mixed Use Dog Kennel and Dwelling, 5969 Ottawa Street, Richmond, Ontario

Dear Mr. Roberts,

LRL Associates Ltd. (LRL) has conducted a Hydrogeological Assessment and Terrain Analysis Study for a proposed change in land use that would allow development on private water and wastewater services for a portion of the property located at 5969 Ottawa Street. The proposed development is a two-storey prefab building. The first floor would include a kennel to shelter up to four (4) dogs for service training. The second floor would include a two (2) bedroom caretaker's residence. The development is proposed to be constructed on the portion of the property located east of Marlborough Creek at 5969 Ottawa Street, Richmond (herein referred to as the "Site").

The proposed development intends to operate on a private, on-site supply well for drinking water, as well as a private, on-site sewage system.

The assessment was carried out to determine if the proposed development:

- Has soil conditions that are suitable for onsite water supply and sewage disposal; and
- Will not impair the use of groundwater resources on the Site or on adjacent lands.

The assessment involved a desktop review of available information on the geology and hydrogeology of the Site and adjacent lands in addition to an intrusive subsurface investigation (test pitting program), and hydrogeological pumping test of the drinking water well on the subject site.

An initial Hydrogeological Assessment and Terrain Analysis report was prepared and dated September 22, 2021. The City of Ottawa technical reviewers provided comment after a formal evaluation of the deliverable, discussed further in their October 14, 2022, first submission comments, included in **Attachment I**. A second set of comments were then received on November 14, 2023. This report revision has been prepared to address the City of Ottawa comments related to the Hydrogeological Assessment and Terrain Analysis report previously submitted (July 31, 2023).

The findings included herein are based on the work completed from between July 20, 2021, and May 29, 2023.

# 1 SITE AND AREA DESCRIPTION

The property is situated at the southeastern extent of Richmond at 5969 Ottawa Street, shown in **Figure 1**. For the purpose of this report, Ottawa Street direction will be inferred as east-west.

The totality of the property is triangular in shape and approximately 2.22 hectares (5.44 acres). The portion being assessed for development (the Site) is irregularly shaped, approximately 0.90 hectares (2.22 acres), and bounded by Ottawa Street on the south, the Smith Falls rail corridor on the north, an industrial lot to the east, and the Marlborough Creek to the west. The Site is vacant, approximately two thirds treed with a flat, grassed section in the southeast corner which is the proposed location of the new development. Site is zoned as RG3 – Rural General Industrial Zone (RG), Subzone 3.

The topography of the land is generally flat ranging from 94 to 95 m asl. The creek causes a slight dip in topography along the west side of the Site. GeoOttawa shows the majority of the treed portion of the Site is within a flood plain, and the grassed portion of the Site is outside of this floodplain.

These existing site features are shown in the **Figure 2**.

# 2 PROPOSED DEVELOPMENT

It is understood that the development will be constructed within the grassed portion of the Site between the site boundaries and the flood plain of Marlborough Creek. The associated septic system will be to the south of the proposed building; the well will be to the north. The estimated proposed building footprint is 453 m<sup>2</sup>; being approximately 18.5 m wide (east – west) by 24.5 m in length (north – south). The building will be slab on grade and supplied by a private water well and sewage disposal system. An asphalted parking and circulation area will extend from Ottawa Street along the western extent of the development area, and will include six (6) parking spaces, encompassing an overall area of approximately 620 m<sup>2</sup>.

As mentioned, the Site will be serviced by a private sewage disposal system, which is proposed to be located at the southeastern extent of the property. The sewage disposal system will be a pressurized shallow buried trench bed construction, with a Norweco 3780-3M treatment unit. The Ottawa Septic System Office has approved the proposed design, and the corresponding permit is included in **Attachment II**.

In June 2021, the client retained a provincially licensed well installer (Air-Rock Drilling Co Ltd., Richmond, Ontario) to install a test well at the general northeastern portion of the Site. LRL was not present during the installation process, nor was LRL consulted on the location of the test well. This test well, referred to as TW-1 (Well Tag # A320977), was used to perform the initial aquifer evaluation on the Site, as documented in the Hydrogeological Assessment and Terrain Analysis report was prepared and dated September 22, 2021. The details of the TW-1 are summarized further herein in later sections.

Based on the results of the initial TW-1, in comparison to the applicable provincial regulations and guidelines, it was established that a new, better suited supply well (TW-2) be constructed on the Site. This newly installed proposed supply well for the development is located immediately north of the proposed building footprint, maintaining a 15 m setback from the proposed sewage disposal system location. Further details pertaining to the supply well details are included in the remaining body of this report.

The proposed development plan, including the proposed lot features are shown in **Figure 3**.

# 3 FIELDWORK

The fieldwork discussed herein includes the overall activities related to the hydrogeological assessment and terrain analysis completed from between July 20, 2021, and May 29, 2023. The subsequent sections provide details related to the fieldwork completed to date as part of this mandate, and are outlined in chronological order.

## 3.1 Potable Water Sample Collection – July 2021

#### 3.1.1 5969 Ottawa Street

A sample of untreated water was collected from the supply water well at 5969 Ottawa Street, on July 20, 2021 to confirm the quality of the proposed supply aquifer prior to proceeding with the hydrogeological pumping test. The water was allowed to run for ten minutes before collection. The samples were collected using laboratory prepared bottles and were submitted for a subdivision package analysis.

The laboratory Certificates of Analysis are included in Attachment III.

#### 3.2 Terrain Analysis Test Pit Advancement – July 2021

On July 20, 2021, three (3) test pits were completed across the proposed severed lot to determine the general upper soil and groundwater conditions, as well as to establish the depth of overburden in the area over bedrock. The test pits were advanced using a backhoe operated by Landraulics Equipment (Richmond, Ontario). LRL was present to supervise and document the advancement of the test pits. The locations of the test pits are presented in **Figure 4** with the Test Pit Logs included in **Attachment IV**.

An open tube piezometer was installed in test pits TP21-1 through TP21-3 to allow for the elevation measurement and sampling of the perched water found in the overburden, herein referred to as groundwater. Groundwater samples could not be collected from the piezometers at the time of sampling on August 11, 2021, as they were found to be dry at the time of the sampling event. The piezometers have also since been removed from the Site.

Soil samples TP21-1-3, TP21-2-4, and TP-21-3-3 were submitted to LRL's geotechnical testing laboratory for grainsize analysis. The laboratory certificates of analysis are included in **Attachment V**.

# 3.3 Pumping Tests

#### 3.3.1 August 2021 – TW-1

LRL conducted an initial pumping test on the drilled test well TW-1 on August 11, 2021, in order to assess the quality and quantity of the aquifer. The test well was pumped for a total of 360 minutes (approximately 6 hours) at an average pumping rate of 40 L/min for the duration of the test.

The drawdown was measured during the pumping and recovery periods using an electronic water level tape. Following the pump's cessation, the pumping well's recovery was monitored until a minimum of 95% recovery was achieved.

#### 3.3.2 January 2023 – TW-1

Following the technical consultation with the City of Ottawa on November 16, 2022, and as further discussed in Section 0, LRL returned to 5969 Ottawa Street to attempt a second pumping test of the existing test well, TW-1, on January 24 and 25, 2023. The test was initiated to further develop

and assess the quality and quantity of the aquifer intercepted by TW-1 prior to exploring alternative solutions to previous water quality concerns.

The test well was commenced on January 24, 2023, at a pumping rate of 40 L/min for a duration of 240 minutes (approximately 4 hours), at which time the pump being used malfunctioned, resulting in the test terminating. LRL returned on January 25, 2023, to proceed with the pumping test. The test well was pumped for a total of 480 minutes (approximately 8 hours) at an average pumping rate of 40 L/min for the duration of the test.

The drawdown was measured during the pumping and recovery periods using an electronic water level tape. Following the pump's cessation, the pumping well's recovery was monitored until a minimum of 95% recovery was achieved.

#### 3.4 Potable Water Sample Collection – March 2023

Subsequent to the initial Hydrogeological Assessment and Terrain Analysis report submission on September 22, 2021, the City of Ottawa returned comments pertaining to the quality of the aquifer assessed at 5969 Ottawa Street. As discussed in Section 6, during a technical consultation with the City of Ottawa on November 16, 2022, held to collectively review the comments provided, it was recommended that an alternative supply aquifer be examined with respect to water quality. More specifically, one encountered at a shallower depth.

On March 15, 2023, LRL visited the property located at 5949 Ottawa Street, located immediately east of the subject site, to collect a representative water sample of their supply well, confirmed to extend to a shallower depth in comparison to the test well installed at 5969 Ottawa Street. The water was allowed to run for ten minutes before collection. The samples were collected using laboratory prepared bottles and were submitted for a subdivision package analysis.

The laboratory Certificates of Analysis are included in Attachment III.

#### 3.5 Secondary Test Well Installation – May 2023

On May 8, 2023, Air-Rock Drilling Co Ltd. returned to the site, upon request by the client, to advance a second test well, TW-2. The test well was located beyond the flood plain to address concerns by the City of Ottawa. LRL visited the site at the time of the well grouting to confirm the initial construction details. At the time of the site visit, the casing extended to a depth of 58.5 m and the well was extended 51.2 m into bedrock, with bedrock encountered at 6.7 m below grade. LRL witnessed the grouting of the well, and based on the well record provided, the installation continued into bedrock (open-hole construction) to a depth of 70.1 m. Adequate grouting was completed to comply with O. Reg. 903 which generally specified a 6.0 m seal depth for a bored well. Furthermore, upon further site visits, the top of casing of the test well was measured to extend 0.63 m above ground surface, which exceeds the minimum stick up requirement of 0.4 m.

# 3.6 Pumping Test TW-2 - May 2023

On May 29, 2023, the recently installed test well, TW-2, was pumped for a duration of 360 minutes (approximately 6 hours) at an average pumping rate of 40 L/min for the duration of the test. The drawdown was measured during the pumping and recovery periods using an electronic water level tape. Following the pump's cessation, the pumping well's recovery was monitored until a minimum of 95% recovery was achieved.

## 4 TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

#### 4.1 Geology

#### 4.1.1 Mapping

Surficial soil deposit mapping<sup>1</sup> indicates that the overburden consists of fine-textured glaciomarine deposits of massive to well laminated silt and clay, minor sand and gravel; with low permeability.

Records from the Ontario Division of Mines<sup>2</sup> indicates that the underlying bedrock is Lower Ordovician period dolomite and sandstone from the March and Oxford Formation of the Beekmantown Group.

#### 4.1.2 Test Pitting

The test pits completed across the Site were found to have a thin layer of topsoil over clay with varying sand and silt contents that extends to 3.0 m below ground surface (bgs) where the test pits were terminated. A 0.3 m thick layer of boulders and cobbles is present between approximately 1.8 and 2.1 m bgs across all three test pits. Neither bedrock or groundwater were encountered during test pitting activities.

Representative overburden samples of the clay material encountered on the Site were collected from each test pit during the test pitting activities and submitted for sieve and hydrometer analysis. The results are summarized as follows:

- Sample TP1-3, collected from a depth of between 0.9 and 1.8 m below grade, was reported to include 6.3% gravel, 17.3% sand (generally fine to medium grained), 63.5% silt and 12.9% clay. Based on the reported values, the material is considered as silt loam;
- Sample TP2-4, collected from a depth of between 1.8 and 2.7 m below grade, was reported to include 6.7% gravel, 36.7 % sand (generally fine to medium grained), 46.4% silt and 10.2% clay. Based on the reported values, the material is considered as loam; and
- Sample TP3-3, collected from a depth of between 1.8 and 2.7 m below grade, was reported to include 13.4% gravel, 24.1% sand (generally fine grained), 45.5% silt, and 17.0% clay. Based on the reported values, the material is considered loam.

These results are presented in the sieve and hydrometer certificates of analysis that are included in **Attachment V.** Clay loam will be used to define the soil infiltration factor and fine sandy loam will be used for moisture surplus.

<sup>&</sup>lt;sup>1</sup> The Ontario Geological Survey 2010. *Surficial geology of Southern Ontario;* Ontario Geological Survey, Miscellaneous Release—Data 128-REV

<sup>&</sup>lt;sup>2</sup> Hewitt D.F., 1972. *Paleozoic Geology of Southern Ontario*; Ontario Div. Mines, GR105, 18p. Accompanied by Map 2254, scale 1 inch to 16 miles.

## 4.1.3 Water Well Records

Within the Rideau Valley Conservation Authority, 27,459 wells are recorded<sup>3</sup>. Of these, 4.2% are overburden wells, indicating that bedrock aquifers are the more significant water sources. The specific capacities of the 1,156 recorded overburden wells are as follows: 222 (19.2%) have no specific data, 27 (2.3%) have less than 1 L/min/m, 136 (11.8%) have between 1.0 - 5.0 L/min/m, 161 (13.9%) have between 5.0 - 10.0 L/min/m, 382 (33.1%), the greatest fraction, have between 1.0 - 50.0 L/min/m, and 228 (19.7%) have specific capacities that exceed 50.0 L/min/m.

A search was conducted of the MECP Water Well Information System (WWIS). Searching by UTM coordinates within a 500 m radius from the site returned information for eighty-eight (88) wells; locations are presented in **Figure 5**. Available well records are included in **Attachment VI**, including those of both test wells installed on the subject site (A320977 and A342311). Geological cross section of the area, generally with 500 m of the Site, are presented in **Figure 5A** and **Figure 5B**.

A review of the records within 500 m reveals that wells are drilled and extend into the bedrock, with an average depth of  $33.6 \pm 14.3$  m (n = 86), ranging from 10.7 to 73.2 m. The reported geological conditions are relatively similar indicating an average overburden depth of  $6.9 \pm 2.9$  m (n = 86) of mostly clay, underlain by limestone bedrock with occasional descriptions of sandstone. The general subsurface conditions reported for the twenty-five (25) wells in closest proximity to the site are found in the table below.

MECP	Distance and	Depth	Overburden Details		Bedrock Details	Groundwater	Static Water	Type of	
Well Number	Direction from Site (m)	(m)	Gravel (m)	Clay/ Hardpan (m)	Sand (m)	Bedrock	Encountered (m)	Level (m)	water
A320977 (TW-1)	On-site	48.7			0 - 6.4	6.4 – 48.7 (Limestone)	14.6, 46.9	2.77	Unspecified
A342311 (TW-2)	On-site	70.1		0 - 6.7		6.7 – 50.2 (Limestone) 50.2 – 70.1 (Limestone & Sandstone Mix)	68.2	2.52	Unspecified
1531908	48 (WSW)	64		0 – 10.7	10.7 – 12.5	12.5 – 48.8 (Limestone) 48.8 – 64.0 (Sandstone)	64.0	3.0	Unspecified
7121463	151 (WNW)	45.1		4.3 – 8.8 (Hardpan)	0 – 4.3 (Topsoil)	8.8 – 45.1 (Limestone)	43.3	4.0	Unspecified
7123927	157 (SSW)	25.6		0-4.6		4.6 – 25.6 (Limestone)	16.7, 21.0, 22.3	3.4	Unspecified
7123924	158 (SSW)	73.2		0 – 17.1		17.1 – 53.6 (Limestone)	17.7, 27.1, 70.7	3.4	Unspecified
7115740	162 (WNW)	45.1		0 - 6.1		6.1 – 45.1 (Limestone)	42.4	4.6	Unspecified

<sup>&</sup>lt;sup>3</sup> Singer S.N., 2003, *The Hydrogeology of Southern Ontario – Second Edition*; Environmental Monitoring and Reporting Branch, Ministry of the Environment, 2003.

MECP	Distance and	Depth	Depth	CP and Depth		Overburden Deta	ails	ls Bedrock Details		Static Water	Type of
Well Number	Direction from Site (m)	(m)	Gravel (m)	Clay/ Hardpan (m)	Sand (m)	Bedrock	Encountered (m)	Level (m)	water		
7123245	162 (WNW)	45.1		0 – 5.5		5.5 – 45.1 (Limestone)	43.6	4.9	Unspecified		
1535453	171 (NW)	22.3		0 – 2.4 (Clay) 2.4 – 4.3 (Hardpan)		4.3 – 22.3 (Limestone)	8.5, 12.5, 16.2	4.0	Unspecified		
7121464	172 (NW)	45.1		4.3 – 7.0 (Hardpan)	0 – 4.3 (Topsoil)	7.0 – 45.1 (Limestone)	43.3	3.7	Unspecified		
7123247	178 (WNW)	45.1		0 - 5.8		5.8 – 45.1 (Limestone)	42.7	4.0	Unspecified		
7139891	184 (NW)	37.5		0-4.3		4.3 – 37.5 (Limestone)	34.4	4.0	Unspecified		
7127126	190 (WNW)	51.8		0 - 6.1		6.1 – 43.0 (Limestone) 43.0 – 51.8 (Sandstone)	50.6	4.3	Unspecified		
7112996	194 (WNW)	45.1		0 - 6.1		6.1 – 45.1 (Limestone)	41.8	4.0	Unspecified		
7123244	198 (WNW)	45.1			0 – 5.8 (Topsoil)	5.8 – 45.1 (Limestone)	43.9	4.0	Unspecified		
7112957	205 (NW)	29.9		0 - 6.1		6.1 – 29.9 (Limestone)	27.7	4.6	Unspecified		
1535994	205 (SSW)	29.6		0-3.7		3.7 – 29.6 (Limestone)	24.4, 27.4	1.8	Unspecified		
7119244	211 (WNW)	48.8		0 - 5.8		5.8 – 48.8 (Limestone)	46.6	4.3	Unspecified		
7127128	213 (W)	29.9			0 – 6.1 (Topsoil)	6.1 – 29.9 (Limestone)	25.9	3	Unspecified		
7127131	216 (W)	45.1			0 – 6.1 (Topsoil)	6.4 – 45.1 (Limestone)	35.1, 43.3	4	Unspecified		
7139854	225 (NW)	45.1		0-4.3		4.3 – 45.1 (Limestone)	43.6	4	Unspecified		
7115738	229 (NW)	45.1			0 – 5.5	5.5 – 45.1 (Limestone)	42.4	4.3	Unspecified		
7112965	232 (WNW)	37.5		0 - 5.5		5.5 – 37.5 (Limestone)	35.7	4	Unspecified		
7139835	235 (NW)	45.1		0-6.4		6.4 – 45.1 (Limestone)	43.6	3.7	Unspecified		

MECP	Distance and	Depth		Overburden Details Bedrock Details	Groundwater W	Static Water	Type of		
Well Number	Direction from Site (m)	(m)	Gravel (m)	Clay/ Hardpan (m)	Sand (m)	Bedrock	Encountered (m)	Level (m)	water
7112983	240 (W)	29.9		0-4.6		4.6 – 29.9 (Limestone)	12.2, 27.4	2.7	Unspecified
7119251	242 (W)	47.2		0-4.6		4.6 – 47.2 (Limestone)	44.8	4	Unspecified
7139902	245 (W)	45.1			0 – 4.9 (Topsoil)	4.9 – 45.1 (Limestone)	27.4, 43.3	4.6	Unspecified

Notes

BOLD On-

On-site test well

# 4.2 Hydrology

An un-named watercourse bisects the subject site in a general north-south direction. As confirmed through the Government of Canada, *The Atlas of Canada – Toporama*, the watercourse flows generally north into the Jock River, approximately 1.1 km north of the Site. Local topography of the site indicates that local overburden groundwater flow direction is most likely north/northeast following that of the un-named watercourse which bisects the site.

The Jock River flow in a northernly direction for a distance of approximately 7 km north of the site, where it intersects the Mahoney Creek and continues east to the Rideau River.

As indicated in the Plan of Survey prepared by H.A. Ken Shipman Surveying Ltd., dated July 19, 2021, and included in **Attachment VII**, the northern extent of the Site is identified as a floodplain. It is worth noting that although Ontario Regulation 903 doesn't specifically prohibit the installation of a well in the floodplain, the City of Ottawa does not recommend such practice. Further shown in the plan of survey, TW-1 is located within the identified floodplain area, and therefore the City of Ottawa requires the following specifications for installations in floodplains should they exist:

- The casing (and air vent) of the well must be 40 cm above the potential flood level; and
- The well installation cap, and vent, must be floodproof.

# 4.2.1 Groundwater from Test Pits

Standpipe piezometers were installed in the bottom of each of the three (3) test pits. Groundwater samples were to be collected from the piezometers. At the time of sampling on August 11, 2021, all three (3) piezometers were found to be dry.

The test pits were advanced such that it was anticipated that the local shallow groundwater would be intercepted, based on the water levels observed in the bisecting un-named watercourse, approximately 1.5 - 2.0 m below grade. The silty conditions in conjunction with the excavation methodology may have influenced groundwater infiltration conditions. LRL did not return to the site to verify if levels have changed thereafter.

# 4.3 Topography

The topography of the land is generally flat ranging from 94 to 95 m asl. The creek causes a slight dip in topography along the west side of the Site. GeoOttawa shows the majority of the treed portion of the Site is within a flood plain, and the grassed portion of the Site is outside of this floodplain.

# 5 WATER SUPPLY ASSESSMENT – AUGUST 2021 (TW-1)

The supply well of 5969 Ottawa Street (A320977) used as part of this assessment was installed by the client in June 2021 within the limestone bedrock aquifer. The location of the newly installed supply is shown in **Figure 2**. This well was installed to serve as the drinking water well for the Site and was tested directly as part of the assessment.

# 5.1 Quality

The chemistry of the water was determined by the sampling of untreated water from the supply water well at 5969 Ottawa Street (A320977) which was installed in June 2021 by the client for future drinking water supply at the proposed development.

**Table 1A** summarizes the water analysis and also includes the relative Ontario Drinking Water Standards (ODWS) (O. Reg. 169/03) for the parameters tested. The analytical results for the six (6) hour sample meet the ODWS for the parameters tested except for the following:

- Hardness was reported to be 509 mg/L in the six (6) hour sample, above the Operational Guideline (OG) of 100 mg/L and D-5-5 guideline of 500 mg/L. High levels of hardness can lead to scale deposits and excessive scum with regular soaps upon heading the water. Hardness can be reduced through the use of a water softener; however the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water.
  - The Langelier Saturation Index (LSI) is used to determine the calcium carbonate stability of water and the pH at which water is saturated with calcium carbonate (pHs). The Ryznar Stability Index (RI) is used to determine the aggressiveness of water which can indicate the scale and corrosion potential. The calculations for RI and LSI for the six (6) hour sample are shown in Table 2. Using a water temperature of 10°C, the LSI was calculated to be 0.66 which indicates the water is scale forming but non-corrosive. The RI was calculated to be 6.47 which indicates light scale or corrosion.
- Colour with a value of 30 TCU at the 6 hour samples, above the AO of 5 TCU and the level considered reasonably treatable of 7 TCU. Although the level of colour is above the value considered reasonable treatable, color can be reduced by use of an AC filter or a water softener.
- TDS was reported at 814 mg/L after six (6) hours, above the ODWS AO of 500 mg/L. TDS can be reduced through the use of a water softener; however, the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water. For individuals with sodium restricted diets, potassium chloride can be substituted for sodium in the ion-exchange system to lower the TDS in the water supply.
- Turbidity was reported to be 4.9 NTU after six (6) hours, below the AO of 5 NTU but above the MAC of 1.0 NTU if the treatment system is required to provide filtration. Turbidity measures the suspended solids and the relative clarity of the water. Turbidity can reduce the aesthetics of water and also reduce the efficiency of disinfection of microbiological parameters, such as in treatment processes requiring filtration.
- Chloride was reported to be 264 mg/L after six (6) hours, above the ODWS AO and D-5-5 level considered reasonably treatable of 250 mg/L. Chloride can cause a salty taste in the water. Chloride is found in nature in various forms, including salts such as sodium (NaCl), potassium (KCl) and calcium (CaCl<sub>2</sub>) chloride. A reverse osmosis treatment system can be used to lower level of chloride in drinking water.
- Iron exceeded the 0.3 mg/L ODWS value with a level of 0.5 mg/L. This is below the MECP D-5-5 level considered reasonable treatable of 5 mg/L. Iron can be reduce through the use of a water softener or a manganese greensand filter.
- Sodium was reported to be 111 mg/L after six (6) hours, which is above the ODWS AO but within the level considered reasonably treatable in Procedure D-5-5 of 200 mg/L. The concentration is above the 20 mg/L warning level notification limit for those on a sodium restricted diet. The local Medical Officer of Health should be notified of these levels so that this information may be communicated to local physicians with regards to homeowners who follow a sodium-restricted diet. Sodium can be reduced through the use of a point-of-use reverse osmosis system, if required.

## 5.1.1 In-Field Measurements

Throughout the duration of the pumping test, field measurements, in addition to water levels, were collected. These measurements included pH, Conductivity, total dissolved solids, colour, turbidity and residual chlorine. PH, Conductivity and total dissolved solids values were recorded using a Hanna Instruments HI98129 pen, and colour, turbidity and residual chlorine were measured using a LaMotte TC-300e tri-meter. The meters were calibrated and refenced to available solution standards prior to use. The measurements collected are summarized in the included **Table 3A**.

It should be noted that chlorine residuals were measured prior to obtaining a water sample for lab submission and free chlorine was measured to be 0.03 mg/L at the time of the 3-hour and 0.00 mg/L at the 6-hour sample collection. The machine detection limits of the Lamotte TC-3000 Trimeter are as follows:

- Turbidity of 0.01 NTC, with an accuracy of +/- 0.05 (or 2%, whichever is greater);
- Colour of 0.1 CU, with an accuracy of +/- 0.5 (or 2%, whichever is greater); and
- Chlorine of 0.01 ppm, with an accuracy of +/-0.02 (or 2%, whichever is greater).

For the purposes of this report, values read as less than the corresponding limits will be reported as < 0.01, or < 0.1.

The following calibration, or zeroing techniques performed as part of this assessment, during the filed investigations is summarized in the following Table:

Parameter	Equipment Used	Calibration and Zeroing Techniques
Turbidity	Lamotte TC- 3000 Trimeter	Prior to use, the equipment was calibrated using the 'two- point' method, following manufacturer instructions. Standard calibration solutions of 0.0 NTU and a 1.0 NTU were used to calibrate the machine.
		The solutions were pre-made by a supplier.
Colour	Lamotte TC- 3000 Trimeter	Prior to the use of the equipment, and periodically during the pumping test, colour measurements were first zeroed by following the manufacturer's instructions and using Deionized Water (prepared and supplied by Hanna Instruments – HI7040-2).
Chlorine	Lamotte TC- 3000 Trimeter	Prior to each chlorine reading, a blank sample, including Deionized Water (prepared and supplied by Hanna Instruments – HI7040-2) was screened to zero the machine.
Conductivity	HI98129 Hanna Instruments	Prior to each event, where the meter is used (typically daily), the instrument was calibrated using the Hanna Instrument prepared 1413 $\mu$ s/cm conductivity solution (HI7031).
рН	HI98129 Hanna Instruments	Prior to each event, where the meter is used (typically daily), the instrument was calibrated using the 'two-point' method, following manufactures specifications. As the pH readings are anticipated to be within the neutral to slightly acid range based on our knowledge of the area and past experience, solutions of 7.01 pH Units (Hanna Instruments HI7004) were used.

# 5.2 Quantity

#### 5.2.1 6-Hr Pump Test

The initial static water level was measured as 2.96 m btc. The drawdown after six (6) hours of pumping was 2.17 m (final static water level of 5.13 m btc). This represents approximately 5% of the available drawdown in the well. The specific capacity of the well after six (6) hours of pumping was calculated to be 0.307 L/s/m. The calculation is presented in **Table 4**. The well achieved approximately 96% recovery within 60 minutes of the end of pumping, at which time further monitoring was ceased as targets had been achieved.

## 5.2.2 Aquifer Characteristics

Following the completion of the constant rate pumping test, the data was analysed using the Aquifer Test software package, by Waterloo Hydrogeologic. The data underwent Theis and Agarwal-Theis Recovery analysis, the results of which are shown in the table below. Graphical analyses are provided for reference purposes in **Attachment VIII**.

Based on the information gathered from the pump test, the wells' transmissivity and coefficient of storage were calculated using the average of the Theis logarithmic approximation for the drawdown and Agarwal/Theis for the recovery. The specific yield of the well was calculated using the information obtained from the pump test, the transmissivity and coefficient of storage. The yield takes into account a minimum safety factor of 3. The characteristics of the well are summarized in the table below. The yield was calculated using the safety factor; therefore the theoretical yields can be higher.

Parameter	Test Well TW-1
Falameter	6 Hour Test
Transmissivity (m²/day)	25.4
Coefficient of Storage	5.2 x 10 <sup>-3</sup>
Pumping Rate (L/min)	40
Available Drawdown (m)	27.1
Maximum Drawdown (m)	2.13
% Drawdown	5%
Maximum Pumping Rate (L/min)	189.4
Long Term Availability (m <sup>3</sup> /day)	272.7

## 6 CITY OF OTTAWA – TECHNICAL REVIEW COMMENTS AND CORRESPONDENCE

The information and data indicated above in Section 5 was present in the initial Hydrogeological Assessment and Terrain Analysis report prepared and dated September 22, 2021. The City of Ottawa technical reviewers provided comment after a formal evaluation of the deliverable, discussed further in their October 14, 2022, first submission comments, included in **Attachment** I. The findings discussed below in Section 7 are primarily to address the concerns presented by the City of Ottawa, as well as to demonstrate that an adequate water supply is available for the Site and the indented uses.

A summary of the comments presented by the City of Ottawa, limited to the September 22, 2021, Hydrogeological Assessment and Terrain Analysis report, and water quality and quantity concerns are as follows. Note that general comments and discussion points are excluded from the following list, although are included in **Attachment I** for reference, and corresponding revisions to the report have been completed:

- As discussed in section 5.1 (September 2021 submission) of the report, the water quality sampling showed that the D-5-5 Maximum Concentration Considered Reasonably Treatable was exceeded for hardness, colour, and chloride. In addition, there was a ODWO exceedance for TDS, which doesn't have a Maximum Concentration Considered Reasonably Treatable. Given the exceedances of the D-5-5 Maximum Concentration Considered Reasonably Treatable, it hasn't been demonstrated that the proposed supply well is capable of supplying water of adequate quality for the proposed development. Consultation with a City Hydrogeologist and the City Senior Engineer on the file is required to discuss the hydrogeological concerns.
- As displayed on the Plan of Survey prepared by H.A. Ken Shipman Surveying Ltd., and dated July 19, 2021, the well is located within the floodplain. Although Ontario Regulation 903 doesn't specifically prohibit the installation of a well in the floodplain, it's not recommended. The following items are required:
  - The casing height (and air vent) must be 40cm above the potential flood level.
  - The well cap and vent must be floodproof.
- As per section 5.2.4 v) of the City's Hydrogeological and Terrain Analysis Guidelines, the minimum required water quality sampling parameters for a Site Plan application are the Subdivision Package, as well as trace metals, and VOCs. Given that the pre-application consultation meeting occurred prior to when the City's Guidelines came into effect, testing for trace metals and VOCs weren't required for the Hydrogeological Assessment and Terrain Analysis dated September 22, 2021. Please note that this exception isn't intended to set a precedent. Any additional hydrogeological assessment on this Site Plan Control application, and on future applications, are subject to the requirements of the City's Hydrogeological and Terrain Analysis Guidelines, including the minimum water quality sampling parameters for Site Plans.

# 7 FURTHER INVESTIGATION

# 7.1 Subsequent January 2023 Pumping Test – TW-1

To address the water quality concerns raised by the City of Ottawa following their review of the initial Hydrogeological Assessment and Terrain Analysis submission, September 21, 2021, it was decided that an additional pumping event of the on-site TW-1 (Well # A320977) be performed. The additional pumping was intended to extend over a period of over 24 hours consecutively, at

a rate of 40 L/minute to (28,800 L/day) to further develop the well and provide a more accurate representation of the aquifer quality conditions. The test commenced on January 24, 2023, using a submersible pump, powered by a generator, and supplied by Air-Rock Drilling Co Ltd.

The pump test was set at a pumping rate of 40 L/min for a duration of 240 minutes (approximately 4 hours), at which time the pump being used malfunctioned, resulting in the test terminating. A groundwater sample was collected immediately prior to the pump test being terminated at 4 hours of pumping, and the well was permitted to recover to a water level within 95% of the initial column level.

LRL returned the following day, on January 25, 2023, to proceed with the pumping test. Using the same equipment as previously, the test well was pumped for a total of 490 minutes (approximately 8 hours) at an average pumping rate of 40 L/min for the duration of the test. Representative samples were collected at 4 hour, and at the eight (8) hour elapsed time interval. Following the collection of the eight (8) hour sample, the pumping was seized and the well was permitted to recover to at least 95% of the initial water level.

# 7.1.1 Quality

Further evaluation, in addition to that of the August 2021 pumping test data, was performed on the TW-1 aquifer through chemical analysis of representative water samples collected from the 5969 Ottawa Street test well (A320977). **Table 1A** summarizes the water analysis and also includes the relative Ontario Drinking Water Standards (ODWS) (O. Reg. 169/03) for the parameters tested at both four (4) hour intervals, and the eight (8) hour interval. The analytical results for the January 25, 2023 eight (8) hour sample meet the ODWS for the parameters tested except for the following:

- Dissolved Organic Carbon (DOC) was reported above the ODWS of 5 mg/L with a value of 8.9 mg/L. This value is below the MECP D-5-5 level considered reasonably treatable of 10 mg/L through available technologies including ion exchange units like water softeners. DOC was noted to be elevated in comparison to the August 2021 sample results;
- Hardness was reported to be 524 mg/L in the eight (8) hour sample, above the Operational Guideline (OG) of 100 mg/L and D-5-5 guideline of 500 mg/L. This value is comparable to those collected in the August 2021 pumping test. High levels of hardness can lead to scale deposits and excessive scum with regular soaps upon heading the water. Hardness can be reduced through the use of a water softener; however the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water.
- TDS was reported at 836 mg/L after eight (8) hours, above the ODWS AO of 500 mg/L. TDS can be reduced through the use of a water softener; however, the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water. For individuals with sodium restricted diets, potassium chloride can be substituted for sodium in the ion-exchange system to lower the TDS in the water supply. The levels encountered at this time are comparable to those retrieved in the August 2021 sampling event;
- Chloride was reported to be 299 mg/L after eight (8) hours, above the ODWS AO and D-5-5 level considered reasonably treatable of 250 mg/L. Chloride can cause a salty taste in the water. Chloride is found in nature in various forms, including salts such as sodium (NaCl), potassium (KCl) and calcium (CaCl<sub>2</sub>) chloride. A reverse osmosis treatment system can be used to lower level of chloride in drinking water;

- Iron exceeded the 0.3 mg/L ODWS value with a level of 0.5 mg/L. This is below the MECP D-5-5 level considered reasonable treatable of 5 mg/L. This value is comparable to the August 2021 six (6) hour pumping test sample result also of 0.5 mg/L. Iron can be reduce through the use of a water softener or a manganese greensand filter; and
- Sodium was reported to be 112 mg/L after eight (8) hours, which is above the ODWS AO but within the level considered reasonably treatable in Procedure D-5-5 of 200 mg/L. The concentration is above the 20 mg/L warning level notification limit for those on a sodium restricted diet. The local Medical Officer of Health should be notified of these levels so that this information may be communicated to local physicians with regards to homeowners who follow a sodium-restricted diet. Sodium can be reduced through the use of a point-of-use reverse osmosis system, if required.

As mentioned, the water quality results encountered in the January 25, 2023, eight (8) hour pumping samples, in comparison to the August 11, 2021, six (6) hour pumping sample, were generally comparable, with select variances. Notable decreases in previously encountered parameters of concern include colour which was reported less than the detection limit (<2 CU) in the eight (8) hour sample, and turbidity which was reported less than the ODWS limit, and MECP D-5-5 value of 5 NTU.

Although significant improvement in select parameters were encountered, the majority of those identified as a concern by the City of Ottawa, including hardness, chloride and TDS, as well as the most recent elevated concentrations of DOC detected, the upper Limestone aquifer on the site is not considered an adequate supply source for the proposed development.

# 7.1.2 Quantity

Although the water quality was established to be not acceptable in accordance with applicable provincial guidelines, LRL proceeded to evaluate the demand potential of the aquifer based on the January 2023, pumping data results.

The initial static water level was measured as 3.32 m btc on January 24, 2023 (with the pump installation) and 3.29 m btc upon returning to the site on January 25, 2023 (with the pump installation). The drawdown after eight (8) hours of pumping on January 25, 2023, was calculated to be 1.93 m (final water level at the end of pumping was measured as 5.22 m btc). This represents approximately 4% of the available drawdown in the well. The pumping test details, and corresponding measurements are included **Table 3B** and **Table 3C**. The well achieved approximately 99% recovery within 30 minutes of the end of pumping, at which time further monitoring was ceased as targets had been achieved.

The results from the pumping test are found to support the proposed demand requirements in accordance with current provincial guidelines.

# 7.2 Shallow Bedrock Aquifer Characterization

As discussed above, the previously installed test well (TW-1) installed in June 2021 at 5969 Ottawa Street (A320977) was found to have inadequate groundwater quality in comparison to applicable provincial guidelines and standards. It was decided to investigate the conditions of the shallower bedrock aquifer in the area, through the sampling of a neighbouring supply well, 5949 Ottawa Street, immediately east of the Site. The supply well extended to a depth of approximately 30.3 m below grade (measured on Site), and according to the property owner, is not in use, but rather they obtain their supply from a second well on the property, extending to a depth of approximately 51 m below grade. Well records were not retrieved for these respective installations.

The neighbouring well, which extends approximately 30.3 m in depth, was sampled on March 15, 2023. A sample of untreated water was collected. The water was allowed to run for approximately ten minutes before collection. The samples were collected using laboratory prepared bottles and were submitted for a subdivision package analysis. The laboratory Certificates of Analysis are included in **Attachment III**.

A summary of the results is included in **Table 1A**. The water results were found to be generally comparable as those on the Site in TW-1, with exceedances to the Ontario Drinking Water Standards for TDS, hardness, turbidity and chloride, of which values were encountered above the D-5-5 limits considered reasonably treatable. The shallow bedrock aquifer is not considered a suitable source of water supply for the Site.

# 8 WATER SUPPLY ASSESSMENT – MAY 2023 (TW-2)

As discussed above, the previously installed test well (TW-1) installed in June 2021 at 5969 Ottawa Street (A320977) was found to have inadequate groundwater quality in comparison to applicable provincial guidelines and standards. Further investigation into shallower bedrock aquifer wells, namely that at 5949 Ottawa Street, returned comparable results and conclusions.

The client retained the services of a local well installer (Air-Rock Drilling Co Ltd., Richmond, Ontario) to complete a new test well on the Site. The well was extended to a greater depth (70.1 m) than that of the previously advanced TW-1 and was placed beyond the limits of the identified floodplain. The well construction details are included above in Section 3.5. The location of the newly installed test well is shown in **Figure 2**.

On May 29, 2023, the recently installed test well, TW-2, was pumped for a duration of 360 minutes (approximately 6 hours) at an average pumping rate of 40 L/min for the duration of the test. The test was performed using the existing submersible pump installed in the well, connected to a local power supply. Using a water level measuring tape, the top of the pump was measured to be set at approximately 49.9 m below top of casing.

Throughout the duration of the test, the drawdown was measured during the pumping and recovery periods using an electronic water level tape. Following the pump's cessation, the pumping well's recovery was monitored until a minimum of 95% recovery was achieved.

# 8.1 Quality

The chemistry of the water was determined by the sampling of untreated water from the newly installed test well at 5969 Ottawa Street (A342311). **Table 1A** and **Table 1B** summarizes the water analysis and also includes the relative Ontario Drinking Water Standards (ODWS) (O. Reg. 169/03) for the parameters tested.

Throughout the duration of the pumping test, field measurements, in addition to water levels, were collected. These measurements included colour, turbidity and residual chlorine, measured using a LaMotte TC-300e tri-meter. The meters were calibrated and refenced to available solution standards prior to use. The measurements collected are summarized in the pumping test measurement **Table 3D**.

Chlorine residuals were measured prior to obtaining a water sample for lab submission and free chlorine was measured to be 0.02 mg/L at the time of the 3-hour and the 6-hour sample collection. The machine detection limits of the Lamotte TC-3000 Trimeter are as follows:

- Turbidity of 0.01 NTC, with an accuracy of +/- 0.05 (or 2%, whichever is greater);
- Colour of 0.1 CU, with an accuracy of +/- 0.5 (or 2%, whichever is greater); and

• Chlorine of 0.01 ppm, with an accuracy of +/-0.02 (or 2%, whichever is greater).

For the purposes of this report, values read as less than the corresponding limits will be reported as < 0.01, or < 0.1.

Calibration, or zeroing techniques performed as part of this assessment, during the filed investigations is summarized above in Section 5.1.

The analytical results for the six (6) hour sample meet the ODWS for the parameters tested except for the following:

Hardness was reported to be 478 mg/L in the six (6) hour sample, above the OG of 100 mg/L, although less than the D-5-5 guideline of 500 mg/L. High levels of hardness can lead to scale deposits and excessive scum with regular soaps upon heading the water. Hardness can be reduced through the use of a water softener; however, the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water.

TDS was reported at 718 mg/L after both three (3) and six (6) hours, above the ODWS AO of 500 mg/L. Where TDS levels exceed the ODWS AO, it is required that a professional comment regarding treatment include "written rationale that corrosion, encrustation or taste problems will not occur", according to the MECP D-5-5 Guideline. As indicated in the ODWS for TDS parameter "The term total dissolved solids refer to inorganic substances dissolved in water. The principal constituents of TDS are chloride, sulphates, calcium, magnesium and bicarbonates. The effects of TDS on drinking water quality depend on the levels of the individual components. Excessive hardness, taste, mineral deposition or corrosion are common properties of highly mineralized water. The palatability of drinking water with a TDS level less than 500 mg/L is generally considered to be good."

In support of the required rationale with respect to TDS levels in excess of 500 mg/L, the Ryznar Stability Index (RSI) and Langelier Saturation Index (LSI) were calculated for the water sample to determine the corrosivity or scale formation potential of the water. The Langelier Saturation Index (LSI) is used to determine the calcium carbonate stability of water and the pH at which water is saturated with calcium carbonate (pHs). The Ryznar Stability Index (RI) is used to determine the aggressiveness of water which can indicate the scale and corrosion potential. Using a water temperature of 10°C, the LSI was calculated to be 0.549 which indicates the water is scale forming but non-corrosive. The RI was calculated to be 6.60 which indicates light scale or corrosion. Corrosion resistant piping and pluming fixtures can be used throughout the proposed development.

Furthermore, it should be noted that parameters which contribute to TDS in a water supply, including sodium, sulphates and chlorides, are noted to be within their corresponding ODSW AO. Sodium was reported with a level of 70.7 mg/L and a chloride level of 191 mg/L, which are within the AO of 200 mg/L and 250 mg/L, respectively. Therefore, these parameters are considered to be at levels which are unlikely to contribute to unpleasant taste in the water supply. Additionally, sulphates were reported less than the 150 mg/L ODWS, with a level of 57 mg/L. This is indicative that sulphates will most likely not result in a distinctive or unpleasant taste.

TDS levels are also influenced by concentrations of calcium, magnesium and bicarbonates, which can result in elevated hardness. As noted above, hardness was found to exceed the ODWS OG of 100 mg/L, although less than the D-5-5 guideline of 500 mg/L. Therefore, by improving the hardness of the water, TDS levels should be

directly correlated with the improvement of quality and reduce the potential for scale formation associated with TDS. High levels of hardness can lead to scale deposits and excessive scum with regular soaps upon heading the water. Hardness can be reduced through the use of a water softener; however the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water.

According to the Government of Canada, Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Total Dissolved Solids (TDS), the palatability of a drinking water supply (with respect to TDS) has been rated by participants, and the findings are as follows:

- Excellent, less than 300 mg/L;
- $\circ$  **Good,** between 300 and 600 mg/L;
- **Fair,** between 600 and 900 mg/L;
- **Poor,** between 900 and 1200 mg/L; and
- **Unacceptable,** greater than 1200 mg/L.

From the analysis results collected, and with reference to the Guideline Technical Document – Total Dissolved Solids (TDS), the proposed water supply at the site is anticipated to be good to fair, as concentrations were reported to be 718 mg/L after six (6) hour of pumping. Therefore, based on the overall quality of the water supply, with consideration to the TDS and the likely palatability of the supply source, it is anticipated that corrosion, encrustation or taste problems will not occur. It should also be noted that water with very low TDS concentrations may also exhibit unacceptable palatability. Based on the lack of variance between the three (3) hour and the six (6) hour sample collected, it is unlikely the TDS values would diminish to such a value which would have unacceptable palatability.

TDS can be reduced through the use of a water softener.

- Turbidity was reported to be 9.0 NTU after six (6) hours, above the AO of 5 NTU, and the D-5-5 of 5 mg/L. Turbidity measures the suspended solids and the relative clarity of the water. Turbidity can reduce the aesthetics of water and also reduce the efficiency of disinfection of microbiological parameters, such as in treatment processes requiring filtration. At the time of sampling, the levels in the field were measured as 1.40 NTU. The holding time from the point of sample collection, and possible chemical reactions with such compounds as iron within the sample likely attributed to the elevated turbidity. The field results are considered representative of the sample, and aquifer conditions.
- Iron exceeded the 0.3 mg/L ODWS value with a level of 0.6 mg/L. This is below the MECP D-5-5 level considered reasonable treatable of 5 mg/L. Iron can be reduce through the use of a water softener or a manganese greensand filter.
- Sodium was reported to be 70.7 mg/L after six (6) hours, which is above the ODWS AO but within the level considered reasonably treatable in Procedure D-5-5 of 200 mg/L. The concentration is above the 20 mg/L warning level notification limit for those on a sodium restricted diet. The local Medical Officer of Health should be notified of these levels so that this information may be communicated to local physicians with regards to homeowners who follow a sodium-restricted diet. Sodium can be reduced through the use of a point-of-use reverse osmosis system, if required.

Volatile Organic Compounds (VOCs) were also collected as part of the analysis package. VOCs were not detected in the sample submitted, and the results are summarized in **Table 1B**.

## 8.1.1 Well Development Adequacy & Analytical Results Reliability Confidence

Based on the turbidity measurements collected by LRL throughout the six (6) hour pumping duration, it is most likely that the well is in fact developed adequately, and the conditions encountered are true to that of the proposed supply aquifer. In-field turbidity measurements collected are summarized in the table included below. As presented, there is little variance in the measurements collected throughout the pumping test, and all levels throughout this duration were less than the 5 NTU, which is the Ontario Drinking Water Standard aesthetic objective for all water at the point of consumption.

According to Ontario Regulation 170/03, if a drinking-water system is to provide filtration, and as detailed in the Ontario Drinking Water Standard, a value of greater than 1.0 NTU is considered an adverse result if the system is required to provide filtration. Iron levels encountered in the sample collected after six (6) hours of steady pumping were elevated, and the use of a manganese greensand filter was proposed as a potential treatment option. The effectiveness of a manganese greensand filter is not anticipated to be impaired by the slightly elevated turbidity which may occur in the proposed supply well, as alternatively, manganese greensand filter is an effective method to reduce turbidity levels. The point of consumption turbidity levels is anticipated to be less than 5 NTU as encountered during the pumping test and summarized in the following table:

Elapsed Time for Commencement of Pumping Test (minutes/hours)	Turbidity Level Measured (NTU)
30 minutes	0.78
50 minutes	1.08
60 minutes (1 Hour)	0.49
2 Hours	1.53
3 Hours	2.55
4 Hours	0.48
5 Hours	0.60
6 Hours	1.40

Furthermore, with respect to the development of the well, the use of pH, and conductivity, are also valuable parameters used when confirming if a well has reached suitable development. A range of +/- 0.1 is considered acceptable for pH levels; and conductivity values should be within +/- 3% for the well to be deemed developed. The pH values reported in the three (3) hour and six (6) hour had a variance of 0.1 pH unit, which is considered acceptable. And the conductivity during both the three (3) and six (6) hour sampling events are reported as 1290  $\mu$ S/cm.

The test well was sufficiently developed, and it is our professional opinion that the analytical data, and the corresponding rationale presented herein is representative of the proposed supply aquifer conditions.

# 8.2 Quantity

## 8.2.1 6-Hr Pump Test

The initial static water level was measured as 3.19 m below top of casing (btc). The drawdown after six (6) hours of pumping was 2.205 m (final static water level of 5.395 m btc). This represents approximately 4.7% of the available drawdown in the well. The water level was measured to drop to a maximum depth of 5.45 m at the 3-hour pumping duration which accounts for a maximum drawdown of 2.26 m (4.8% of the total available drawdown) but recovered slightly afterwards. The specific capacity of the well after six (6) hours of pumping was calculated to be 0.302 L/s/m. The calculation is presented in **Table 4**. The well achieved approximately 95% recovery within 15 minutes of the end of pumping, and approximately 98% recovery within 60 minutes, at which time further monitoring was ceased as targets had been achieved.

#### 8.2.2 Aquifer Characteristics

Following the completion of the constant rate pumping test, the data was analysed using the Aquifer Test software package, by Waterloo Hydrogeologic. The data underwent Theis and Agarwal-Theis Recovery analysis, the results of which are shown in the table below. Graphical analyses are provided for reference purposes in **Attachment VIII**.

Based on the information gathered from the pump test, the wells' transmissivity and coefficient of storage were calculated using the average of the Theis logarithmic approximation for the drawdown and Agarwal/Theis for the recovery. The specific yield of the well was calculated using the information obtained from the pump test, the transmissivity and coefficient of storage. The yield takes into account a minimum safety factor of 3. The characteristics of the well are summarized in the table below. The yield was calculated using the safety factor, therefore the theoretical yields can be higher.

Parameter	Test Well TW-2		
Farameter	6 Hour Test		
Transmissivity (m²/day)	24.6		
Coefficient of Storage	1.45 x 10 <sup>-3</sup>		
Pumping Rate (L/min)	40		
Available Drawdown (m)	46.75		
Maximum Drawdown (m)	2.26		
% Drawdown	4.8%		
Maximum Pumping Rate (L/min)	184.8		
Long Term Availability (m <sup>3</sup> /day)	266.1		

The required quantity of water is generally based on a per-person requirement of 450 L/day of water per day. However, based on the septic design calculations presented by others, and included in Section 9, the grand total required quantity per day is 3,450 L/day (3.45 m<sup>3</sup>/day).

Based on the observed drawdown/recovery relationship, it is concluded that the long-term yield of the test well TW-2 is in excess of minimum daily demand of 3,450 L. The maximum pumping rate is also more than sufficient to supply a peak flow demand for a residential/commercial water supply as indicated in MECP Procedure D-5-5.

# 9 TERRAIN ANALYSIS

The terrain analysis was conducted to demonstrate that the unconsolidated material on the Site is appropriate for the construction of an on-Site subsurface sewage disposal system. The subsurface conditions indicated for the Site are considered suitable for a Class IV septic sewage

disposal system with a fully raised leaching bed depending on the lot specific soil and groundwater conditions at the actual location of the proposed septic system leaching bed. The leaching bed should be constructed to conform to the specifications set out in the Ontario Building Code (OBC).

The client retained the services of a certified sewage disposal system designer (Green Valley Environmental), who prepared the proposed system design and application to the City of Ottawa's, Ottawa Septic System Office (OSSO) for approval and permit issue. A copy of the permit, in addition to the supporting submission package, is included in **Attachment II**. Green Valley Environmental (GVE) proposed the use of a Class IV shallow buried trench, along with Norweco 3780-3M treatment unit.

GVE has calculated a daily design flow of 3,450 L/day. There assumptions area presented as follows:

Ontario Building Code: 8.2.1.3 - Sewage System Design Flows							
(Values from Table 8.2.1.3.A and 8.2.1.3.B)							
Use	Design Flow per Unit (L)	Units	Number of Units	Design Flow Subtotal (L) per day			
		Warehouse	1				
Two (2) Washrooms	950	Washroom	2	1,900			
Two (2) Loading Bays	150	Loading Bay	2	300			
			Total	2,200			
		Apartment	I				
Two (2) Bedrooms	275	Per Person	4	1,100			
I		1	Total	1,100			
	Keni	nel (Veterinary Cli	inic <sup>(1)</sup> )				
Employee	75	Employees (2)	1	75			
Floor Drain	75	Floor Drain	1	75			
		1	Total	150			
			Daily Flow Total	3,450			

Notes

(1) Veterinary clinic was the considered the closest applicable property use in the OBC table for animal kenneling. No veterinary services are to be completed on Site.

(2) Assumes employees work one 8-hr shift per day and spend the rest of the day in the caretaker suite.

Based on a daily design flow of 3,450 L per day, GVE has calculated a total length of pipe required for the shallow buried trench installation, of 52.32 m and an orifice spacing of 0.6 m. The system will include a minimum 3,600 L capacity pretreatment tank with a maximum cover of 300 mm of soil. The actual treatment unit will have a capacity of 3,780 L. Based on the design details proved in the GVE application, the system will require a surface area of approximately 15 m by 15 m, or approximately 230 m<sup>2</sup>. Including a replicate area to account for a replacement area, it is estimated that a total footprint of approximately 460 m<sup>2</sup> would be required to adequately install and maintain the proposed system. Further details related to the proposed construction are included in Attachment II.

The proposed development property has an area of approximately 9,000 m<sup>2</sup>. Accordingly, it is considered that sufficient area exists at the proposed development for the installation of a septic system in accordance with the OBC, and includes sufficient replacement area in the event it is required. The proposed Site layout, including the anticipated septic location and configuration is shown in **Figure 3**.

The OSSO approved the application, and a permit was issued.

## **10 GROUNDWATER IMPACT ASSESSMENT**

The groundwater impact assessment addresses the ability of the land to attenuate the sewage effluent created by the development. Three methods for conducting the assessment are outlined in MECP's *Procedure D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment* (1996):

- Lot Size Consideration for lot greater than 10 000 m<sup>2</sup>;
- System Isolation Consideration for areas where the septic system is hydrogeologically isolated from the potable water source; and
- Contaminate Attenuation Consideration for sites that do not meet the above two points.

Based on the review of the available information and site visit (above) the site is not obviously hydrogeologically sensitive (i.e. karstic areas, areas of fractured bedrock at the surface, areas of thin soil over highly permeable soils).

The Site has a total area of 22,200 m<sup>2</sup>. In accordance with Section 22.5.8 of the MECP Design Guidelines for Sewage Works, the Marlborough Creek which intercepts the subject property along the western extent of the proposed development area, must be considered in the extent of the allowable dilution area. Therefore, an area of 8,976 m<sup>2</sup> has been considered for the proposed development footprint, and septic attenuation areas. Therefore, "*Contamination Attenuation*" was considered in this terrain analysis.

#### **10.1** Contamination Attenuation Method (Predictive Assessment)

The Contaminant Attenuation Method (Predictive Assessment) was used to determine the impact of the individual on-site septic systems to the property boundaries. This procedure assesses the risk that the individual on-site systems will cause the concentration of the nitrate-nitrogen to a property boundary, or in this instances, at the surface water body extents, to exceed 10 mg/L at the property boundaries. Dilution is the only attenuation mechanism considered for nitratenitrogen, with precipitation being the only source of infiltration. The following parameters and assumptions were used in the nitrate-nitrogen attenuation calculations:

Infiltration factors for the proposed development property are;

- Total area of 8,976 m<sup>2</sup>;
- Flat topography;
- Infiltration Factors:
  - i. Based on the soil gradation completed on samples from the test pits showed the soil to be loam to silty loam across the Site. As such clay loam was used for this calculation;
  - ii. Based approximate measurements from aerial photos of the property, it was determined that around 6,079 m<sup>2</sup> of the property is woodland, and the remaining 2,897 m<sup>2</sup> is cultivated land. Due to most of the forested land being within the floodplain, it is assumed that this ratio will be maintained during the Site development;

#### • Moisture Surplus:

- i. The forested portion of the property was considered closed mature forest, and the remaining area was considered moderately rooted crops as the post development ground cover,
- ii. Silt loam as defined by the sieve and hydrometer testing.
- Groundwater was not encountered in the test pit piezometers. Therefore, it is assumed that background nitrate-nitrogen concentration is 0 mg/L;
- Impervious areas of 453.25 m<sup>2</sup> for the building and 620 m<sup>2</sup> of paved driveway and circulation area; and,
- Moisture surplus values from the Ottawa weather station (Environment Canada, 2011). The moisture surplus printout is included in Attachment IX.

Based on the total proposed sewage volume for the entire Site of 3,450 L/day, the existing available lot size, soil conditions, a nitrate concentration of the sewage of 40 mg/L, the calculated levels of nitrates at the property limits are estimated as 17.53 mg/L as presented in the attached **Table 5A**. This is above the procedure's guideline limit of 10 mg/L at the property line. Based on the "Contaminant Attenuation Method", without tertiary treatment the current lot size and soil conditions are not suitable to attenuate the nitrate impacts generated by the septic systems of the proposed development in accordance with D-5-4 guideline.

The above calculations are based on the current D-5-4 guideline which requires the use of 40 mg/L as the contaminant source as per Section 5.6.2 (a). Therefore, the use of an advanced tertiary treatment system such as Norweco tertiary system is necessary to reduce the levels of nitrates prior to discharge to the disposal field. This particular system is approved by the OBC and the Building Materials Evaluation Commission of the Ontario Ministry of Municipal Affairs and Housing. Furthermore, Section 5.7 of the D-5-4 guideline states that the Ministry recognises "that as research continues, information and technologies may become available which warrant minor or substantial revisions to this guideline".

The Norweco 3780-3M treatment unit is certified for a minimum 50% total nitrogen reduction, and was used in the proposed modification, and proposed development sewage disposal designs. Therefore, a nitrate effluent concentration of 20 mg/L was used for the proposed system. A copy of the specifications for the Norweco tertiary system is included in **Attachment X**.

The detailed calculations for the proposed development are presented in **Table 5B**. It is assumed that the level of nitrates in the effluent from the proposed Norweco tertiary systems are 20 mg/L (based on a 50% nitrate reduction as indicated in the corresponding specifications). Based on these assumptions the nitrates at the property limits are estimated as 8.76 mg/L. This is below the procedure's guideline of 10.0 mg/L. Based on the "*Contaminant Attenuation Method*" the current lot size and soil conditions are suitable to attenuate the nitrate impacts generated by the septic systems on the development in accordance with current D-5-4 guidelines, provided an appropriate and maintained tertiary treatment system is used for the proposed building.

# 11 CONCLUSIONS

Based on our review of available information and the results of the groundwater sampling and laboratory analytical program, we conclude the following:

- Based on the information collected through the intrusive investigation completed, the site is not considered to be hydrologically sensitive.
- Sufficient area exists at the proposed developed lot for a well and the installation of a septic system in accordance with the OBC to service the dog kenneling business and the upstairs two-bedroom caretaker dwelling with a design sewage flow of up to 3,450 L/day.
- Pre-treatment of the sewage from the proposed sewage disposal systems with Norweco tertiary systems, which have a certified nitrogen reduction of a minimum of 50%, yields a calculated nitrate concentration at the property line of 8.76 mg/L, based on the "Contaminant Attenuation Method".
- Surrounding lands are serviced by private wells and septic/holding tanks sewage systems, including domestic wells within 500 m of the Site. The potable water source of these wells is the bedrock aquifer. A layer of either clay or sand being between 4.3 and 12.5 m thick over bedrock (limestone).
- The proposed development can be adequately and safely supplied with potable water as demonstrated through the installation and corresponding tests of TW-2, which extends to a depth of 70.1 m below grade, into the deeper limestone & sandstone mix bedrock formation. Although, as discussed in Section 12, select parameters encountered are elevated in comparison to the applicable ODWS, but a re considered reasonably treatable through the use of a conventional treatment system.
- TW-2 has been constructed in accordance with O. Reg. 903 and is considered acceptable for use as a supply well for the proposed development on the Site.
- The results of the six (6) hour sample submitted from the May 2023 test well, TW-2, generally met the Procedure D-5-5 and ODWS limits for the tested parameters with the following exceptions:
  - Hardness was reported to be 478 mg/L in the six (6) hour sample, above the OG of 100 mg/L, although less than the D-5-5 guideline of 500 mg/L which is considered reasonably treatable. The three (3) hour sample collected was reported to have a hardness level of 409 mg/L. Elevated levels of hardness can result in scale deposits and excessive scum accumulation. As the levels are considered reasonably treatable, with respect to D-5-5, hardness can be reduced through the use of a water softener:
    - It should be noted that use of sodium chloride as a regenerant for the resins can increase the sodium content of the water, which are currently above the 20 mg/L warning level notification limit for those on a sodium restricted diet.
    - For individuals with sodium restricted diets, potassium chloride can be substituted for sodium in the ion exchange system to lower the hardness in the water supply.
  - TDS was reported at 718 mg/L after both three (3) and six (6) hours, above the ODWS AO of 500 mg/L. Where TDS levels exceed the ODWS AO, it is required that a professional comment regarding treatment include "*written rationale that*

corrosion, encrustation or taste problems will not occur", according to the MECP D-5-5 Guideline. As indicated in the ODWS for TDS parameter "The term total dissolved solids refer to inorganic substances dissolved in water. The principal constituents of TDS are chloride, sulphates, calcium, magnesium and bicarbonates. The effects of TDS on drinking water quality depend on the levels of the individual components. Excessive hardness, taste, mineral deposition or corrosion are common properties of highly mineralized water. The palatability of drinking water with a TDS level less than 500 mg/L is generally considered to be good."

In support of the required rationale with respect to TDS levels in excess of 500 mg/L, the Ryznar Stability Index (RSI) and Langelier Saturation Index (LSI) were calculated for the water sample to determine the corrosivity or scale formation potential of the water. The Langelier Saturation Index (LSI) is used to determine the calcium carbonate stability of water and the pH at which water is saturated with calcium carbonate (pHs). The Ryznar Stability Index (RI) is used to determine the aggressiveness of water which can indicate the scale and corrosion potential. Using a water temperature of 10°C, the LSI was calculated to be 0.549 which indicates the water is scale forming but non-corrosive. The RI was calculated to be 6.60 which indicates light scale or corrosion. **Corrosion resistant piping and pluming fixtures can be used throughout the proposed development.** 

Furthermore, it should be noted that parameters which contribute to TDS in a water supply, including sodium, sulphates and chlorides, are noted to be within their corresponding ODSW AO. Sodium was reported with a level of 70.7 mg/L and a chloride level of 191 mg/L, which are within the AO of 200 mg/L and 250 mg/L, respectively. Therefore, these parameters are considered to be at levels which are unlikely to contribute to unpleasant taste in the water supply. Additionally, sulphates were reported less than the 150 mg/L ODWS, with a level of 57 mg/L. This is indicative that sulphates will most likely not result in a distinctive or unpleasant taste.

TDS levels are also influenced by concentrations of calcium, magnesium and bicarbonates, which can result in elevated hardness. As noted above, hardness was found to exceed the ODWS OG of 100 mg/L, although less than the D-5-5 guideline of 500 mg/L. Therefore, by improving the hardness of the water, TDS levels should be directly correlated with the improvement of quality and reduce the potential for scale formation associated with TDS. High levels of hardness can lead to scale deposits and excessive scum with regular soaps upon heading the water. Hardness can be reduced through the use of a water softener; however the use of sodium chloride as a regenerant for the resins can increase the sodium content of the water.

According to the Government of Canada, Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Total Dissolved Solids (TDS), the palatability of a drinking water supply (with respect to TDS) has been rated by participants, and the findings are as follows:

- Excellent, less than 300 mg/L;
- **Good**, between 300 and 600 mg/L;
- **Fair**, between 600 and 900 mg/L;
- **Poor**, between 900 and 1200 mg/L; and
- Unacceptable, greater than 1200 mg/L.

From the analysis results collected, and with reference to the Guideline Technical Document – Total Dissolved Solids (TDS), the proposed water supply at the site is anticipated to be good to fair, as concentrations were reported to be 718 mg/L after six (6) hour of pumping. Therefore, based on the overall quality of the water supply, with consideration to the TDS and the likely palatability of the supply source, it is anticipated that corrosion, encrustation or taste problems will not occur. It should also be noted that water with very low TDS concentrations may also exhibit unacceptable palatability. Based on the lack of variance between the three (3) hour and the six (6) hour sample collected, it is unlikely the TDS values would diminish to such a value which would have unacceptable palatability.

#### TDS can be reduced through the use of a water softener.

Turbidity was reported to be 9.0 NTU after six (6) hours, above the AO and the D-5-5 of 5 mg/L. Turbidity measures the suspended solids and the relative clarity of the water. Turbidity can reduce the aesthetics of water and also reduce the efficiency of disinfection of microbiological parameters, such as in treatment processes requiring filtration. At the time of sampling, the levels in the field were measured as 1.40 NTU in the six (6) hour sample collected.

The holding time from the point of sample collection to analysis, and possible chemical reactions with such compounds as iron within the sample likely attributed to the elevated turbidity. The field results are considered representative of the sample, and aquifer conditions at the point of consumption.

- Based on the turbidity measurements collected by LRL throughout the six (6) hour pumping duration, it is most likely that the well is in fact developed adequately, and the conditions encountered are true to that of the proposed supply aquifer.
- In-field turbidity measurements collected are summarized in the following table. As presented, there is little variance in the measurements collected throughout the pumping test, and all levels throughout this duration were less than the 5 NTU, which is the Ontario Drinking Water Standard aesthetic objective for all water at the point of consumption.
- According to Ontario Regulation 170/03, if a drinking-water system is to provide filtration, a value of greater than 1.0 NTU is considered an adverse result. Iron levels encountered in the sample collected after six (6) hours of steady pumping was elevated, and the use of a manganese greensand filter was proposed as a potential treatment option. The

effectiveness of a manganese greensand filter is not anticipated to be impaired by the slightly elevated turbidity which may occur in the proposed supply well, as alternatively, manganese greensand filter is an effective method to reduce turbidity levels. The point of consumption turbidity levels are anticipated to be less than 5 NTU as encountered during the pumping test;

- Iron exceeded the 0.3 mg/L ODWS value with a level of 0.6 mg/L. This is below the MECP D-5-5 level considered reasonable treatable of 5 mg/L. Iron can be reduce through the use of a water softener or a manganese greensand filter;
  - As indicated above, for individuals with sodium restricted diets, potassium chloride can be substituted for sodium in the ion exchange system to lower the iron in the water supply, injunction with lowering the hardness; and
- Sodium was reported to be 70.7 mg/L after six (6) hours, which is above the ODWS AO but within the level considered reasonably treatable in Procedure D-5-5 of 200 mg/L. The concentration is above the 20 mg/L warning level notification limit for those on a sodium restricted diet. The local Medical Officer of Health should be notified of these levels so that this information may be communicated to local physicians with regards to homeowners who follow a sodium-restricted diet. Sodium can be reduced through the use of a point-of-use reverse osmosis system, if required.
  - $_{\odot}$  Sodium can be reduced through the use of a point-of-use reverse osmosis system, if required.
  - Based on the slightly elevated concentrations of sodium encountered, and dependant on the occupants of the proposed development personal health limitation, if water softener is to be introduced, potassium chloride can be substituted for sodium in the ion exchange system to lower the iron in the water supply, injunction with lowering the hardness.
- Based on our review of available information, fieldwork and the results of the groundwater sampling and laboratory analytical programs, it is LRL's opinion that the potential proposed development can be supplied with a sufficient quantity of water, considered reasonably treatable through conventional units to supply a satisfactory quality of potable water.
  - A treatment system specialist should be consulted to obtain specific treatment system requirements and specifications.
  - If water treatment systems are used, they should be maintained on a regular basis in accordance with the manufacturer's recommendations to ensure that it is properly functioning and providing a safe drinking water.
  - LRL will not be responsible for ensuring adequate treatment is obtained for the drinking water supply. This is the sole responsibility of the individual home-owner.
     LRL makes no guarantee that all parameters can be treated to levels deemed aesthetically satisfactory to the individual home-owner.
- Treatment options should be considered on an induvial bases by a treatment system specialist to confirm the conditions encountered previously correspond with exiting quality at the time of development. Although this is not anticipated to be the case, it is considered best practice, and will support proper dosing or filtration rates (if applicable). Conventional

treatment options exist for the parameters exceeding the ODWS and D-5-5 guidelines, which include the following:

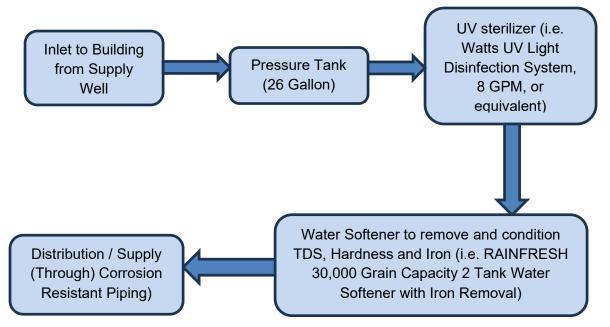
- Hardness, TDS and iron can be reduced through the use of a water softener. It is recommended, due to the slightly elevated concentrations of sodium encountered, that the potassium chloride be substituted for sodium in the ion exchange system of the water softener;
- Individual with a sodium-restricted diet may considered the installation of a pointof-use reverse osmosis system to reduce sodium intake as concentrations were considered above the 20 mg/L warning level notification limit.
- Based on the scale and corrosion potential of the water supply, corrosion resistant piping and plumbing fixtures should be considered.
- Volatile Organic Compounds (VOCs) were also collected as part of the analysis package. VOCs were not detected in the sample submitted.
- The neighbouring land in the area are generally either un-developed, or include low-density residential developments. A train-track boarders the northern extent of the Site, which is followed by un-developed land and a higher-density residential development. Commercial/Light Industrial activities occupy the adjacent land to the east, and the neighbouring property further east. These industries include an automotive repair facility (5949 Ottawa Street) and Quatrosense Environmental Ltd., a hazardous gas detection equipment manufacturer, sales and calibration service provided (5935 Ottawa Street). Based on the types of property uses in the vicinity of the Site, it is anticipated that there would be little interference with respect to water well quantity from neighbouring lands. Furthermore, based on the available well records reviewed as part of this assessment, limited supply wells within 500 m of the Site intercept the same aquifer, or extend to a comparable depth, as that of TW-2, the proposed water well to the anticipated development.

#### **12 RECOMMENDATIONS**

- 1. Treatment options should be considered on an individual basis. Conventional treatment options exist for the parameters exceeding the ODWS and D-5-5 guidelines, which include the following:
  - a. Hardness and TDS can be reduced through the use of a water softener; and
  - b. Iron can be reduce through the use of a water softener or an manganese greensand filter.

The use of an Ultra-violet system can also be implemented as an additional precautionary measure to mitigate the risk of microbial impacts in the supply line.

The series of the water treatment units should be as follows:



- 2. The well placement should be located upgradient of any septic field beds. The drilled well should be a minimum distance of 15 m from any septic beds and 15 m from other wells. It is also recommended that a setback of at least 3.0 m from the property boundary be maintained for further mitigation measures related to groundwater impairment from neighbouring land uses.
- 3. Based on the scale and corrosion potential of the water supply, corrosion resistant piping and plumbing fixtures should be considered.
- 4. Water should be tested on an individual basis and a water treatment specialist be consulted prior to the final design and installation of any water treatment system.
- 5. The water treatment system should be maintained on a regular basis in accordance with the manufacturer's recommendations to ensure that it is properly functioning and providing a safe drinking water.
- The residence is advised to have their water regularly analysed for bacteria and septic indicator parameters, such as chloride, ammonia, nitrates, nitrites, Total Kjeldahl Nitrogen, E. Coli and Total Coliforms.
- 7. The owner should maintain their well as outlined in the Ontario Ministry of Agricultural and Rural Affairs Best Management Series Water Wells.
- The subsurface conditions indicated for the proposed lots are considered suitable for a Class IV septic sewage disposal system. Use of an advanced tertiary treatment system such as Norweco tertiary system is necessary to reduce the levels of nitrates prior to discharge to the disposal field.
- 9. TW-1 should be decommissioned in accordance with O. Reg. 903.
- 10. The casing of the proposed supply well, TW-2, must maintain a minimum stickup above the groundsurface of 40 cm, following Site development and grading activities. Consideration to strategic grading to encourage surface water diversion from the supply well is recommended.

11. Based on the proposed use of the Site, possible contaminant sources that could be present at the property are identified as: waste storage (dog feces), septic systems, and animal enclosures. The sewage systems and dog waste storage should be at least 15 metres from the well location.

#### **13** LIMITATIONS

The findings contained in this report are based on data and information collected during the Terrain Analysis of the subject property conducted by LRL Associates Ltd. The conclusions and recommendations are based solely on-Site conditions encountered at the time of our fieldwork on July 20, 2021, and May 29, 2023, supplemented by historical information and data obtained as described in this report. The information presented in this report represents the groundwater conditions at the locations sampled. Due to natural variations in geological conditions, no inference is made to the soil or groundwater conditions between sampling points. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Associates Ltd. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Associates Ltd. has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

Yours truly, LRL Associates Ltd.

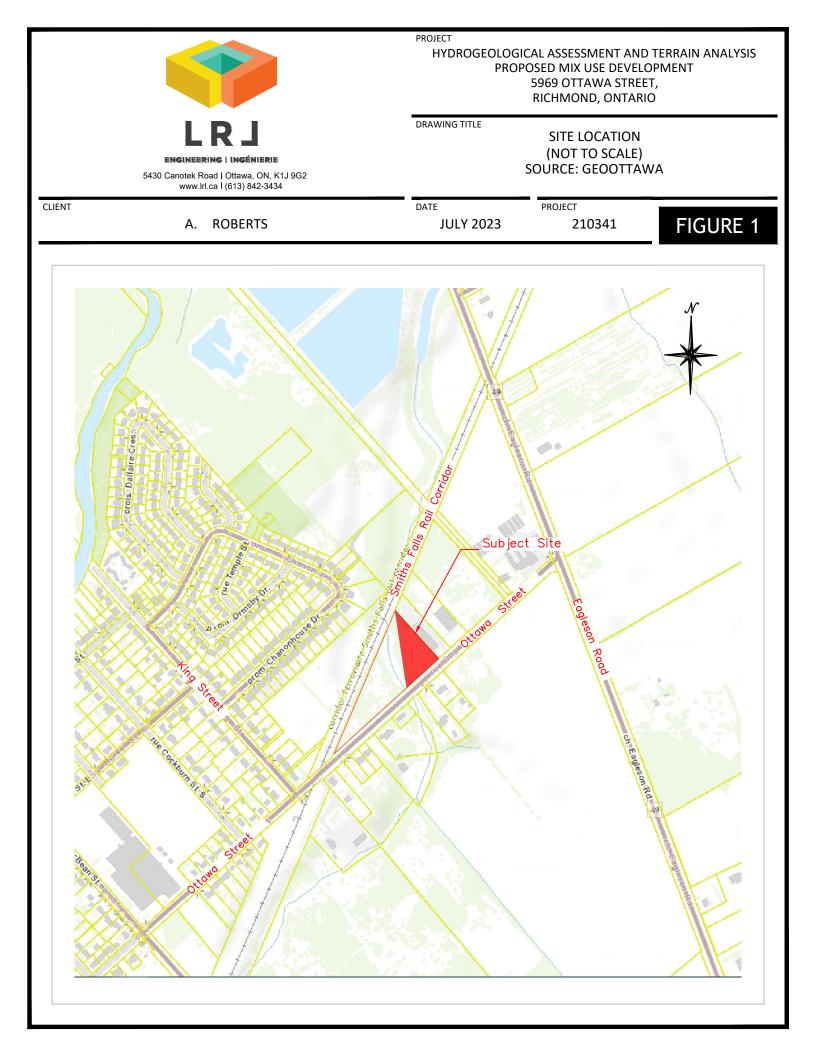
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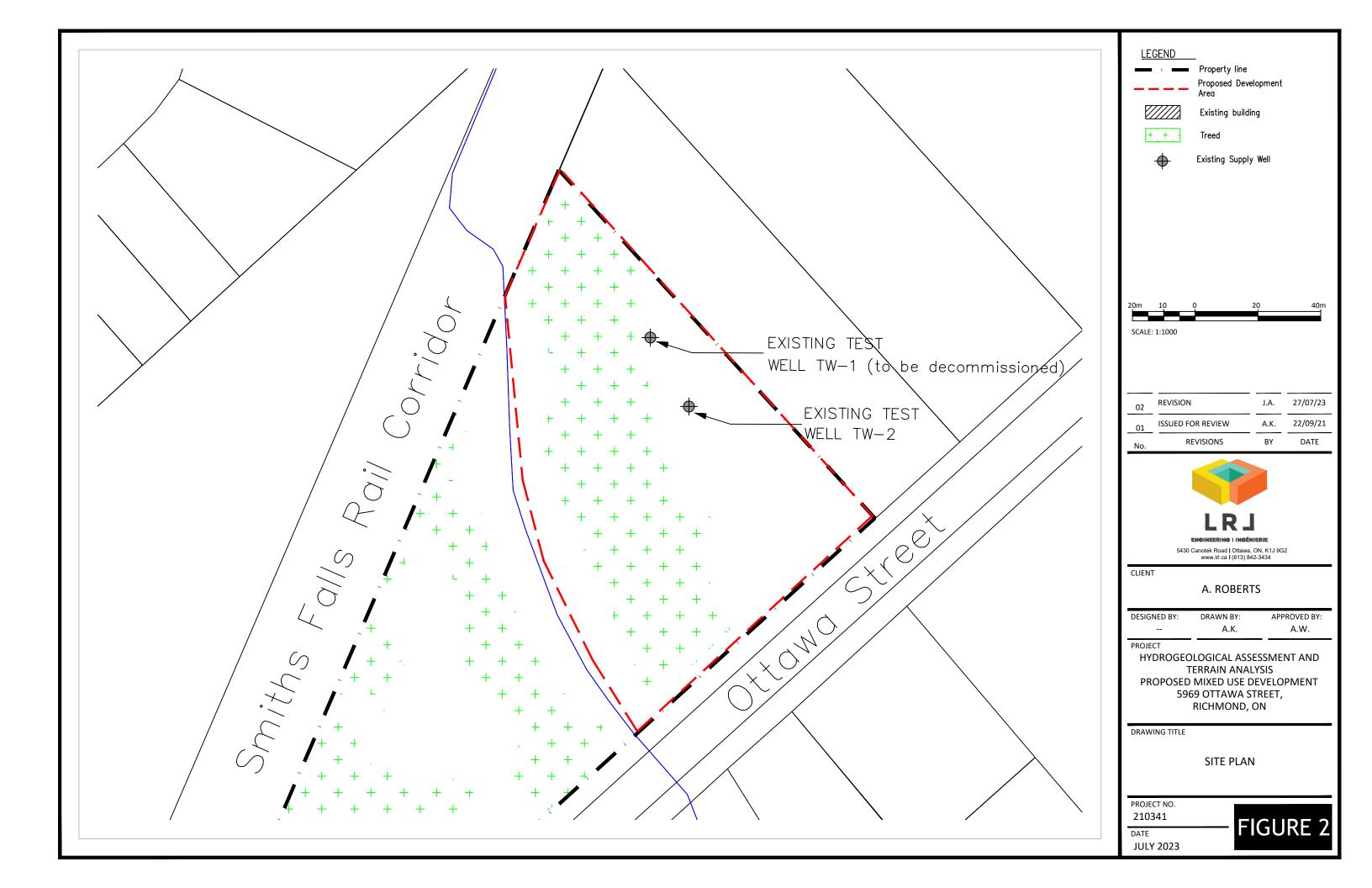
Jessica Arthurs Environmental Engineering Manager/Associate

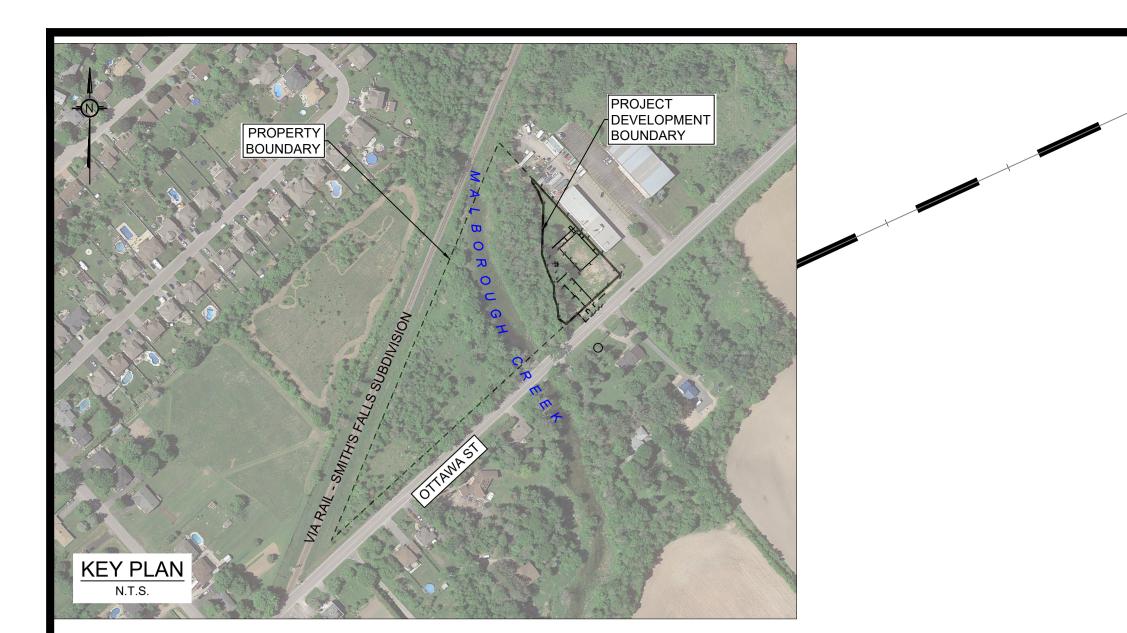
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Hydrogeological Engineer

FIGURES



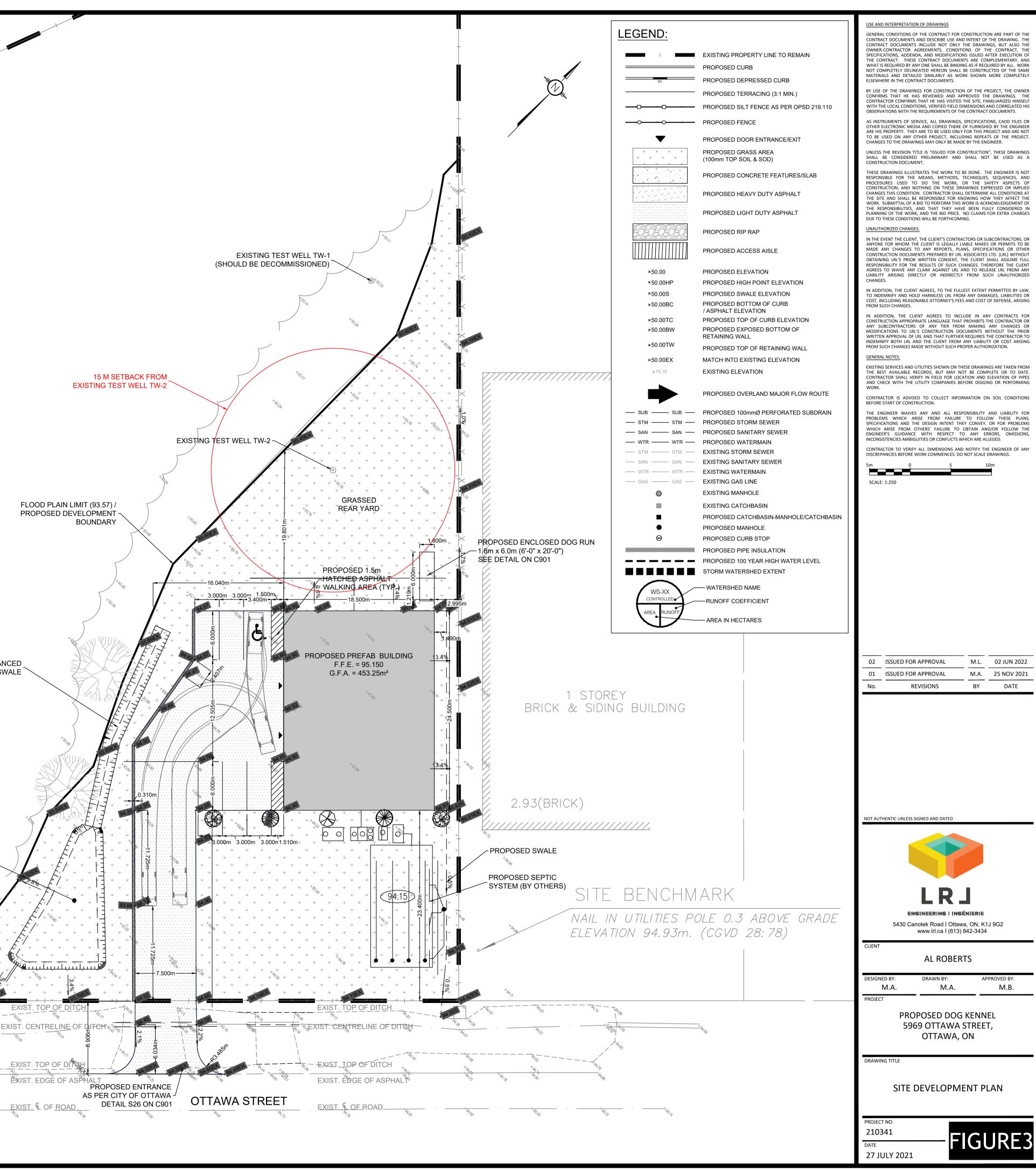


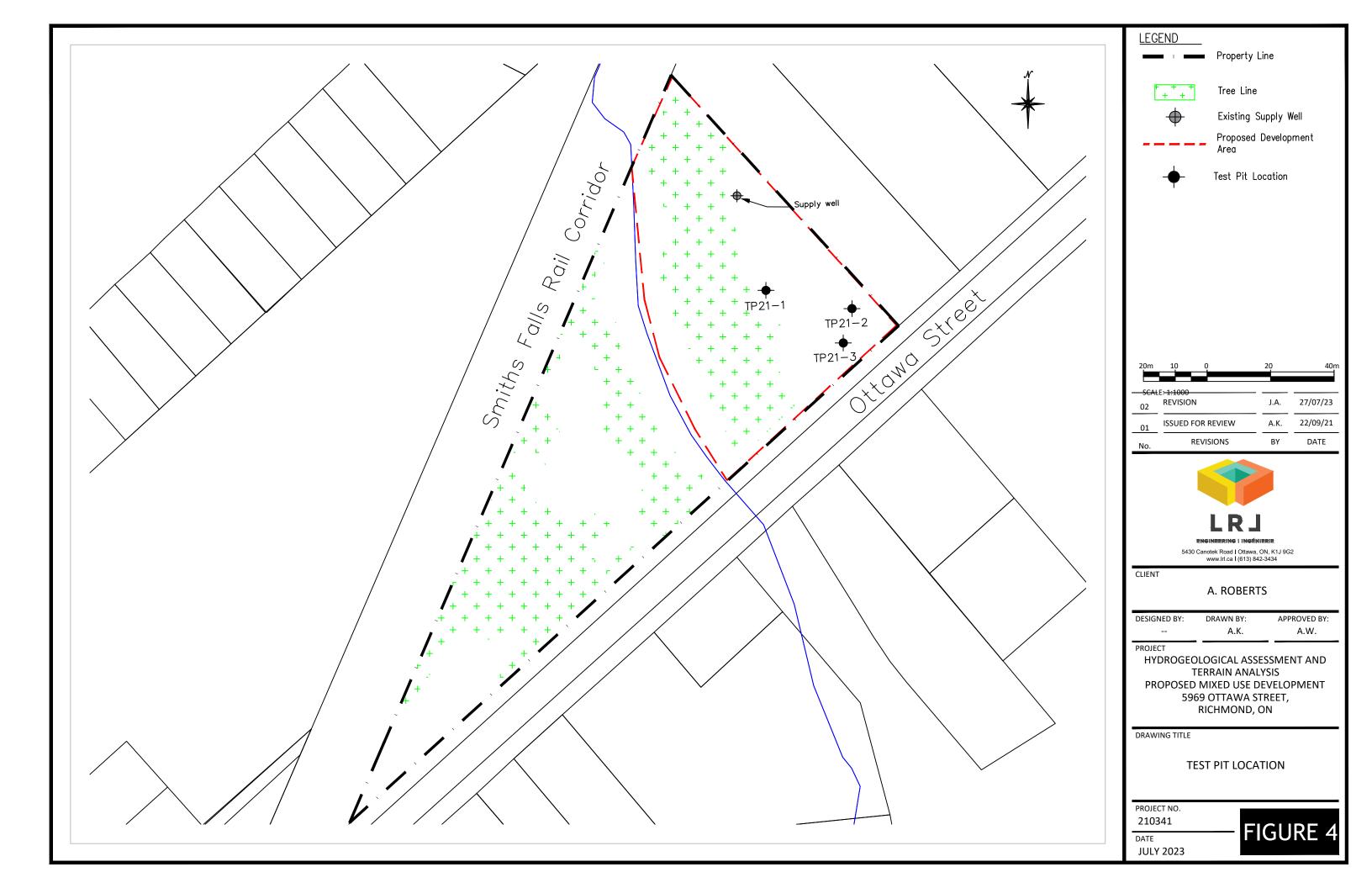


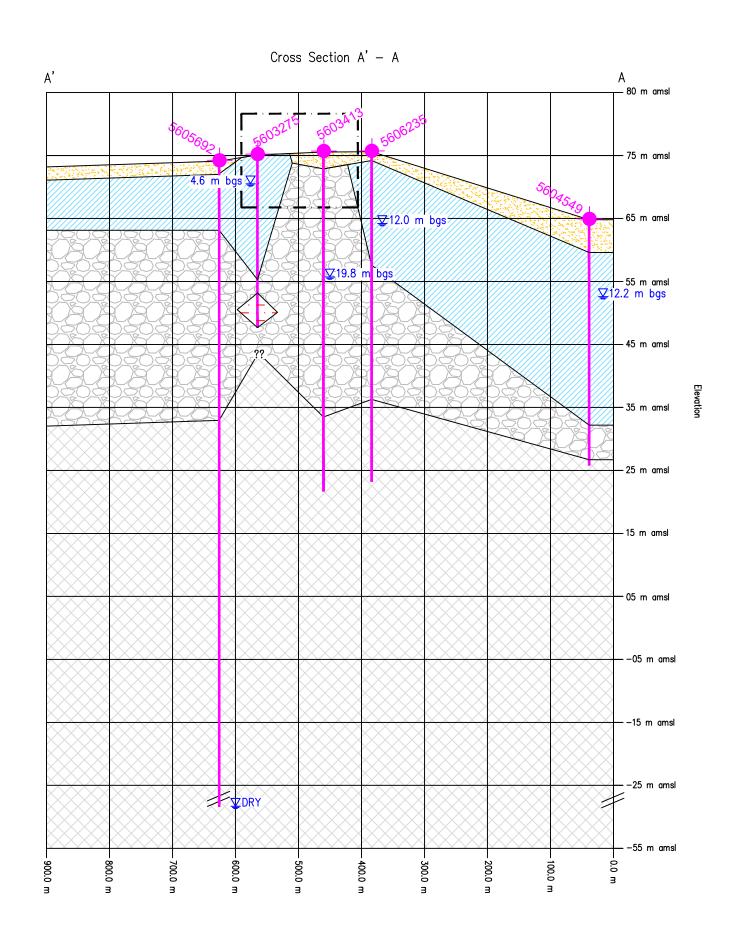
DETAILS OF DEVELOPMENT					
DA	ТА	REQUIRED	PROVIDED		
	ZONING	RG3[385r] (RURAL GENERAL)			
SETBACKS	FY	15.0m	23.4m		
	RY	15.0m	19.8m		
	INT.SY	3.0m	16.0m		
	EXT.SY	3.0m	3.0m		
NET LOT AREA ( s	sqm )	3240 sqm			
BUILDING COVER	RAGE	50 % (MAX)	14 %		
BUILDING HEIGH	Т	15 m (MAX)	7.62 m (25')		
GROSS FLOOR A	REA	453.25 sqm			
No. of UNITS			1		
LOADING SPACES	S	N/A	N/A		
PARKING:		4	5 + 1 HC		
No. OF STOREYS			2		
OTHER:		L			

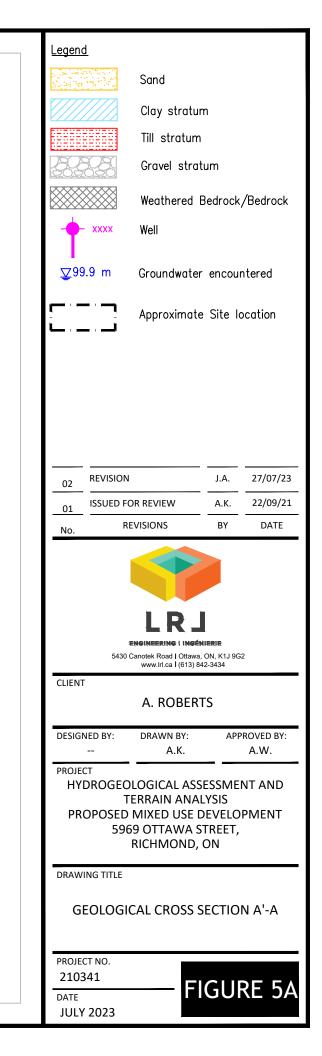
PROPOSED ENHANCED GRASS SWALE

EXISTING HEAVILY TREED AREA

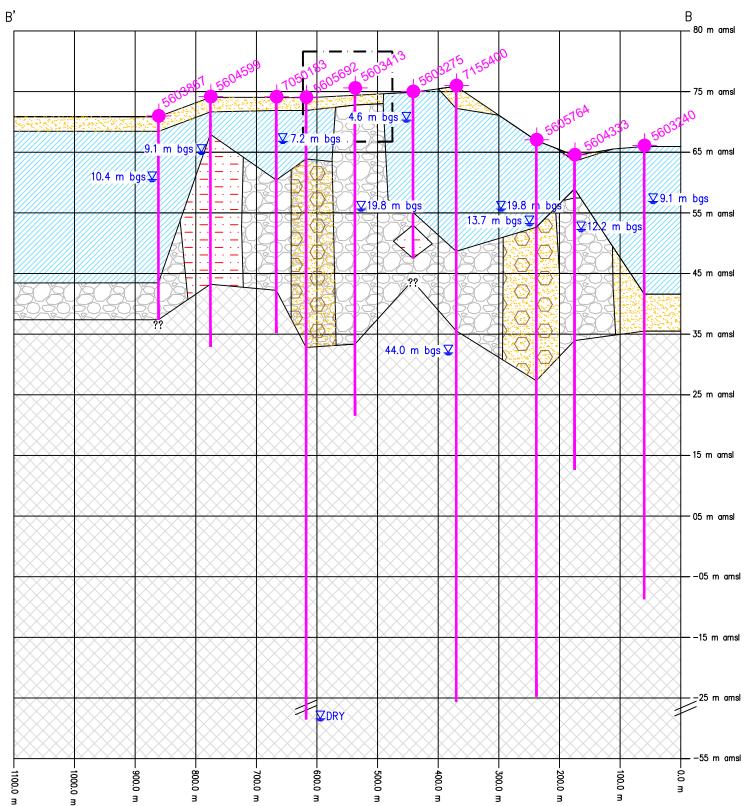


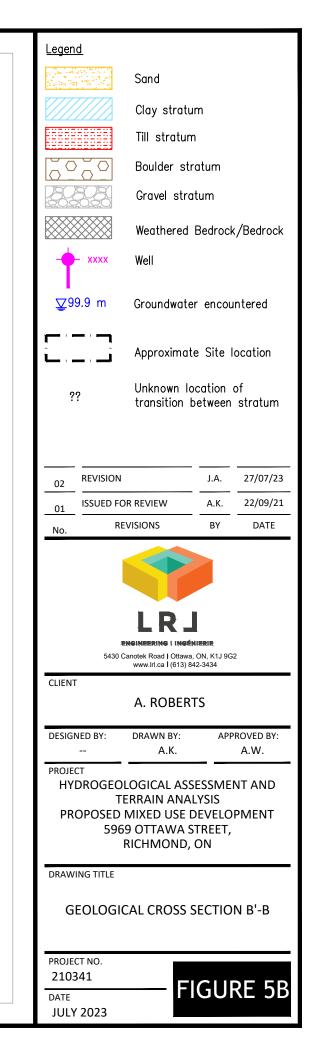






Cross Section B' - B





Elevatio

TABLES

### Summary of Supply Well Water Quality Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development 5969 Ottawa Street, Richmond, Ontario

			Ontario Drini					Т	N-1			т	V-2	Neighbour's
			Standa	ards		2021	nitial Submi			ther Well Deve	lonment		ng Test	Well
					MECP						-			(5949 Ottawa St.)
Parameter	Units	MRL	Standard	Туре	D-5-5 <sup>5</sup>	SA-1	3 hr	6 hr	4 hr	4 hr	8 hr	3 hr	6hr	
Sample Date (d/m/y)						20.07.2021	11.08	3.2021	24.01.2023	25.01	.2023	29.05	5.2023	15.03.2023
Microbiological Parameters														
Chlorine (Field Measurement)	ppm	0.01				-	0.03	0.00	0.02	0.02	0.02	0.01	0.01	
E. Coli	CFU/100 mL	1	0	MAC		<1	<1	<1	<1	<1	<1	<1	<1	<1
Fecal Coliforms	CFU/100 mL	1	0 1	MAC		<1	<1	<1	<1	<1	<1	<1	<1	<1
Heterotrophic Plate Count	CFU/ml	10				190	280	120	<10	<10	10	80	50	100
Total Coliforms	CFU/100 mL	1	0/5 <sup>1</sup>	MAC		<u>13</u>	<1	<1	<1	<1	<1	<1	<1	<1
General Inorganics			00 500			074					0.07	074	074	050
Alkalinity, total	mg/L	5	30 - 500	OG		274	269	269	268	268	267	274	274	259
Ammonia as N	mg/L	0.01		40	40	0.13	0.12	0.12	0.13	0.15	0.13	0.10	0.10	0.16
Dissolved Organic Carbon	mg/L	0.5	5	AO	10	0.7	1.8	1.9	<u>5.7</u>	<u>8.9</u>	8.9	1.6	1.8	<0.5
Colour	TCU	2	5	AO	7	<u>25</u>	21	<u>30</u>	<2	<2	<2	<2	<2	<2
Conductivity	uS/cm	5		00	500	1560	1550	1530	1680	1720	1710	1290	1290	1800
Hardness	mg/L	1	80 - 100	OG	500	<u>532</u>	<u>514</u>	<u>509</u>	<u>549</u>	<u>535</u>	<u>524</u>	409 7.9	478	<u>515</u>
pH Phonolics	pH Units	0.05	6.5 - 8.5	OG		7.7	7.8	7.8	7.7	7.9	7.9	7.8	7.7	7.7
Phenolics Total Disselved Solida	mg/L	0.001		40		<0.001		0.001	<0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001
Total Dissolved Solids	mg/L	10	500	AO		<u>874</u>	<u>796</u>	<u>814</u>	<u>898</u>	<u>892</u>	<u>836</u>	<u>718</u>	<u>718</u>	<u>946</u>
Sulphide	mg/L	0.02	0.05	AO		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02 <0.1
Tannin & Lignin Total Kjeldahl Nitrogen	mg/L													
, ,	mg/L	0.1	-	OG		0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.2
Organic Nitrogen	mg/L	0.4	0.15			0.07		-0.02		0.05	-0.03	0.10	0.00	
Turbidity	NTU	0.1	1/5 <sup>2</sup>	MAC/AO	5	<u>7.9</u>	<u>5.2</u>	4.9	<u>6.4</u>	4.1	3.8	<u>8.1</u>	<u>9.0</u>	Z
Anions Chloride		1	250	AO	050	267	200	004	200	200	200	192	191	225
	mg/L			-	250	<u>267</u>	266	264	<u>298</u>	299	299			325
Fluoride	mg/L	0.1	1.5 <sup>3</sup> /2.4	MAC		0.3	0.4 <0.1	0.4	0.3	0.2	0.3	0.4	0.4	0.3
Nitrate as N	mg/L	0.1	10	MAC		<0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite as N	mg/L	0.05	1	MAC		<0.05 99	<0.05	<0.05	<0.05 77	<0.05 79	<0.05	<0.05	<0.05 57	< 0.05
Sulphate Metals	mg/L	1	500	AO	500	99	02	02	11	79	78	57	57	75
Aluminum	mg/L	0.001	0.1	OG						0.012	0.014	0.007	0.005	
Antimony	mg/L	0.0005	0.006	MAC		-				< 0.0005	<0.0005	<0.0005	<0.0005	
		0.0003	0.000	MAC						<0.0003	<0.0003	<0.0003	<0.0003	
Arsenic Barium	mg/L mg/L	0.001	1	MAC		-			-	0.14	0.136	0.119	0.137	
Beryllium	mg/L	0.0005		WAC								<0.0005	<0.0005	
Boron	mg/L	0.0003	5	MAC				-	-	0.22	0.22	0.15	0.16	
Cadmium	mg/L	0.0001	0.005	MAC		-				<0.0001	<0.0001	<0.0001	<0.0001	
Calcium		0.0001		WAC		126	125	124	136	132	131	105	122	127
Chromium	mg/L mg/L	0.001	0.05	MAC						<0.001	<0.001	<0.001	<0.001	
Cobalt	Mg/L	0.0001	0.05	MAC						<0.001		<0.0005	<0.0001	
Copper	mg/L	0.0005	1	OG			-		-	<0.0005	<0.0005	< 0.0005	<0.0005	
Iron	mg/L	0.0005	0.3	AO	5/10	<u>0.7</u>	0.5	0.5	0.6	<u>0.6</u>	<u>0.5</u>	<u>0.5</u>	<u>0.6</u>	0.2
Lead	mg/L	0.0001	0.01	MAC	5/10	<u>0.7</u> 				0.0002	<0.0001	<0.0001	< 0.0001	
Lead Magnesium	mg/L mg/L	0.0001		WAG		52.7	49.4	48.4	50.8	50	47.9	35.8	42.0	47.8
Magnesium	mg/L	0.2	0.05	AO	1	0.018	0.016	0.016	0.016	0.017	0.017	0.014	0.016	0.016
Molybdenum	mg/L	0.0005	0.00	AU								0.0020	0.0022	0.010
Nickel	mg/L	0.0005										<0.0020	<0.0022	
Potassium	mg/L	0.001				9.1	8.5	8.1	8.1	8.4	8.4	6.1	6.9	8.5
Selenium	mg/L	0.001	0	MAC					0.1	<0.001	0.001	<0.001	<0.001	
Silver	mg/L	0.0001	v									<0.001	<0.001	
Sodium	mg/L	0.0001	20 <sup>4</sup> /200	AO	200	115	114	111	120	118	112	<0.0001 61.6	<0.0001	129
Strontium	mg/L	0.2	20/200	AU	200							4.03	4.09	125
Thallium	mg/L	0.001				-	-		-			<0.001	<0.001	
Tin	mg/L	0.001							-			<0.001	<0.001	
Titanium	mg/L	0.005				-			-	-		<0.005	<0.005	
Tungsten	mg/L	0.005					-					<0.005	<0.005	
Uranium	mg/L mg/L	0.001	0.02	MAC			-			0.0006	0.0006	0.0005	0.0006	
Vanadium			0.02	MAC							0.0006	< 0.0005	< 0.0005	
Zinc	mg/L mg/L	0.0005	5	AO						< 0.005	<0.005	<0.0005	<0.0005	
200	mg/∟	0.000	5	70			-			~0.000	~0.000	~0.000	~0.000	

 ITES
 ODWS
 Ontario Drinking Water Standards (2006)

 Minimum Acceptable Concentration
 NA
 Not Analysed

 Objection Display Concentration
 NA
 Not Analysed

 Operation Students Objective
 <u>UNDERLINE</u>
 Parameter Irevel above ODWS

 Operational Guideline
 <u>Buller</u>
 Notif Medical Officer of Health

 <sup>1</sup> As per Table 1 of MECP's technical guideline "b-5-5 Private Water. Water Suppl Assessment"
 Parameter Irevel above 0.5-5 maximum treatability limits

 <sup>1</sup> As per Table 1 of MECP's technical guideline "b-5-5 Private Water. Water Suppl Assessment"
 Parameter Irevel above 0.4-5 maximum treatability limits

 <sup>1</sup> As per table 1 of MECP's technical guideline "b-5-5 Private Water. Water Suppl Assessment"
 Parameter Irevel above 0.4-5 maximum treatability limits

 <sup>2</sup> 1.0 NTU MAC (1 freatment system required to provide Italization of distriction. 5.0 NTU AD for all points of consumption
 Parameter Irevel above 2.4 mg/L the Ministry of Health recommends notification of local board of health of levels to avoid excesses exposure from other sources.

<sup>4</sup> Limit at which Local Medical Officer of Health should be notified of Levels.
<sup>5</sup> MECP D-5-5 guideline, maximum concentration considered reasonably treatable

## Table 1B Summary of Supply Well Water Quality - Volatile Organic Compounds Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development 5969 Ottawa Street, Richmond, Ontario

			LRL File 1	No. 210341				
			Ontario Drin Stand	-	ти	/-1	ти	1-2
Parameter	Units	MRL	Standard	Туре	4 hr	8 hr	3 hr	6hr
Sample Date (d/m/y)	Unito	iiii (E		,	25.01	.2023	29.05	.2023
Volatiles								
Acetone	mg/L	0.005			<0.005	<0.005	<0.005	<0.005
Benzene	mg/L	0.0005	0.001	MAC	< 0.0005	<0.0005	<0.0005	<0.0005
Bromodichloromethane	mg/L	0.0005			< 0.0005	<0.0005	<0.0005	<0.0005
Bromoform	mg/L	0.0005			< 0.0005	<0.0005	<0.0005	<0.0005
Bromomethane	mg/L	0.0005			< 0.0005	<0.0005	<0.0005	<0.0005
Carbon Tetrachloride	mg/L	0.0002	0.002	MAC	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	mg/L	0.0005	0.08	MAC	< 0.0005	<0.0005	<0.0005	<0.0005
Chloroethane	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Chloroform	mg/L	0.0005			< 0.0005	<0.0005	<0.0005	<0.0005
Dibromochloromethane	mg/L	0.0005			< 0.0005	<0.0005	<0.0005	<0.0005
Dichlorodifluoromethane	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Ethylene dibromide (dibromoethane, 1,2	mg/L	0.0002			<0.0002	<0.0002	<0.0002	<0.0002
1,2-Dichlorobenzene	mg/L	0.0005	0.2	MAC	<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichlorobenzene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,4-Dichlorobenzene	mg/L	0.0005	0.005	MAC	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloroethane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloroethane	mg/L	0.0005	0.005	MAC	<0.0005	<0.0005	<0.0005	<0.0005
1,1-Dichloroethylene	mg/L	0.0005	0.014	MAC	< 0.0005	<0.0005	<0.0005	<0.0005
cis-1,2-Dichloroethylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
trans-1,2-Dichloroethylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloroethylene, total	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,2-Dichloropropane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
cis-1,3-Dichloropropylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
trans-1,3-Dichloropropylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,3-Dichloropropene, total	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	mg/L	0.0005	0.14	MAC	<0.0005	<0.0005	<0.0005	<0.0005
Hexane	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Methyl Ethyl Ketone (2-Butanone)	mg/L	0.005			<0.005	<0.005	<0.005	<0.005
Methyl Isobutyl Ketone	mg/L	0.005			<0.005	<0.005	<0.005	<0.005
Methyl tert-butyl ether	mg/L	0.002			<0.002	<0.002	<0.002	<0.002
Methylene Chloride	mg/L	0.005	0.05	MAC	<0.005	<0.005	<0.005	<0.005
Styrene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,1,1,2-Tetrachloroethane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,1,2,2-Tetrachloroethane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
Tetrachloroethylene	mg/L	0.0005	0.01	MAC	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	mg/L	0.0005	0.06	MAC	<0.0005	<0.0005	<0.0005	<0.0005
1,1,1-Trichloroethane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
1,1,2-Trichloroethane	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
Trichloroethylene	mg/L	0.0005	0.005	MAC	<0.0005	<0.0005	<0.0005	<0.0005
Trichlorofluoromethane	mg/L	0.001			<0.001	<0.001	<0.001	<0.001
Vinyl Chloride	mg/L	0.0002	0.001	MAC	<0.0002	<0.0002	<0.0002	<0.0002
m/p-Xylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
o-Xylene	mg/L	0.0005			<0.0005	<0.0005	<0.0005	<0.0005
Xylenes, total	mg/L	0.0005	0.09	MAC	<0.0005	<0.0005	<0.0005	<0.0005

NOTES MRL MAC

AO

OG

ODWS Ontario Drinking Water Standards (2006)



UNDERLINE Parameter level above ODWS

Italics Notify Medical Officer of Health

BOLD Parameter level above D-5-5 maximum treatability limits

LRL Associates Ltd.

Minimum Reportable Limit

Aesthetic Objective

Operational Guideline

Maximum Acceptable Concentration

# Table 2 Langelier and Ryznar Calculations Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development 5969 Ottawa Street, Richmond, Ontario LRL File No. 210341

T14/4 August 201				TH/2 May 2022				
TW1 - August 202				TW2 - May 2023				
Analyzed Paramete				Analyzed Parameters				
TDS (mg/L)	814			TDS (mg/L)	718			
Hardness(mg/L)	509			Hardness(mg/L)	478			
alkalinity(mg/L)	269			alkalinity(mg/L)	274			
pH (pH units)	7.8			pH (pH units)	7.7			
Temperature °C	10			Temperature °C	10			
Langelier				Langelier				
LSI = pH - pHs				LSI = pH - pHs				
pHs = (9.3 +A+B) - (	C+D) Whe	e A= (Log10(TDS)-1)/10	= 0.19106244	pHs = (9.3 +A+B) - (C+D)	Where	A= (Log10(TDS)-1)/10	=	0.185612
		B= (-13.12*Log10(T°C+273)+34.55	5 = 2.382561966			B= (-13.12*Log10(T°C+273)+34	.5! =	2.382562
		C= Log10(Hardness)-0.4	= 2.306717782			C= Log10(Hardness)-0.4	=	2.279428
		D= Log10(Alkalinity)	= 2.42975228			D= Log10(Alkalinity)	=	2.437751
Ryznar				Ryznar				
RI=2pHs-pH				RI=2pHs-pH				
pHs=	7.137154			pHs=	7.150996			
LSI=	0.662846			LSI=	0.549004			
RI=	6.474309			RI=	6.601992			

# Table 3A Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development - August 2021 Pumping Test Data 5969 Ottawa Street, Richmond, Ontario LRL File No. 210341

Date:	21/08/2021	Technician:	A. Kader
Well Number:	TW1	Pump Depth (m BTC):	
Depth of Well (m BTC):	48.80	Start Time:	7:58 AM
Ground Surface Elev. (m):	TBC	End Time:	3:20 PM
Top of Casing Elev. (m):	TBC	Average Pump Rate (L/min):	40.0
Water Level before Pump In (m BTC)	2.96		

						Field Pa	arameters		
Time <sup>1</sup> (min)	Water Level (Pump In) (m BTC)	Drawdown (m)	Flow Rate (L/min)	Turbidity (NTU)	Residual Chlorine (mg/L)	Colour (TCU)	рН	Conductivity (µs)	Total Dissolved (mg/L)
0.0	2.96	0.00	40.0						
0.5	3.47	0.51	40.0						
1.0	3.83	0.87	40.0						
1.5	4.20	1.24	40.0						
2.0	4.39	1.43	40.0						
2.5	4.52	1.56	40.0						
3.0	3.73	0.77	40.0						
3.5	4.76	1.80	40.0						
4.0	4.79	1.83	40.0						
4.5	4.81	1.85	40.0						
5.0	4.84	1.88	40.0						
6.0	4.87	1.91	40.0						
7.0	4.89	1.93	40.0						
8.0	4.91	1.95	40.0						
9.0	4.93	1.97	40.0						
10.0	4.94	1.98	40.0						
20.0	4.99	2.03	40.0						
30.0	5.05	2.09	40.0	1.73	0.00	<0	7.74	1246	624
60.0	5.07	2.11	40.0	1.04	0.01	15	7.65	1244	619
90.0	5.08	2.12	40.0	1.04	0.01	146	7.67	1237	618
120.0	5.11	2.15	40.0	0.64	0.05	94	7.68	1240	621
150.0	5.11	2.15	40.0	0.40	0.03	134	7.51	1234	622
180.0	5.11	2.15	40.0	0.48	0.03	87	7.44	1235	621
240.0	5.12	2.16	40.0	0.51	0.06	82	7.52	1240	620
300.0	5.13	2.17	40.0	0.73	0.03	85	7.53	1236	617
360.0	5.13	2.17	40.0	0.68	0.00	21	7.49	1241	621
Recovery				% Recovery					
0 (360)	5.13	2.17		0.0					
0.5	4.43	1.47		32.3					
1.0	3.92	0.96		55.8					
1.5	3.67	0.71		67.3					
2.0	3.45	0.49		77.4					
2.5	3.34	0.38		82.5					
3.0	3.31	0.35		83.9					
3.5	3.30	0.34		84.3					
4.0	3.28	0.32		85.3					
4.5	3.26	0.30		86.2					
5.0	3.25	0.29		86.6					
6.0	3.24	0.28		87.1					
7.0	3.23	0.27		87.6					
8.0	3.21	0.25		88.5					
9.0	3.20	0.24		88.9					
10.0	3.19	0.23		89.4					
20.0	3.12	0.16		92.6					
30.0	3.09	0.13		94.0					
60.0	3.05	0.09		95.9					

1 Time elapse from pump turning on or off. BTC: Below Top of Casing

r

NM: Not Measured TCB: To Be Confirmed

 Table 3B

 Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development - Janaury 2023 Pumping Test Data

 5969 Ottawa Street, Richmond, Ontario

 LRL File No. 210341

Date:	24/01/2023	Technician:	A. Kader
Well Number:	TW1	Pump Depth (m BTC):	44.20
Depth of Well (m BTC):	48.80	Start Time:	8:02 AM
Ground Surface Elev. (m):	TBC	End Time:	12:40 PM
Top of Casing Elev. (m):	TBC	Average Pump Rate (L/min):	40.0
Water Level before Pump In (m BTC)	3.39		

						Field Pa	arameters		
Time <sup>1</sup> (min)	Water Level (Pump In) (m BTC)	Drawdown (m)	Flow Rate (L/min)	Turbidity (NTU)	Residual Chlorine (mg/L)	Colour (TCU)	рН	Conductivity (μs)	Total Dissolve (mg/L)
0.0	3.32	0.00	40.0						
0.5	4.28	0.96	40.0						
1.0	4.89	1.57	40.0						
1.5	5.08	1.76	40.0						
2.0	5.18	1.86	40.0						
2.5	5.25	1.93	40.0						
3.0	5.30	1.98	40.0						
3.5	5.34	2.02	40.0						
4.0 4.5	5.36 5.39	2.04 2.07	40.0 40.0						
4.5 5.0	5.39	2.07	40.0						
6.0	5.42	2.09	40.0						
7.0	5.44	2.10	40.0						
8.0	5.45	2.12	40.0						
9.0	5.45	2.13	40.0						
10.0	5.46	2.14	40.0						
20.0	5.48	2.16	40.0						
30.0	5.49	2.17	40.0						
60.0	5.49	2.17	40.0	11.27	0.02	236	7.33	1603	804
90.0	5.48	2.16	40.0						
120.0	5.47	2.15	40.0	4.6	0.02	124	7.24	1749	857
150.0	5.44	2.12	40.0						
180.0	5.43	2.11	40.0	2.86	0.02	81	7.25	1497	752
210.0	5.43	2.11	40.0						
240.0	5.42	2.10	40.0	3.23	0.02	52	7.46	1622	811
Recovery				% Recovery					
0 (490)	5.22	1.90		9.3					
0.5	4.13	0.81		61.3					

1 Time elapse from pump turning on or off. **BTC:** Below Top of Casing

- NM: Not Measured TCB: To Be Confirmed

### Table 3C Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development - Janaury 2023 Pumping Test Data 5969 Ottawa Street, Richmond, Ontario

		LRL File No. 210341	
Date:	25/01/2023	Technician:	A. Kader
Well Number:	TW1	Pump Depth (m BTC):	44.20
Depth of Well (m BTC):	48.80	Start Time:	8:00 AM
Ground Surface Elev. (m):	TBC	End Time:	4:10 PM
Top of Casing Elev. (m):	TBC	Average Pump Rate (L/min):	40.0
Water Level before Pump In (m BTC)	3.26		

						Field Pa	arameters		
1		<b>_</b> .			Residual				Total
Time <sup>1</sup> (min)	Water Level (Pump In) (m BTC)	Drawdown (m)	Flow Rate (L/min)	Turbidity (NTU)	Chlorine (mg/L)	Colour (TCU)	рН	Conductivity (μs)	Dissolved (mg/L)
0.0	3.29	0.00	40.0	(	(3/	()		(PC)	(
0.5	4.38	1.09	40.0						
1.0	4.62	1.33	40.0						
1.5	4.80	1.51	40.0						
2.0	4.91	1.62	40.0						
2.5	4.99	1.70	40.0						
3.0	5.05	1.76	40.0						
3.5	5.09	1.80	40.0						
4.0	5.12	1.83	40.0						
4.5	5.15	1.86	40.0						
5.0	5.17	1.88	40.0						
6.0	5.20	1.91	40.0						
7.0	5.23	1.94	40.0						
8.0	5.25	1.96	40.0						
9.0	5.26	1.97	40.0						
10.0	5.27	1.98	40.0						
20.0	5.29	2.00	40.0						
30.0	5.30	2.01	40.0						
60.0	5.32	2.03	40.0	4.35	0.01	72	7.64	1484	745
90.0	5.33	2.04	40.0						
120.0	5.33	2.04	40.0	1.43	0.03	33	7.72	1499	753
150.0	5.36	2.07	40.0						
180.0	5.33	2.04	40.0	1.09	0.02	17	7.68	1491	747
210.0	5.34	2.05	40.0						
240.0	5.36	2.07	40.0	0.66	0.02	9	7.53	1527	761
300.0	5.31	2.02	40.0	0.43	0.02	7	7.45	1461	732
360.0	5.26	1.97	40.0	0.31	0.03	9	7.52	1453	725
420.0	5.25	1.96	40.0	0.33	0.02	7	7.53	1467	732
480.0	5.24	1.95	40.0	0.39	0.02	10	7.63	1426	714
490.0	5.22	1.93	40.0						
Recovery				% Recovery					
0 (490)	5.22	1.93		0.0					
0.5	4.13	0.84		56.5					
1.0	3.67	0.38		80.3					
1.5	3.58	0.29		85.0					
2.0	3.54	0.25		87.0					
2.5	3.51	0.22		88.6					
3.0	3.50	0.21		89.4					
3.5	3.48	0.19		90.2					
4.0	3.46	0.17		91.2					
4.5	3.45	0.16		91.7					
5.0	3.44	0.15		92.2					
6.0	3.42	0.13		93.3					
7.0	3.41	0.12		94.0					
8.0	3.40	0.11		94.6					
9.0	3.39	0.09		95.1					
10.0	3.38	0.09		95.3					
20.0	3.32	0.03		98.4					
30.0	3.31	0.02		99.0					
60.0									

1 Time elapse from pump turning on or off. **BTC:** Below Top of Casing

NM: Not Measured

TCB: To Be Confirmed

Table 3D

Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development - May 2023 Pumping Test Data 5969 Ottawa Street, Richmond, Ontario

		LRL FIIE NO. 210341		
Date:	29/05/2023	Technician:	J. Arthurs	
Well Number:	TW2	Pump Depth (m BTC):	49.94	
Depth of Well (m BTC):	70.10	Start Time:	7:46 AM	
Ground Surface Elev. (m):	TBC	End Time:	1:48 PM	
Top of Casing Elev. (m):	TBC	Average Pump Rate (L/min):	40	
Water Level before Pump In (m BTC)	3 19			

1					Residual				Total
Time <sup>1</sup>	Water Level (Pump In) (m BTC)	Drawdown (m)	Flow Rate (L/min)	Turbidity (NTU)	Chlorine (mg/L)	Colour (TCU)	рН	Conductivity	Dissolved (mg/L)
(min) 0.0	3.19	0.00	40.0	(1110)	(iiig/L)	(100)		(μs)	(iiig/L)
	4.15	0.00	40.0						
0.5									
1.0 1.5	4.32 4.43	1.13 1.24	40.0 40.0						
2.0	4.46	1.27	40.0						
2.5	4.67	1.48	40.0						
3.0 3.5	4.70 4.83	1.51	40.0 40.0						
		1.64							
4.0	4.84	1.65	40.0						
4.5	4.90	1.71	40.0						
5.0	4.86	1.67	40.0						
6.0	4.94	1.75	40.0						
7.0	4.95	1.76	40.0						
8.0	4.95	1.76	40.0						
9.0	5.05	1.86	40.0						
10.0	5.00	1.81	40.0						
15.0	5.01	1.82	40.0						
20.0	5.11	1.92	40.0	1.08					
25.0	5.23	2.04	40.0						
30.0	5.26	2.07	42.0	0.78		80			
40.0	5.30	2.11	40.0						
50.0	5.31	2.12	40.0	1.08	0.00	63			
60.0	5.33	2.14	40.0	0.48	0.00	16			
120.0	5.37	2.18	40.0	1.53	0.00	50			
180.0	5.45	2.26	40.0	2.55	0.01	2			
240.0	5.38	2.19	40.0	0.48	0.01	0.0			
300.0	5.40	2.21	40.0	0.60	0.01	0.0			
360.0	5.40	2.21	40.0	1.40	0.01	0.0			
Recovery				% Recovery					
0 (360)	5.40	2.21		-0.2					
0.5	3.66	0.47		78.7					
1.0	3.79	0.60		72.8					
1.5	3.63	0.44		80.0					
2.0	3.51	0.32		85.5					
2.5	3.47	0.28		87.3					
3.0	3.45	0.26		88.2					
3.5	3.42	0.23		89.6					
4.0	3.41	0.22		90.2					
4.5	3.39	0.20		90.9					
5.0	3.85	0.66		70.1					
6.0	3.36	0.17		92.3					
7.0	3.35	0.16		92.7					
8.0	3.34	0.15		93.2					
9.0	3.33	0.14		93.7					
10.0	3.32	0.13		94.1					
15.0	3.29	0.10		95.5					
20.0	3.27	0.08		96.4					
25.0	3.25	0.06		97.3					
30.0	3.25	0.06		97.3					
40.0	3.24	0.05		97.7					
50.0	3.23	0.04		98.2					
60.0	3.22			98.6					

1 Time elapse from pump turning on or off. **BTC:** Below Top of Casing

NM: Not Measured TCB: To Be Confirmed

# Table 4 Specific Capacity and Longterm Availability Hydrogeological Assessment and Terrain Analysis - Proposed Mix Use Development 5969 Ottawa Street, Richmond, Ontario LRL File No. 210341

Tested By: LRL Associates Ltd. Test Date TW-1: 11-Aug-21 Test Date TW-2: 29-May-23

Well	Cs - Static mTOC	Cp - Pump* mTOC	Cp - Cs	Drawdown (m)	Pumping Rate L/min	Sc - Specific Capacity L/sec/m	Qsc -Maximum Pumping Rate L/min	Long Term Availability m <sup>3</sup> /day	Qsc GPM (US)	Qsc GPM (IMP)
TW-1	3.29	44.20	40.9	1.93	40.0	0.345	189.4	272.7	50.0	41.7
TW-2	3.19	49.94	46.8	2.26	40.0	0.295	184.8	266.1	48.8	40.6

Notes:

$$Qsc = 0.67 \frac{(C_p - C_s)S_c}{SF}$$

Qsc	Pumping rate with safety factor (SF) of 3 (L/min);						
$C_p - C_s$	Difference between pump level and static water level (m);						
S <sub>c</sub>	Specific capacity (L/min/m); and						
0.67	Is a factor that compensates for the variation of the static water level due to						
SF	3						
Minimum Demand	3.450 m³/day						
*	Assumed						
	Greater than Minimum Demand						
	Less than Minimum Demand						
тос	Top of Casing						

#### Table 5A

#### **Nitrate Attenuation Calculations**

Hydrogeological Assessment and Terrain Study - Proposed Mix Use Development

5969 Ottawa Street, Richmond, Ontario

LRL File No. 210341

#### 1. Potential Infiltration

#### Weather Station Ottawa

				Infiltra	ation Fact	or (IF) <sup>1</sup>			Moist	ure Surplus (MS)			Potential Infi (IF*MS)	• • •
	Section										Moisture Retention <sup>2</sup>	Moisture Surplus <sup>3</sup>		
No.	Area (m <sup>2</sup> )	Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	(mm)	(mm)	Section	Weighted
1	6,079	Flat	0.3	Clay Loam	0.2	Woodland	0.2	0.7	Closed Mature Forest	3 Silt Loam	400	301	210.7	142.7
2	2,897	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Moderately Rooted Crops	3 Silt Loam	200	318	190.8	61.6
Total	8,976												Total	204.3

#### 2. Area Available for Infiltration

Number of Lots			n	1
Approximate footpri	nt of house/ga	arage	Н	453 m <sup>2</sup>
Approximate area o	f paved drivev	vays	d <sup>4</sup>	620 m <sup>2</sup>
Approximate Length	n of Road		L	0 m
Approximate Width	of Road		W	0 m
Total Area of Prope	rty			8976 m <sup>2</sup>
Impervious Area				1073.3 m <sup>2</sup>
	Roads	l x w	0 m <sup>2</sup>	
	Driveway	n x d	620 m <sup>2</sup>	
	Houses	n x H	453 m <sup>2</sup>	
Area available Infiltration			А	7,903 m <sup>2</sup>

#### 3. Nitrate Diluation Calculations

Nitrate Concentration of Infiltration	Ci	0 mg/L
Site Infiltration	Q <sub>i</sub> = A*PI	1614 m <sup>3</sup>
Daily Sewage Volume per Lot <sup>5</sup>	Q <sub>d</sub>	3.45 m <sup>3</sup>
Maximum Yearly Sewage Volume (water)	Q <sub>e</sub> =365*n*Q <sub>d</sub>	1259 m <sup>3</sup>
Nitrate Concentration in Sewage <sup>5</sup>	C <sub>e</sub>	40 mg/L
Maximum Allowable Nitrate Concentration at Boundary	C <sub>m</sub>	10.0 mg/L
Increase in Nitrate Concentration at Boundaries	$C = (Q_eC_e + Q_iC_i)/(Q_e + Q_i)$	17.53 mg/L

#### NOTES

1 Table 2: Infiltration Factors, Hydrogical Technical Information Requirements for Land Development Applications, Ministry of the Energy and Environment, April 1995.

2 Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.

3 Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).

4 Area based on 10m long and 3m wide driveways

5 As per Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment, Ministry of the Energy and Environment, August 1996.

#### Table 5B

#### Nitrate Attenuation Calculations

Hydrogeological Assessment and Terrain Study - Proposed Mix Use Development 5969 Ottawa Street, Richmond, Ontario

LRL File No. 210341

#### 1. Potential Infiltration

#### Weather Station Ottawa

				Infiltra	ation Fact	or (IF) <sup>1</sup>			Moist	ture Surplus (MS)			Potential Infi (IF*MS)	· · /
	Section										Moisture Retention <sup>2</sup>	Moisture Surplus <sup>3</sup>		
No.	Area (m <sup>2</sup> )	Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	(mm)	(mm)	Section	Weighted
1	6,079	Flat	0.3	Clay Loam	0.2	Woodland	0.2	0.7	Closed Mature Forest	3 Silt Loam	400	301	210.7	142.7
2	2,897	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Moderately Rooted Crops	3 Silt Loam	200	318	190.8	61.6
Total	8,976												Total	204.3

#### 2. Area Available for Infiltration

Number of Lots			n	1
Approximate footprin	nt of house/ga	rage	Н	453 m <sup>2</sup>
Approximate area of	paved drivev	vays	d <sup>4</sup>	620 m <sup>2</sup>
Approximate Length	of Road		L	0 m
Approximate Width o	of Road		w	0 m
Total Area of Proper	ty			8976 m <sup>2</sup>
Impervious Area				1073.3 m <sup>2</sup>
	Roads	l x w		0 m <sup>2</sup>
	Driveway	n x d	62	20 m <sup>2</sup>
	Houses	n x H	45	53 m <sup>2</sup>
Area available Infiltration			А	7,903 m <sup>2</sup>

#### 3. Nitrate Diluation Calculations

Nitrate Concentration of Infiltration	Ci	0 mg/L
Site Infiltration	Q <sub>i</sub> = A*PI	1614 m <sup>3</sup>
Daily Sewage Volume per Lot <sup>5</sup>	Q <sub>d</sub>	3.45 m <sup>3</sup>
Maximum Yearly Sewage Volume (water)	Q <sub>e</sub> =365*n*Q <sub>d</sub>	1259 m <sup>3</sup>
Nitrate Concentration in Sewage <sup>5</sup>	C <sub>e</sub>	20 mg/L
Maximum Allowable Nitrate Concentration at Boundary	C <sub>m</sub>	10.0 mg/L
Increase in Nitrate Concentration at Boundaries	$C = (Q_e C_e + Q_i C_i)/(Q_e + Q_i)$	8.76 mg/L

#### NOTES

1 Table 2: Infiltration Factors, Hydrogical Technical Information Requirements for Land Development Applications, Ministry of the Energy and Environment, April 1995.

<sup>2</sup> Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.

- <sup>3</sup> Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).
- <sup>4</sup> Area based on 10m long and 3m wide driveways
- 5 As per Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment, Ministry of the Energy and Environment, August 1996.

ATTACHMENT I City Comments

#### Application D07-12-22-0046, 5969 Ottawa St

First submission comments October 14, 2022

#### **Planning Comments**

- Fencing of the rail corridor seems to be required. Can you please confirm that there is currently no fencing? Alternative fencing may be needed as the EIS would not be supportive of that fencing.
- Please look to add trees to the grassed areas at the rear of the building and along Ottawa Street
- Confirm garbage will be kept in the building as no exterior areas are shown
- Lot area on zoning chart on Site Plan should identify the 1 ha plus not the lot area to be developed.

Cheryl McWilliams

#### Parks Planning -

#### Parkland Dedication:

- a. The amount of parkland dedication that is required is to be calculated as per the City of Ottawa Parkland Dedication By-law No 2022-280.
- b. For Commercial or Industrial purposes the parkland requirement is calculated as 2% of the gross land area; "gross land area" means, for the purposes of this by-law, the lesser of the area defined as: c) For industrial or commercial redevelopment, the portion of property that is impacted by the proposed development; But not including any hazard lands or natural heritage features identified in the official plan, an approved Secondary Plan, or through an environmental impact study accepted by the City.
- c. A survey or plan will be required identifying the portion of the site being developed for commercial uses (including parking, and interior roads servicing the commercial uses). Based on the survey details provided in the Planning Rationale the developable area is 3,240 m2 (0.8 acres).
- d. Parks & Facilities Planning will be requesting Cash in lieu of parkland for this proposal, to be collected at registration of the site plan agreement.
- e. The value of the land will be determined by the City's Realty Services Branch. The owner is responsible for any appraisal costs incurred by the City.
- f. Please note that the park comments above are preliminary and subject to change. Should the proposed land use changes during the course of the Site Plan Approval process, then the parkland dedication requirement be re-evaluated accordingly.

Anissa McAlpine

#### **Environmental Comments**

After reviewing the provided documentation for 5969 Ottawa Street, I have no further concerns about potential environmental impacts from the proposed development.

The major concern from the preconsultation notes was the presence of Blanding's Turtle habitat. However, the applicant has sought out and acquired approval from the Ministry of the

Environment, Conservation and Parks (see email dated November 8<sup>th</sup>, 2021, from Brooke Michell).

The provided EIS clearly demonstrates that applicable setbacks will be followed and that there will be enhanced grass swales and fencing to limit the impacts of a large number of dogs on site. I accept its conclusion that there are likely to be no negative impacts from this development.

While the site's location in a heavily vegetated area obviates concerns about the urban that island effect I would still encourage the applicant to consider the addition of tree plantings in the enclosed dog run to help create a cooler microclimate and provide shade on hot days.

Mark Elliott

#### Engineering Comments

A. List of Drawing(s):

#### General

Comments:

- A1. Please include a reference on the drawings to the Plan of Survey and include a note that references the horizontal and vertical datums that were used and tied into to complete the project.
- A2. The drawing included with the provided OSSO Septic Permit No. 21-035 shows a different tank and treatment unit location than the Civil drawings. Please confirm which layout is correct and update the drawings or Septic Permit, as required.

**General Notes**, C001, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 01, dated November 25, 2021.

Comments:

A3. Section 5.2 of the Geotechnical Investigation dated October 2021, provides an allowable grade raise restriction. Please make note of the allowable grade raise restriction in the C001 notes or on C301.

Erosion and Sediment Control Plan, C101, prepared by LRL Engineering, LRL Project No.:

210341, dated July 27, 2021, revision 02, dated June 2, 2022.

- A4. Drawing C001 references a mud mat, and a gravel entrance is referenced in the 'During Construction' notes on C101. Please show the location of mud mat/gravel entrance on C101.
- A5. Please remove references to any items not applicable to the site from the notes on the drawing. For example, references to ESC measures which aren't proposed and references to infrastructure not existing or proposed on the site should be removed from the drawing notes.

**Demolition Plan**, C102, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022.

No Comments.

**Site Development Plan**, C201, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022.

No Comments.

**Grading and Drainage Plan**, C301, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022.

- A6. Please display the benchmark location.
- A7. Please indicate the elevations of the underside of footing and top of foundation for the proposed building.
- A8. Section 5.1 of the Geotechnical Investigation dated October 2021, states that it is anticipated that the footings for the proposed building will be founded below the frost penetration depth on the native, undisturbed glacial till material. Based on the Borehole Logs for BH1, BH2, and BH3 provided in Appendix B of the Geotechnical Investigation, the glacial till material starts at 1.45m below ground surface. Section 6.1 of the Geotechnical Investigation notes that it's anticipated that the max depth of excavation for the building will not extend below 1.5-1.8m. Please confirm that the applicant is aware of the excavated overlying material.
- A9. Please display the limits of the stormwater retention/ponding for the 5-year and 100-year storm events.
- A10. Please include the pavement structure design information provided in the Geotechnical Investigation dated October 2021.
- A11. Adjacent to the west side of the building there are two rectangular hatched areas which are labelled on C201 as asphalt walking areas. The hatch used in these areas isn't on the legend or labelled on C301. Please identify the hatch used in the legend or with a label. If the light duty asphalt is intended to extend into these two areas, please indicate that on C301.
- A12. Does the 'Typical Stormwater Bio-Swale Cross-Section' apply to the proposed new swale along the eastern property line? If so, please update the label on the swale along the eastern property line. If not, please provide a cross-section detail for that swale.
- A13. The drawing included with the provided OSSO Septic Permit No. 21-035 doesn't appear to reflect the proposed Grading and Drainage Plan. Please confirm that the proposed grading and drainage in the vicinity of the proposed septic system have been accounted for in the design of the septic system, and that the proposed grading and drainage has accounted for the proposed septic system. For example, the proposed new swale along the eastern property line runs close

to the proposed septic system distribution chamber and some of the pipes (C301). Please confirm that there's no grading conflict at this location, and that the swale doesn't impact the septic system frost protection at this location.

- A14. Please indicate the proposed slope away from the north, east, and south sides of the building.
- A15. Please indicate the proposed slopes in the grass area south of the building/parking lot.
- A16. Please indicate the proposed slope between the gravel diaphragm and the enhanced grass swale/bioretention facility.
- A17. Please verify the proposed slopes shown west and south of the bioretention facility. A spot check found different slopes than indicated.
- A18. For the proposed driveway, please include a reference to City of Ottawa Standard Detail Drawing S26, 'Private Entrance Detail Rural'.
- A19. As per the City of Ottawa Private Approach By-Law 2003-447, the maximum width of a private approach is 9m. It appears that the entrance exceeds 9m at the roadway edge. Please confirm and revise as required.
- A20. Bollards, or other means of preventing vehicle access, will need to be provided between areas with vehicle access and the proposed septic system leaching bed.
- Please indicate the top of casing elevation for the well to confirm that the casing height (and air vent) are 40cm above the potential flood level.
   Note that a comment has been also made on the Hydrogeological Assessment and Terrain Analysis about this well casing requirement.
- Please provide grading information in the vicinity of the well to confirm that the surface drainage will not collect or pond in the vicinity of the well (as per O.Reg. 903, section 12.3).

**Stormwater Management & Servicing Plan**, C601, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022.

- A23. Under the 'Project Notes' on the first drawing in the Robertson 'Building Drawings Combined Set', it's noted that there will be downspouts for the roof drainage. Please indicate the downspout locations on the drawing.
- A24. Where the bioretention area outlets to the ROW, there is an existing hydro pole and guywire located near the proposed storm outlet pipe and associated rip rap. Please confirm that the stormwater outlet pipe and rip rap can be constructed while meeting any applicable setbacks from the hydro infrastructure.
- A25. The outlet invert of the proposed storm pipe discharging to the ROW is 93.33. It's a 200mm diameter pipe, so the lowest pipe overt would be approximately 93.53 at the outlet. Where the pipe crosses the property line, the ground elevation is shown as 93.49. Therefore, it appears the storm outlet pipe would be partially above the ground surface. Please confirm and revise as required.
- A26. The SWM Report and Site Servicing Brief includes specifications for the type and size of stone to be used in the gravel diaphragm border (e.g., washed stone between 3 and 10 mm in diameter) and specifications for each of the

bioretention facility materials. Please note the specifications for the material on a drawing or include a reference to where the information can be found in the SWM Report and Site Servicing Brief.

- A27. Please indicate the snow storage location.
- A28. There's a label pointing to the eastern property line indicting an 'Existing Natural Swale'. The Plan of Survey doesn't appear to show an existing swale at this location. Please confirm.

Pre-Development Watershed Plan, C701, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022. No Comments.

**Post-Development Watershed Plan**, C702, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022. No Comments.

**Construction Detail Plan**, C901, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 02, dated June 2, 2022.

No Comments.

#### B. List of Report(s):

**Geotechnical Investigation**, prepared by LRL Engineering, LRL File No.: 210341, dated October 2021.

- A1. Section 2 of the report states that the site is approximately 800m<sup>2</sup> in size. This doesn't appear to match other project documents. Please confirm that this is correct.
- A2. Table 1 indicates the BH2 sample submitted for lab gradation analysis had 0% fine gravel. The Particle Size Analysis in Appendix D shows 8.9% fine gravel. Please confirm.
- A3. Table 3 indicates the USCS Group Symbol is CL for BH3, SS2. The Appendix D results indicate it is ML. Please clarify.
- A4. Section 4.8 states that the groundwater was measured upon completion of drilling and all boreholes were found to be dry. As per section 2.7 of the Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa, in lower permeability soils or rock, the groundwater level could take a week or more before stabilizing and shouldn't not be recorded prematurely. Given the silt and clay content of the soil, please provide the rational for the decision to not install a piezometer and allow the groundwater level to stabilize before taking the groundwater level measurement.
- A5. Section 4.8 notes that groundwater levels can fluctuate with seasonal weather conditions and due to construction activities at or near the vicinity of the site.

The proposed bioretention facility requires a minimum clearance of 1 m between the bottom of the LID measure and the seasonally high groundwater elevation (refer to the Stormwater Management Report and Servicing Brief, dated November 25, 2021). Please provide sufficient information to confirm that the seasonally high groundwater elevation is not expected to be within 1m of the bottom of the bioretention area.

- A6. Section 5.2 states that the bearing capacity limits the allowable grade raise to 2.5m. Is the bearing capacity this is based on specific to the undisturbed glacial till material? If so, what's the allowable grade raise where the silt layer remains in place over the glacial till?
- A7. Section 5.9 provides the recommendations for whether permanent perimeter foundation drainage is required. Is foundation drainage proposed for this building? Section 5.4 states that the lateral earth pressure expression assumes that perimeter drainage system prevents the build-up of any hydrostatic pressure behind the foundation wall. If no foundation drainage is proposed, please make any required updates to the assumptions provided in section 5.4.
- A8. Table 4 indicates that the resistivity of the BH2 sample was 1,160 Ohm.cm. The Appendix D laboratory results indicate a resistivity of 116 Ohm.m. It appears there is a typo or conversion error. Please update Table 4.
- A9. Section 5.12 states that the measured soil resistivity falls within the "corrosive" range. Please include the recommendations associated with this finding.
- A10. Section 7.2 states that a typical value of 75 kPa for residential construction was assumed for the design load for the building. Do the Robertson 'Building Drawings Combined Set' included with the Site Plan Control application include the actual design load for the building? If not, please confirm that the 75 kPa for typical residential construction provides a conservative approximation for the proposed building use, given that it's not only residential.
- A11. Please discuss in the report how the soil parameters presented in Table 5 were established.
- A12. Please provide a scaled plan showing the location of the slope, the significant features of the planned development (e.g., structures and paved areas), the locations of the cross-sections used to establish the slope geometry, and the locations of the cross-sections where the slope stability has been assessed.

**Hydrogeological Assessment and Terrain Analysis**, prepared by LRL Engineering, LRL File No.: 210341, dated September 22, 2021.

Comments:

A13. As discussed in section 5.1 of the report, the water quality sampling showed that the D-5-5 Maximum Concentration Considered Reasonably Treatable was exceeded for hardness, colour, and chloride. In addition, there was a ODWO exceedance for TDS, which doesn't have a Maximum Concentration Considered Reasonably Treatable. Given the exceedances of the D-5-5 Maximum Concentration Considered Reasonably Treatable, it hasn't been demonstrated that the proposed supply well is capable of supplying water of adequate quality for the proposed development. Consultation with a City Hydrogeologist and the City Senior Engineer on the file is required to discuss the hydrogeological concerns. Please contact <u>Damien.Whittaker@ottawa.ca</u> to set up a meeting.

- A14. As displayed on the Plan of Survey prepared by H.A. Ken Shipman Surveying Ltd., and dated July 19, 2021, the well is located within the floodplain. Although O.Reg. 903 doesn't specifically prohibit the installation of a well in the floodplain, it's not recommended. The following items are required:
  - The casing height (and air vent) must be 40cm above the potential flood level.
  - The well cap and vent must be floodproof.

Note that a comment has been also made on the Grading and Drainage Plan to indicate the top of casing elevation of the well.

- A15. Please provide the Well Record for the supply well.
- A16. Please include a discussion of the Hydrogeologist's assessment of whether the existing well is in conformance with O.Reg. 903.
- A17. Now that there are additional details about the proposed development available, please update section 2 of the report and Figure 3, as well as any other sections or figures which require updates based on available information.
- A18. In section 4, it's stated that the inferred groundwater flow direction is east towards the North Castor River, and that the nearest open water body that flows into the North Castor River is approximately 1.1. km east of the site. It appears that this description doesn't apply to this site. Please update.
- A19. Section 4 states that test pits found a thin layer of topsoil over clay with varying sand and silt contents. The Appendix C Particle Size Analysis results indicate that silt is the primary material in all three samples submitted, with varying amounts of sand, clay, and gravel. Please confirm and update the soil descriptions as required.
- A20. Please include a discussion about any well quantity interference with neighbouring properties.
- A21. Please include a discussion of the field parameters tested.
- A22. In the table in section 5.2.2, is the 'Maximum Drawdown' value supposed to be 2.17m instead of 2.13m? Please confirm and update as required.
- A23. In section 6, the calculated daily sewage flow (1,550 L/d) is different than the daily design flow (5,250 L/day) calculated in the provided OSSO Septic Permit Application number 21-035. However, it appears that the daily design flow calculated for the Septic Permit may not reflect the currently proposed development. Please confirm and revise if required.
- A24. The current version of the plans indicates a building footprint of 453.25m<sup>2</sup> and a paved driveway/parking area larger than the area noted in section 7.1. Please confirm the impervious areas, and update section 7.1 and the calculations as required.
- A25. The Table 4 Nitrate Attenuation Calculations use a daily sewage volume per lot of 1m<sup>3</sup>. Please provide an explanation of why the daily sewage design flow calculated in section 6 of the report (1.55m<sup>3</sup>/day) isn't use in the calculation.

- A26. In the Appendix A Test Pit Logs, the soil descriptions of the layers where samples were collected don't appear to reflect the results presented in the Appendix C Particle Size Analysis. Please confirm and update as required.
- A27. As per section 5.2.4 v) of the <u>City's Hydrogeological and Terrain Analysis</u> <u>Guidelines</u>, the minimum required water quality sampling parameters for a Site Plan application are the Subdivision Package, as well as trace metals, and VOCs. Given that the pre-application consultation meeting occurred prior to when the City's Guidelines came into effect, testing for trace metals and VOCs weren't required for the Hydrogeological Assessment and Terrain Analysis dated September 22, 2021. Please note that this exception isn't intended to set a precedent. Any additional hydrogeological assessment on this Site Plan Control application, and on future applications, are subject to the requirements of the <u>City's Hydrogeological and Terrain Analysis Guidelines</u>, including the minimum water quality sampling parameters for Site Plans.

**Stormwater Management Report and Servicing Brief**, prepared by LRL Engineering, LRL File No.: 210341, dated November 25, 2021.

- A28. Section 5.3.1, item 6), states that it is anticipated that a clearance exceeding 1m is achieved between the bottom of the LID measures and the expected groundwater level. Please note that Section 4.8 of the Geotechnical Investigation dated October 2021, notes that groundwater levels can fluctuate with seasonal weather conditions and due to construction activities at or near the vicinity of the site. Although groundwater wasn't observed during the hydrogeological or geotechnical investigations, they were both completed August. Higher groundwater levels are typically expected during wet periods of the year, such as early spring. As per the bioretention facility fact sheet provided in Appendix C, a minimum of 1m separating the seasonally high water table and the bottom of the bioretention facility is required. *Note that a comment has been also made on the Geotechnical Investigation to include the seasonally high groundwater elevation to be used for design.*
- A29. Section 5.3.1 states that the proposed LID approaches will likely result in the targeted 80% TSS removal. It needs to be demonstrated that 80% TSS removal is achieved. Please provide additional information to demonstrate that the proposed LID approaches provide 80% TSS removal.
- A30. Based on the existing and proposed grades shown on the Grading and Drainage Plan, it appears that some of the runoff from 5949 Ottawa Street would flow southwest onto the site both pre and post development. In the report, please discuss how the proposed development will affect the runoff from the neighbouring property and how the existing stormwater runoff from the adjacent site that crosses the property will be accommodated by the proposed stormwater management design.
- A31. Please make note of the calculated water demands and sanitary daily design flow in the report.

A32. The proposed septic system design provided in Appendix E shows a different tank and treatment unit location than the drawing included with the provided OSSO Septic Permit No. 21-035. Please confirm which layout is correct and update as required.

**Rail Safety Study – VIA Rail Corridor Proximity**, prepared by Hatch, dated June 28, 2021. Comments:

- A33. As per section 3.7.1 of the Guidelines for New Development in Proximity to Railway Operations, all new residential developments in proximity to railway corridors must include a 1.83m high chainlink fence along the entire mutual property line. Figure A2 shows that there is an existing fence along the rail corridor at the at-grade crossing at the south end of the property. Does this existing fence continue along the entire mutual property line? If not, please discuss if the requirement for a fence is applicable to this site. Note that the mutual property line is within the floodplain, and any work proposed within the floodplain is subject to approval from RVCA and would also need to be addressed in the EIS which is subject to MECP approval. Depending on VIA Rail and floodplain regulatory requirements, it may be preferable to propose any required fencing outside of the floodplain.
- A34. As per section 3.2 of the Guidelines for New Development in Proximity to Railway Operations, consultation with the railway is required. Please provide confirmation that the railway has been consulted and has concurred with the findings of the Rail Safety Study.
- A35. The Rail Safety Study must be stamped and sealed by a Professional Engineer.
- C. Additional Comments:
  - C1. Fire routes are to be designated by By-law for Fire Services to establish them as a legal fire route. Please complete the attached **Application for a Fire Route Designation** form and send to fireroutes@ottawa.ca in order to add the fire route to the By-law. The form must be filled out by the applicant/agent of the property as well as the property owner. Please cc the file lead (<u>Cheryl.McWilliams@ottawa.ca</u>) and <u>Damien.Whittaker@ottawa.ca</u> as confirmation that the form has been submitted.
  - C2. Due to the industrial zoning of the site, an ECA application is required for the proposed stormwater management works, even without a proposed direct discharge to a watercourse. It may be possible for the proposed stormwater management works to be approved under the City's Transfer of Review (ToR) ECA, instead of a direct submission ECA. A TOR ECA has a quicker approval time than a direct submission ECA. A request can be made to the City (Damien.Whittaker@ottawa.ca) to consider a Transfer of Review (ToR) ECA for stormwater works for this private property, instead of the direct submission ECA. This is subject to approval by the City and MECP. If proceeding with a direct

submission ECA, after all comments are resolved, please provide the draft ECA application for the City to review prior to submission to MECP.

C3. Please note that as per section 4.4.2 of MECP's Procedure D-5-5, warning clauses will need to be registered on title due to the water quality exceedances of the ODWO for sodium and hardness: "In cases where raw water sodium levels exceed 20 mg/L, warning clauses should be addressed to people on sodium restricted diets and should be registered on title. In addition, if water softening is utilized to reduce hardness, a warning should be registered on the title with a recommendation that a separate tap, which by-passes the softener, be installed to supply un-softened drinking water.".

Warning clauses will also need to be registered on title for any other water treatment equipment required due to exceedances of the ODWO.

- C4. Please note that later in the Site Plan Control process (prior to Site Plan approval), information on the proposed exterior lighting design will need to be provided. The location of the fixtures, fixture types (make, model, and part number), and the mounting heights will need to be submitted. A Site Lighting Certificate prepared by a qualified Professional Engineer, licensed in the Province of Ontario, will be also required. The Certificate must state that the exterior site lighting has been designed to meet the following criteria:
  - It must be designed using only fixtures that meet the criteria for full cutoff (sharp cut-off) classification, as recognized by the Illuminating Engineering Society of North America (IESNA or IES).
  - and it must result in minimal light spillage onto adjacent properties. As a guideline, 0.5 fc is normally the maximum allowable spillage.
- C5. Mapping of the 1 in 350-year floodplain is not yet available for this property (http://ottawa.ca/floodplainmaps), but it is anticipated that portions of this proposed development will be within the 1 in 350-year floodplain. The area between the 1 in 100-year floodplain and the 1 in 350-year floodplain is defined as the climate change flood vulnerable area. Unlike the 1 in 100-year floodplain maps, the 1 in 350-year floodplain maps are not presently used to define or control limits of development. This comment is provided for information purposes to provide advance notice that once the 1 in 350-year floodplain mapping is available, it may show that this proposed development is within the climate change flood vulnerable area.

Please consider these comments in combination with comments you receive from other technical groups, agencies, and the public.

Chris Reist

ViaRail Comments – link for contact/submisisons is <a href="https://railrequest.viarail.ca/">https://railrequest.viarail.ca/</a>

The Applicant must submit engineering drawings signed and sealed by a certified professional. The engineering drawings will be reviewed by an engineering firms designated by VIA at the Applicant's expenses.

The Applicant must also submit locates to VIA. The locates must be submitted to VIA electronically and physically.

The Applicant must meet the following requirements:

- Transport Canada:
- Railway Safety Act, Part III, Sections 24 and 25.
- For Clearance:
- Railway Right of Way Access Control Policy;
- Wire Crossings and Proximities Regulations C.R.C., c. 1195;
- Standards Respecting Railway Clearances TC E-05;
- Notice of Railway Works Regulations, a copy of the notice must be sent to VIA.
- For pipelines or other utilities crossings under railways:
- Standards Respecting Pipeline Crossings Under Railways TC E-10.
- Traffic control near a railways:
- Circular 13 Railway Association of Canada
- For Grade Crossings:
- Grade Crossings Regulations;

• The provisions that must be adhered to with respect to the creation of new entrance ways or intersecting roads from the nearest rail. Reference GCR Sub-Section 101(1) and Grade Crossings Standards Article 11.

• Grade Crossings Standards;

• Transport Canada Standard for LED Signals Modules at Highway/Railway Grade Crossings – TC E-14;

• Minimum Railway/Road Crossing Sightline Requirements for All Grade Crossings Without Automatic Warning Devices – G4-A.

• The requirements surrounding sightlines, of which any construction or activities (Duplex development) on the property or new properties must ensure they do not obstruct the required minimum grade crossing sightlines. (reference Section 21 of the GCR).

#### • Canadian Standards Association:

- CAN/CSA C22.3 No. 1 Overhead Systems;
- CAN/CSA C22.3 No. 7 Underground Systems;
- CAN/CSA Z662 Oil and Pipeline Systems;
- CAN/CSA-B137.4 Polyethylene Piping Systems for Gas Services.
- VIA:
- Buried Signal and Communication Guidelines;
- Guidelines for New Development;

• guidance which the Federation of Canadian Municipalities (FCM) has created on this topic specifically, you can find their guidance within the following link: Guidelines for New Development in Proximity to Railway Operations.

• Adjacent landowners, buildings and overhead structures are not allowed to drain or modify existing drainage ways to divert water onto railway property without a hydraulic study and approval of the VIA Rail Infrastructure Department;

• All loads must be in compliance with Cooper E90;

### • The Federation of Canadian Municipalities and the Railway Association of Canada:

- Guidelines for New Development in Proximity to Railway Operations.
- Other:

• Proper fencing must be included or planned to be installed in order to avoid any trespassing or intrusions into the VIA right-of-way;

• All fence maintenance will be done on the Applicant expense.

In addition, the Applicant must comply with the following areas of concern for which VIA request information, reassurances and/or commitments with regards to the application:

• Utilities:

### Electrical and Gas Supply

VIA would like assurances from the City and the Applicant that the new development will not negatively impact on the capacity, availability, stability of the supply and future growth capability thereof.

#### <u>Communications</u>

VIA would like assurances from the City and the Applicant, that the new development will not impact VIA's operations as a result of potential alterations to the existing cellphone towers or any other fibre-optic infrastructures supplying the VIA station and property.

### • Water & Wastewater:

### Drainage Sanitary/Storm

VIA would like assurances that the new development will not limit or interfere with its operations, specifically the main sanitary drainage that runs South-to-North from the Train Yards, through VIA's property towards the proposed development. Refer to the blue dashed line of Exhibit A, attached to this letter.

#### Water supply

VIA would like assurances that the new development will not affect the supply and water pressure that is provided for the station.

### • Construction Disturbances:

• VIA requests a copy of the Pedestrian study (from New Development to LRT).

• VIA is concerned by the flow of people that will go through our premises (either interior or exterior) to access the LRT station.

### • <u>Station access (vehicle traffic)</u>

Confirmation that the New Development access/exits, and traffic volumes will not affect or interfere VIA traffic circulation between Tremblay Rd and the Station parking. VIA also needs confirmation that Avenue L (yellow dotted line shown on Exhibit A), as well as the access to it, will be kept for our operations and upcoming growth.

#### • Neighbour Relationships:

• VIA requests the Applicant's monitoring and management plan of the impacts of its construction, including but not limited to:

- Air contaminants / Dust pollution;
- Noise pollution / Working hours;
- Existing conditions;
- and the impacts of vibrations.

• VIA requests the Applicant's communication and management plan for future tenants and or owners of the project with respect to VIA's active train station nearby, that may produce one or more of, but not limited to, the following: emission of noise, dust, vibration, fumes, odours and other gaseous or non-gaseous emissions that may affect the enjoyment of the development for which VIA shall not be held responsible.

VIA requests the Applicant's commitment to making all efforts not to interfere with VIA's operations, VIA's track infrastructure or use of VIA property. When in the vicinity of VIA property or Railway right-of-way, VIA requests the Applicant commitment to comply with and conform to all VIA, Department of Transport and Canadian Transportation Agency rules and regulations, or any other authority having jurisdiction.

When and where the City's or the Applicant's actions, whether direct or indirect, negatively impact any of the above, VIA's operations, and or VIA's property, VIA wants assurances from the City and the Applicant that they will take all necessary and possible steps to mitigate or eliminate those impacts.

In light of our requests, VIA requires the City and the Applicant to indemnify VIA against any and all claims, damages or proceedings (including legal costs and other costs and expenses) that may arise in relation to the non-compliance to any condition contained in this letter.

Should you have any questions or concerns, please feel free to contact the undersigned.

Sincerely,

and.

Paul Charbachi Infrastructure Engineer M: 514-607-5833 Paul Charbachi@viarail.ca

<u>**RVCA Comments**</u> – The RVCA has reviewed the above noted Site Plan Control application for a kennel, workshop and caretaker's residence on part of the property and have no objections.

Eric Lalande

Enbridge – see separate email

<u>Rogers –</u> from Mohammed Ali Khan Rogers Communications 475 Richmond Rd Ottawa, Ontario, M1P 4Z3 Phone: 416-627-9363 Email: MohammedAli.Khan@rci.rogers.com

Comments received: Mostly concerned with one aspect of this development proposal: servicing,

Additional comments:

Rogers has no comment or concerns regarding this circulation. Please contact Graham Winn at 613-216-4452 or e-mail at graham.winn@rci.rogers.com for Rogers Site Servicing if approved, or if you require additional information. Regards

#### D07-12-22-0046 – 5969 Ottawa Street November 9, 2023

Submission 2 comments:

Planning:

- We would still prefer some additional trees nearer the road.
- We will require something (by way of copy is fine) of the outcome of the discussions/agreement with VIA, show any existing fencing. Use the Key plan if needed

Parks: Will still need a surveyed area to calculate cash in lieu of parkland requirements and update the proposed site plan conditions.

Engineering:

Application (in whole)

-The fence discussions are required to come to a conclusion with VIA to be shown on plans

C301, Grading and Drainage Plan, prepared by LRL Engineering, LRL Project No.: 210341, dated July 27, 2021, revision 01, dated November 25, 2021.

-The previous request was for one of the plans to state the datums used to tie in the projects horizontal and vertical location, however only the vertical has been listed on drawing C301 (and the vertical could be clearer)

-It is suggested that the location of the well found on C301 does not corelate well to either TW1 or TW2 of Figure 2 of the Hydrogeological Assessment and Terrain Analysis – Proposed Mixed use Dog kennel and Dwelling, 5959 Ottawa Street, prepared by LERL Engineering, LRL file no. 210341, revision 01, dated July 31, 2023

-It is suggested that the location of the well found on C301 does not corelate well to TW2 of Figure 3 of the Hydrogeological Assessment and Terrain Analysis – Proposed Mixed use Dog kennel and Dwelling, 5959 Ottawa Street, prepared by LERL Engineering, LRL file no. 210341, revision 01, dated July 31, 2023

-The snow storage appears to run off uncontrolled through the woods to the creek rather than being treated

-The dog run runoff appears to run off uncontrolled through the woods to the creek rather than being treated

-It is suggested that there is a risk of snow and dog run runoff impacting the well.

The Geotechnical Investigation, Proposed Dog Kennel, 5969 Ottawa Street, LRL file no. 210341, dated October 2021, revised August 2023

-The response to the City comment regarding seasonal groundwater elevation is that the results of July 2021 were sufficient, are disagreed to. the response continues to say that it is believed that the result is representative, without discussion of why. The reporting states that groundwater levels could fluctuate and this concept is agreed to, so more analysis is requested -While the change is not anticipated to see a significant shift the slope stability section should be parallel to the greatest slope, and sections should be shown to be the worst-case scenario -The report is not stamped and sealed

Hydrogeological Assessment and Terrain Analysis – Proposed mixed use Dog Kennel and Dwelling, 5969 Ottawa Street, LRL file no. 210341, revision 1, revised July 31, 2023

-The turbidity results, discussed in section 8.1, suggest that the well requires further development -Please expand on "btc" om section 8.2.1 (It is suspected to be 'below the collar') -It is suggested that the comments about a "place of worship, and the proposed assembly hall" found in section 10.1 are misplaced

-The comments of water treatment of section 11 are not precise

-The turbidity comments in the conclusions, section 11, are expanded from those of section 8.1 -The treatment recommendations in the first bullet of section 12 are not concluded, nor is there discussion on possible conflicts of choices

### ATTACHMENT II

Ottawa Septic System Office – Permit and Design Application

Rideau Valley       Image: Street/Civic INITIAL         JUL 13 2023       SEPTIC FILE #         JUL 13 2023       SEPTIC FILE #         3889 Rideau Valley Drive Box 599 Manotick. ON K4M 145       OTAW         Phone: 613-692-3571 PRESS "4" for septic office 1-800-267-3504       Fax: 613-692-1507       Email: septic@rvca.ca         SITE ADDRESS:       SHOULD HAVE       Township:OSG-HUN-GLO-FIT-CUM-NEP-GOU-RID-KAN-TOR         CONTACT:       1.GUE       2.ROBERD AI       3.         INFORMATION FOR OWNER/APPLICANT         Attached is your Sewage System Permit. A minimum of two inspections are required before your proposed sewage system can be approved for use (additional inspections may be required for clay soils/bedrock and/or re-inspections, must be convected in the Division Division of the clay soils/bedrock and/or re-inspections, must be convected in the Division Division Division of the clay soils/bedrock and/or re-inspections, must be convected in the Division
<ul> <li>inspections). Inspections must be requested in writing. Please see attached:</li> <li>Inspection fax request form (all inspections MUST be requested in writing)</li> <li>As-built components and drawing form</li> <li>Copy of the approved application and schedule pages</li> <li>Approved Part 8 permit: *Electronic copy only – Be sure to INCLUDE in B Plans Examiner at CITY of OTTAWA client services, if NEW or RENO co</li> </ul>
Special Note - A permit is valid for 12 months from the original date of issuance noted in "permit date". If lapsed, it may be renewed only once for a period of 12 months from the date of expiry. - No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. (Building Code Act 1992, c.23, s.8(12))
Sewage System Permit Construction Requirements         1. Clay Solls/Bedrock only (if required per issued Approval)         In clay soils/bedrock, a site preparation inspection is required. The total contact area must be properly prepared.         Scarification must be done under dry conditions prior to importing leaching bed fill.         2. Installation Inspection - 2 <sup>nd</sup> inspection         When the sewage system is substantially completed (i.e., before the final fill is placed over the septic tank and leaching bed system) an installation inspection is required. Prior to any inspection request, the following must be submitted: <ul> <li>a) "as-built components" and "as-built drawings" — see attached form</li> <li>b) "engineer letter" — if the system is engineered</li> <li>c) grain size analysis and weight bills for all Filter Media types of septic systems</li> <li>d) Weigh bills for washed septic stone, where applicable</li> <li>e) Maintenance/service contract for treatment unit installed</li> </ul> <li>3. Final Grading Inspection – 3<sup>rd</sup> inspection</li> <li>When construction of the sewage system is complete, a final grading inspection is required. Before a Certificate of Completion can be issued, the following must be covered with sand fill and topsoil and graded accordingly</li> <li>b) All conditions of the Sewage System Permit &amp; comments on the installation inspection report must be met</li> <li>c) The depth of cover &amp; material type must be identified by inspection pipes or holes placed over trenches at 4 corners of bed</li> <li>d) The 4 corners of the bed must be staked</li>

### Application for a Permit to Construct or Demolish This form is authorized under subsection 8(1.1) of the Building Code Act, 1992

DECEWED	For use by Princip	al Authority		
Application Rumber A. RECEIVED	Permit	al Authority t number (if different)?	PTICEUL	
JUL 1 3 2023			FILE;	4
Date received:	Roll nu	umber:	3-062	
	<u> </u>		OTTAWA	
0	TTAWA SEPTIC	SYSTEM OF	FICE	
Application submitted to:	ipality, upper-tier municipality, t			
A. Project information				
Building number, street name			Unit number	Lot/con
5969 Ottaw	a st.			25/3
Municipality	Postal code	Plan number/other d	escription	
Municipality your bowsn	KOA 2ZO	04430 -	- 001 0 LT	
Project value est. \$	*	Area of work (m <sup>2</sup> )		
B. Purpose of application				
<b>v</b>	tion to an Alte	ration/repair	Demolition	Conditional Permit
Proposed use of building	Current use	of building	And the second second second second second	1 Gillin
Commercia		Vacant		
Description of proposed work				
fustall a s building with	rptic system	cerpancies.	used con	mercial
·				
C. Applicant Applicant is:	Owner or Firstname	Authorized agent of Corporation or partn	orchin	
Patel	Davis	VIBIC. VOL	FOR CONT	. D. (
Street address . N. L.		Minun .	lly convin	onmental the
6107 Finst	Line Rd.	,	Unit number	onmenbal fine Lovcon.
Municipality North Youver	Line Rd. Postal code	Province	E-mail	
6107 71251 Municipality North youres Telephone number	Line Rd.	,	E-mail Engineer	ing og vegraup. (
Municipality North Youces	Kine Rol. Postal code Ky M 1A7	Province	E-mail Engineer	ing og de graup. 1
6107 71251 Municipality North youres Telephone number	Kine Rol. Postal code KyM 1A7 Fax ()	Province	E-mail Engineer	ing og vegraup. (
6107 71251 Municipality North Yours Telephone number (613) 692-2616 D. Owner (if different from applicant	Kine Rol. Postal code K4M 1A7 Fax ()	Province	E-mail Enginees Cell humber (613) 229	ing og vegraup. (
6107 Files Municipality North Yours Telephone number (613) 692-2616 D. Owner (if different from applicant Last name Reflects	Kine Rol. Postal code K4M 1A7 Fax ( ) First name Allan	Province	E-mail Enginees Cell humber (613) 229	ing og de graup. 1
6107 Files Municipality North Yours Telephone number (613) 692-2616 D. Owner (if different from applicant Last name Reflects	Kine Rol. Postal code K4M 1A7 Fax ( ) First name Allan	Province ON Corporation or partn	E-mail E-mail Cell humber (613) 229 ership Unit number E-mail	ing @gveghisp, ( 1-5890 Lot/con.
6107 Filds/ Municipality North Youres Telephone number (613) 692-2616 D. Owner (if different from applicant Last name Roberts Street address 61 Strauch	Kine Rol. Postal code K4M 1A7 Fax ( ) First name Allan	Province ON Corporation or partn	E-mail E-mail Cell humber (613) 229 ership Unit number	ing @gveghisp, ( 1-5890 Lot/con.

Application for a Permit to Construct or Demolish - Effective January 1, 2014

E. Builder (optional)				
Last name	First name	Corporation or partners	hip (if applicable)	
DECEIVED	3	EPTIO	-	
Street address V.C.A. RECEIVED		EPTIC FILE # Provinced 4 2	Unit number	Lot/con.
Municipality JUL 1 3 2023	Postal code		E-mail	
Telephone number	Fax	OTTAWA	Cell number	
( )	( )	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	( )	
F. Tarion Warranty Corporation (Ontari				
<ol> <li>Is proposed construction for a new hon <i>Plan Act</i>? If no, go to section G.     </li> </ol>	ne as defined in the Onta	rio New Home Warranties	Yes	No
ii. Is registration required under the Ontai	rio New Home Warranties	Plan Act?	Yes	No
iii. If yes to (ii) provide registration number				
i) Attach Schedule 1 for each individual who re-	views and takes responsi	bility for design activities.		
ii) Attach Schedule 2 where application is to con	nstruct on-site, install or re	epair a sewage system.		
H. Completeness and compliance with	applicable law			
<ul> <li>i) This application meets all the requirements of Building Code (the application is made in the applicable fields have been completed on the schedules are submitted).</li> </ul>	e correct form and by the e application and required	owner or authorized agent I schedules, and all requir	ed	No
Payment has been made of all fees that are regulation made under clause 7(1)(c) of the <i>l</i> application is made.	Building Code Act, 1992,	to be paid when the	lies	No
<li>ii) This application is accompanied by the plans resolution or regulation made under clause 7</li>	(1)(b) of the Building Cod	le Act, 1992.		No
<li>iii) This application is accompanied by the inform law, resolution or regulation made under clau the chief building official to determine whether contravene any applicable law.</li>	use 7(1)(b) of the <i>Building</i> er the proposed building,	Code Act, 1992 which en construction or demolition	able	No
iv) The proposed building, construction or demo	lition will not contravene	any applicable law.	Yes	No
I. Declaration of applicant			L	
Davis Pate	1		de	clare that:
(print name)			ue	ciare triat.
<ol> <li>The information contained in this applic documentation is true to the best of my</li> <li>If the owner is a corporation or partners</li> </ol>	knowledge.			ner attached
Date July 13, 202		Same and the same a	S-	
Personal information contained in this form and scheo	dules is collected under the a	uthority of subsection 8/1 1)	f the Building Code	A-4 4000 1 101

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Application for a Permit to Construct or Demolish - Effective January 1, 2014

	OEPTIC FILE #	
DECEIVED	23-042 Sched reviews and takes responsibility for design ad	dule 1: Designer Informati
C, use one form for each individual who	reviews and takes responsibility for design ad	tivities with respect to the project
A. Project Aformation	TAWA	
Building number, street name 596		Unit no. Lot/con.
Municipality Youlbourn	Postal code Plan number/ other de KoA 220 04430 - 0	DIDLI
	takes responsibility for design activitie	BS
Name Davis Patul Street address	Firm liken Va	May Snvikonmental for
6107 / tills	I time had.	
Municipality North yours		E-mail envine & greght,
Telephone number $(613)$ $612 - 2616$	Fax number (  )	Cell humber 1 (613) 229 - 5890
C. Design activities undertaken Division C]	by individual identified in Section B.	[Building Code Table 3.5.2.1. of
House	HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings Description of designer's work	Fire Protection	✓On-site Sewage Systems
Dudign a sept	tic system for phopos.	ed Residential
building wit	The anulfiphe occup	rancies.
D. Declaration of Designer		
1 David Pa	tel	declare that (choose one as appropriate
		_ deciare that (choose one as appropriate
(prin	t name)	
I review and take response	sibility for the design work on behalf of a firm I am qualified, and the firm is registered, in the IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	registered under subsection 3.2.4.of Divisic e appropriate classes/categories.
I review and take response C, of the Building Code.	sibility for the design work on behalf of a firm I am qualified, and the firm is registered, in the	registered under subsection 3.2.4.of Divisic e appropriate classes/categories.
I review and take respons C, of the Building Code. Individual BCIN: Firm BCIN: I review and take respons	sibility for the design work on behalf of a firm I am qualified, and the firm is registered, in the IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	e appropriate classes/categories.
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I review and take respons C, of the Building Code. Individual BCIN: Firm BCIN: I review and take respons under subsection 3.2.5.0 Individual BCIN: Basis for exemption The design work is exem	sibility for the design work on behalf of a firm I am qualified, and the firm is registered, in the I 0 0 3 5 sibility for the design and am qualified in the a of Division C, of the Building Code. from registration: pt from the registration and qualification requi	e appropriate classes/categories.
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I review and take respons C, of the Building Code. Individual BCIN: Firm BCIN: I review and take respons under subsection 3.2.5.0 Individual BCIN: Basis for exemption The design work is exem Basis for exemption I certify that: 1. The information contained in t 2. I have submitted this application	sibility for the design work on behalf of a firm I am qualified, and the firm is registered, in the I 0 0 3 5 sibility for the design and am qualified in the a of Division C, of the Building Code. from registration: pt from the registration and qualification requi from registration and qualification:	e appropriate classes/categories.

- 1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit to Construct or Demolish - Effective January 1, 2014

JUL 1 3 2023	Sch	edulo 2: Source	o Sustan Inst	ollow Information
A. Project Information	301	edule 2. Sewag	e System Inst	aller Information
Ruilding number street	up mfp	11	Unit number	Lot/con.
Municipality	Postal code	Plan number/ other de	escription	2513
Youbown	KOA 271	04430	- ODIDLT	SED
B. Sewage system installer	m operand in the busin			SEPTIC FH
Is the installer of the sewage syste emptying sewage systems, in acco	ordance with Building C	ode Article 3.3.1.1, Divisi	te, installing, repairing, on C?	servicing, cleaning or
Ves (Continue to Section	C) No	(Continue to Section E)	Installer applicat	unknown at time of 4 2 ion (Continue () Section E)
C. Registered installer infor	mation (where answ	ver to B is "Yes")		
Name Yhlen Va	lley Serviro	inmental Inc	BCIN )	6035
Street address 6107 718	st Line R	d.	Unit number	Lot/con.
Municipality North Lions	Postal code KHMIAT	Province ON	E-mail WSRAD200	6 QUIVEASDID C.
Telephone number	Fax		Cell number	
0. Qualified supervisor info	rmation (where ans	wer to section B is ")	(613) 229	-3900
Name of qualified supervisor(s)		Building Code Identifica		
<u>^</u>		1		
Bill Seales	ivek	12	54	
-				×
E. Declaration of Applicant:		-		
Davis F	atel			
(print na	ame)			declare that:
I am the applicant for the shall submit a new Scheo	permit to construct the dule 2 prior to construct	sewage system. If the in ion when the installer is k	staller is unknown at ti nown;	me of application, I
<u>OR</u>				
I am the holder of the per is known.	mit to construct the sev	vage system, and am sub	mitting a new Schedul	e 2, now that the installer
I certify that:				
1. The information contained	l in this schedule is true	to the best of my knowle	dge.	
2. If the owner is a corporation			3	ship.
				reason of Herein
Date Luly 17	5 2023	Signature of applicant	bark	

Application for a Permit to Construct or Demolish - Effective January 1, 2014

.

	51
Ottawa Septic System Office Bureau des systèmes JUL 1 3 2023 Septiques d'Ottawa	Permit # Revision # Date
Proposed	
Complete Sect	ions 1 thru 7
1. Engineered Yes No	ions 1 thru 7SEPTIC FILE #2. Water supply $23 - 042$ $\square$ Existing $0TT_{AWA}$
3. Type of work proposed	4. Type of Well
<ul> <li>New Installation</li> <li>Replacement</li> <li>Alteration</li> </ul>	Dug/bored/Sandpoint well <li>Drilled well Municipal</li>
	□ Other
5. Residential       Sewage Design Flow Info.         Bedrooms	6. Sewage Design Flow Other Occupancies Design Flow 3450 L/day Detailed sewage flow calculations: See attended duription Class 4 – BMEC Area Bed (Schedule 11)
7. Type of System	Fully raised
Treatment Unit Norweco 3780-31	Partially raised
Class 2 – Leaching Pit	
Class 3 – Cesspool	_
Class 4 – Shallow Buried Trench	Class 4 – "Type A" Dispersal (Schedule 13)
	Fully raised
Class 4 – Trench (Schedule 9)	Partially raised
Fully raised	In-ground
Partially raised	Class 4 – "Type B" Dispersal (Schedule 14)
In-ground	Fully raised
Class 4 – Filter Media (Schedule 10)	Partially raised
Fully raised	In-ground
Partially raised	
	└┘ Class 5 – Holding Tank (9000L min)
L In-ground	Tank/TreatmentUnit/PumpChamber ONLY Effluent Filter/Risers ONLY



SEPTIC FILE # 23-042 OTTAWA

Allan Roberts(5969 Ottawa St.)

	Warehouse	
2 Washroom	950 Per Washroom	1900 L/day
2 Loading Bay	150 Per Loading Bay	300 L/day
Sub-Total		2200 L/day

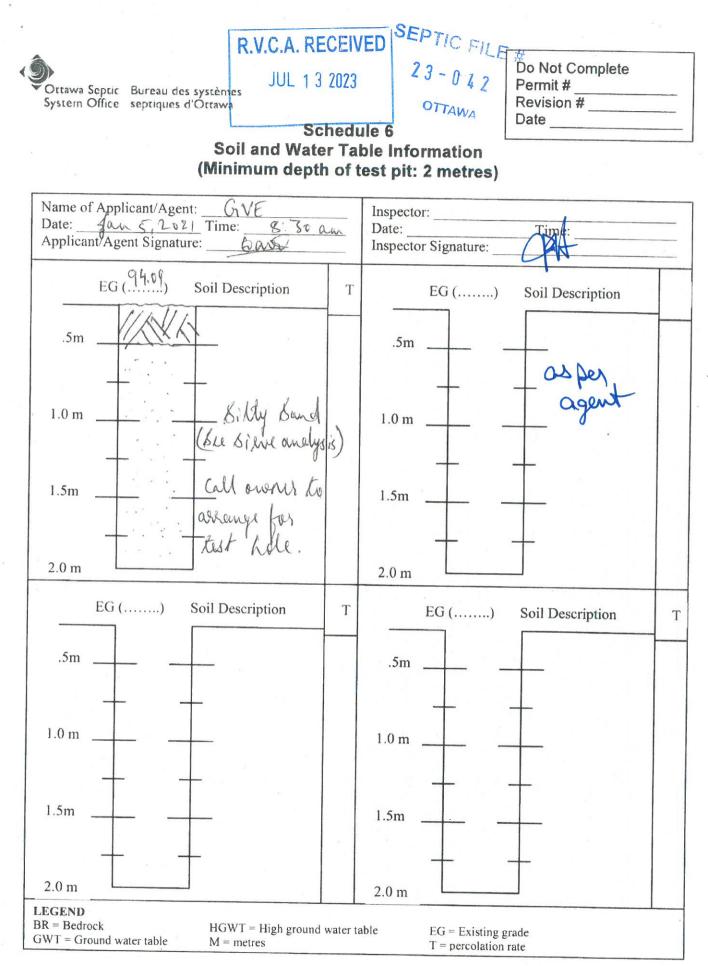
	Apartment	
2 Bedrooms	275 Per person	1100 L/day

	Kennel (Vetrinary Clinic)	
1 Employees	75 Per Employee	75 L/day
1 Floor Drain	75 Per Drain	75 L/day
Sub-Total		150 L/day

Total	3450 L/day
	5450 L/Udy

a Septic Buteal des systèmes Office septiques d'Ottawa	JUL 1 3 2023		Do Not Complete Permit No Revision No	
	Schedule Source Source		Date	
Ă	Sewage System	Details		
Type of System Class 4	Shallow &	Subild M	rinch (Sche	dule 4)
Septic/Holding Tank Size: 3600	Litres	Make: _/	lachtiger	
Septic Tank Effluent Filter Make:_		Model:	V V	
Treatment Unit – Make & Model Number of Units: Refer to Typical Drawing # Mantle Information:		Other: Pump(s		
Native or imported =15m in	direction(s)	Not	e: Alarm required fo	r all
×		pum	ping systems .	
Slope subgrade	% slope	e		
	directio	on(s)		
Site to be Scarified (If clay)	YES / NO			
Clay Seal Required (If bedrock)	YES (NO)	~		
Trench		Shallow ]	Buried Trench	
Distribution Pipe Length	m	Pipe Leng	gth 52.32	m
Loading Area	m <sup>2</sup>			
		□ Filter Me	edia Bed	
Type of Chamber	10.0	Stone		
Length of Chamber	III			2
Length of Chamber Dispersal Bed		Extended	Base	
Length of Chamber Dispersal Bed BMEC D Type A D Type	B	Extended Pipe		m
Length of Chamber Dispersal Bed BMEC D Type A D Type Stone	2 <b>B</b> m <sup>2</sup>	Extended Pipe Weight of	Filter Media	m Kg
Length of Chamber Dispersal Bed BMEC D Type A D Type Stone Sand	m <sup>2</sup> m <sup>2</sup>	Extended Pipe Weight of		m Kg
Length of Chamber Dispersal Bed BMEC D Type A D Type Stone Sand Pipe	m <sup>2</sup> m <sup>2</sup> m <sup>2</sup>	Extended Pipe Weight of	Filter Media	m Kg
Length of Chamber Dispersal Bed BMEC D Type A D Type Stone Sand	$m^2$ $m^2$ $m^2$ $L/m^2$	Extended Pipe Weight of Loading A	Filter Media	m Kg

OSSO Version July 2019 Version 07/19



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OSSO version August 2019

Ortz Syst	awa S em C	3 - cptic Office	O L ABV	Acau ptiqu	i des	sys l'Ot	tèmi tawa	es r		JU	L 1	3 :	2023	VEI 3		7				Per	rmit visio	#	¥	lete	 
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OSSO version August 2019

Ottawa System	Septic	Bureau des systèmes septiques d'Ottawa

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JUL 1 3 2023

Do Not Complete	
Permit #	$\sim$
Revision #	
Date	

# SEPTIC FILE # 23-042

# Schedule 8 Fixture unit count

Fixtures OTTAWA	# Existin	g + #	Proposed	X	unit count	==	Fixture Count
Bathroom Bathroom group (toilet, sink and tub							
or shower) installed in the same room	.1	+		X	6	=	6
Bathtub with/without overhead shower		+		X	1.5	=	
Shower stall		+		X	1.5	=	
Wash basin (SINK) (1½inch trap)	2	+		X	1.5	=	3
Watercloset (TOILET) tank operated	2	+		X	4	=	8
Bidet		+		x	1	=	
Kitchen							
Dishwasher	l	+		X	1	1	1
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	1	+		x	1.5	-	1.5
Other							10
Domestic washing machine	1	+		x	1.5	=	1.5
Combination sink and laundry tray single or double (Installed on 1½ trap)	I	+		X	1.5	=	1.5
					*7	ota	22.5

\*Insert the TOTAL in section 5 of Schedule 4 (0.Reg 151/13 Table 7.4.9.3)

- 1. **Sump pumps and floor drains are not to be connected to the sewage system.** Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
- 2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

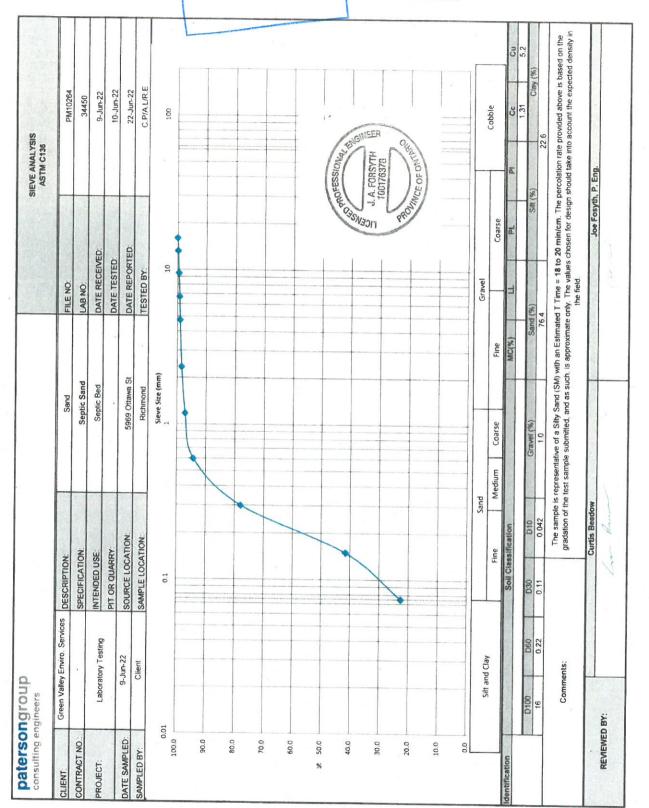
Agent/Owner signature

4 13 2023 Date

R.V.C.A. RECEIVED JUL 1 3 2023 SEPTIC FILE #

23-042

OTTAWA



*		R.V.C.A	A. RECEIVED				
patersor consulting en	gineers		l 1 3 2023				NALYSIS M C136
CLIENT:	Green Valley E	nviro. Services	DESCRIPTION:	Sá	and	FILE NO.:	PM10264
CONTRACT NO .:	-		SPECIFICATION:		c Sand	LAB NO.:	34450
PROJECT:	Leberator	Testine	INTENDED USE:		ic Bed	DATE REC'D:	9-Jun-22
FROJECT.	Laborator	y resting	PIT OR QUARRY:			DATE TESTED:	
DATE SAMPLED:	9-Ju	n-22	SOURCE LOCATIO	ON: 59	969 Ottawa St	DATE REP'D:	22-Jun-22
SAMPLED BY:	Clie	ent	SAMPLE LOCATIO			TESTED BY:	C.P/A.L/R.
WEIGHT BEFORE	WASH					896.1	O.I.IA.LAN.
WEIGHT AFTER W	VASH					706.2	
SIEVE SIZE (mm)	WEIGHT RETAINED	PERCENT	PERCENT PASSING	LOWER SPEC	UPPER SPEC		IARK
150							and the state
106						SER	
75	Sec. Sectors					SEPTIC F	
63						23-0.	ILE #
53						- 04	2
37.5						OTTAWA	-
26.5							
19							
16	0.0	0.0	100.0				
13.2	1.5	0.2	99.8				
9.5	4.8	0.5	99.5				
6.7	7.4	0.8	99.2				
4.75	9.1	1.0	99.0				
2.36	14.7	1.6	98.4				
1.18	25.6	2.9	97.1				
0.6	51.6	5.8	94.2				••••••••••••••••••••••••••••••••••••••
0.3	198.4	22.1	77.9				
0.15	523.4	58.4	41.6				
0.075	693.3	77.4	22.6				
PAN	706.2						
SIEVE CHECK FIN	E	0.00	0.	3% max.		REFERENCE	MATERIAL
OTHER TESTS					RESULT	LAB NO.	RESULT
			******				
		Curtis Beadow	A REAL PROPERTY OF THE PROPERTY OF		Joe For	syth, P. Eng.	
REVIEWED BY:	Im	Ru			ge al		

# R.V.C.A. RECEIVED

#### + 4 Transfer

JUL 1 3 2023

In preparation on 2020 11 24 at 13:11

yyyy mm dd Page 1 of 2

nis document has not been submitted and may be incomplete.

# Properties

PIN

04430 - 0010 LT Interest/Estate Fee Simple

Description PCL 10-3, SEC 4D-26; PT UNIT 10, PL 4D-26, PT 1, 4R7050 ; GOULBOURN

## Consideration

Consideration \$30,000.00

# Transferor(s)

The transferor(s) hereby transfers the land to the transferee(s).

Name

Address for Service

QUATROSENSE ENVIRONMENTAL LTD. Ácting as a company 5935 Ottawa Street Richmond, Ontario, KOA 2ZO SEPTIC FILE # 23-042

OTTAWA

I, DAVID JENKINS (PRESIDENT), have the authority to bind the corporation.

This document is not authorized under Power of Attorney by this party.

Transferee(s)		Capacity	Share
Name	ROBERTS, ROBERTA ANNE Acting as an individual	Joint Tenants	
Date of Birth	1949 06 17		
Address for Service	61 Strachan Street Richmond, ON K0A 2Z0		
Name	ROBERTS, ALLAN WAYNE Acting as an individual	Joint Tenants	
Date of Birth	1948 12 17		
Address for Service	61 Strachan Street Richmond, ON K0A 2Z0		

### Calculated Taxes

Provincial Land Transfer Tax

\$150.00

#### File Number

Transferee Client File Number :

51248002

Rideau Valley Conservation Authority

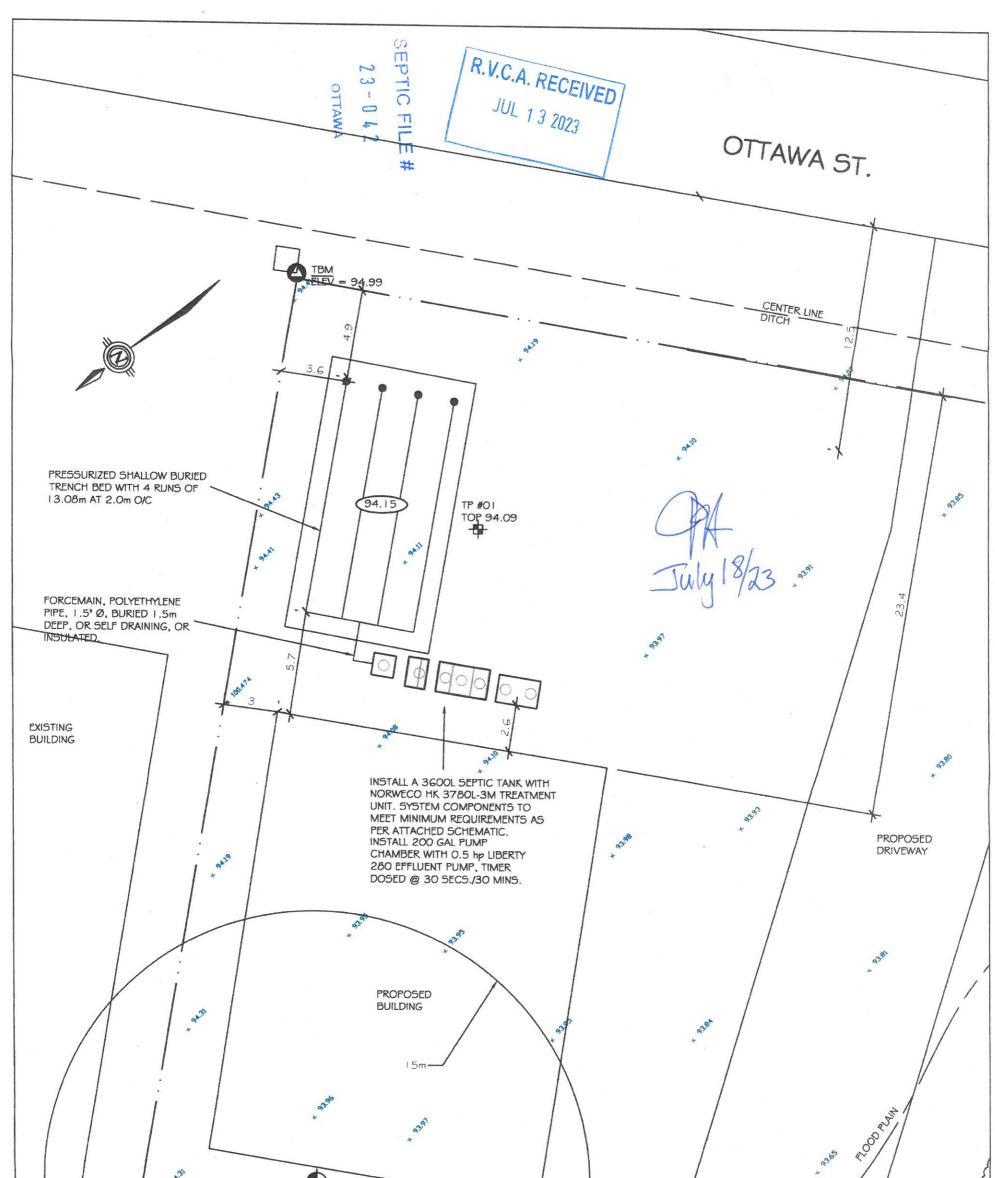
# **Permit** Part 8 – Sewage System Ontario Building Code

Do Not Comp Permit No	23-042
Revision No .	
Date	
Related Applic	ation

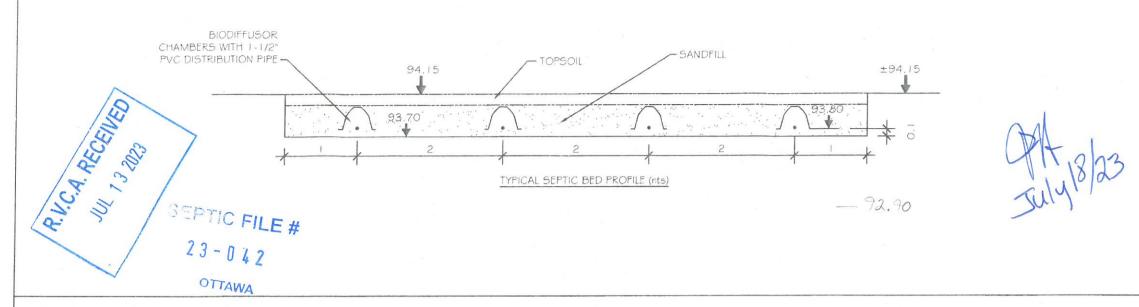
A copy of this permit must be p This permit verifies that the on-site s <i>O.Reg. 323/12</i> as amended by <i>O.Reg</i>	sewage system was revie				ction 1.3.2.1
Inspected & Recommended by:	J.HUTT	ON	Owner:	AI Roberts	
Inspection Date & Time: Civic:	July 17, 2023 (				
Address:	5969 Ottawa St		Legal:		
In the former Township/City of					
Design Flow for Commercial / In	nstitutional / Industr		8.2.1.3.B)		
Q:		3450			L/da
septic tank	3600	L	weigh bills for	🗇 yes	no
effluent filter			grain size analysis required	🗇 yes	no no
	doood	L/15 MIN	site to be scarified	ves	no no
treatment unit Norweco HK378			clay seal inspection	🗖 yes	no no
number of units			mantle required	_	_
			sub-grade inspection	🗇 yes	no no
ELEVATION       In Ground         TYPE OF SYSTEM         Trench         Pipe and Stone or O Cha         type of chamber         loading area         total trench length         trench configuration         Dispersal Bed         BMEC       Type A         stone         sand         pipe         weight of sand	pe B	m <sup>2</sup> m m <sup>2</sup>	<ul> <li>Shallow Buried Trenc pipe length</li></ul>	52.32	kg
Manager, Septic System Approvals: Comments: <b>1. Refer to RVC</b> maintenance/pumping required Class 5 Holding Tank approval or Manager, Septic System Approvals:	CA#RV5-21/23 ESA	A permit # required from date of issue	□subgrade □squirt height		
Comments:					

NOTE: For further details, refer to corresponding application.

L



							/		
NOTES:	8. THIS DO	ERTY OF G	VE GRO	RIGHT PR	OTECTEL DRAWIN	) AND IS TH	HE NOT BE	LEGEND:	PROPOSED ELEVATION
INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.	9. EXISTING			/ITH A DR	RILLED WI	τι.		×	EXISTING ELEVATION
2. CARE IS TO BE EXERCISED DURING CONSTRUCTION	METRIC:								EXISTING WORKS
ACTIVITIES NEAR OVERHEAD HYDRO WIRES.	DISTANCES	AND ELEV	ATIONS	SHOWN	ON THIS	PLAN ARE	IN		PROPOSED SEWAGE WORKS
3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO	METERS AN 0.3048.	D MAY BE	CONVE	RTED TO	FEET BY	DIVIDING 1	BY	00-	FENCE LINE
CONSTRUCTION.									PROPERTY LINE
4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER								TBM	TEMPORARY BENCH MARK (DESCRIPTION: TOP OF CONCRETE PAD)
	Drawn by DP		Drawn by	)P		Checked by: WS			TEST PIT LOCATION
5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.	Rev.	Descrip					Date	SEPARATION DI	STANCES: EARANCE FROM SEPTIC PIPE TO:
6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.	Township	Plan#	Lot	Sublot	Con	7.			LOT LINE = 3.0m HOUSE = 5.0m
				00000			Drwg. No. SP6982-21		DRILLED WELL = 15.0m
7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.	County-	Civic Address 5969 O		and the second design of the s			and the second se	2. MINIMUM CL	EARANCE FROM TREATMENT UNITS TO: LOT LINE = 3.0m
			On-Site Sewa	LLEY ENV				8	HOUSE = 1.5m DRILLED WELL = 15.0m



#### PRETREATMENT TANK

- INSTALL MIN. 3600L PRETREATMENT TANK. - A MAXIMUM OF 300mm OF SOIL SHALL COVER THE
- PRETREATMENT TANK. - RISERS AND LIDS SHALL BE INSTALLED FOR EASE OF
- ACCESS

# NORWECO TREATMENT UNIT

- THE TREATMENT UNIT SHALL CONSIST OF A NORWECO HYDRO-KENETIC 3780L-3M TREATMENT UNIT.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE PRETREATMENT TANK.
- THE TREATMENT UNIT SHALL PRODUCE A TERTIARY TREATMENT EFFLUENT QUALITY IN ACCORDANCE WITH COLUMN 2 AND 3 OPPOSITE A LEVEL IV TREATMENT UNIT OF TABLE 8.6.2.2. OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS BY A CERTIFIED INSTALLER.
- THE OWNER OF THE TREATMENT UNIT MUST ENTER INTO A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE.
- THE TREATMENT UNIT SHALL BE BACKFILLED AND COMPACTED, IN LIFTS, WITH SELECT GRANULAR FILL, SUCH AS SAND OR CLEAR STONE
- THE TOP OF THE TREATMENT UNIT SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

### NORWECO FILTER VAULT(S)

- FILTER VAULT(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- FILTER VAULT(S) SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE TREATMENT UNIT
- FILTER VAULT(S) SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

### SHALLOW BURIED TRENCH BED

- THE DISPERSAL BED SHALL CONSIST OF A TOTAL LENGTH EQUAL TO Q/75 = 3450/75 = 46m
   TOTAL LENGTH USED = 52.32m
- 101AL LENGIH USED = 52.32m
- SAND FILL SHALL EXTEND 1.0m ON ALL SIDES.
   REMOVE LAYER OF TOP SOIL TO APPROXIMATE FOOT PRINT OF SEPTIC BED AND SIDE SLOPES
- THE PRESSURIZED DISTRIBUTION SYSTEM SHALL HAVE A PRESSURE HEAD OF NOT LESS THAN GOOMM WHEN MEASURED AT THE MOST DISTANT POINT
- FROM THE PUMP. DISPERSAL BED SHALL BE BACKFILLED SO AS TO
- DISPERSAL BED SHALL BE BACKFILLED SO AS TO ENSURE THAT THE SURFACE WILL NOT FORM ANY DEPRESSIONS
- ALL SIDE SLOPES SHALL BE AT 1:4
- AT NO POINT DURING OR AFTER CONSTRUCTION SHALL A WHEELED VEHICLE DRIVE OVER THE SEPTIC BED AREA.
- EACH RUN SHALL CONSIST OF ONLY FULL
- CHAMBERS.
- SEPTIC DESIGN BASED ON ADS BIO3 CHAMBERS.
- EACH RUN SHALL CONSIST OF 6 FULL ADS BIO3 CHAMBERS WITH A TOTAL OF 24 FULL BIO3 CHAMBERS FOR THE ENTIRE SEPTIC BED.

# MINIMUM CLEARANCE DISTANCE FROM LEACHING BED

- 4.0m FROM ANY PROPERTY LINE
- 6.0m FROM ANY STRUCTURE
- I G.Om FROM ANY DRILLED WELL

## MINIMUM CLEARANCE DISTANCE FROM TANKS

- 3.0m FROM ANY PROPERTY LINE
- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED WELL

#### GENERAL

- THE BACKWASH WATERS FROM ANY HOUSEHOLD TREATMENT SUCH AS WATER SOFTENER SHALL NOT DISCHARGE INTO THE SEWAGE SYSTEM
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- INSPECTION BY THE REGULATING AUTHORITIES IS A REQUIREMENT BY SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY GREEN VALLEY ENVIRONMENTAL INC.
- IT IS RECOMMENDED THAT ALL TREES WITHIN 5m OF THE BED AREA BE REMOVED TO PREVENT ROOTS FROM INFILTRATING THE SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- SHOULD THE CONTRACTOR AT ANY TIME DURING CONSTRUCTION ENCOUNTER CONDITIONS THAT DIFFER FROM THE DESIGN CRITERIA IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGNER AND THE REGULATING AUTHORITY.
- GREEN VALLEY ENVIRONMENTAL INC. HAS PROVIDED DESIGNS BASED ON OUR INTERPRETATION OF THE ONTARIO BUILDING CODE AND THE TEST HOLES DUG ON THE PROPERTY.

2.	THIS CROSS SECTION IS NOT TO SCALE, ALL FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GREEN VALLEY ENVIRONMENTAL INC. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.
-	
	• • • • • • • • •
Drawe by: DP	Pesigned By DP Cherlind by WS
Rev.	Description Date Approved
Township	
County	Chir Address 5969 OTTAWA ST 13/07/23 NTS
	GREEN VALLEY ENVIRONMENTAL
	AL ROBERTS

ATTACHMENT III

Laboratory Certificate of Analysis - Water



RELIABLE.

300 - 2319 St. Laurent Blvd Ottawa, ON, K1G 4J8 1-800-749-1947 www.paracellabs.com

# Certificate of Analysis

### LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Devin Clouthier

Client PO: Project: 210341 Custody: 14477

Report Date: 23-Jul-2021 Order Date: 20-Jul-2021

Order #: 2130209

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID **Client ID** 2130209-01 SA-1

Approved By:

Dale Robertson, BSc Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



## **Analysis Summary Table**

Report Date: 23-Jul-2021 Order Date: 20-Jul-2021

Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	22-Jul-21	22-Jul-21
Ammonia, as N	EPA 351.2 - Auto Colour	21-Jul-21	21-Jul-21
Anions	EPA 300.1 - IC	21-Jul-21	21-Jul-21
Colour	SM2120 - Spectrophotometric	21-Jul-21	21-Jul-21
Conductivity	EPA 9050A- probe @25 °C	22-Jul-21	22-Jul-21
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	22-Jul-21	22-Jul-21
E. coli	MOE E3407	21-Jul-21	22-Jul-21
Fecal Coliform	SM 9222D	21-Jul-21	22-Jul-21
Heterotrophic Plate Count	SM 9215C	20-Jul-21	22-Jul-21
Metals, ICP-MS	EPA 200.8 - ICP-MS	21-Jul-21	21-Jul-21
рН	EPA 150.1 - pH probe @25 °C	22-Jul-21	22-Jul-21
Phenolics	EPA 420.2 - Auto Colour, 4AAP	21-Jul-21	21-Jul-21
Hardness	Hardness as CaCO3	21-Jul-21	21-Jul-21
Sulphide	SM 4500SE - Colourimetric	21-Jul-21	21-Jul-21
Tannin/Lignin	SM 5550B - Colourimetric	22-Jul-21	22-Jul-21
Total Coliform	MOE E3407	21-Jul-21	22-Jul-21
Total Dissolved Solids	SM 2540C - gravimetric, filtration	22-Jul-21	22-Jul-21
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	21-Jul-21	22-Jul-21
Turbidity	SM 2130B - Turbidity meter	21-Jul-21	21-Jul-21



Client PO:

Report Date: 23-Jul-2021

Order Date: 20-Jul-2021

Project Description: 210341

	Client ID:	SA-1	-	_	
	Sample Date:	20-Jul-21 12:30	-	-	-
	Sample ID:	2130209-01	-	-	-
	MDL/Units	Drinking Water	-	-	-
Microbiological Parameters					
E. coli	1 CFU/100 mL	ND	-	-	-
Fecal Coliforms	1 CFU/100 mL	ND	-	-	-
Total Coliforms	1 CFU/100 mL	13	-	-	-
Heterotrophic Plate Count	10 CFU/mL	190	-	-	-
General Inorganics					
Alkalinity, total	5 mg/L	274	-	-	-
Ammonia as N	0.01 mg/L	0.13	-	-	-
Dissolved Organic Carbon	0.5 mg/L	0.7	-	-	-
Colour	2 TCU	25	-	-	-
Conductivity	5 uS/cm	1560	-	-	-
Hardness	mg/L	532	-	-	-
рН	0.1 pH Units	7.7	-	-	-
Phenolics	0.001 mg/L	<0.001	-	-	-
Total Dissolved Solids	10 mg/L	874	-	-	-
Sulphide	0.02 mg/L	<0.02	-	-	-
Tannin & Lignin	0.1 mg/L	<0.1	-	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	-	-	-
Turbidity	0.1 NTU	7.9	-	-	-
Anions			•	1	
Chloride	1 mg/L	267	-	-	-
Fluoride	0.1 mg/L	0.3	-	-	-
Nitrate as N	0.1 mg/L	<0.1	-	-	-
Nitrite as N	0.05 mg/L	<0.05	-	-	-
Sulphate	1 mg/L	99	-	-	-
Metals	•		•		
Calcium	0.1 mg/L	126	-	-	-
Iron	0.1 mg/L	0.7	-	-	-
Magnesium	0.2 mg/L	52.7	-	-	-
Manganese	0.005 mg/L	0.018	-	-	-
Potassium	0.1 mg/L	9.1	-	-	-
Sodium	0.2 mg/L	115	-	-	-



Report Date: 23-Jul-2021

Order Date: 20-Jul-2021

Project Description: 210341

# Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	0.1	mg/L						
Iron	ND	0.1	mg/L						
Magnesium	ND	0.2	mg/L						
Manganese	ND	0.005	mg/L						
Potassium	ND	0.1	mg/L						
Sodium	ND	0.2	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL						
Fecal Coliforms	ND	1	CFU/100 mL						
Total Coliforms	ND	1	CFU/100 mL						
Heterotrophic Plate Count	ND	10	CFU/mL						



## Order #: 2130209

Report Date: 23-Jul-2021

Order Date: 20-Jul-2021

Project Description: 210341

# Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
			0.110	Robuit					
Anions									
Chloride	129	1	mg/L	129			0.2	10	
Fluoride	0.74	0.1	mg/L	0.74			1.1	10	
Nitrate as N	ND	0.1	mg/L	ND			NC	10	
Nitrite as N	ND	0.05	mg/L	ND			NC	10	
Sulphate	48.8	1	mg/L	49.0			0.3	10	
General Inorganics									
Alkalinity, total	270	5	mg/L	274			1.4	14	
Ammonia as N	0.306	0.01	mg/L	0.299			2.4	17.7	
Dissolved Organic Carbon	2.0	0.5	mg/L	2.2			7.8	37	
Colour	25	2	TCU	25			0.0	12	
Conductivity	1540	5	uS/cm	1560			1.8	5	
pH	7.6	0.1	pH Units	7.7			0.1	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Total Dissolved Solids	80.0	10	mg/L	74.0			7.8	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	ND	0.1	mg/L	ND			NC	11	
Total Kjeldahl Nitrogen	0.38	0.1	mg/L	0.40			5.4	16	
Turbidity	8.2	0.1	NTU	7.9			3.6	10	
Metals									
Calcium	9.0	0.1	mg/L	9.1			0.8	20	
Iron	ND	0.1	mg/L	ND			NC	20	
Magnesium	2.0	0.2	mg/L	2.0			0.9	20	
Manganese	ND	0.005	mg/L	ND			NC	20	
Potassium	0.7	0.1	mg/L	0.7			2.3	20	
Sodium	16.9	0.2	mg/L	17.4			2.8	20	
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL	ND			NC	30	
Fecal Coliforms	4	1	CFU/100 mL	6			40.0	30	BAC04
Total Coliforms	ND	1	CFU/100 mL	ND			NC	30	
Heterotrophic Plate Count	ND	10	CFU/mL	ND			NC	30	



## Order #: 2130209

Report Date: 23-Jul-2021

Order Date: 20-Jul-2021

Project Description: 210341

# Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	139	1	mg/L	129	95.5	77-123			
Fluoride	1.63	0.1	mg/L	0.74	88.2	79-121			
Nitrate as N	1.02	0.1	mg/L	ND	102	79-120			
Nitrite as N	1.01	0.05	mg/L	ND	101	84-117			
Sulphate	58.0	1	mg/L	49.0	89.9	74-126			
General Inorganics									
Ammonia as N	0.541	0.01	mg/L	0.299	96.8	81-124			
Dissolved Organic Carbon	11.9	0.5	mg/L	2.2	96.6	60-133			
Phenolics	0.027	0.001	mg/L	ND	107	69-132			
Total Dissolved Solids	94.0	10	mg/L	ND	94.0	75-125			
Sulphide	0.50	0.02	mg/L	ND	101	79-115			
Tannin & Lignin	1.1	0.1	mg/L	ND	105	71-113			
Total Kjeldahl Nitrogen	2.39	0.1	mg/L	0.40	99.1	81-126			
Metals									
Calcium	18700	0.1	mg/L	9100	96.3	80-120			
Iron	2560	0.1	mg/L	17.9	102	80-120			
Magnesium	11400	0.2	mg/L	2050	93.4	80-120			
Manganese	53.6	0.005	mg/L	2.37	102	80-120			
Potassium	10600	0.1	mg/L	740	98.2	80-120			
Sodium	25100	0.2	mg/L	17100	80.3	80-120			



#### **Qualifier Notes:**

#### Login Qualifiers :

Sample - Filtered and preserved by Paracel upon receipt at the laboratory - Metals preserved in the lab Applies to samples: SA-1

#### Sample Qualifiers :

QC Qualifiers :

BAC04 : Duplicate QC data falls within method prescribed 95% confidence limits.

#### Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### **Other Report Notes:**

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated

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Contact Name:	Devin Clauthie		Quote #:							Waterwork	s Number:				Name	:	A	lin	С	lan He	lie	,
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Chain of Custody (Drinking Water).xlsx

Revision 5.0



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# Certificate of Analysis

### LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Abdul Kader Alhaj

Client PO: Project: 210341 Custody: 15679

Report Date: 17-Aug-2021 Order Date: 11-Aug-2021

Order #: 2133418

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

#### Paracel ID **Client ID** 2133418-01 5969 Ottawa St. - Supply well 3 hr

2133418-02 5969 Ottawa St. - Supply well 6 hr

Approved By:

Mark Frata

Mark Foto, M.Sc. Lab Supervisor

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



## **Analysis Summary Table**

Report Date: 17-Aug-2021 Order Date: 11-Aug-2021 Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	12-Aug-21	12-Aug-21
Ammonia, as N	EPA 351.2 - Auto Colour	13-Aug-21	13-Aug-21
Anions	EPA 300.1 - IC	12-Aug-21	12-Aug-21
Colour	SM2120 - Spectrophotometric	12-Aug-21	12-Aug-21
Conductivity	EPA 9050A- probe @25 °C	12-Aug-21	12-Aug-21
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	12-Aug-21	12-Aug-21
E. coli	MOE E3407	12-Aug-21	13-Aug-21
Fecal Coliform	SM 9222D	12-Aug-21	13-Aug-21
Heterotrophic Plate Count	SM 9215C	12-Aug-21	12-Aug-21
Metals, ICP-MS	EPA 200.8 - ICP-MS	12-Aug-21	12-Aug-21
рН	EPA 150.1 - pH probe @25 °C	12-Aug-21	12-Aug-21
Phenolics	EPA 420.2 - Auto Colour, 4AAP	12-Aug-21	12-Aug-21
Hardness	Hardness as CaCO3	12-Aug-21	12-Aug-21
Sulphide	SM 4500SE - Colourimetric	17-Aug-21	17-Aug-21
Tannin/Lignin	SM 5550B - Colourimetric	13-Aug-21	13-Aug-21
Total Coliform	MOE E3407	12-Aug-21	13-Aug-21
Total Dissolved Solids	SM 2540C - gravimetric, filtration	13-Aug-21	16-Aug-21
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	12-Aug-21	12-Aug-21
Turbidity	SM 2130B - Turbidity meter	12-Aug-21	12-Aug-21



Client PO:

Order #: 2133418

Report Date: 17-Aug-2021

Order Date: 11-Aug-2021

Project Description: 210341

	Client ID:	5969 Ottawa St	5969 Ottawa St	-	-
		Supply well 3 hr	Supply well 6 hr		
	Sample Date:	11-Aug-21 11:10 2133418-01	11-Aug-21 14:10 2133418-02	-	-
	Sample ID: MDL/Units	Drinking Water	Drinking Water	-	_
Microbiological Parameters	INDE/ONITS	<u></u>	ļļ		
E. coli	1 CFU/100 mL	ND	ND	-	-
Fecal Coliforms	1 CFU/100 mL	ND	ND	-	-
Total Coliforms	1 CFU/100 mL	ND	ND	-	-
Heterotrophic Plate Count	10 CFU/mL	280	120	-	-
General Inorganics	•				
Alkalinity, total	5 mg/L	269	269	-	-
Ammonia as N	0.01 mg/L	0.12	0.12	-	-
Dissolved Organic Carbon	0.5 mg/L	1.8	1.9	-	-
Colour	2 TCU	21	30	-	-
Conductivity	5 uS/cm	1550	1530	-	-
Hardness	mg/L	514	509	-	-
рН	0.1 pH Units	7.8	7.8	-	-
Phenolics	0.001 mg/L	0.001	0.001	-	-
Total Dissolved Solids	10 mg/L	796	814	-	-
Sulphide	0.02 mg/L	<0.02	<0.02	-	-
Tannin & Lignin	0.1 mg/L	<0.1	<0.1	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	0.1	-	-
Turbidity	0.1 NTU	5.2	4.9	-	-
Anions					
Chloride	1 mg/L	266	264	-	-
Fluoride	0.1 mg/L	0.4	0.4	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	82	82	-	-
Metals					
Calcium	0.1 mg/L	125	124	-	-
Iron	0.1 mg/L	0.5	0.5	-	-
Magnesium	0.2 mg/L	49.4	48.4	-	-
Manganese	0.005 mg/L	0.016	0.016	-	-
Potassium	0.1 mg/L	8.5	8.1	-	-
Sodium	0.2 mg/L	114	111	-	-



Report Date: 17-Aug-2021

Order Date: 11-Aug-2021

Project Description: 210341

# Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	0.1	mg/L						
Iron	ND	0.1	mg/L						
Magnesium	ND	0.2	mg/L						
Manganese	ND	0.005	mg/L						
Potassium	ND	0.1	mg/L						
Sodium	ND	0.2	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL						
Fecal Coliforms	ND	1	CFU/100 mL						
Total Coliforms	ND	1	CFU/100 mL						
Heterotrophic Plate Count	ND	10	CFU/mL						



## Order #: 2133418

Report Date: 17-Aug-2021

Order Date: 11-Aug-2021

Project Description: 210341

# Method Quality Control: Duplicate

		Reporting		Source		%REC		RPD	
Analyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
Anions									
Chloride	264	5	mg/L	266			0.7	10	
Fluoride	0.35	0.1	mg/L	0.36			3.0	10	
Nitrate as N	ND	0.1	mg/L	ND			NC	10	
Nitrite as N	ND	0.05	mg/L	ND			NC	10	
Sulphate	83.9	1	mg/L	82.4			1.8	10	
General Inorganics									
Alkalinity, total	263	5	mg/L	269			2.3	14	
Ammonia as N	0.267	0.01	mg/L	0.267			0.0	17.7	
Dissolved Organic Carbon	1.9	0.5	mg/L	2.2			16.8	37	
Colour	20	2	TCU	21			4.9	12	
Conductivity	1530	5	uS/cm	1550			1.4	5	
рН	7.7	0.1	pH Units	7.8			0.1	3.3	
Phenolics	0.001	0.001	mg/L	0.001			8.0	10	
Total Dissolved Solids	62.0	10	mg/L	62.0			0.0	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	ND	0.1	mg/L	ND			NC	11	
Total Kjeldahl Nitrogen	ND	0.1	mg/L	0.20			NC	16	
Turbidity	5.3	0.1	NTU	5.2			2.1	10	
Metals									
Calcium	29.8	0.1	mg/L	30.0			0.7	20	
Iron	ND	0.1	mg/L	ND			NC	20	
Magnesium	7.9	0.2	mg/L	8.2			3.3	20	
Manganese	ND	0.005	mg/L	ND			NC	20	
Potassium	0.3	0.1	mg/L	0.3			2.7	20	
Sodium	11.8	0.2	mg/L	11.7			0.6	20	
Microbiological Parameters			-						
E. coli	ND	1	CFU/100 mL	ND			NC	30	
Fecal Coliforms	ND	1	CFU/100 mL	ND			NC	30	
Total Coliforms	ND	1	CFU/100 mL	ND			NC	30	



# Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	8.70	1	mg/L	ND	87.0	85-115			
Fluoride	1.27	0.1	mg/L	0.36	90.8	79-121			
Nitrate as N	1.03	0.1	mg/L	ND	103	79-120			
Nitrite as N	0.993	0.05	mg/L	ND	99.3	84-117			
Sulphate	90.6	1	mg/L	82.4	81.3	74-126			
General Inorganics									
Ammonia as N	0.522	0.01	mg/L	0.267	102	81-124			
Dissolved Organic Carbon	13.4	0.5	mg/L	2.2	112	60-133			
Phenolics	0.025	0.001	mg/L	0.001	96.5	69-132			
Total Dissolved Solids	94.0	10	mg/L	ND	94.0	75-125			
Sulphide	0.51	0.02	mg/L	ND	101	79-115			
Tannin & Lignin	1.1	0.1	mg/L	ND	106	71-113			
Total Kjeldahl Nitrogen	2.04	0.1	mg/L	0.20	92.1	81-126			
Metals									
Calcium	37600	0.1	mg/L	30000	76.1	80-120		Q	M-07
Iron	2350	0.1	mg/L	6.4	93.8	80-120			
Magnesium	16800	0.2	mg/L	8200	86.1	80-120			
Manganese	49.0	0.005	mg/L	0.448	97.1	80-120			
Potassium	9590	0.1	mg/L	307	92.9	80-120			
Sodium	20500	0.2	mg/L	11700	87.6	80-120			

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Order #: 2133418

Report Date: 17-Aug-2021

Order Date: 11-Aug-2021

Project Description: 210341



#### Sample Qualifiers :

QC Qualifiers :

QM-07 : The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

#### Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### Other Report Notes:

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated

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Report Date: 17-Aug-2021 Order Date: 11-Aug-2021 Project Description: 210341

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ON REG 243/07 , Other		1						per Regulation - Y = Ye	es; N =	No		-				_		+
Have LSN forms been submitted to MOE/MOHLTC?: Yes Are these samples for human consumption?: Yes No All information must be completed before samples		Type: R/T/D/P	Source Type: G / S	Reportable: Y / N	Resample	SA	MPLE (	COLLECTED	# of Containers	ned Chlorine al mg/L	Standing / Flushed: S / F (REG 243)	Coliform/E. Coli	HPC	Lead	MHT	noisinna		
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# Certificate of Analysis

### LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Abdul Kader Alhaj

Client PO: Project: 210341 Custody: 18578

Report Date: 25-Jan-2023 Order Date: 24-Jan-2023

Order #: 2304200

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID 2304200-01

**Client ID** Supply Well - 4hr

Approved By:

Mark Foto

Mark Foto, M.Sc. Lab Supervisor

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



Report Date: 25-Jan-2023 Order Date: 24-Jan-2023

Project Description: 210341

# **Analysis Summary Table**

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Colour	SM2120 - Spectrophotometric	25-Jan-23	25-Jan-23
Turbidity	SM 2130B - Turbidity meter	25-Jan-23	25-Jan-23



Report Date: 25-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

	Client ID:	Supply Well - 4hr	-	-	-
	Sample Date:		-	-	-
	Sample ID:	2304200-01	-	-	-
	MDL/Units	Drinking Water	-	-	-
General Inorganics					
Colour	2 TCU	<2	_	-	-
Turbidity	0.1 NTU	6.4	-	-	-



Report Date: 25-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

# Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Colour	ND	2	TCU						
Turbidity	ND	0.1	NTU						



Report Date: 25-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Colour	ND	2	TCU	ND			NC	12	
Turbidity	6.5	0.1	NTU	6.4			1.5	10	



#### **Qualifier Notes:**

Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### **Other Report Notes:**

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated Report Date: 25-Jan-2023 Order Date: 24-Jan-2023 Project Description: 210341

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# Certificate of Analysis

## LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Abdul Kader Alhaj

Client PO: Project: 210341 Custody: 18578

Report Date: 30-Jan-2023 Order Date: 24-Jan-2023

Order #: 2304185

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID 2304185-01

**Client ID** Supply Well - 4hr

Approved By:

Dale Robertson, BSc Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



# Analysis Summary Table

Report Date: 30-Jan-2023 Order Date: 24-Jan-2023 Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	25-Jan-23	25-Jan-23
Ammonia, as N	EPA 351.2 - Auto Colour	27-Jan-23	27-Jan-23
Anions	EPA 300.1 - IC	25-Jan-23	25-Jan-23
Conductivity	EPA 9050A- probe @25 °C	25-Jan-23	25-Jan-23
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	25-Jan-23	25-Jan-23
E. coli	MOE E3407	25-Jan-23	25-Jan-23
Fecal Coliform	SM 9222D	25-Jan-23	25-Jan-23
Heterotrophic Plate Count	SM 9215C	25-Jan-23	25-Jan-23
Metals, ICP-MS	EPA 200.8 - ICP-MS	25-Jan-23	25-Jan-23
рН	EPA 150.1 - pH probe @25 °C	25-Jan-23	25-Jan-23
Phenolics	EPA 420.2 - Auto Colour, 4AAP	25-Jan-23	25-Jan-23
Hardness	Hardness as CaCO3	25-Jan-23	25-Jan-23
Sulphide	SM 4500SE - Colourimetric	26-Jan-23	26-Jan-23
Tannin/Lignin	SM 5550B - Colourimetric	30-Jan-23	30-Jan-23
Total Coliform	MOE E3407	25-Jan-23	25-Jan-23
Total Dissolved Solids	SM 2540C - gravimetric, filtration	26-Jan-23	27-Jan-23
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	27-Jan-23	30-Jan-23



Client PO:

Report Date: 30-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

	Olivert JD.	Supply Well - 4hr	-		
	Client ID: Sample Date:	24-Jan-23 12:05		-	
	Sample Date:	2304185-01	-	-	-
	MDL/Units	Drinking Water	-	-	-
Microbiological Parameters					
E. coli	1 CFU/100mL	ND	-	-	-
Fecal Coliforms	1 CFU/100mL	ND	-	-	-
Total Coliforms	1 CFU/100mL	ND	-	-	-
Heterotrophic Plate Count	10 CFU/mL	<10	-	-	-
General Inorganics					
Alkalinity, total	5 mg/L	268	-	-	-
Ammonia as N	0.01 mg/L	0.13	-	-	-
Dissolved Organic Carbon	0.5 mg/L	5.7	-	-	-
Conductivity	5 uS/cm	1680	-	-	-
Hardness	mg/L	549	-	-	-
рН	0.1 pH Units	7.7	-	-	-
Phenolics	0.001 mg/L	<0.001	-	-	-
Total Dissolved Solids	10 mg/L	898	-	-	-
Sulphide	0.02 mg/L	<0.02	-	-	-
Tannin & Lignin	0.1 mg/L	<0.1	-	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	-	-	-
Anions					
Chloride	1 mg/L	298	-	-	-
Fluoride	0.1 mg/L	0.3	-	-	-
Nitrate as N	0.1 mg/L	<0.1	-	-	-
Nitrite as N	0.05 mg/L	<0.05	-	-	-
Sulphate	1 mg/L	77	-	-	-
Metals					
Calcium	0.1 mg/L	136	-	-	-
Iron	0.1 mg/L	0.6	-	-	-
Magnesium	0.2 mg/L	50.8	-	-	-
Manganese	0.005 mg/L	0.016	-	-	-
Potassium	0.1 mg/L	8.1	-	-	-
Sodium	0.2 mg/L	120	-	-	-



Client PO:

Report Date: 30-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

# Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Metals									
Calcium	ND	0.1	mg/L						
Iron	ND	0.1	mg/L						
Magnesium	ND	0.2	mg/L						
Manganese	ND	0.005	mg/L						
Potassium	ND	0.1	mg/L						
Sodium	ND	0.2	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100mL						
Fecal Coliforms	ND	1	CFU/100mL						
Total Coliforms	ND	1	CFU/100mL						
Heterotrophic Plate Count	ND	10	CFU/mL						



Client PO:

Report Date: 30-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source	%REC	%REC Limit	RPD	RPD Limit	Notes
,	Koodit	Lunix	Units	Result	/01XLC	LIIIII		LIIIII	10105
Anions									
Chloride	298	1	mg/L	298			0.1	20	
Fluoride	0.26	0.1	mg/L	0.27			4.2	20	
Nitrate as N	ND	0.1	mg/L	ND			NC	20	
Nitrite as N	ND	0.05	mg/L	ND			NC	20	
Sulphate	76.9	1	mg/L	76.9			0.0	20	
General Inorganics									
Alkalinity, total	265	5	mg/L	268			1.4	14	
Ammonia as N	0.031	0.01	mg/L	ND			NC	17.7	
Dissolved Organic Carbon	4.6	0.5	mg/L	5.7			21.1	37	
Conductivity	1660	5	uS/cm	1680			1.3	5	
pH	7.8	0.1	pH Units	7.7			0.9	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Total Dissolved Solids	ND	10	mg/L	ND			NC	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	ND	0.1	mg/L	ND			NC	11	
Total Kjeldahl Nitrogen	0.19	0.1	mg/L	0.22			NC	16	
Metals									
Calcium	9.5	0.1	mg/L	9.7			1.7	20	
Iron	0.4	0.1	mg/L	0.4			0.5	20	
Magnesium	2.2	0.2	mg/L	2.3			5.8	20	
Manganese	ND	0.005	mg/L	ND			NC	20	
Potassium	0.6	0.1	mg/L	0.6			1.8	20	
Sodium	17.4	0.2	mg/L	18.3			5.1	20	
Microbiological Parameters			-						
E. coli	ND	1	CFU/100mL	ND			NC	30	
Fecal Coliforms	ND	1	CFU/100mL	ND			NC	30	
Total Coliforms	ND	1	CFU/100mL	ND			NC	30	
Heterotrophic Plate Count	ND	10	CFU/mL	ND			NC	30	



## Order #: 2304185

Report Date: 30-Jan-2023

Order Date: 24-Jan-2023

Project Description: 210341

## Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	307	1	mg/L	298	89.3	70-124			
Fluoride	1.24	0.1	mg/L	0.27	96.6	70-130			
Nitrate as N	1.00	0.1	mg/L	ND	100	77-126			
Nitrite as N	0.936	0.05	mg/L	ND	93.6	82-115			
Sulphate	86.1	1	mg/L	76.9	91.9	70-130			
General Inorganics									
Ammonia as N	1.04	0.01	mg/L	ND	104	81-124			
Dissolved Organic Carbon	7.9	0.5	mg/L	ND	79.0	60-133			
Phenolics	0.026	0.001	mg/L	ND	105	67-133			
Total Dissolved Solids	92.0	10	mg/L	ND	92.0	75-125			
Sulphide	0.51	0.02	mg/L	ND	102	79-115			
Tannin & Lignin	1.0	0.1	mg/L	ND	97.3	71-113			
Total Kjeldahl Nitrogen	1.20	0.1	mg/L	0.22	97.5	81-126			
Metals									
Calcium	17700	0.1	mg/L	9660	80.7	80-120			
Iron	2440	0.1	mg/L	416	81.1	80-120			
Magnesium	11100	0.2	mg/L	2290	88.4	80-120			
Manganese	49.5	0.005	mg/L	3.75	91.5	80-120			
Potassium	9090	0.1	mg/L	647	84.4	80-120			
Sodium	24900	0.2	mg/L	18300	66.0	80-120		Q	M-07



#### Sample Qualifiers :

QC Qualifiers :

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

#### Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### Other Report Notes:

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated Report Date: 30-Jan-2023 Order Date: 24-Jan-2023 Project Description: 210341

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# Certificate of Analysis

## LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Abdul Kader Alhaj

Client PO: Project: 210341 Custody: 18572

Report Date: 1-Feb-2023 Order Date: 26-Jan-2023

Order #: 2304338

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID 2304338-01 2304338-02 **Client ID** Supply Well - 4hrs Supply Well - 8hrs

Approved By:

Dale Robertson, BSc Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



# Analysis Summary Table

Report Date: 01-Feb-2023 Order Date: 26-Jan-2023 Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	27-Jan-23	27-Jan-23
Ammonia, as N	EPA 351.2 - Auto Colour	27-Jan-23	27-Jan-23
Anions	EPA 300.1 - IC	30-Jan-23	30-Jan-23
Colour	SM2120 - Spectrophotometric	26-Jan-23	26-Jan-23
Conductivity	EPA 9050A- probe @25 °C	27-Jan-23	27-Jan-23
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	30-Jan-23	30-Jan-23
E. coli	MOE E3407	26-Jan-23	26-Jan-23
Fecal Coliform	SM 9222D	26-Jan-23	26-Jan-23
Heterotrophic Plate Count	SM 9215C	26-Jan-23	26-Jan-23
Metals, ICP-MS	EPA 200.8 - ICP-MS	27-Jan-23	27-Jan-23
pН	EPA 150.1 - pH probe @25 °C	27-Jan-23	27-Jan-23
Phenolics	EPA 420.2 - Auto Colour, 4AAP	27-Jan-23	27-Jan-23
Hardness	Hardness as CaCO3	27-Jan-23	27-Jan-23
Sulphide	SM 4500SE - Colourimetric	26-Jan-23	26-Jan-23
Tannin/Lignin	SM 5550B - Colourimetric	30-Jan-23	30-Jan-23
Total Coliform	MOE E3407	26-Jan-23	26-Jan-23
Total Dissolved Solids	SM 2540C - gravimetric, filtration	26-Jan-23	27-Jan-23
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	27-Jan-23	30-Jan-23
Turbidity	SM 2130B - Turbidity meter	26-Jan-23	26-Jan-23
VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	28-Jan-23	28-Jan-23

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



Client PO:

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

	Client ID: Sample Date: Sample ID:	Supply Well - 4hrs 25-Jan-23 12:05 2304338-01	Supply Well - 8hrs 25-Jan-23 16:00 2304338-02	-	
	MDL/Units	Drinking Water	Drinking Water	-	-
Microbiological Parameters					
E. coli	1 CFU/100mL	ND	ND	-	-
Fecal Coliforms	1 CFU/100mL	ND	ND	-	-
Total Coliforms	1 CFU/100mL	ND	ND	-	-
Heterotrophic Plate Count	10 CFU/mL	<10	10	-	-
General Inorganics			·		
Alkalinity, total	5 mg/L	268	267	-	-
Ammonia as N	0.01 mg/L	0.15	0.13	-	-
Dissolved Organic Carbon	0.5 mg/L	8.9	8.9	-	-
Colour	2 TCU	<2	<2	-	-
Conductivity	5 uS/cm	1720	1710	-	-
Hardness	mg/L	535	524	-	-
рН	0.1 pH Units	7.9	7.9	-	-
Phenolics	0.001 mg/L	<0.001	<0.001	-	-
Total Dissolved Solids	10 mg/L	892	836	-	-
Sulphide	0.02 mg/L	<0.02	<0.02	-	-
Tannin & Lignin	0.1 mg/L	<0.1	<0.1	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	0.1	-	-
Turbidity	0.1 NTU	4.1	3.8	-	-
Anions					
Chloride	1 mg/L	299	299	-	-
Fluoride	0.1 mg/L	0.2	0.3	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	79	78	-	-
Metals					
Aluminum	0.001 mg/L	0.012	0.014	-	-
Antimony	0.0005 mg/L	<0.0005	<0.0005	-	-
Arsenic	0.001 mg/L	<0.001	<0.001	-	-
Barium	0.001 mg/L	0.140	0.136	-	-
Boron	0.01 mg/L	0.22	0.22	-	-
Cadmium	0.0001 mg/L	<0.0001	<0.0001	-	-
Calcium	0.1 mg/L	132	131	-	-
Chromium	0.001 mg/L	<0.001	<0.001	-	-
Copper	0.0005 mg/L	<0.0005	<0.0005	-	-
Iron	0.1 mg/L	0.6	0.5	-	-

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



Order #: 2304338

Report Date: 01-Feb-2023 Order Date: 26-Jan-2023

Project Description: 210341

Lead	Client ID: Sample Date: Sample ID: MDL/Units 0.0001 mg/L	Supply Well - 4hrs 25-Jan-23 12:05 2304338-01 Drinking Water 0.0002	Supply Well - 8hrs 25-Jan-23 16:00 2304338-02 Drinking Water <0.0001	- - - -	- - - -
Magnesium	0.2 mg/L	50.0	47.9	-	
Manganese	0.005 mg/L	0.017	0.017	-	
Potassium	0.1 mg/L	8.4	8.4	_	-
Selenium	0.001 mg/L	<0.001	<0.001	-	-
Sodium	0.2 mg/L	118	112	-	-
Uranium	0.0001 mg/L	0.0006	0.0006	-	-
Zinc	0.005 mg/L	<0.005	<0.005	-	-
Volatiles	-				
Acetone	0.0050 mg/L	<0.0050	<0.0050	-	-
Benzene	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromodichloromethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromoform	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromomethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Carbon Tetrachloride	0.0002 mg/L	<0.0002	<0.0002	-	-
Chlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
Chloroethane	0.0010 mg/L	<0.0010	<0.0010	-	-
Chloroform	0.0005 mg/L	<0.0005	<0.0005	-	-
Dibromochloromethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Dichlorodifluoromethane	0.0010 mg/L	<0.0010	<0.0010	-	-
1,2-Dibromoethane	0.0002 mg/L	<0.0002	<0.0002	-	-
1,2-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,3-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,4-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1-Dichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
cis-1,2-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
trans-1,2-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloroethylene, total	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloropropane	0.0005 mg/L	<0.0005	<0.0005	-	-
cis-1,3-Dichloropropylene	0.0005 mg/L	<0.0005	<0.0005	-	-
trans-1,3-Dichloropropylene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,3-Dichloropropene, total	0.0005 mg/L	<0.0005	<0.0005	-	-
Ethylbenzene	0.0005 mg/L	<0.0005	<0.0005	-	-

OTTAWA . MISSISSAUGA . HAMILTON . KINGSTON . LONDON . NIAGARA . WINDSOR . RICHMOND HILL



Order #: 2304338

Report Date: 01-Feb-2023 Order Date: 26-Jan-2023

Project Description: 210341

	ана III Г		Supply Wall Ohro		
	Client ID:	Supply Well - 4hrs	Supply Well - 8hrs	-	-
	Sample Date:	25-Jan-23 12:05 2304338-01	25-Jan-23 16:00 2304338-02	-	-
	Sample ID:			-	-
[	MDL/Units	Drinking Water	Drinking Water	-	-
Hexane	0.0010 mg/L	<0.0010	<0.0010	-	-
Methyl Ethyl Ketone (2-Butanone)	0.0050 mg/L	<0.0050	<0.0050	-	-
Methyl Isobutyl Ketone	0.0050 mg/L	<0.0050	<0.0050	-	-
Methyl tert-butyl ether	0.0020 mg/L	<0.0020	<0.0020	-	-
Methylene Chloride	0.0050 mg/L	<0.0050	<0.0050	-	-
Styrene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,1,2-Tetrachloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,2,2-Tetrachloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Tetrachloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
Toluene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,1-Trichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,2-Trichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Trichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
Trichlorofluoromethane	0.0010 mg/L	<0.0010	<0.0010	-	-
Vinyl chloride	0.0002 mg/L	<0.0002	<0.0002	-	-
m,p-Xylenes	0.0005 mg/L	<0.0005	<0.0005	-	-
o-Xylene	0.0005 mg/L	<0.0005	<0.0005	-	-
Xylenes, total	0.0005 mg/L	<0.0005	<0.0005	-	-
4-Bromofluorobenzene	Surrogate	114%	116%	-	-
Dibromofluoromethane	Surrogate	127%	127%	-	-
Toluene-d8	Surrogate	109%	109%	-	-



Client PO:

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

## Method Quality Control: Blank

Analyta	<b>.</b>	Reporting		Source		%REC	<b>BC</b> -	RPD	<b>N</b> 1 - 1
Analyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Aluminum	ND	0.001	mg/L						
Antimony	ND	0.0005	mg/L						
Arsenic	ND	0.001	mg/L						
Barium	ND	0.001	mg/L						
Boron	ND	0.01	mg/L						
Cadmium	ND	0.0001	mg/L						
Calcium	ND	0.1	mg/L						
Chromium	ND	0.001	mg/L						
Copper	ND	0.0005	mg/L						
Iron	ND	0.1 0.0001	mg/L						
Lead Magnesium	ND ND	0.0001	mg/L mg/L						
Maganese	ND	0.2	mg/L						
Potassium	ND	0.1	mg/L						
Selenium	ND	0.001	mg/L						
Sodium	ND	0.2	mg/L						
Uranium	ND	0.0001	mg/L						
Zinc	ND	0.005	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100mL						
Fecal Coliforms	ND	1	CFU/100mL						
Total Coliforms	ND	1	CFU/100mL						
Heterotrophic Plate Count	ND	10	CFU/mL						
Volatiles									
Acetone	ND	0.0050	mg/L						
Benzene	ND	0.0005	mg/L						
Bromodichloromethane	ND	0.0005	mg/L						
Bromoform	ND	0.0005	mg/L						
Bromomethane	ND	0.0005	mg/L						
Carbon Tetrachloride	ND	0.0002	mg/L						
Chlorobenzene	ND	0.0005	mg/L						
Chloroethane	ND	0.0010	mg/L						
Chloroform	ND	0.0005	mg/L						
Dibromochloromethane	ND	0.0005	mg/L						
Dichlorodifluoromethane	ND	0.0010	mg/L						
1,2-Dibromoethane	ND	0.0002	mg/L						
1,2-Dichlorobenzene	ND	0.0005	mg/L						
1,3-Dichlorobenzene	ND	0.0005	mg/L						
1,4-Dichlorobenzene	ND	0.0005	mg/L						

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



# Method Quality Control: Blank

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

Analyte	Develt	Reporting		Source		%REC		RPD	<b>N</b> <i>i</i>
Analyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
1,1-Dichloroethane	ND	0.0005	mg/L						
1,2-Dichloroethane	ND	0.0005	mg/L						
1,1-Dichloroethylene	ND	0.0005	mg/L						
cis-1,2-Dichloroethylene	ND	0.0005	mg/L						
trans-1,2-Dichloroethylene	ND	0.0005	mg/L						
1,2-Dichloroethylene, total	ND	0.0005	mg/L						
1,2-Dichloropropane	ND	0.0005	mg/L						
cis-1,3-Dichloropropylene	ND	0.0005	mg/L						
trans-1,3-Dichloropropylene	ND	0.0005	mg/L						
1,3-Dichloropropene, total	ND	0.0005	mg/L						
Ethylbenzene	ND	0.0005	mg/L						
Hexane	ND	0.0010	mg/L						
Methyl Ethyl Ketone (2-Butanone)	ND	0.0050	mg/L						
Methyl Isobutyl Ketone	ND	0.0050	mg/L						
Methyl tert-butyl ether	ND	0.0020	mg/L						
Methylene Chloride	ND	0.0050	mg/L						
Styrene	ND	0.0005	mg/L						
1,1,1,2-Tetrachloroethane	ND	0.0005	mg/L						
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L						
Tetrachloroethylene	ND	0.0005	mg/L						
Toluene	ND	0.0005	mg/L						
1,1,1-Trichloroethane	ND	0.0005	mg/L						
1,1,2-Trichloroethane	ND	0.0005	mg/L						
Trichloroethylene	ND	0.0005	mg/L						
Trichlorofluoromethane	ND	0.0010	mg/L						
Vinyl chloride	ND	0.0002	mg/L						
m,p-Xylenes	ND	0.0005	mg/L						
o-Xylene	ND	0.0005	mg/L						
Xylenes, total	ND	0.0005	mg/L						
Surrogate: 4-Bromofluorobenzene	0.0918		mg/L		115	50-140			
Surrogate: Dibromofluoromethane	0.103		mg/L		129	50-140			
Surrogate: Toluene-d8	0.0870		mg/L		109	50-140			



Client PO:

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyte	Deeult	Reporting		Source		%REC	000	RPD	N1-4
Allalyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
Anions									
Chloride	255	1	mg/L	255			0.0	20	
Fluoride	0.22	0.1	mg/L	0.22			1.5	20	
Nitrate as N	ND	0.1	mg/L	ND			NC	20	
Nitrite as N	ND	0.05	mg/L	ND			NC	20	
Sulphate	ND	1	mg/L	ND			NC	20	
General Inorganics									
Alkalinity, total	265	5	mg/L	268			0.9	14	
Ammonia as N	0.031	0.01	mg/L	ND			NC	17.7	
Dissolved Organic Carbon	7.7	0.5	mg/L	8.9			14.2	37	
Colour	ND	2	тсu	ND			NC	12	
Conductivity	1690	5	uS/cm	1720			1.8	5	
pH	7.9	0.1	pH Units	7.9			0.8	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Total Dissolved Solids	ND	10	mg/L	ND			NC	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	ND	0.1	mg/L	ND			NC	11	
Total Kjeldahl Nitrogen	0.19	0.1	mg/L	0.22			NC	16	
Turbidity	0.2	0.1	NTU	0.2			5.1	10	
Metals									
Aluminum	0.026	0.001	mg/L	0.019			34.2	20	QR-05
Antimony	ND	0.0005	mg/L	ND			NC	20	
Arsenic	ND	0.001	mg/L	ND			NC	20	
Barium	0.104	0.001	mg/L	0.112			8.1	20	
Boron	0.11	0.01	mg/L	0.11			0.3	20	
Cadmium	ND	0.0001	mg/L	ND			NC	20	
Calcium	85.0	0.1	mg/L	83.0			2.4	20	
Chromium	ND	0.001	mg/L	ND			NC	20	
Iron	2.3	0.1	mg/L	2.4			4.1	20	
Lead	0.0066	0.0001	mg/L	0.0064			4.4	20	
Magnesium	12.2	0.2	mg/L	12.2			0.2	20	
Manganese	0.049	0.005	mg/L	0.050			0.8	20	
Potassium	0.8	0.1	mg/L	0.7			5.4	20	
Selenium	ND	0.001	mg/L	ND			NC	20	
Sodium	17.1	0.2	mg/L	18.4			7.3	20	
Uranium	0.0003	0.0001	mg/L	0.0003			0.2	20	
Zinc	0.024	0.005	mg/L	0.024			1.5	20	
Microbiological Parameters									
E. coli	ND	1	CFU/100mL	ND			NC	30	
Fecal Coliforms	ND	1	CFU/100mL	ND			NC	30	
Total Coliforms	ND	1	CFU/100mL	ND			NC	30	
Heterotrophic Plate Count	ND	10	CFU/mL	ND			NC	30	
Volatiles									
Acetone	ND	0.0050	mg/L	ND			NC	30	
Benzene	ND	0.0005	mg/L	ND			NC	30	
Bromodichloromethane	0.0039	0.0005	mg/L	0.0036			6.1	30	
Bromoform	ND	0.0005	mg/L	ND			NC	30	
Bromomethane	ND	0.0005	mg/L	ND			NC	30	
Carbon Tetrachloride	ND	0.0002	mg/L	ND			NC	30	
Chlorobenzene	ND	0.0005	mg/L	ND			NC	30	
Chloroethane	ND	0.0010	mg/L	ND			NC	30	
Chloroform	0.0234	0.0005	mg/L	0.0229			2.5	30	
Dibromochloromethane	ND	0.0005	mg/L	ND			NC	30	
Dichlorodifluoromethane	ND	0.0010	mg/L	ND			NC	30	
1,2-Dibromoethane	ND	0.0002	mg/L	ND			NC	30	
1,2-Dichlorobenzene 1,3-Dichlorobenzene	ND	0.0005 0.0005	mg/L	ND ND			NC NC	30 30	
1.3=0.0000000000000000000000000000000000	ND	0 0005	mg/L	INI J			INU	.50	

OTTAWA . MISSISSAUGA . HAMILTON . KINGSTON . LONDON . NIAGARA . WINDSOR . RICHMOND HILL



## Order #: 2304338

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyta	D	Reporting		Source		%REC		RPD	
Analyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
1,4-Dichlorobenzene	ND	0.0005	mg/L	ND			NC	30	
1,1-Dichloroethane	ND	0.0005	mg/L	ND			NC	30	
1,2-Dichloroethane	ND	0.0005	mg/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.0005	mg/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.0005	mg/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.0005	mg/L	ND			NC	30	
1,2-Dichloropropane	ND	0.0005	mg/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.0005	mg/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.0005	mg/L	ND			NC	30	
Ethylbenzene	ND	0.0005	mg/L	ND			NC	30	
Hexane	ND	0.0010	mg/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	0.0050	mg/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	0.0050	mg/L	ND			NC	30	
Methyl tert-butyl ether	ND	0.0020	mg/L	ND			NC	30	
Methylene Chloride	ND	0.0050	mg/L	ND			NC	30	
Styrene	ND	0.0005	mg/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.0005	mg/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L	ND			NC	30	
Tetrachloroethylene	ND	0.0005	mg/L	ND			NC	30	
Toluene	ND	0.0005	mg/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.0005	mg/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.0005	mg/L	ND			NC	30	
Trichloroethylene	ND	0.0005	mg/L	ND			NC	30	
Trichlorofluoromethane	ND	0.0010	mg/L	ND			NC	30	
Vinyl chloride	ND	0.0002	mg/L	ND			NC	30	
m,p-Xylenes	ND	0.0005	mg/L	ND			NC	30	
o-Xylene	ND	0.0005	mg/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	0.0902		mg/L		113	50-140			
Surrogate: Dibromofluoromethane	0.104		mg/L		130	50-140			
Surrogate: Toluene-d8	0.0866		mg/L		108	50-140			



# Method Quality Control: Spike

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	265	1	mg/L	255	99.4	70-124			
Fluoride	1.22	0.1	mg/L	0.22	100	70-130			
Nitrate as N	1.01	0.1	mg/L	ND	101	77-126			
Nitrite as N	0.937	0.05	mg/L	ND	93.7	82-115			
Sulphate	10.0	1	mg/L	ND	100	70-130			
General Inorganics									
Ammonia as N	1.04	0.01	mg/L	ND	104	81-124			
Dissolved Organic Carbon	17.2	0.5	mg/L	8.9	82.6	60-133			
Phenolics	0.027	0.001	mg/L	ND	109	67-133			
Total Dissolved Solids	92.0	10	mg/L	ND	92.0	75-125			
Sulphide	0.51	0.02	mg/L	ND	102	79-115			
Tannin & Lignin	1.0	0.02	mg/L	ND	97.3	71-113			
Total Kjeldahl Nitrogen	1.20	0.1	mg/L	0.22	97.5	81-126			
Metals	1.20	0.1	iiig/L	0.22	01.0	01-120			
Aluminum	61.7	0.001	mg/L	18.6	86.2	80-120			
Arsenic	48.9	0.001	mg/L	0.193	97.4	80-120			
Barium	154	0.001	mg/L	112	83.9	80-120			
Boron	147	0.01	mg/L	110	74.4	80-120		C	M-07
Cadmium	47.7	0.0001	mg/L	0.0172	95.3	80-120			
Calcium	9450	0.1	mg/L	ND	94.5	80-120			
Chromium	50.6	0.001	mg/L	0.354	100	80-120			
Copper	45.6	0.0005	mg/L	ND	91.1	80-120			
Iron	4470	0.1	mg/L	2360	84.4	80-120			
Lead	49.5	0.0001	mg/L	6.35	86.2	80-120			
Magnesium	20700	0.2	mg/L	12200	84.7	80-120			
Manganese	99.4	0.005	mg/L	49.9	99.0	80-120			
Potassium	10300	0.1	mg/L	717	95.8	80-120			
Selenium	39.9	0.001	mg/L	0.137	79.6	80-120		C	M-07
Sodium	27100	0.2	mg/L	18400	86.8	80-120			
Uranium	42.4	0.0001	mg/L	0.339	84.2	80-120			
Zinc	66.0	0.005	mg/L	23.5	85.0	80-120			
Volatiles									
Acetone	0.116	0.0050	mg/L	ND	116	50-140			
Benzene	0.0486	0.0005	mg/L	ND	122	60-130			
Bromodichloromethane	0.0458	0.0005	mg/L	ND	114	60-130			
Bromoform	0.0417	0.0005	mg/L	ND	104	60-130			
Bromomethane	0.0431	0.0005	mg/L	ND	108	50-140			
Carbon Tetrachloride	0.0445	0.0002	mg/L	ND	111	60-130			
Chlorobenzene	0.0427	0.0005	mg/L	ND	107	60-130			
Chloroethane	0.0441	0.0010	mg/L	ND	110	50-140			
Chloroform	0.0452	0.0005	mg/L	ND	113	60-130			
Dibromochloromethane	0.0479	0.0005	mg/L	ND	120	60-130			
Dichlorodifluoromethane	0.0435	0.0010	mg/L	ND	109	50-140			
1,2-Dibromoethane	0.0450	0.0002	mg/L	ND	113	60-130			
1,2-Dichlorobenzene	0.0354	0.0005	mg/L	ND	88.6	60-130			
1,3-Dichlorobenzene	0.0357	0.0005	mg/L	ND	89.2	60-130			
1,4-Dichlorobenzene	0.0328	0.0005	mg/L	ND	82.1	60-130			
1,1-Dichloroethane	0.0445	0.0005	mg/L	ND	111	60-130			



## Order #: 2304338

Report Date: 01-Feb-2023

Order Date: 26-Jan-2023

Project Description: 210341

# Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichloroethane	0.0485	0.0005	mg/L	ND	121	60-130			
1,1-Dichloroethylene	0.0441	0.0005	mg/L	ND	110	60-130			
cis-1,2-Dichloroethylene	0.0417	0.0005	mg/L	ND	104	60-130			
trans-1,2-Dichloroethylene	0.0408	0.0005	mg/L	ND	102	60-130			
1,2-Dichloropropane	0.0490	0.0005	mg/L	ND	122	60-130			
cis-1,3-Dichloropropylene	0.0468	0.0005	mg/L	ND	117	60-130			
trans-1,3-Dichloropropylene	0.0425	0.0005	mg/L	ND	106	60-130			
Ethylbenzene	0.0456	0.0005	mg/L	ND	114	60-130			
Hexane	0.0352	0.0010	mg/L	ND	88.0	60-130			
Methyl Ethyl Ketone (2-Butanone)	0.127	0.0050	mg/L	ND	127	50-140			
Methyl Isobutyl Ketone	0.116	0.0050	mg/L	ND	116	50-140			
Methyl tert-butyl ether	0.120	0.0020	mg/L	ND	120	50-140			
Methylene Chloride	0.0451	0.0050	mg/L	ND	113	60-130			
Styrene	0.0412	0.0005	mg/L	ND	103	60-130			
1,1,1,2-Tetrachloroethane	0.0450	0.0005	mg/L	ND	112	60-130			
1,1,2,2-Tetrachloroethane	0.0302	0.0005	mg/L	ND	75.4	60-130			
Tetrachloroethylene	0.0378	0.0005	mg/L	ND	94.6	60-130			
Toluene	0.0465	0.0005	mg/L	ND	116	60-130			
1,1,1-Trichloroethane	0.0456	0.0005	mg/L	ND	114	60-130			
1,1,2-Trichloroethane	0.0464	0.0005	mg/L	ND	116	60-130			
Trichloroethylene	0.0494	0.0005	mg/L	ND	123	60-130			
Trichlorofluoromethane	0.0486	0.0010	mg/L	ND	122	60-130			
Vinyl chloride	0.0493	0.0002	mg/L	ND	123	50-140			
m,p-Xylenes	0.0811	0.0005	mg/L	ND	101	60-130			
o-Xylene	0.0412	0.0005	mg/L	ND	103	60-130			
Surrogate: 4-Bromofluorobenzene	0.0913		mg/L		114	50-140			
Surrogate: Dibromofluoromethane	0.0904		mg/L		113	50-140			
Surrogate: Toluene-d8	0.0838		mg/L		105	50-140			



#### Sample Qualifiers :

QC Qualifiers :

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.
- QR-05 Duplicate RPDs higher than normally accepted. Remaining batch QA\QC was acceptable. May be sample effect.

#### Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### Other Report Notes:

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated Report Date: 01-Feb-2023 Order Date: 26-Jan-2023 Project Description: 210341

		cel ID: 23043.		Laurent Blvd rio K1G 4J8 1947 aracellabs.co abs.com		Order 1				o Drink	king W	ustod ater Sar 572	mples
Contact Name: LRL ASSC Contact Name: Abdwl Ka	ciabes Project Ref:	21034		Waterworks Name						Samp	oles Take	n By:	
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lave LSN forms been submitted to MOE/MOF	NJ ILTC?: 🗆 Yes 🗆 No 🗆 N/A	Reportable	e: Requires AWO	) reporting as per	Regulation - Y =	Yes; N = N	Vo			Τ			~
re these samples for human consumption?: All information must be completed b	🗆 Yes 🗆 No	cessed.	ortable: Y / N Resample	SAMPLE COL	ECTED.	tainers	ed Chlarine I mg/L	Flushed: G 243)	liform/E. Coli	Lead	THM	<u>Noision</u>	letal
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te/Time: 2023.01.75/	Temper	ature: Constant Series in	C	Temperature	11		1	pH Verifi		V	29	100	101



RELIABLE.

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# Certificate of Analysis

## LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Abdul Kader Alhaj

Client PO: Project: 210341 Custody: 18571

Report Date: 21-Mar-2023 Order Date: 15-Mar-2023

Order #: 2311339

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID 2311339-01

**Client ID** OW-1

Approved By:

Dale Robertson, BSc Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



## **Analysis Summary Table**

Report Date: 21-Mar-2023 Order Date: 15-Mar-2023 Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	17-Mar-23	17-Mar-23
Ammonia, as N	EPA 351.2 - Auto Colour	20-Mar-23	20-Mar-23
Anions	EPA 300.1 - IC	20-Mar-23	20-Mar-23
Colour	SM2120 - Spectrophotometric	16-Mar-23	17-Mar-23
Conductivity	EPA 9050A- probe @25 °C	17-Mar-23	17-Mar-23
Dissolved Organic Carbon	EPA 415.2	20-Mar-23	20-Mar-23
E. coli	MOE E3407	16-Mar-23	16-Mar-23
Fecal Coliform	SM 9222D	16-Mar-23	16-Mar-23
Heterotrophic Plate Count	SM 9215C	16-Mar-23	16-Mar-23
Metals, ICP-MS	EPA 200.8 - ICP-MS	16-Mar-23	17-Mar-23
рН	EPA 150.1 - pH probe @25 °C	17-Mar-23	17-Mar-23
Phenolics	EPA 420.2 - Auto Colour, 4AAP	20-Mar-23	20-Mar-23
Hardness	Hardness as CaCO3	16-Mar-23	17-Mar-23
Sulphide	SM 4500SE - Colourimetric	20-Mar-23	20-Mar-23
Tannin/Lignin	SM 5550B - Colourimetric	21-Mar-23	21-Mar-23
Total Coliform	MOE E3407	16-Mar-23	16-Mar-23
Total Dissolved Solids	SM 2540C - gravimetric, filtration	16-Mar-23	17-Mar-23
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	17-Mar-23	20-Mar-23
Turbidity	SM 2130B - Turbidity meter	17-Mar-23	17-Mar-23



Client PO:

Report Date: 21-Mar-2023

Order Date: 15-Mar-2023

Project Description: 210341

	Client ID:	OW-1	-		_
	Sample Date:	15-Mar-23 14:50	-	-	-
	Sample ID:	2311339-01	-	-	-
	MDL/Units	Drinking Water	-	-	-
Microbiological Parameters					
E. coli	1 CFU/100mL	ND	-	-	-
Fecal Coliforms	1 CFU/100mL	ND	-	-	-
Total Coliforms	1 CFU/100mL	ND	-	-	-
Heterotrophic Plate Count	10 CFU/mL	100	-	-	-
General Inorganics					
Alkalinity, total	5 mg/L	259	-	-	-
Ammonia as N	0.01 mg/L	0.16	-	-	-
Dissolved Organic Carbon	0.5 mg/L	<0.5 [6]	-	-	-
Colour	2 TCU	<2	-	-	-
Conductivity	5 uS/cm	1800	-	-	-
Hardness	mg/L	515	-	-	-
рН	0.1 pH Units	7.7	-	-	-
Phenolics	0.001 mg/L	<0.001	-	-	-
Total Dissolved Solids	10 mg/L	946	-	-	-
Sulphide	0.02 mg/L	<0.02	-	-	-
Tannin & Lignin	0.1 mg/L	<0.1	-	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	-	-	-
Turbidity	0.1 NTU	7.0	-	-	-
Anions					
Chloride	1 mg/L	325	-	-	-
Fluoride	0.1 mg/L	0.3	-	-	-
Nitrate as N	0.1 mg/L	<0.1	-	-	-
Nitrite as N	0.05 mg/L	<0.05	-	-	-
Sulphate	1 mg/L	75	-	-	-
Metals					
Calcium	0.1 mg/L	127	-	-	-
Iron	0.1 mg/L	0.2	-	-	-
Magnesium	0.2 mg/L	47.8	-	-	-
Manganese	0.005 mg/L	0.016	-	-	-
Potassium	0.1 mg/L	8.5	-	-	-
Sodium	0.2 mg/L	129	-	-	-



Report Date: 21-Mar-2023

Order Date: 15-Mar-2023

Project Description: 210341

# Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	0.1	mg/L						
Iron	ND	0.1	mg/L						
Magnesium	ND	0.2	mg/L						
Manganese	ND	0.005	mg/L						
Potassium	ND	0.1	mg/L						
Sodium	ND	0.2	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100mL						
Fecal Coliforms	ND	1	CFU/100mL						
Total Coliforms	ND	1	CFU/100mL						
Heterotrophic Plate Count	ND	10	CFU/mL						



## Order #: 2311339

Report Date: 21-Mar-2023

Order Date: 15-Mar-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyte Anions Chloride Fluoride Nitrate as N	Result 332 0.36 ND ND 77.3	Limit 1 0.1 0.1	Units mg/L mg/L	Result 325	%REC	Limit	RPD	Limit	Notes
Chloride Fluoride Nitrate as N	0.36 ND ND	0.1 0.1	-						
Fluoride Nitrate as N	0.36 ND ND	0.1 0.1	-						
Nitrate as N	ND ND	0.1	-				2.2	20	
	ND			0.33			9.8	20	
			mg/L	ND			NC	20	
Nitrite as N	77 3	0.05	mg/L	ND			NC	20	
Sulphate	11.5	1	mg/L	75.5			2.3	20	
General Inorganics									
Alkalinity, total	257	5	mg/L	259			0.6	14	
Ammonia as N	0.164	0.01	mg/L	0.163			0.9	17.7	
Colour	ND	2	TCU	ND			NC	12	
Conductivity	1760	5	uS/cm	1800			1.9	5	
pH	7.8	0.1	pH Units	7.7			0.8	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Total Dissolved Solids	2380	10	mg/L	2370			0.4	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	0.1	0.1	mg/L	0.1			NC	11	
Total Kjeldahl Nitrogen	0.25	0.1	mg/L	0.16			NC	16	
Turbidity	2.3	0.1	NTU	2.3			1.3	10	
Metals									
Calcium	452	4.3	mg/L	463			2.5	20	
Iron	1.7	0.1	mg/L	1.7			0.4	20	
Magnesium	100	0.2	mg/L	101			0.9	20	
Manganese	0.109	0.005	mg/L	0.110			1.0	20	
Potassium	12.9	0.1	mg/L	13.6			5.7	20	
Sodium	274	8.6	mg/L	283			3.4	20	
Microbiological Parameters									
E. coli	ND	1	CFU/100mL	ND			NC	30	
Fecal Coliforms	ND	1	CFU/100mL	ND			NC	30	
Total Coliforms	ND	1	CFU/100mL	ND			NC	30	
Heterotrophic Plate Count	40	10	CFU/mL	100			86.0		BAC04



# Order #: 2311339

Report Date: 21-Mar-2023

Order Date: 15-Mar-2023

Project Description: 210341

# Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	333	1	mg/L	325	84.3	70-124			
Fluoride	1.28	0.1	mg/L	0.33	94.9	70-130			
Nitrate as N	1.01	0.1	mg/L	ND	101	77-126			
Nitrite as N	0.950	0.05	mg/L	ND	95.0	82-115			
Sulphate	84.5	1	mg/L	75.5	90.3	70-130			
General Inorganics									
Ammonia as N	1.21	0.01	mg/L	0.163	105	81-124			
Phenolics	0.026	0.001	mg/L	ND	104	67-133			
Total Dissolved Solids	102	10	mg/L	ND	102	75-125			
Sulphide	0.51	0.02	mg/L	ND	101	79-115			
Tannin & Lignin	1.1	0.1	mg/L	0.1	98.1	71-113			
Total Kjeldahl Nitrogen	0.99	0.1	mg/L	0.16	82.7	81-126			
Metals									
Calcium	10400	0.1	mg/L	ND	104	80-120			
Iron	4060	0.1	mg/L	1740	92.7	80-120			
Magnesium	9990	0.2	mg/L	ND	99.9	80-120			
Manganese	162	0.005	mg/L	110	103	80-120			
Potassium	24100	0.1	mg/L	13600	105	80-120			
Sodium	9600	0.2	mg/L	ND	96.0	80-120			



#### Login Qualifiers :

Container(s) - Labeled improperly/insufficient information - One general chemistry bottle is missing the time of collection.

Applies to samples: OW-1

Sample - Not submitted in the correct container - The sulphide bottle was decanted from an unpreserved plastic bottle. The phenols and DOC bottles were decanted from an unpreserved amber glass bottle. *Applies to samples: OW-1* 

Sample preserved upon receipt at the lab. sulphide & phenols *Applies to samples: OW-1* 

#### Sample Qualifiers :

6: Subcontracted analysis - Caduceon

#### QC Qualifiers :

BAC04 Duplicate QC data falls within method prescribed 95% confidence limits.

#### Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### Other Report Notes:

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated Report Date: 21-Mar-2023 Order Date: 15-Mar-2023 Project Description: 210341

	PARA(								ri - 1 Da	aurent Blv o K1G 4Ji 947 racellabs.com	8	Paracel 23		Number 39				Drink	ing W	ustody /ater Sam 571	
Client Name:	LRL ASSO Abdul hed	ciates	Project Ref:	21	0	341			Water	works Nam	ie:					12197)		Sampl	les Taki	en By:	1242
Contact Name:	Abdul had	er (	luote #:						Water	works Num	ber:				Name	:	1	h	11	Bad	1
Address:	5430 Candrifr	Rd	Ю#:						Addres	5:					Signal	ture:	-	(Dd)	1	isaa	u
After Hours Contact: Telephone:	613315660		-mail: ax:	at	Tade	ev@	2/1	lic		Health Unit					-		Turn /	Around		f e Required 3 day - <b>IN</b> 4	
Samples Submittee ON REG 170/ ON REG 243/	d Under: (Indicate ONLY one 03				Sour	rcë Typ	e: G	= Gri	v ; T = Treat ound Water AWQI report	; S = Surfa	ice Wa	tér								Analyses	
Are these samples	en submitted to MOE/MOH for human consumption?: ( on must be completed be	Yes 🗆 No		essed.	De: R/T/D/P	: G / S	N/N			APLE COL				orime	Flushed: G 243)	orm/E. Coli	HPC	Lead	MM	1210H	
	TION NAME	S/	MPLE ID		Sample Typ	Source Ty	Reportable:	Resample	DATE			TIME	# of Containers	ree/Combined Chl Residual mg/L	Standing / Flushed S / F (REG 243)	Total Coliform/E.	Ξ	Le	4	Pack	
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# Certificate of Analysis

## LRL Associates Ltd.

5430 Canotek Road Ottawa, ON K1J 9G2 Attn: Jessica Arthurs

Client PO: Project: 210341 Custody: 19086

Report Date: 2-Jun-2023 Order Date: 29-May-2023

Order #: 2322119

This Certificate of Analysis contains analytical data applicable to the following samples as submitted :

Paracel ID **Client ID** 2322119-01 5969 Ottawa St. - 3 HR 2322119-02 5969 Ottawa St. - 6 HR

Approved By:

Dale Robertson, BSc Laboratory Director

Any use of these results implies your agreement that our total liability in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.



# Analysis Summary Table

Report Date: 02-Jun-2023 Order Date: 29-May-2023 Project Description: 210341

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	31-May-23	31-May-23
Ammonia, as N	EPA 351.2 - Auto Colour	30-May-23	30-May-23
Anions	EPA 300.1 - IC	31-May-23	31-May-23
Colour	SM2120 - Spectrophotometric	30-May-23	31-May-23
Conductivity	EPA 9050A- probe @25 °C	31-May-23	31-May-23
Dissolved Organic Carbon	MOE 3247B - Combustion IR	31-May-23	1-Jun-23
E. coli	MOE E3407	30-May-23	30-May-23
Fecal Coliform	SM 9222D	30-May-23	30-May-23
Heterotrophic Plate Count	SM 9215C	30-May-23	30-May-23
Metals, ICP-MS	EPA 200.8 - ICP-MS	30-May-23	30-May-23
pН	EPA 150.1 - pH probe @25 °C	31-May-23	31-May-23
Phenolics	EPA 420.2 - Auto Colour, 4AAP	30-May-23	30-May-23
Hardness	Hardness as CaCO3	30-May-23	30-May-23
Sulphide	SM 4500SE - Colourimetric	31-May-23	1-Jun-23
Tannin/Lignin	SM 5550B - Colourimetric	1-Jun-23	1-Jun-23
Total Coliform	MOE E3407	30-May-23	30-May-23
Total Dissolved Solids	SM 2540C - gravimetric, filtration	31-May-23	1-Jun-23
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	30-May-23	31-May-23
Turbidity	SM 2130B - Turbidity meter	30-May-23	31-May-23
VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	1-Jun-23	1-Jun-23

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



Client PO:

Order #: 2322119

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

	Client ID:	5969 Ottawa St 3 HR	5969 Ottawa St 6 HR	-	-
	Sample Date: Sample ID:	29-May-23 10:46 2322119-01	29-May-23 13:46 2322119-02	-	-
	MDL/Units	Drinking Water	Drinking Water	-	-
Microbiological Parameters		-	•		· · · · · · · · · · · · · · · · · · ·
E. coli	1 CFU/100mL	ND	ND	-	-
Total Coliforms	1 CFU/100mL	ND	ND	-	-
Fecal Coliforms	1 CFU/100mL	ND	ND	-	-
Heterotrophic Plate Count	10 CFU/mL	80	50	-	-
General Inorganics	• •		•		
Alkalinity, total	5 mg/L	274	274	-	-
Ammonia as N	0.01 mg/L	0.10	0.10	-	-
Dissolved Organic Carbon	0.5 mg/L	1.6	1.8	-	-
Colour	2 TCU	<2	<2	-	-
Conductivity	5 uS/cm	1290	1290	-	-
Hardness	mg/L	409	478	-	-
pН	0.1 pH Units	7.8	7.7	-	-
Phenolics	0.001 mg/L	<0.001	<0.001	-	-
Total Dissolved Solids	10 mg/L	718	718	-	-
Sulphide	0.02 mg/L	<0.02	<0.02	-	-
Tannin & Lignin	0.1 mg/L	<0.1	<0.1	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	0.1	-	-
Turbidity	0.1 NTU	8.1	9.0	-	-
Anions					
Chloride	1 mg/L	192	191	-	-
Fluoride	0.1 mg/L	0.4	0.4	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	57	57	-	-
Metals					
Aluminum	0.001 mg/L	0.007	0.005	-	-
Antimony	0.0005 mg/L	<0.0005	<0.0005	-	-
Arsenic	0.001 mg/L	<0.001	<0.001	-	-
Barium	0.001 mg/L	0.119	0.137	-	-
Beryllium	0.0005 mg/L	<0.0005	<0.0005	-	-
Boron	0.01 mg/L	0.15	0.16	-	-
Cadmium	0.0001 mg/L	<0.0001	<0.0001	-	-
Calcium	0.1 mg/L	105	122	-	-
Chromium	0.001 mg/L	<0.001	<0.001	-	-



Client PO:

Report Date: 02-Jun-2023 Order Date: 29-May-2023

Project Description: 210341

	Client ID:	5969 Ottawa St 3	5969 Ottawa St 6	-	-
	Comula Data	HR 29-May-23 10:46	HR 29-May-23 13:46		
	Sample Date: Sample ID:	2322119-01	2322119-02	-	-
	MDL/Units	Drinking Water	Drinking Water	-	-
Cobalt	0.0005 mg/L	<0.0005	<0.0005	-	-
Copper	0.0005 mg/L	<0.0005	<0.0005	-	-
Iron	0.1 mg/L	0.5	0.6	-	-
Lead	0.0001 mg/L	<0.0001	<0.0001	-	-
Magnesium	0.2 mg/L	35.8	42.0	-	-
Manganese	0.005 mg/L	0.014	0.016	-	-
Molybdenum	0.0005 mg/L	0.0020	0.0022	-	-
Nickel	0.001 mg/L	<0.001	<0.001	-	-
Potassium	0.1 mg/L	6.1	6.9	-	-
Selenium	0.001 mg/L	<0.001	<0.001	-	-
Silver	0.0001 mg/L	<0.0001	<0.0001	-	-
Sodium	0.2 mg/L	61.6	70.7	-	-
Strontium	0.01 mg/L	4.03	4.09	-	-
Thallium	0.001 mg/L	<0.001	<0.001	-	-
Tin	0.01 mg/L	<0.01	<0.01	-	-
Titanium	0.005 mg/L	<0.005	<0.005	-	-
Tungsten	0.01 mg/L	<0.01	<0.01	-	-
Uranium	0.0001 mg/L	0.0005	0.0006	-	-
Vanadium	0.0005 mg/L	<0.0005	<0.0005	-	-
Zinc	0.005 mg/L	<0.005	<0.005	-	-
Volatiles					
Acetone	0.0050 mg/L	<0.0050	<0.0050	-	-
Benzene	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromodichloromethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromoform	0.0005 mg/L	<0.0005	<0.0005	-	-
Bromomethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Carbon Tetrachloride	0.0002 mg/L	<0.0002	<0.0002	-	-
Chlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
Chloroethane	0.0010 mg/L	<0.0010	<0.0010	-	-
Chloroform	0.0005 mg/L	<0.0005	<0.0005	-	-
Dibromochloromethane	0.0005 mg/L	<0.0005	<0.0005	-	-
Dichlorodifluoromethane	0.0010 mg/L	<0.0010	<0.0010	-	-
1,2-Dibromoethane	0.0002 mg/L	<0.0002	<0.0002	-	-
1,2-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,3-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



Client PO:

1,1,1-Trichloroethane

1,1,2-Trichloroethane

Trichlorofluoromethane

4-Bromofluorobenzene

Dibromofluoromethane

Trichloroethylene

Vinyl chloride

m,p-Xylenes

Xylenes, total

Toluene-d8

o-Xylene

Report Date: 02-Jun-2023 Order Date: 29-May-2023 . . . 210341

Client PO:					Project Description: 21
	Client ID:	5969 Ottawa St 3 HR	5969 Ottawa St 6 HR	-	-
	Sample Date: Sample ID:	29-May-23 10:46 2322119-01	29-May-23 13:46 2322119-02	-	-
	MDL/Units	Drinking Water	Drinking Water	-	-
1,4-Dichlorobenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1-Dichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
cis-1,2-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
trans-1,2-Dichloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloroethylene, total	0.0005 mg/L	<0.0005	<0.0005	-	-
1,2-Dichloropropane	0.0005 mg/L	<0.0005	<0.0005	-	-
cis-1,3-Dichloropropylene	0.0005 mg/L	<0.0005	<0.0005	-	-
trans-1,3-Dichloropropylene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,3-Dichloropropene, total	0.0005 mg/L	<0.0005	<0.0005	-	-
Ethylbenzene	0.0005 mg/L	<0.0005	<0.0005	-	-
Hexane	0.0010 mg/L	<0.0010	<0.0010	-	-
Methyl Ethyl Ketone (2-Butanone)	0.0050 mg/L	<0.0050	<0.0050	-	-
Methyl Isobutyl Ketone	0.0050 mg/L	<0.0050	<0.0050	-	-
Methyl tert-butyl ether	0.0020 mg/L	<0.0020	<0.0020	-	-
Methylene Chloride	0.0050 mg/L	<0.0050	<0.0050	-	-
Styrene	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,1,2-Tetrachloroethane	0.0005 mg/L	<0.0005	<0.0005	-	-
1,1,2,2-Tetrachloroethane	0.0005 mg/L	<0.0005	<0.0005	-	
Tetrachloroethylene	0.0005 mg/L	<0.0005	<0.0005	-	
Toluene	0.0005 mg/L	<0.0005	<0.0005	-	_

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL

< 0.0005

< 0.0005

< 0.0005

< 0.0010

< 0.0002

< 0.0005

< 0.0005

< 0.0005

113%

102%

102%

< 0.0005

< 0.0005

< 0.0005

< 0.0010

< 0.0002

< 0.0005

< 0.0005

< 0.0005

112%

103%

101%

-

-

-

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-

0.0005 mg/L

0.0005 mg/L

0.0005 mg/L

0.0010 mg/L

0.0002 mg/L

0.0005 mg/L

0.0005 mg/L

0.0005 mg/L

Surrogate

Surrogate

Surrogate

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Client PO:

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

## Method Quality Control: Blank

	Reporting		Source		%REC		RPD	
Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
	1	ma/l						
	•							
	5	mg/l						
ND	0.1	NŤU						
ND	0.001	ma/l						
ND	0.0001							
ND	0.2	mg/L						
ND	0.005	mg/L						
ND	0.0005	mg/L						
ND	0.001	mg/L						
		mg/L						
ND	0.005	mg/L						
ND	1	CFU/100mL						
ND	1	CFU/100mL						
ND	1							
ND	10	CFU/mL						
ND	0.0050	mg/L						
ND	0.0005	mg/L						
ND	0.0005	mg/L						
ND ND	0.0005 0.0005	mg/L mg/L						
	ND ND ND ND ND ND ND ND ND ND ND ND ND N	Result         Limit           ND         1           ND         0.1           ND         0.1           ND         0.1           ND         0.1           ND         0.05           ND         1           ND         5           ND         0.01           ND         2           ND         5           ND         0.01           ND         0.1           ND         0.01           ND         0.001           ND	Result         Limit         Units           ND         1         mg/L           ND         0.1         mg/L           ND         0.1         mg/L           ND         0.05         mg/L           ND         1         mg/L           ND         5         mg/L           ND         0.01         mg/L           ND         2         TCU           ND         2         TCU           ND         0.001         mg/L           ND         0.001         mg/L           ND         0.01         mg/L           ND         0.001         mg/L           ND         0.001	Result         Limit         Units         Result           ND         1         mg/L           ND         0.1         mg/L           ND         0.1         mg/L           ND         0.05         mg/L           ND         1         mg/L           ND         0.01         mg/L           ND         0.5         mg/L           ND         2         TCU           ND         5         uS/cm           ND         0.001         mg/L           ND         0.01         mg/L           ND         0.01         mg/L           ND         0.1         mg/L           ND         0.1         mg/L           ND         0.1         mg/L           ND         0.01         mg/L           ND         0.001         mg/L           ND	Result         Limit         Units         Result         %REC           ND         1         mg/L         ND         0.1         mg/L           ND         0.1         mg/L         ND         0.1         mg/L           ND         0.1         mg/L         ND         0.05         mg/L           ND         0.05         mg/L         ND         0.2         TCU           ND         5         uS/cm         ND         0.001         mg/L           ND         0.001         mg/L         ND         0.001         mg/L           ND         0.001         mg/L         ND         0.01         NTU           ND         0.1         mg/L         ND         0.01         NTU           ND         0.01         mg/L         ND         0.01         ND           ND         0.001         mg/L         ND         0.001         ND           ND         0.001         mg/L         ND         0.001         ND           ND         0.001         mg/L         ND         0.001         ND         ND         ND         ND         ND         ND         ND         ND         ND	Result         Limit         Units         Result         %REC         Limit           ND         1         mg/L         NR         0.1         mg/L         NR         0.05         mg/L         NR         0.01         mg/L         NR         0.05         mg/L         NR         0.05         mg/L         NR         0.01         mg/L         NR         0.001         mg/L         NR         0.001         mg/L         NR         0.001         mg/L         NR         0.000         mg/L         NR	Result         Limit         Units         Result         %REC         Limit         RPD           ND         1         mg/L         ND         0.1         mg/L         ND         0.05         mg/L         ND         0.05         mg/L         ND         0.05         mg/L         ND         0.05         mg/L         ND         0.01         mg/L         ND         0.001         mg/L </td <td>Result         Limit         Units         Result         %REC         Limit         RPD         Limit           ND         1         mg/L         ND         0.1         mg/L         ND         0.05         mg/L           ND         0.05         mg/L         ND         0.05         mg/L         ND         0.05         mg/L           ND         0.01         mg/L         ND         0.01         mg/L         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.001         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         ND</td>	Result         Limit         Units         Result         %REC         Limit         RPD         Limit           ND         1         mg/L         ND         0.1         mg/L         ND         0.05         mg/L           ND         0.05         mg/L         ND         0.05         mg/L         ND         0.05         mg/L           ND         0.01         mg/L         ND         0.01         mg/L         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.001         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         0.01         ND         ND

OTTAWA - MISSISSAUGA - HAMILTON - KINGSTON - LONDON - NIAGARA - WINDSOR - RICHMOND HILL



## Order #: 2322119

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

# Method Quality Control: Blank

Bromomethane         ND         0.0005         mg/L           Carbon Tetrachloride         ND         0.0002         mg/L           Chloroberzene         ND         0.0005         mg/L           Chloroberzene         ND         0.0005         mg/L           Dibromochloromethane         ND         0.0005         mg/L           Dichlorodifuromethane         ND         0.0005         mg/L           1.2-Dichloroberzene         ND         0.0005         mg/L           1.3-Dichloroberzene         ND         0.0005         mg/L           1.3-Dichloroberzene         ND         0.0005         mg/L           1.4-Dichloroberzene         ND         0.0005         mg/L           1.4-Dichloroberzene         ND         0.0005         mg/L           1.2-Dichloroethylene         ND         0.0005 <td< th=""><th>Analyte</th><th>Result</th><th>Reporting Limit</th><th>Units</th><th>Source Result</th><th>%REC</th><th>%REC Limit</th><th>RPD</th><th>RPD Limit</th><th>Notes</th></td<>	Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chicocbenzene         ND         0.0005         mg/L           Chicocform         ND         0.0005         mg/L           Dibromochicormethane         ND         0.0005         mg/L           Dibromochicormethane         ND         0.0005         mg/L           1.2-Dichoromethane         ND         0.0005         mg/L           1.2-Dichorobenzene         ND         0.0005         mg/L           1.3-Dichorobenzene         ND         0.0005         mg/L           1.4-Dichorobenzene         ND         0.0005         mg/L           1.4-Dichorobenzene         ND         0.0005         mg/L           1.2-Dichorobenzene         ND         0.0005         mg/L           1.2-Dichoroethynene         ND         0.0005         mg/L	Bromomethane	ND	0.0005	mg/L						
Chloroethane         ND         0.0010         mg/L           Chloroform         ND         0.0005         mg/L           Dichlorodifluoromethane         ND         0.0010         mg/L           12-Dichlorobenzene         ND         0.0005         mg/L           13-Dichlorobenzene         ND         0.0005         mg/L           13-Dichlorobenzene         ND         0.0005         mg/L           14-Dichlorobenzene         ND         0.0005         mg/L           14-Dichlorobenzene         ND         0.0005         mg/L           14-Dichlorobenzene         ND         0.0005         mg/L           12-Dichlorobenzene         ND         0.0005         mg/L           12-Dichloroethylene         ND         0.0005         mg/L           12-Dichloroethylene         ND         0.0005         mg/L           13-Dichloroptylene         ND         0.0005         mg/L           12-Dichloroptylene         ND         0.0005         mg/L           13-Dichloropropulene         ND         0.0005         mg/L           13-Dichloropropulene         ND         0.0005         mg/L           Hybenzene         ND         0.0005         mg/L	Carbon Tetrachloride	ND	0.0002	mg/L						
Chicorofm         ND         0.0005         mg/L           Dibromochloromethane         ND         0.0005         mg/L           1.2-Dichromethane         ND         0.0002         mg/L           1.2-Dichromethane         ND         0.0005         mg/L           1.2-Dichromethane         ND         0.0005         mg/L           1.3-Dichromethane         ND         0.0005         mg/L           1.4-Dichromethane         ND         0.0005         mg/L           1.4-Dichromethane         ND         0.0005         mg/L           1.1-Dichromethane         ND         0.0005         mg/L           1.2-Dichromethylene         ND         0.0005         mg/L	Chlorobenzene	ND	0.0005	mg/L						
Dibromochloromethane         ND         0.0005         mg/L           Dichlorodifluoromethane         ND         0.0010         mg/L           1,2-Dibromoethane         ND         0.0005         mg/L           1,3-Dichlorobenzene         ND         0.0005         mg/L           1,3-Dichlorobenzene         ND         0.0005         mg/L           1,1-Dichlorobenzene         ND         0.0005         mg/L           1,1-Dichloroethane         ND         0.0005         mg/L           1,2-Dichloroethylene         ND         0.0005         mg/L           1,2-Dichloroptylene         ND         0.0005<	Chloroethane	ND	0.0010	mg/L						
Dicklorodifluoromethane         ND         0.0010         mg/L           1,2-Dicklorobenzene         ND         0.0002         mg/L           1,3-Dicklorobenzene         ND         0.0005         mg/L           1,4-Dicklorobenzene         ND         0.0005         mg/L           1,4-Dicklorobenzene         ND         0.0005         mg/L           1,4-Dicklorobenzene         ND         0.0005         mg/L           1,1-Dickloroethane         ND         0.0005         mg/L           1,1-Dickloroethylene         ND         0.0005         mg/L           1,1-Dickloroethylene         ND         0.0005         mg/L           1,2-Dickloroethylene, total         ND         0.0005         mg/L           1,2-Dickloropropylene         ND         0.0005         mg/L           1,2-Dickloropropylene         ND         0.0005         mg/L           1,2-Dickloropropylene         ND         0.0005         mg/L           1,3-Dickloropropylene         ND         0.0005         mg/L           trans-1,3-Dickloropropylene         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Methyl Isobulyl Ketone         ND	Chloroform	ND	0.0005	mg/L						
1.2-Dibromoethane         ND         0.0002         mg/L           1.3-Dichlorobenzene         ND         0.0005         mg/L           1.3-Dichlorobenzene         ND         0.0005         mg/L           1.4-Dichlorobenzene         ND         0.0005         mg/L           1.1-Dichloroethane         ND         0.0005         mg/L           1.2-Dichloroethylene         ND         0.0005         mg/L           1.1-Dichloroethylene         ND         0.0005         mg/L           trans-1,2-Dichloroethylene         ND         0.0005         mg/L           trans-1,2-Dichloroethylene, total         ND         0.0005         mg/L           1.2-Dichloropropane         ND         0.0005         mg/L           1.2-Dichloropropane         ND         0.0005         mg/L           1.2-Dichloropropane         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methylene Chloride <td< td=""><td>Dibromochloromethane</td><td>ND</td><td>0.0005</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Dibromochloromethane	ND	0.0005							
1.3-Dichlorobenzene       ND       0.0005       mg/L         1.3-Dichlorobenzene       ND       0.0005       mg/L         1.4-Dichlorobenzene       ND       0.0005       mg/L         1.1-Dichloroethane       ND       0.0005       mg/L         1.2-Dichloroethylene       ND       0.0005       mg/L         1.2-Dichloroethylene       ND       0.0005       mg/L         1.2-Dichloroethylene       ND       0.0005       mg/L         1.2-Dichloroethylene, total       ND       0.0005       mg/L         1.2-Dichloroethylene, total       ND       0.0005       mg/L         1.2-Dichloropropylene       ND       0.0005       mg/L         1.2-Dichloropropylene       ND       0.0005       mg/L         1.2-Dichloropropylene       ND       0.0005       mg/L         1.3-Dichloropropylene       ND       0.0005       mg/L         trans-1.3-Dichloropropylene       ND       0.0005       mg/L         Hexane       ND       0.0005       mg/L         Hethyl Ischuly Ketone (2-Butanone)       ND       0.0005       mg/L         Methyl Ischuly Ketone       ND       0.0005       mg/L         Methyl Ischuly Ketone       ND	Dichlorodifluoromethane									
1,3-Dichlorobenzene       ND       0.0005       mg/L         1,4-Dichlorobenzene       ND       0.0005       mg/L         1,1-Dichloroethane       ND       0.0005       mg/L         1,2-Dichloroethane       ND       0.0005       mg/L         1,1-Dichloroethylene       ND       0.0005       mg/L         1,1-Dichloroethylene       ND       0.0005       mg/L         trans-1,2-Dichloroethylene       ND       0.0005       mg/L         1,2-Dichloroethylene, total       ND       0.0005       mg/L         1,2-Dichloroptylene, total       ND       0.0005       mg/L         1,2-Dichloroptylene       ND       0.0005       mg/L         1,3-Dichloroptylene       ND       0.0005       mg/L         1,3-Dichloroptylene       ND       0.0005       mg/L         1,3-Dichloroptylene       ND       0.0005       mg/L         1,3-Dichloroptylene       ND       0.0005       mg/L         Hexane       ND       0.0005       mg/L         Hetxine       ND       0.0050       mg/L         Methyl Ethyl Kotone (2-Butanone)       ND       0.0050       mg/L         Methylene-Chloride       ND       0.0005	1,2-Dibromoethane	ND								
1,4-Dichlorobenzene       ND       0.0005       mg/L         1,1-Dichloroethane       ND       0.0005       mg/L         1,2-Dichloroethylene       ND       0.0005       mg/L         1,1-Dichloroethylene       ND       0.0005       mg/L         cis-1,2-Dichloroethylene       ND       0.0005       mg/L         trans-1,2-Dichloroethylene       ND       0.0005       mg/L         1,2-Dichloroethylene, total       ND       0.0005       mg/L         1,2-Dichloropropane       ND       0.0005       mg/L         cis-1,3-Dichloropropylene       ND       0.0005       mg/L         trans-1,3-Dichloropropylene       ND       0.0005       mg/L         thylbenzene       ND       0.0005       mg/L         Hexane       ND       0.0005       mg/L         Methyl Ethyl Ketone (2-Butanone)       ND       0.0005       mg/L         Methyl Isobutyl Ketone       ND       0.0005       mg/L         1,1,2-Tetrachoroethane										
1.1-Dichloroethane         ND         0.0005         mg/L           1.2-Dichloroethylene         ND         0.0005         mg/L           cis-1.2-Dichloroethylene         ND         0.0005         mg/L           trans-1.2-Dichloroethylene         ND         0.0005         mg/L           trans-1.2-Dichloroethylene, total         ND         0.0005         mg/L           1.2-Dichloroethylene, total         ND         0.0005         mg/L           1.2-Dichloroptylene, total         ND         0.0005         mg/L           trans-1.3-Dichloroptylene         ND         0.0005         mg/L           trans-1.3-Dichloroptylene         ND         0.0005         mg/L           trans-1.3-Dichloroptylene         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0005         mg/L           Methyl Isobutyl Ketone         ND         0.0005         mg/L           1,1,2.7:Etrachloroethane         ND         0.0005         mg/L           1,1,2.2:Tetrac										
1,2-Dichloroethylene         ND         0.0005         mg/L           1,1-Dichloroethylene         ND         0.0005         mg/L           cis-1,2-Dichloroethylene         ND         0.0005         mg/L           trans-1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloroptropane         ND         0.0005         mg/L           cis-1,3-Dichloroptropylene         ND         0.0005         mg/L           trans-1,3-Dichloroptropylene         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0005         mg/L           Methyl Isobutyl Ketone         ND         0.0005         mg/L										
1,1-Dichloroethylene         ND         0.0005         mg/L           cis-1,2-Dichloroethylene         ND         0.0005         mg/L           trans-1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloroptypene, total         ND         0.0005         mg/L           trans-1,3-Dichloroptypene, total         ND         0.0005         mg/L           trans-1,3-Dichloroptypene, total         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0005         mg/L           Methyl lethyl ketone (2-Butanone)         ND         0.0005         mg/L           Methyl lethyl ketone         ND         0.0005         mg/L           Methyl lene Chloride         ND         0.0005         mg/L           Styrene         ND         0.0005         mg/L           1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,1,2-T										
cis-1,2-Dichloroethylene         ND         0.0005         mg/L           trans-1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloropropane         ND         0.0005         mg/L           cis-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene, total         ND         0.0005         mg/L           trans-1,3-Dichloropropylene, total         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Hexane         ND         0.0050         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl terb-utyl ether         ND         0.0050         mg/L           Methyl terb-utyl ether         ND         0.0005         mg/L           Styrene         ND         0.0005         mg/L           1,1,2.7=tertachloroethane         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,1,2										
trans-1,2-Dichloroethylene         ND         0.0005         mg/L           1,2-Dichloroethylene, total         ND         0.0005         mg/L           1,2-Dichloropropane         ND         0.0005         mg/L           cis-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropene, total         ND         0.0005         mg/L           Hexane         ND         0.0005         mg/L           Hexane         ND         0.0050         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isrbutyl Ketone         ND         0.0050         mg/L           Methyl Isrbutylene Chloride         ND         0.0005         mg/L           1,1,2.7 Tetrachloroethane         ND         0.0005         mg/L           1,1,2.2										
1,2-Dichloropropane       ND       0.0005       mg/L         1,2-Dichloropropane       ND       0.0005       mg/L         cis-1,3-Dichloropropylene       ND       0.0005       mg/L         1,3-Dichloropropylene       ND       0.0005       mg/L         1,3-Dichloropropylene, total       ND       0.0005       mg/L         Ethylbenzene       ND       0.0005       mg/L         Hexane       ND       0.0005       mg/L         Methyl Ethyl Ketone (2-Butanone)       ND       0.0020       mg/L         Methyl Isobutyl Ketone       ND       0.0050       mg/L         Methylene Chloride       ND       0.0050       mg/L         Styrene       ND       0.0005       mg/L         1,1,2.2-Tetrachloroethane       ND       0.0005       mg/L         1,1,1.2-Tichloroethane       ND       0.0005       mg/L         1,1,1.7-Trichloroethane       ND <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>										
1,2-Dichloropropane       ND       0.0005       mg/L         cis-1,3-Dichloropropylene       ND       0.0005       mg/L         trans-1,3-Dichloropropylene       ND       0.0005       mg/L         1,3-Dichloropropene, total       ND       0.0005       mg/L         Ethylbenzene       ND       0.0005       mg/L         Hexane       ND       0.0005       mg/L         Methyl Isbutyl Ketone (2-Butanone)       ND       0.0050       mg/L         Methyl Isobutyl Ketone       ND       0.0050       mg/L         Methyl Isobutyl Ketone       ND       0.0050       mg/L         Methyl Isobutyl Ketone       ND       0.0005       mg/L         Methyl Isobutyl Ketone       ND       0.0050       mg/L         Methyl Isobutyl Ketone       ND       0.0005       mg/L         Methyl Isobutyl Ketone       ND       0.0005       mg/L         Styrene       ND       0.0005       mg/L         1,1,1,2-Tetrachloroethane       ND       0.0005       mg/L         1,1,1,2-Tetrachloroethane       ND       0.0005       mg/L         1,1,1,2-Trichloroethane       ND       0.0005       mg/L         1,1,1-Trichloroethane       ND										
cis-1,3-Dichloropropylene         ND         0.0005         mg/L           trans-1,3-Dichloropropylene         ND         0.0005         mg/L           1,3-Dichloropropene, total         ND         0.0005         mg/L           Ethylbenzene         ND         0.0005         mg/L           Hexane         ND         0.0010         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl lenc Chloride         ND         0.0050         mg/L           Methyl lenc Chloride         ND         0.0050         mg/L           Styrene         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,1,-Trichloroethane         ND         0.0005         mg/L           1,1,1-Trichloroethane         <										
trans-1,3-Dichloropropylene         ND         0.0005         mg/L           1,3-Dichloropropene, total         ND         0.0005         mg/L           Ethylbenzene         ND         0.0005         mg/L           Hexane         ND         0.0010         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl tert-butyl ether         ND         0.0005         mg/L           Styrene         ND         0.0005         mg/L           1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND										
1,3-Dichloropropene, total       ND       0.0005       mg/L         Ethylbenzene       ND       0.0005       mg/L         Hexane       ND       0.0010       mg/L         Methyl Ethyl Ketone (2-Butanone)       ND       0.0050       mg/L         Methyl Isobutyl Ketone       ND       0.0005       mg/L         Styrene       ND       0.0005       mg/L         1,1,2-Tetrachloroethane       ND       0.0005       mg/L         1,1,2,2-Tetrachloroethylene       ND       0.0005       mg/L         1,1,1,-Trichloroethane       ND       0.0005       mg/L         1,1,1,-Trichloroethane       ND       0.0005       mg/L         1,1,2,-Trichloroethane       ND	, , , , , , , , , , , , , , , , , , , ,									
Ethylbenzene         ND         0.0005         mg/L           Hexane         ND         0.0010         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl tert-butyl ether         ND         0.0020         mg/L           Methylene Chloride         ND         0.0055         mg/L           Styrene         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005										
Hexane         ND         0.0010         mg/L           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0020         mg/L           Methyl tert-butyl ether         ND         0.0050         mg/L           Methyl erchoutyl ether         ND         0.0050         mg/L           Styrene         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0										
Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl Isobutyl Ketone         ND         0.0020         mg/L           Methyl tert-butyl ether         ND         0.0050         mg/L           Methylene Chloride         ND         0.0050         mg/L           Styrene         ND         0.0005         mg/L           1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2.2-Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Tichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichloroethane         ND         0										
Methyl Isobutyl Ketone         ND         0.0050         mg/L           Methyl tert-butyl ether         ND         0.0020         mg/L           Methyl tert-butyl ether         ND         0.0050         mg/L           Methylene Chloride         ND         0.0005         mg/L           Styrene         ND         0.0005         mg/L           1,1,2.7etrachloroethane         ND         0.0005         mg/L           1,1,2.7etrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0010         mg/L </td <td></td>										
Methyl tert-butyl ether         ND         0.0020         mg/L           Methylene Chloride         ND         0.0050         mg/L           Styrene         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichloroethane         ND         0.0010         mg/L     <										
Methylene Chloride         ND         0.0050         mg/L           Styrene         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Tetrachloroethane         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0010         mg/L           Trichlorofluoromethane         ND         0.0002         mg/L										
Styrene         ND         0.0005         mg/L           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L           Tetrachloroethylene         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichlorofluoromethane         ND         0.0010         mg/L           Vinyl chloride         ND         0.0002         mg/L	, ,									
1,1,1,2-Tetrachloroethane       ND       0.0005       mg/L         1,1,2,2-Tetrachloroethane       ND       0.0005       mg/L         Tetrachloroethylene       ND       0.0005       mg/L         Toluene       ND       0.0005       mg/L         1,1,1-Trichloroethane       ND       0.0005       mg/L         1,1,2-Trichloroethane       ND       0.0005       mg/L         1,1,2-Trichloroethane       ND       0.0005       mg/L         Trichloroethane       ND       0.0005       mg/L         Trichloroethane       ND       0.0005       mg/L         Trichloroethane       ND       0.0005       mg/L         Trichloroethylene       ND       0.0005       mg/L         Trichlorofluoromethane       ND       0.0010       mg/L         Vinyl chloride       ND       0.0002       mg/L										
1,1,2,2-Tetrachloroethane       ND       0.0005       mg/L         Tetrachloroethylene       ND       0.0005       mg/L         Toluene       ND       0.0005       mg/L         1,1,1-Trichloroethane       ND       0.0005       mg/L         1,1,2-Trichloroethane       ND       0.0005       mg/L         1,1,2-Trichloroethane       ND       0.0005       mg/L         Trichloroethylene       ND       0.0005       mg/L         Trichlorofluoromethane       ND       0.0010       mg/L         Vinyl chloride       ND       0.0002       mg/L	,									
Tetrachloroethylene         ND         0.0005         mg/L           Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Vinyl chloride         ND         0.0010         mg/L										
Toluene         ND         0.0005         mg/L           1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichlorofluoromethane         ND         0.0010         mg/L           Vinyl chloride         ND         0.0002         mg/L										
1,1,1-Trichloroethane         ND         0.0005         mg/L           1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichloroethane         ND         0.0005         mg/L           Vinyl chloride         ND         0.0010         mg/L										
1,1,2-Trichloroethane         ND         0.0005         mg/L           Trichloroethylene         ND         0.0005         mg/L           Trichlorofluoromethane         ND         0.0010         mg/L           Vinyl chloride         ND         0.0002         mg/L										
Trichloroethylene         ND         0.0005         mg/L           Trichlorofluoromethane         ND         0.0010         mg/L           Vinyl chloride         ND         0.0002         mg/L										
Trichlorofluoromethane     ND     0.0010     mg/L       Vinyl chloride     ND     0.0002     mg/L										
Vinyl chloride ND 0.0002 mg/L	5									
	m,p-Xylenes	ND	0.0002	mg/L						
o-Xylene ND 0.0005 mg/L										
Xylenes, total ND 0.0005 mg/L										
Surrogate: 4-Bromofluorobenzene 0.0888 mg/L 111 50-140			0.0000			111	50-140			
Surrogate: Dibromofluoromethane 0.0841 mg/L 105 50-140	-			-						
с	5			-						
Surrogate: Toluene-d8 0.0829 mg/L 104 50-140	Surroyale. Toluene-uo	0.0629		ng/L		104	50-140			



Client PO:

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

# Method Quality Control: Duplicate

Analyte	Deserver	Reporting		Source		%REC		RPD	NLA
Analyte	Result	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
Anions									
Chloride	192	1	mg/L	191			0.6	20	
Fluoride	0.36	0.1	mg/L	0.35			1.2	20	
Nitrate as N	ND	0.1	mg/L	ND			NC	20	
Nitrite as N	ND	0.05	mg/L	ND			NC	20	
Sulphate	57.5	1	mg/L	56.8			1.2	20	
General Inorganics									
Alkalinity, total	273	5	mg/L	274			0.1	14	
Ammonia as N	0.098	0.01	mg/L	0.098			0.6	17.7	
Dissolved Organic Carbon	1.4	0.5	mg/L	1.6			15.7	37	
Colour	ND	2	TCU	ND			NC	12	
Conductivity	1250	5	uS/cm	1290			2.7	5	
pH	7.8	0.1	pH Units	7.8			0.4	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Total Dissolved Solids	82.0	10	mg/L	82.0			0.0	10	
Sulphide	ND	0.02	mg/L	ND			NC	10	
Tannin & Lignin	ND	0.1	mg/L	ND			NC	11	
Total Kjeldahl Nitrogen	0.17	0.1	mg/L	0.16			2.5	16	
Turbidity	ND	0.1	NTU	8.1			NC	10	
Metals									
Aluminum	0.022	0.001	mg/L	0.021			1.8	20	
Antimony	ND	0.0005	mg/L	ND			NC	20	
Arsenic	ND	0.001	mg/L	ND			NC	20	
Barium	0.019	0.001	mg/L	0.020			4.4	20	
Beryllium	ND	0.0005	mg/L	ND			NC	20	
Boron	0.02	0.01	mg/L	0.02			2.1	20	
Cadmium	ND	0.0001	mg/L	ND			NC	20	
Calcium	32.9	0.1	mg/L	32.5			1.3	20	
Chromium	ND	0.001	mg/L	ND			NC	20	
Cobalt	ND	0.0005	mg/L	ND			NC	20	
Copper	0.735	0.0005	mg/L	0.738			0.4	20	
Iron	0.2	0.1	mg/L	0.2			4.0	20	
Lead	0.0053	0.0001	mg/L	0.0053			0.1	20	
Magnesium	8.7	0.2	mg/L	8.6			1.1	20	
Manganese	0.005	0.005	mg/L	0.005			1.9	20	
Molybdenum	0.0010	0.0005	mg/L	0.0011			9.1	20	
Nickel	0.003	0.001	mg/L	0.003			4.7	20	
Potassium	1.8	0.1	mg/L	1.7			2.8	20	
Selenium	ND	0.001	mg/L	ND			NC	20	
Silver	ND	0.0001	mg/L	ND			NC	20	
Sodium Thallium	16.3 ND	0.2 0.001	mg/L	16.0 ND			2.3 NC	20 20	
Tin	ND ND	0.001	mg/L mg/l	ND ND			NC	20 20	
Titanium	ND	0.005	mg/L mg/L	ND			NC	20 50	
Tungsten	ND	0.005	mg/L	ND			NC	50 20	
Uranium	0.0002	0.0001	mg/L	0.0002			2.1	20	
Vanadium	ND	0.0005	mg/L	0.0002 ND			NC	20	
Zinc	0.196	0.0005	mg/L	0.194			0.7	20	
Microbiological Parameters	0.100	0.000	g, L	0.101			0.1	_0	
E. coli	ND	1	CFU/100mL	ND			NC	30	
Total Coliforms	ND	1	CFU/100mL	ND			NC	30	
Fecal Coliforms	ND	1	CFU/100mL	ND			NC	30	
Heterotrophic Plate Count	10	10	CFU/mL	80			NC	30	
Volatiles	10	.0	G. G/IIIE	50					
Acetone		0.0050	mc/l				NC	30	
	ND ND	0.0050 0.0005	mg/L	ND ND			NC	30 20	
Benzene Bromodichloromethane	ND 0.0023	0.0005	mg/L mg/L	ND 0.0023			NC 1.3	30 30	
Bremodicillorometriane	0.0023	0.0000	iiig/L	0.0020			1.5	50	

OTTAWA . MISSISSAUGA . HAMILTON . KINGSTON . LONDON . NIAGARA . WINDSOR . RICHMOND HILL



### Order #: 2322119

Report Date: 02-Jun-2023

Order Date: 29-May-2023 Project Description: 210341

# Method Quality Control: Duplicate

Bromoform         ND         0.0005         mg/L         ND         NC         30           Bromomethane         ND         0.0005         mg/L         ND         ND         30           Carbon Tetrachloride         ND         0.0005         mg/L         ND         NC         30           Chlorochanzene         ND         0.0005         mg/L         ND         NC         30           Chlorochanzene         ND         0.0005         mg/L         ND         NC         30           Chlorochanzene         ND         0.0005         mg/L         ND         NC         30           Dibromothioromethane         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroberzene         ND         0.0005         mg/L         ND         NC         30           1.3-Dichloroberzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichloroberzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichlorochrytene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichlorochrytene         ND	Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Cathon Tetrachloide         ND         0.0002         mg/L         ND         NC         30           Chlorobanzene         ND         0.0005         mg/L         ND         NC         30           Chloroethane         ND         0.0010         mg/L         ND         NC         30           Chloroethane         ND         0.0025         mg/L         ND         NC         30           Dichorodifluoromethane         ND         0.0010         mg/L         ND         NC         30           1.2-Diformoethane         ND         0.0005         mg/L         ND         NC         30           1.2-Difornoethane         ND         0.0005         mg/L         ND         NC         30           1.3-Dichoroethane         ND         0.0005         mg/L         ND         NC         30           1.4-Dichoroethane         ND         0.0005         mg/L         ND         NC         30           1.4-Dichoroethane         ND         0.0005         mg/L         ND         NC         30           1.4-Dichoroethylene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichoroethylene         ND	Bromoform	ND	0.0005	mg/L	ND			NC	30	
ChlorobenzeneND0.0005mg/LNDNC30Chloroform0.02270.0005mg/L0.0220.2930DibromochloromethaneND0.0005mg/LNDNC30DichlorofuluromethaneND0.0002mg/LNDNC301.2-DichlorobenzeneND0.0005mg/LNDNC301.2-DichlorobenzeneND0.0005mg/LNDNC301.3-DichlorobenzeneND0.0005mg/LNDNC301.4-DichlorobenzeneND0.0005mg/LNDNC301.1-DichlorobethaneND0.0005mg/LNDNC301.1-DichlorobethaneND0.0005mg/LNDNC301.2-DichloropethyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.3-DichloroptyleneND0.0005mg/LNDNC301.4-DichloroptyleneND0.0005mg/LNDNC301.4-DichloroptyleneND0.0005mg/LND	Bromomethane	ND	0.0005	mg/L	ND			NC	30	
ChlorosethaneND0.0010mg/LNDNC30Chloroform0.02270.0005mg/LND0.02202.930DichorodihoronethaneND0.0005mg/LNDNC30Jc-biromochiroomethaneND0.0002mg/LNDNC301.2-DibromochenzeneND0.0005mg/LNDNC301.2-DichorobenzeneND0.0005mg/LNDNC301.4-DichlorobenzeneND0.0005mg/LNDNC301.1-DichloroethaneND0.0005mg/LNDNC301.1-DichloroethaneND0.0005mg/LNDNC301.2-DichloroethaneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005	Carbon Tetrachloride	ND	0.0002	mg/L	ND			NC	30	
Chloroform         0.0227         0.0005         mg/L         0.0220         2.9         30           Dibromochloromethane         ND         0.0005         mg/L         ND         NC         30           1.2-Dibloromethane         ND         0.0002         mg/L         ND         NC         30           1.2-Diblorobenzene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethane         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloropropane         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloropropylene<	Chlorobenzene	ND	0.0005	mg/L	ND			NC	30	
Dibronchloromethane         ND         0.0005         mg/L         ND         ND         NC         30           Dichlorodfiluoromethane         ND         0.0010         mg/L         ND         NC         30           1,2-Dibromotethane         ND         0.0002         mg/L         ND         NC         30           1,2-Dibromotethane         ND         0.0005         mg/L         ND         NC         30           1,4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1,4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1,4-Dichlorobethane         ND         0.0005         mg/L         ND         NC         30           1,1-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30	Chloroethane	ND	0.0010	mg/L	ND			NC	30	
DichlorodifluoromethaneND0.0010mg/LNDNC301,2-DichlorobenzeneND0.0002mg/LNDNC301,3-DichlorobenzeneND0.0005mg/LNDNC301,4-DichlorobenzeneND0.0005mg/LNDNC301,4-DichlorobenzeneND0.0005mg/LNDNC301,4-DichloroethaneND0.0005mg/LNDNC301,2-DichloroethyleneND0.0005mg/LNDNC301,2-DichloroethyleneND0.0005mg/LNDNC301,2-DichloroethyleneND0.0005mg/LNDNC301,2-DichloroethyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,2-DichloroptyleneND0.0005mg/LNDNC301,12-TichloroethyleneND0.0005mg/LNDNC301,12-TichloroethyleneND0.0005mg/	Chloroform	0.0227	0.0005	mg/L				2.9		
1.2-DibromoethaneND0.0002mg/LNDNC301.2-DichlorobenzeneND0.0005mg/LNDNC301.4-DichlorobenzeneND0.0005mg/LNDNC301.4-DichlorobenzeneND0.0005mg/LNDNC301.1-DichloroethaneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC301.2-DichloropropyleneND0.0005mg/LNDNC301.2-DichloropropyleneND0.0005mg/LNDNC301.2-DichloropropyleneND0.0005mg/LNDNC301.2-DichloropropyleneND0.0005mg/LNDNC30EthylbenzeneND0.0005mg/LNDNC30HexaneND0.0005mg/LNDNC30Hetyl Ethyl Ketone (2-Butanone)ND0.0005mg/LNDNC30Methyl Ethyl tetr-butyl etherND0.0005mg/LNDNC301.1.2-TetrachoroethaneND0.0005 <td< td=""><td>Dibromochloromethane</td><td>ND</td><td>0.0005</td><td>mg/L</td><td>ND</td><td></td><td></td><td>NC</td><td>30</td><td></td></td<>	Dibromochloromethane	ND	0.0005	mg/L	ND			NC	30	
1.2-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.3-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.4-Dichloroethane         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.1-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloropropane         ND         0.0005         mg/L         ND         NC         30           trans-1.2-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1.3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           th	Dichlorodifluoromethane	ND	0.0010	mg/L	ND					
1,3-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1,4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1,1-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1,1-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           cis-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           cis-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           cis-1,3-Dichloropropane         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloroproplene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30	1,2-Dibromoethane	ND	0.0002	mg/L	ND			NC	30	
1.4-Dichlorobenzene         ND         0.0005         mg/L         ND         NC         30           1.1-Dichloroethane         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.1-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloropropale         ND         0.0005         mg/L         ND         NC         30           1.2-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0005         mg/L         ND         NC         30           Methyl terbutyl ketone (2-Butanone)	1,2-Dichlorobenzene	ND		mg/L	ND					
1.1-DichloroethaneND0.0005mg/LNDNC301.2-DichloroethyleneND0.0005mg/LNDNC30cis-1.2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30cis-1,3-DichloropropyleneND0.0005mg/LNDNC30trans-1,3-DichloropropyleneND0.0005mg/LNDNC30trans-1,3-DichloropropyleneND0.0005mg/LNDNC30HexareND0.0005mg/LNDNC30HexareND0.0050mg/LNDNC30Methyl Isobutyl Ketone (2-Butanone)ND0.0050mg/LNDNC30Methylene ChlorideND0.0050mg/LNDNC30StyreneND0.0050mg/LNDNC301,1,2-TetrachloroethaneND0.0005mg/LNDNC301,1,2-TetrachloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneN	1,3-Dichlorobenzene	ND			ND					
1,1-DichloroethaneND0.0005mg/LNDNC301,2-DichloroethyleneND0.0005mg/LNDNC30cis-1,2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30trans-1,2-DichloroethyleneND0.0005mg/LNDNC30cis-1,3-DichloropropyleneND0.0005mg/LNDNC30trans-1,3-DichloropropyleneND0.0005mg/LNDNC30HexaneND0.0005mg/LNDNC30HexaneND0.0005mg/LNDNC30Methyl Ethyl Ketone (2-Butanone)ND0.0050mg/LNDNC30Methyl Isobutyl KetoneND0.0050mg/LNDNC30Methylene ChlorideND0.0050mg/LNDNC30StyreneND0.0005mg/LNDNC301,1,2-TetrachloroethaneND0.0005mg/LNDNC301,1,2-TetrachloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneND0.0005mg/LNDNC301,1,1-TrichloroethaneND <t< td=""><td>1,4-Dichlorobenzene</td><td>ND</td><td>0.0005</td><td>mg/L</td><td>ND</td><td></td><td></td><td>NC</td><td></td><td></td></t<>	1,4-Dichlorobenzene	ND	0.0005	mg/L	ND			NC		
1,1-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           cis-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           trans-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloroptopane         ND         0.0005         mg/L         ND         NC         30           cis-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0005         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30	1,1-Dichloroethane	ND		mg/L						
cis-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           trans-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           cis-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0005         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl tert-butyl ether         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Te										
trans-1,2-Dichloroethylene         ND         0.0005         mg/L         ND         NC         30           1,2-Dichloropropane         ND         0.0005         mg/L         ND         NC         30           cis-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isbutyl Ketone         (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isbutyl Ketone         (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND		ND	0.0005	mg/L	ND					
1,2-Dichloropropane         ND         0.0005         mg/L         ND         NC         30           cis-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0010         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isrbutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isrbutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isrbutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isrbutyl Ketone         ND         0.0005         mg/L         ND         NC         30           J1,1,2-Tetrachoroethane         ND         0.0005         mg/L         ND         NC         30 <t< td=""><td>cis-1,2-Dichloroethylene</td><td></td><td></td><td>mg/L</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	cis-1,2-Dichloroethylene			mg/L						
cis-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           trans-1,3-Dichloropropylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0010         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl tert-butyl ether         ND         0.0020         mg/L         ND         NC         30           Styrene         ND         0.0055         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1	trans-1,2-Dichloroethylene									
trans-1,3-Dichloropopylene         ND         0.0005         mg/L         ND         NC         30           Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0010         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Toiluene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane		ND								
Ethylbenzene         ND         0.0005         mg/L         ND         NC         30           Hexane         ND         0.0010         mg/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isbutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl terbutyl ether         ND         0.0020         mg/L         ND         NC         30           Methyl ene Chloride         ND         0.0020         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Z-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Z-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1-Z-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1-Trichloroe				mg/L						
Hexane         ND         0.0010         m/L         ND         NC         30           Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0020         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0020         mg/L         ND         NC         30           Methylene Chloride         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,2.2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1.2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1.2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2.2-Tietrachloroethane         ND         0.0005         mg/L         ND         NC         30           1	trans-1,3-Dichloropropylene	ND		mg/L						
Methyl Ethyl Ketone (2-Butanone)         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl Isobutyl Ketone         ND         0.0020         mg/L         ND         NC         30           Methylene Chloride         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0055         mg/L         ND         NC         30           1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Z-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Z-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           <	Ethylbenzene		0.0005	mg/L	ND			NC	30	
Methyl Isobutyl Ketone         ND         0.0050         mg/L         ND         NC         30           Methyl tert-butyl ether         ND         0.0020         mg/L         ND         NC         30           Methyl tert-butyl ether         ND         0.0050         mg/L         ND         NC         30           Methylene Chloride         ND         0.0055         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Tetrachloroethylene         ND         0.0005         mg/L         ND         NC         30           1,1,1-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           T		ND		mg/L						
Methyl tert-butyl ether         ND         0.0020         mg/L         ND         NC         30           Methylene Chloride         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Tetrachloroethylene         ND         0.0005         mg/L         ND         NC         30           Toluene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene<	Methyl Ethyl Ketone (2-Butanone)			mg/L						
Methylene Chloride         ND         0.0050         mg/L         ND         NC         30           Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Tetrachloroethylene         ND         0.0005         mg/L         ND         NC         30           Toluene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Vinyl chloride		ND	0.0050	mg/L	ND					
Styrene         ND         0.0005         mg/L         ND         NC         30           1,1,1,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2,2-Tetrachloroethane         ND         0.0005         mg/L         ND         NC         30           Tetrachloroethylene         ND         0.0005         mg/L         ND         NC         30           Toluene         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Vinyl chloride										
1,1,2-Tetrachloroethane       ND       0.0005       mg/L       ND       NC       30         1,1,2,2-Tetrachloroethane       ND       0.0005       mg/L       ND       NC       30         Tetrachloroethylene       ND       0.0005       mg/L       ND       NC       30         Tetrachloroethylene       ND       0.0005       mg/L       ND       NC       30         Toluene       ND       0.0005       mg/L       ND       NC       30         1,1,2-Trichloroethane       ND       0.0005       mg/L       ND       NC       30         Trichloroethylene       ND       0.0005       mg/L       ND       NC       30         Trichlorofluoromethane       ND       0.0002       mg/L       ND       NC       30         Vinyl chloride       ND       0.0002       mg/L       ND       NC       30         <										
1,1,2,2-Tetrachloroethane       ND       0.0005       mg/L       ND       NC       30         Tetrachloroethylene       ND       0.0005       mg/L       ND       NC       30         Toluene       ND       0.0005       mg/L       ND       NC       30         1,1,1-Trichloroethane       ND       0.0005       mg/L       ND       NC       30         1,1,2-Trichloroethane       ND       0.0005       mg/L       ND       NC       30         1,1,2-Trichloroethane       ND       0.0005       mg/L       ND       NC       30         Trichloroethylene       ND       0.0005       mg/L       ND       NC       30         Trichloroethylene       ND       0.0005       mg/L       ND       NC       30         Trichlorofluoromethane       ND       0.0010       mg/L       ND       NC       30         Vinyl chloride       ND       0.0002       mg/L       ND       NC       30         m,p-Xylenes       ND       0.0005       mg/L       ND       NC       30         o-Xylene       ND       0.0005       mg/L       ND       NC       30										
Tetrachloroethylene         ND         0.0005         mg/L         ND         NC         30           Toluene         ND         0.0005         mg/L         ND         NC         30           1,1,1-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	1,1,1,2-Tetrachloroethane									
Toluene         ND         0.0005         mg/L         ND         NC         30           1,1,1-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	1,1,2,2-Tetrachloroethane									
1,1,1-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	Tetrachloroethylene									
1,1,2-Trichloroethane         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Trichloroethylene         ND         0.0010         mg/L         ND         NC         30           Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	Toluene	ND		mg/L	ND					
Trichloroethylene         ND         0.0005         mg/L         ND         NC         30           Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	1,1,1-Trichloroethane	ND	0.0005	•	ND			NC	30	
Trichlorofluoromethane         ND         0.0010         mg/L         ND         NC         30           Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	1,1,2-Trichloroethane			•						
Vinyl chloride         ND         0.0002         mg/L         ND         NC         30           m,p-Xylenes         ND         0.0005         mg/L         ND         NC         30           o-Xylene         ND         0.0005         mg/L         ND         NC         30	Trichloroethylene	ND		•	ND					
m,p <sup>-</sup> Xylenes ND 0.0005 mg/L ND NC 30 o-Xylene ND 0.0005 mg/L ND NC 30	Trichlorofluoromethane									
o-Xylene ND 0.0005 mg/L ND NC 30	Vinyl chloride									
,										
Surrogate: A Bromofluorobenzene 0.0010 mall 114 50.140	o-Xylene	ND	0.0005	mg/L	ND			NC	30	
Sunogate. +-bromonuorobenzene 0.0910 IIIg/L II4 30-140	Surrogate: 4-Bromofluorobenzene	0.0910		mg/L		114	50-140			
Surrogate: Dibromofluoromethane 0.0835 mg/L 104 50-140	Surrogate: Dibromofluoromethane	0.0835		mg/L		104	50-140			
Surrogate: Toluene-d8 0.0820 mg/L 102 50-140	Surrogate: Toluene-d8	0.0820		mg/L		102	50-140			



# Order #: 2322119

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

# Method Quality Control: Spike

	. <u> </u>	Limit	Units	Result	%REC	Limit	RPD	Limit	Notes
Anions									
Chloride	199	1	mg/L	191	86.5	70-124			
Fluoride	1.38	0.1	mg/L	0.35	103	70-130			
Nitrate as N	0.98	0.1	mg/L	ND	98.0	77-126			
Nitrite as N	0.855	0.05	mg/L	ND	85.5	82-115			
Sulphate	65.0	1	mg/L	56.8	82.6	70-130			
General Inorganics									
Ammonia as N	1.15	0.01	mg/L	0.098	106	81-124			
Dissolved Organic Carbon	11.1	0.5	mg/L	1.8	93.6	60-133			
Phenolics	0.028	0.001	mg/L	ND	110	67-133			
Total Dissolved Solids	96.0	10	mg/L	ND	96.0	75-125			
Sulphide	0.50	0.02	mg/L	ND	100	79-115			
Tannin & Lignin	1.1	0.02	mg/L	ND	110	71-113			
Total Kjeldahl Nitrogen	1.12	0.1	mg/L	0.16	95.7	81-126			
Metals	1.12	0.1	mg/∟	0.10	33.1	01-120			
	o ( 7	0.004				00.400			
Aluminum	61.7	0.001	mg/L	21.1	81.2	80-120			
Arsenic	49.3	0.001	mg/L	0.645	97.3	80-120			
Barium	64.9	0.001	mg/L	20.1	89.6	80-120			
Beryllium	53.0	0.0005	mg/L	0.0312	106	80-120			
Boron	68.3	0.01	mg/L	21.0	94.5	80-120			
Cadmium	45.8	0.0001	mg/L	0.0364	91.5	80-120			
Calcium	13400	0.1	mg/L	5160	82.6	80-120			
Chromium	50.1	0.001	mg/L	0.114	100	80-120			
Cobalt	49.6	0.0005	mg/L	0.0377	99.1	80-120			
Copper	51.8	0.0005	mg/L	0.944	102	80-120			
Iron	2410	0.1	mg/L	225	87.5	80-120			
Lead	41.6	0.0001	mg/L	ND	83.2	80-120			
Magnesium	32600	0.2	mg/L	24200	84.7	80-120			
Manganese	54.8	0.005	mg/L	5.22	99.1	80-120			
Molybdenum	46.8	0.0005	mg/L	1.05	91.4	80-120			
Nickel	50.8	0.001	mg/L	2.99	95.6	80-120			
Potassium	11100	0.1	mg/L	1720	94.2	80-120			
Selenium	47.6	0.001	mg/L	0.242	94.7	80-120			
Silver	46.7	0.0001	mg/L	0.0578	93.2	80-120			
Sodium	9500	0.2	mg/L	ND	95.0	80-120			
Thallium	42.1	0.001	mg/L	0.025	84.1	80-120			
Tin	46.4	0.01	mg/L	0.22	92.4	80-120			
Titanium	51.4	0.005	mg/L	ND	103	70-130			
Tungsten	41.7	0.01	mg/L	0.26	82.8	80-120			
Vanadium	49.8	0.0005	mg/L	0.192	99.2	80-120			
Zinc	47.7	0.005	mg/L	2.70	90.1	80-120			
Volatiles									
Acetone	0.121	0.0050	mg/L	ND	121	50-140			
Benzene	0.0396	0.0005	mg/L	ND	98.9	60-130			
Bromodichloromethane	0.0384	0.0005	mg/L	ND	96.0	60-130			
Bromoform	0.0355	0.0005	mg/L	ND	88.7	60-130			
Bromomethane	0.0431	0.0005	mg/L	ND	108	50-140			
Carbon Tetrachloride	0.0332	0.0002	mg/L	ND	83.0	60-130			
Chlorobenzene	0.0436	0.0005	mg/L	ND	109	60-130			



### Order #: 2322119

Report Date: 02-Jun-2023

Order Date: 29-May-2023

Project Description: 210341

# Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chloroethane	0.0463	0.0010	mg/L	ND	116	50-140			
Chloroform	0.0414	0.0005	mg/L	ND	104	60-130			
Dibromochloromethane	0.0326	0.0005	mg/L	ND	81.4	60-130			
Dichlorodifluoromethane	0.0477	0.0010	mg/L	ND	119	50-140			
1,2-Dibromoethane	0.0444	0.0002	mg/L	ND	111	60-130			
1,2-Dichlorobenzene	0.0433	0.0005	mg/L	ND	108	60-130			
1,3-Dichlorobenzene	0.0432	0.0005	mg/L	ND	108	60-130			
1,4-Dichlorobenzene	0.0401	0.0005	mg/L	ND	100	60-130			
1,1-Dichloroethane	0.0443	0.0005	mg/L	ND	111	60-130			
1,2-Dichloroethane	0.0402	0.0005	mg/L	ND	101	60-130			
1,1-Dichloroethylene	0.0490	0.0005	mg/L	ND	123	60-130			
cis-1,2-Dichloroethylene	0.0413	0.0005	mg/L	ND	103	60-130			
trans-1,2-Dichloroethylene	0.0416	0.0005	mg/L	ND	104	60-130			
1,2-Dichloropropane	0.0385	0.0005	mg/L	ND	96.3	60-130			
cis-1,3-Dichloropropylene	0.0364	0.0005	mg/L	ND	90.9	60-130			
trans-1,3-Dichloropropylene	0.0402	0.0005	mg/L	ND	100	60-130			
Ethylbenzene	0.0420	0.0005	mg/L	ND	105	60-130			
Hexane	0.0435	0.0010	mg/L	ND	109	60-130			
Methyl Ethyl Ketone (2-Butanone)	0.112	0.0050	mg/L	ND	112	50-140			
Methyl Isobutyl Ketone	0.118	0.0050	mg/L	ND	118	50-140			
Methyl tert-butyl ether	0.136	0.0020	mg/L	ND	136	50-140			
Methylene Chloride	0.0435	0.0050	mg/L	ND	109	60-130			
Styrene	0.0412	0.0005	mg/L	ND	103	60-130			
1,1,1,2-Tetrachloroethane	0.0403	0.0005	mg/L	ND	101	60-130			
1,1,2,2-Tetrachloroethane	0.0499	0.0005	mg/L	ND	125	60-130			
Tetrachloroethylene	0.0462	0.0005	mg/L	ND	115	60-130			
Toluene	0.0432	0.0005	mg/L	ND	108	60-130			
1,1,1-Trichloroethane	0.0433	0.0005	mg/L	ND	108	60-130			
1,1,2-Trichloroethane	0.0394	0.0005	mg/L	ND	98.4	60-130			
Trichloroethylene	0.0395	0.0005	mg/L	ND	98.7	60-130			
Trichlorofluoromethane	0.0480	0.0010	mg/L	ND	120	60-130			
Vinyl chloride	0.0322	0.0002	mg/L	ND	80.4	50-140			
m,p-Xylenes	0.0845	0.0005	mg/L	ND	106	60-130			
o-Xylene	0.0420	0.0005	mg/L	ND	105	60-130			
Surrogate: 4-Bromofluorobenzene	0.0878		mg/L		110	50-140			
Surrogate: Dibromofluoromethane	0.0917		mg/L		115	50-140			
Surrogate: Toluene-d8	0.0791		mg/L		98.9	50-140			

OTTAWA . MISSISSAUGA . HAMILTON . KINGSTON . LONDON . NIAGARA . WINDSOR . RICHMOND HILL



Sample Qualifiers :

Sample Data Revisions

None

#### Work Order Revisions / Comments:

None

#### **Other Report Notes:**

n/a: not applicable ND: Not Detected MDL: Method Detection Limit Source Result: Data used as source for matrix and duplicate samples %REC: Percent recovery. RPD: Relative percent difference. NC: Not Calculated Order #: 2322119

Report Date: 02-Jun-2023 Order Date: 29-May-2023 Project Description: 210341

GP	ARA(			Parace	ID	: 2	322	211	9		Blvd. 4J8 os.com	Parace	) Orde	r Number				rinki	ng Wa	ater S	ampl	les
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ter Hours Contact:	Jessica Arthur		E-mail:	Jarthi	лS	61	cli	. 69									Pa		of	1		
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mples Submitted I ON REG 170/0 I ON REG 243/0		Private We	ell		Sou	rce T	ype:	G =	Ground	Water; S = S	urface W	ution; P = Pi ater ulation - Y =						Requ	ired /	Analy	ses	
e these samples f	en submitted to MOE/MO or human consumption?: n must be completed l	HLTC?: 🗆 Yes (		cessed.	Sample Type: R/T/D/P	Source Type: G / S	Reportable: Y / N	Resample		SAMPLE			# of Containers	ee/Combined Chlorine	Standing / Flushed: S / F (REG 243)	Total Coliform/E. Coli	HPC	Lead	THM		Metals	Subdivision Kg
	TION NAME		SAMPLE ID		Sample Ty	Source T	Reporta	Resa	,	DATE		TIME	# of Co	Free/Combi Residu	Standing. S / F (R	Total Co				20C	Trace	Subdivi
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te/Time: May	29,2023	347 pm	Temper	rature:					°C	Tempe	erature:	10.1		°C	pH Ve	nified:	V	By	1			

ATTACHMENT IV Test Pit Logs



PROJECT NO.: 210341

CLIENT: AI Roberts

DATE: July 20, 2021

EXCAVATION METHOD: BACKHOE KX121-3

TEST PIT LOG: TP21-1

 PROJECT:
 Hydrogeological Assessment & Terrain Analysis

 LOCATION:
 5969 OTTAWA STREET, RICHMOND, ONTARIO

FIELD PERSONNEL: DC

EXCAVATION CONTRACTOR: Landraulics Equipment

		4 (m)		<b>ABER</b>	(9	(%)	~	10	3	0	ppm) 50			90	w	ater Le	vel
DEPTH	SOIL DESCRIPTION	ELEV./DEPTH (m)	ГІТНОГОGY	SAMPLE NUMBER	N OR RQD (%)	RECOVERY (%)	LABORATORY ANALYSIS	200	ISC	BUT	YLEN	IE (pj	pm)	1800		tandpi	
ET M		99.478													CAP		
1.0	TOP SOIL: Sandy silty loam, dry, brown.	0.0		S1													İ
2.0	SANDY LOAM: Fine grained, dry, brown	0.30		S2													RISER
3.0 - 1.0	SILTY LOAM: Dry, brown/grey, some discolouration like oxidization between (0.9 - 2.8) m bgs. Presence of cobbles and boulders at 1.8 m bgs.	98.578 0.90		S3 (S6)													
5.0																	
FT     M       0.0     1.0       1.0     1.1       2.0     1.1       3.0     1.1       1.0     1.0       4.0     1.1       5.0     1.1       6.0     1.1       2.0     1.0       4.0     1.1       9.0     1.1       10.0     3.0				S4												<u> </u>	5' SCREEN
9.0	End of Test Pit	96.678 2.80															ł
11.0 12.0 13.0 13.0 14.0											-			_			
12.0																	
14.0 14.0																	
15.0																	
16.0																	
19.0																	
GROUNDSURI	35611     NORT       Base of concrete hydro pole in SW corner of the Site (1       FACE ELEVATION:     99.478 m       TOP C       WIDTH:     1.65 m	100.00 <b>DF RIS</b>	m). ER EL	.EVAT			7 m	bgs		ow Gr plicat				cted			

#### TEST PIT LOG: TP21-2

**PROJECT:** Hydrogeological Assessment & Terrain Analysis

LOCATION: 5969 OTTAWA STREET, RICHMOND, ONTARIO

FIELD PERSONNEL: DC

EXCAVATION CONTRACTOR: Landraulics Equipment

				1				Combustible Soil Vapours
DEPTH	SOIL DESCRIPTION	ELEV./DEPTH (m)	гітногобу	SAMPLE NUMBER	N OR RQD (%)	RECOVERY (%)	LABORATORY ANALYSIS	(ppm)     (ppm)     (ppm)     (standpipe)     (standpipe)
FT M		99.929						
	TOP SOIL: Sandy loam, dry, fine grained, dark brown with light brown traces.	0.0 99.629		S1				
2.0	SILTY LOAM: Dry, brown, trace of oxidization.	0.30		S2 (S5)				
3.0 	<b>LOAM:</b> Dry become moist at 2.1 m bgs , brown. Presence of cobbles and boulders at 1.8 m bgs.	0.90		S3				
6.0 2.0 7.0 2.0 8.0				S4				e. screen
EASTING: 04	End of Test Pit	97.129 2.80		4444				
SITE DATUM:	Base of concrete hydro pole in SW corner of the Site ( FACE ELEVATION: 99.929 m TOP C	100.00 <b>DF RIS</b>	m). ER El	LEVAT		100.3	10 m	bgs: Below Ground Surface (SX): Duplicate Sample Collected



PROJECT NO.: 210341 CLIENT: Al Roberts

DATE: July 20, 2021

EXCAVATION METHOD: BACKHOE KX121-3



PROJECT NO.: 210341

CLIENT: AI Roberts

DATE: July 20, 2021

EXCAVATION METHOD: BACKHOE KX121-3

TEST PIT LOG: TP21-3

PROJECT: Hydrogeological Assessment & Terrain Analysis

LOCATION: 5969 OTTAWA STREET, RICHMOND, ONTARIO

FIELD PERSONNEL: DC

EXCAVATION CONTRACTOR: Landraulics Equipment

								1						1
DEPTH	SOIL DESCRIPTION	ELEV./DEPTH (m)	ПТНОГОGY	SAMPLE NUMBER	N OR RQD (%)	RECOVERY (%)	LABORATORY ANALYSIS	10 10 200	ISC		ppm) <sup>50</sup> YLEN	E (ppm	90 L	Water Level (Standpipe)
$\begin{array}{c} 0.0 \\ \hline	TOP SOIL:         Sandy loam, dry, fine grained, dark brown with light brown traces.         SILTY LOAM:         Dry, brown with some grey.         LOAM:         Dry, brown, presence of cobbles and boulders at 1.8 m bgs.         End of Test Pit	99.676 0.0 99.376 0.30 98.776 0.90		S1 S2 (S5) S3 S4										
GROUNDSUR	Base of concrete hydro pole in SW corner of the Site (         FACE ELEVATION:       99.929 m         TOP (	100.00 <b>DF RIS</b>	m). Ser El			100.3	10 m	bg		ow G		Surface pple Co		

ATTACHMENT V

Laboratory Certificates of Analysis – Grain Size



LRL Associates Ltd.

### PARTICLE SIZE ANALYSIS

ASTM D 422 / LS-702

	Client:	Al Roberts	File No.:	210341
	Project:	Hydrogeological Assessment	Report No.:	1
NIERIE	Location:	5969 Ottawa Street, Ottawa, ON	Date:	July 20, 2021



Unified Soil Classification System

	<b>&gt; 75</b> mm	% GF	RAVEL		% SAN	D	% FINES	
	- 15 mm	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
$\triangle$	0.0	2.2	4.1	2.0	4.2	11.1	63.5	12.9
	0.0	0.0	6.7	4.6	9.9	22.2	46.4	10.2
0	0.0	6.6	6.8	3.0	5.6	15.5	45.5	17.0

	Location	Sample	Depth, m	D <sub>60</sub>	D <sub>50</sub>	D <sub>30</sub>	D <sub>15</sub>	D <sub>10</sub>	C <sub>c</sub>	Cu
$\bigtriangleup$	TP 1	3	0.9 - 1.8	0.0279	0.0201	0.0094	0.0030			
•	TP 2	4	1.8 - 2.7	0.0964	0.0571	0.0171	0.0053	0.0018	1.7	53.6
0	TP 3	3	1.8 - 2.7	0.0646	0.0299	0.0073				

# ATTACHMENT VI Water Well Records

Ontario	Ministry of the Environment, Conservation and Parks	Tag#:A34231	Print Below)	Regulation 903 Ontario Wa	Vell Record
Measurements re	ecorded in: 🗌 Metric 🕅 Imperial	7072011		Page	e of
Well Owner's First Name	Information Last Name/Organization		E-mail Address	1	
First Name		& Roberta Anne R			Well Constructed by Well Owner
61 Strad	Street Number/Name)	Municipality Richmond	Province	Postal Code Telephone KOA 220	No. (inc. area code)
Well Location Address of Well Loc 5969 Of	ocation (Street Number/Name)	Township Goulbourn		PT Uni 10 PL	4D- 26
County/District/Mu		City/Town/Village		Province Ontario	Postal Code
UTM Coordinates	Zone, Easting , Northing	Richmond Municipal Plan and Sub		Other	<u> </u>
NAD 8 3	18 435611 5004467	and the second	1 10	3 X Well #2	×
Overburden and General Colour	Bedrock Materials/Abandonment Sealing Most Common Material	g Record (see instructions on t Other Materials	APPROXIMATION ACCOUNTS APPROXIMATION AND A APPROXIMATION AND A APPROXIMATION AND A APPROXIMATION TION APPROXIMATIONATIONATIONATIONATIONATIONATIONATION	ral Description	Depth (mt)
	Clay	G Gravel			From 10
Grey	Limestone	-			-22 165/
Grey	Limestone What	h han Cro. Sandst	one wir		165' 224'
Grey	Limestone W 15	hite & Good Sandst	one Mix		224 230
	(*)	and total			
	Annular Space			Results of Well Yield Testing	
Depth Set at (m	Type of Sealant Used	Volume Placed	After test of well yield, w	vater was: Draw Down	Recovery
From To 190 18		(m <sup>3</sup> ) 12.48	Clear and sand fre	Not tested (min) (m/ft)	(min) (m/ft)
180 0	Bentonite slurry	25.2	If pumping discontinued	t, give reason: Static 8/3	4 77.4 (I
7		and the second		1 17.5	i 1 61.4
			Pump intake set at (north	2 23.8	2 50.7
			Pumping rate (Vmint GP	3 29.3	3 41.4
Method of Cable Tool		Commercial Not used	20	4 34	4 33.2
Rotary (Convention	onal) Jetting Domestic IN	Aunicipal Dewatering	Duration of pumping 1 hrs + 0 mi	in 5 <b>38</b>	5 26.3
Boring	Digging	Test Hole Monitoring Cooling & Air Conditioning	Final water level end of	pumping (m/ft) 10 52.3	10 9.8
Air percussion	Industrial	- /	77.4 "	(GPM) 15 <b>61</b>	15 8.3
	Construction Record - Casing	Status of Well		20 66.2	
Diameter (Galva	Hole OR Material Wall Depth (m/ft anized, Fibreglass, rete, Plastic, Steel) (cm/ft	V Contract Wall	Recommended pump d	epth (h/ft) 25 69.6	
(cm/P) Concr		Test Hole	Recommended pump ra	20	30 8.3
OF		Dewatering Well	(Vmin(GPM))	75 0	
64 00	en Hole 190 <sup>°</sup> 2	230 Observation and/or Monitoring Hole	Well production (/min/GF	PM) 700	
		Alteration (Construction)	Disinfected?		4 of 2
		Abandoned, Insufficient Supply	No No	60 77.4	60 8.3
Outside	apprentice of the second s	Abandoned, Poor	Please provide a map	Map of Well Location below following instructions on the	ne baet
Diamatan	Slot No	To Abandoned, other, specify		_	(AN)
-		Optionly	A A	2	1
		Other, specify	4	DUAN	0
	Water Details	Hole Diameter	1	1 Death	18
Water found at Dep	th Kind of Water: Fresh Intested	Depth (m/ft) Diameter rom To (cm/in)	190 -		100
	as Other, specify	0' 190' 974	VI V		- <
(m/ft) 🗌 G	as Other, specify	190 230 60	45	967	B
Water found at Dep (m/ft)	th Kind of Water: Fresh Untested		A dt	ALA	E
(	Well Contractor and Well Technician Info	ormation	our	TRET	R
Business Name of V	AL MULTINGER CAN AND AND AND AND AND AND AND AND AND A	Well Contractor's Licence No. 7681	6 1000 10	SY FIC Y	EL.
	Stopf Resign/Name)	Murreichimond	Cally to	·)	-
			1/2 40:10	160m 216	211AFT
Province	Postal Code KDA 220 Business E-mail Address air-rock@s	ympatico.ca	Weil owner's Date Pac		- 140' ry Use Only
Bus. Telephone No. (i	nc. area code) Name of Well Technician (Last N		information	23 MOVE DELIVERED	394568
6138382170	Hanna, Jeremy		Yes Yes		004000
13632	nce No. Signature of Technician and/or Contractor	or Date 2023tte 0 5 31 Y Y Y Y M M D D	And and	30508 Received	
506E (2020/06) © Qu	een's Printer for Ontario, 2020	Ministry's Copy	T WAS		101-10-10-10-10-10-10-10-10-10-10-10-10-

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Section of the second	1		Pump visites set at the	2 24.3 2 29.9
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Code Tool Relate Convertional	Country Country B	ConversatUnit Development Municipal Development Text Hote Monitoring	Duration of pumping	040 4 01
Rutary (Revenue)		Coultry & Ar Constituting	Final water must and if pumping	10 44.1 to 9.1 15 48.5 15 9.1
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61/4" Steel	.100 +21	27 C Recharge Viel	15	30 56.3 30 9.1 40 57.2 40 9.1
64 Open	Hole 27'	100 Character and/o Municipalitie	Viel production (marked	50 57.5 50 9.1
		Construction)	000	60 57.7 00 9.4
Co	natraction Record - Screen	Abandured, Poer	Please provide a map below	tolowing instructions on the tar
Diameter (Plantic, Gel	And	To Attentioned, other specify		Dakm -
- 9	X	Cithei, specify	A)	and y
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	Coner specify	0' 27 93	0	29 12
Water bund at Depth	Tices and the second	27' 160 6	# #0	WA BET
Water found at Depth	Const specify		10 10	REET 1
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			-3/4+H-1	5GPM 2010
Barrood Prankdow	support of the local division of the local d		Providence of the local division of the loca	Ministry Use
	KDA 220 Business E-mail Actin air-rock	and the second se		21 06 10 ALER No 2355

10 15 UTM / 18 Z 14131519175 E 3164 (15 R 5101014131815 M Ontario Water Reso Elev. 14 R 10131015 WATER WEL Basin 2,5 1 1 PAGCETA T Con. 6 RF. Lot 4	L REC	ORD	ONTARIO W RESOURCES CON	N 21965-76 37 2
Con	dress.	(day	month	year)
Casing and Sereen Record		Pumpir	ng Test	
Casing and Screen Record         Inside diameter of casing         Total length of casing         Type of screen         Length of screen         Depth to top of screen         Diameter of finished hole         Well Log         Overburden and Bedrock Record         Market         Image: Scient Scien Scient Scien Scient Scient Scient Scient Scient Scient	Pumping level Duration of test p Water clear or cl Recommended p	ute pumping oudy at end o pumping rate	2.0 5 3.5 1 Ha f test	G.P.M. G.P.M. G.P.M. w ground surface r Record Kind of water
For what purpose(s) is the water to be used? HALLSE Is well on upland in valley, or on hillside? Drilling or Boring Firm Address Licence Number Name of Driller or Borer Address Date (Signature of Licensed Drilling or Boring Contractor) Form 7 15M-60-4138 OWRC COPY	road and	m below show lot line. In	of Well v distances of we dicate north by	

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	G/4F A"				9093
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Pipe and Casing Record	· · · · · · · · · · · · · · · · · · ·	]	Pumping Test	· <u>····································</u>	
Casing diameter(s)			ly 20/48		
Length(s) of casing(s) $\dots 25$	-	- •	2.50 G.		
Length of screen			he		
Type of screen			· · · · · · · · · · · · · · · · · · ·		
Type of pump	Drawdow		well <b>2</b>		• • • • • • • • •
Capacity of pump			e? <b>9</b>	wel.	
	Water Reco	rd			
Kind (fresh or mineral)	head	<u></u>	Depth(s)	Kind of	No. of Feet
Quality (hard, soft, contains iron, sulphur et	)	L	Water Horizon(s)	Water	Water Rises
			60'		40'
Appearance (clear, cloudy, coloured)	clean		73	good	53'
For what purpose(s) is the water to be used	hous			(	
How far is well from possible source of conta What is source of contamination?		. <i>Q.O</i>		<u> </u>	
Enclose a copy of any mineral analysis that					
Well Log			Loca	ation of Well	
Drift and Bedrock Record	From		In diagram belo		
gravel	0	ft <b>2.5</b> .ft.	from road and 10		
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Situation: Is well on upland, in valley, or	on hillside?	flat	*	· · · · · · · · · · · · · · · · · · ·	
Drilling Firm	1 ponto				
Address	Marylle	at	· · · · · · · · · · · · · · · · · · ·		
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County or Territorial District ounty Conlemn Contractor Lot	Territip, V Village, Town Address.	illage, <b>For</b> 1 or City).	Richmon	CHMON of CPm	D ~. 4. 70.
Pipe and Casing Record			Pumping Test	,	
Casing diameter (s) 6	Date	•••••			
Length(s) of casing(s) 24	Statia Isral	<u><u></u><u></u><u></u><u></u><u></u></u>			
Type of screen.         Length of screen.         Distance from top of screen to ground level.	Pumping lev	7el	,	•••••	
Length of screen	Pumping ra	te	5000 g	phi	
Distance from top of screen to ground level	Duration of	test	3 ms	••••••	
Is well a gravel-wall type? Clay. 2.6.	Distance fro	m cylinder	or bowls to groun	d level	••••
W	ater Record			· .	
Kind (fresh or mineral)	• • • • • • • • • • • • • • • • • • • •		to Water	Kind of Water	No. of Fee Water Rise
Appearance (clear cloudy coloured)			ß	P.P	11/10/
For what purpose(s) is the water to be used?.	ushed.	labo	l ground	pest	170-
How far is well from possible source of contamination?. What is the source of contamination? Accelety. It Enclose a copy of any mineral analysis that has been mad Well Log	ank	• • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·		
Overburden and Bedrock Record	From	То	Loc	ation of Well	L
26 lest mer burden	0 ft.	2.6ft.	In diagram	below show dista	ances of
114/Bedrack Linceling	26	140		oad and lot lin	
			dicate north	by arrow.	
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Situation: Is well on upland, in valley, or on hillside? Drilling Firm A. A. Angeland, and A. A. Address.	flat	• • • • • • • • • • •	· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • •
Name of Driller A.a.ml		Address .	Jame.		•••••
Date		Licence	Number	.3. <i>9. j</i> g	
FORM 5		Y	Signature o	f Licensee	• • • • • • • • • •
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Department of			ario		
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	Town	or City)		••••••••	
	s <b></b>	<i>f</i>	Cich me	ond	••••
Date Completed.	of Well (exclud	ling pump).	• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • •	• • • • • • • • • •
Pipe and Casing Record		]	Pumping Test		· · · · · · · · · · · · · · · · · · ·
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Casing diameter(s)	. Date		o 17.	• • • • • • • • • • • • • • • •	• • • • • • • • •
Type of screen.	. Pumping lev			••••••	• • • • • • • • • • • •
Length of screen	. Pumping rat	e	operh	<b>2.</b> .:	•••••
Distance from top of screen to ground level		•	hour		
Is well a gravel-wall type?	Distance fro	m cylinder o	or bowls to ground	level	••••
v	Vater Record				
Kind (fresh or mineral)	rech	· · · · · · · · · · · · ·	. Depth(s)	Kind of	No. of Feet
Quality (hard, soft, contains iron, sulphur, etc.).	mkn	own.	to Water Horizon(s)	Water	Water Rises
Appearance (clear, cloudy, coloured)	Kear	/	. 75	Jacosh	65
For what purpose(s) is the water to be used?	usen	o.c.p	. 148	fresh	
How far is well from possible source of contamination?	5-5-	Z¥,	·	·	
What is the source of contamination?	sring			·	
Enclose a copy of any mineral analysis that has been ma	ade of water	• • • • • • • • • • • • •			*
Well Log			T aga	tion of Well	~
Overburden and Bedrock Record	From	To			
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finestone.	21	15-2	dicate north		
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Situation: Is well on upland, in valley, or on hillside?.	upla	ind	ا جزید مند مند ا	· · · · · · · · · · · · · · · · · · ·	
Drilling Firm			Thurter	. Kally	Unthing
Address. A out a March			•••••	•••••	/
Date Man. I. 5. 3.		Address	umber.	20	• • • • • • • • • •
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Form 5			Signature of	Licensee	

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	DEPARTMENT OF MINES	
Department of	Mines, Province of Ontario	
Water V	Vell Record	
	p, Village, Town of City Richmond	
	rown or City	• • • • •
Date Completed	f Well (excluding pump)	• • • • •
Pipe and Casing Record	Pumping Test	
Casing diameter (s)	Dateaug.Bl	
Length(s) of casing(s)	Static level	
Type of screen	Pumping level.	
Distance from top of screen to ground level.	Pumping rate. To perha.	••••
Is well a gravel-wall type?		••••
v	ater Record	
Kind (fresh or mineral)	Depth(s) Kind of No	, of Feet
Quality (hard, soft, contains iron, sulphur, etc.)		ter Rises
Appearance (clear, cloudy, coloured)	lean TO 6	0
For what purpose(s) is the water to be used?	ouschold. 115	2
		·
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 ma		
Well Log		
Overburden and Bedrock Record	From To Location of Well	
- Fill	0 ftft. In diagram below show distances	
- mu	well from road and lot line. I dicate north by arrow.	n-
Climeatone		
	- Astation - 12	
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Drilling Firm	EE Jakute Valley Valley	ny
Address	۲۲.	
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Pipe and Casing Record		·	Pumping Test		· · · · ·
Casing diameter (s)	Date	st.	15/52		••••••
Length(s) of casing(s)	Static level.		2		
Type of screen	Pumping lev	el	5.0		
Length of screen		-	oprhr.		
Distance from top of screen to ground level Is well a gravel-wall type?	1		er or bowls to groun		
	I · · · · · · · · · · · · · · · · · · ·				
/	ater Record				
Kind (fresh or mineral)			Depth(s) to Water	Kind of Water	No. of Feet Water Rises
Quality (hard, soft, contains iron, sulphur, etc.).	hr. 9		Horizon(s)		
Appearance (clear, cloudy, coloured)		• • • • • • • • •	<u>140</u>	fresh	1/
For what purpose(s) is the water to be used		• • • • • <i>•</i> • • • •		1	
How far is well from possible source of contamination?	. 2.00 fit	<b>.</b>			
What is the source of contamination?		•••••			
Enclose a copy of any mineral analysis that has been ma	de of water	•••••	· · · · · · [	→ <u></u>	
Well Log Overburden and Bedrock Record	From	To	Loc	ation of Wel	1
e la cha la la	0 ft.	<b>2</b> 5ft.	- In diagram	below show dis	tances of
The Line to	85	151	well from a	oad and lot li	
jame un trans			dicate nort	h by arrow.	
		-	M. Brownie-	S 0	
		-		->0 	7.0
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Situation: Is well on upland, in valley, or on hillside?	Lep.	به روبه			••••
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314/4F. RECEIVE UIM 482 41315101215 F FEB - 3 1954 15 No **Ø**123 5 R 500317110 N GEOLOGICAL BRANCH DEPARTMENT of MINES Elev. 4R 013018 The Well Drillers Act Basin 25 Department of Mines, Province of Ontario Water Well Record Richmond. Arlaton , Village, <del>Town or</del> own or City) ...... **). 3**. (year) . Cost of Well (excluding pump)... (month) (day) Pipe and Casing Record **Pumping Test** Casing diameter (s) . . . . . inc Date... Length(s) of casing(s). 3. 9. Static level.. Y. ee. Type of screen....  $N . \rho$ . Pumping level ./ 2 Length of screen.... Pumping rate. . / . . Distance from top of screen to ground level... min ules Is well a gravel-wall type?.... Distance from cylinder or bowls to ground level..... Water Record res Kind (fresh or mineral)..... Depth(s) to Water Kind of Water No. of Feet Water Rises Quality (hard, soft, contains iron, sulphur, etc.).... Horizon(s) Appearance (clear, cloudy, coloured)..... d N 45 37 es For what purpose(s) is the water to be used? nivate ome How far is well from possible source of contamination?... 5...O. What is the source of contamination? Enclose a copy of any mineral analysis that has been made of water... Well Log Location of Well Overburden and Bedrock Record From То 0 ft. Zoft. In diagram below show distances of well from road and lot line. In-62 ny 30 11 dicate north by arrow. Drilling Firm. Address. Name of Driller. . Address Date... Licence Number FORM 5 Signature of Licensee

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	26	5-1'			
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Well Log				Water Record	
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Statements of fact a Date. <u><u>Dug</u><u>17</u><u>3</u> Sign Form 5</u>	1		O' The second	Fon 3 Ex 24 Kell Mr 4.	

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County or Torritorial District.       Strept and Number (If in Village, Town or City.)       In it is the second of the s	Basin 25	ING M			54	RESOURCE	RIO WATER
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Owner     Later formation       Date completed     Litt g       Date completed     Litt g       Date completed     Litt g       Casing diameter (a)     J       Type and Casing Record     Pamping Test       Casing diameter (a)     J       Type of acreen     Nat/L       Length (a)     2.8       Static level     J       Duration of test     J       Well Log     Value	County or Territorial District	Calleton		nship, Village, '	Fown or	City.	thouse
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Length of screen     Duration of test       Well Log     Water Record       Overburden and Bedrook Record     Prom Rt     To the which the water rises     No. of test (break) water rises     Record (break) (break) water rises       Overburden and Bedrook Record     Prom Rt     To the water rises     No. of test (break) water rises     Record (break) water rises       For what putpose(a) is the water to be used?     Juit     Juit     Juit       For what putpose(a) is the water to be used?     Location of Weil       Is water clear or cloudy?     Juit     Location of Weil       Trilling firm     Juit     Calculation (break)     Location of Weil       Is water clear or cloudy?     Juit     Location of Weil       Indiagram below show distances of well from road and lot line. Indicate north by arrow N       Juit     Mathematication (break)       Address     Juit     Location of Weil       I certify that the foregoing statements of fact are true.     Multication (break)       Bigesture of Licenses     Bigesture of Licenses       S     Bigesture of Licenses	Casing diameter(s)	****		Static level	11'		
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Length of screen     Duration of test       Well Log     Water Record       Overburden and Bedrook Record     Prom R.     To R.     Depth (a) statulation found     No. of test water rises     Record       Depth (a) statulation     Prom R.     To R.     Depth (a) statulation     No. of test water rises     Record       Dury of the statulation     Prom R.     Prom R.     Prom R.     No. of test water rises     Record       Dury of the statulation     Prom R.     Prom R.     Prom R.     Prom R.     No. of test water rises     Record       For what putpose(s) is the water to be used?     In diagram below show distances of well from road and lot line. Indicate north by arrow A     In diagram below show distances of well from road and lot line. Indicate north by arrow A       Drilling from Applic A	Type of screen	NOME		Pumping leve	1 <i>L.a</i>	2	
Overburden and Bedrock Record     From R.     To t.     Depth (a) water rises     No. of feet water rises     Kind (b) water rises       University     27'     31'     31'     10'       University     27'     31'     11'     100'       University     27'     31'     11'     100'       University     27'     31'     11'     100'       University     27'     31'     10'     10'       For what putpose(a) is the water to be used?     Location of Well     In diagram below show distances of well from road and lot line. Indicate north by arrow A'       Water acceptor     10'     10'     10'       Value     10'     10'     10'       Value     10'     10'     10'       Value     10'     10'     10'       Value     10'     10'     10'       Valu	Length of screen	****	•••••	Duration of t	est	-	*****
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Address <u>139</u> <u>Haway</u> wood be <u>General Constant</u> Name of Driller <u>Market in a general in a gen</u>				road and l	ot line.	Indicate north h	by arrow.
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icence Number	Relai	va -	117117780			Joch A	about
icence Number	ame of Driller	eaglin		6	:	Dichmon	d Provert
icence Number	ddress						NO T
I certify that the foregoing statements of fact are true. Date <u>Aleg 17</u> <u>Mice glue</u> Signature of Licensee 5						, 7	
statements of fact are true. The statements of fact are true. The state of the st				· v			•
sate <u>Aleg 17 M cee glue</u> Signature of Licensee 5 5				LEN Y			
5 Signature of Licensee Def 3 Lot 24 Mccelline 5.							
5 Signature of Licensee Def 3 Lot 24 Mcclime 5.	ate Aug 17 mm	reagher					
	Sign	ature of Licensee					
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Basin 25 County or Territorial District Con	Water-	We Town	f in Village, Town or (	City Jour	TARIO WATER RCES COMMISSION (COMMISSION) (CO
Pipe and Casin				Pumping Test	
Casing diameter (s)	NONE		Pumping level	60°	
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)
Play		28			
	28'	8:0'	3:0-	<u><u><u></u><u><u></u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u></u></u>	Jush.
For what purpose(s) is the water t	illside?	···	In diagram below s road and lot line. N	tion of Well how distances of w Indicate north b Aoch M Joch M Lichmond G	by arrow.
I certify that the for statements of fact an Date Dug 26 Dr Signe	e true.		Julie	400° 17 7 3 4 1 3 11 77-6	

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UIR 1:8   2   4   3   4   9   4   3   4   9   4   1   1   1   1   1   1   1   1   1	The W	on ater-well I	TARIO Drillers Act, 1954 t of Mines	15 RI	GROUND WALFO BR N.C. N.V. 2 (1957 ONTARIO WATER SOURCES COMMISSION
	Water Street and F Street and F (month) If Record	-We Tow Number (i	nship, Village, Town of f in Village, Town or Address	rd	Charry ; Lours
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)
Flay	1	28:			
<u> </u>	28'	3:2 '		<u> </u>	Jush
		<u> </u>			
For what purpose (s) is the water Is water clear or cloudy?	hillside ?	lley	In diagram below	scation of Well show distances of a. Indicate north	by arrow.
Address	pregoing tree true.		UER W	Jock 1 Putmons Can 3 Lot & Y Well no 11	
			 _	1	<b>1</b> .

				GROU	ND WATER BRAVES	
UN11:812 41314191	3 5 F.	<b>F</b>	315/44	~~ 150	NO BRAVER	
5R 50040	310 N					
Elev. 4 R 0308	The Y		Drillers Act, 1954	RESOURCE	WATER	
Basin 25			nt of Mines		COMMISSION	
	Wate	r-We	ell Reco	rd 1	CHE DOT	
Country on Manuity, 1.1 Division	Det				n II.	
County or Territorial District	Street or 3		nship, Village, Town	or City	1 bour	
Con	and and and	Number (1	f in Village, Town or	City)	mon d	
Date completed	(month)				••••••••••••••••••••••••••••••••••••	
Pipe and Casi		(year)	·			
			· · · · · · · · · · · · · · · · · · ·	Pumping Test		
Casing diameter(s)			Static level		~ ~	
Type of screen	NONE	••••••	Pumping rate?	LO Y.P.	<u> </u>	
Length of screen			Pumping level	A · · ·	•••••••	
		••••••	Duration of test			
Well Log	ſ			Water Record	<u></u>	
Overburden and Bedrock Record	rden and Bedrock Record From To ft. ft.		Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)	
Plan	1	18				
Limento	20.	3-11				
	- 70			40-	Juch	
					-	
	·					
For what purpose(s) is the water	to be used?	1	I	ecation of Well	k/	
Is water clear or cloudy?	<i>V.</i>			show distances of	well from	
Is well on upland, in valley, or on			road and lot line	e. Indicate north	by arrow.	
••••••••••••••••••••••••••••••••••••••	0		, <i>K</i>			
Drilling firm Manuel	laa.	·····		Ruch. 1	21 <sup>··</sup>	
Address	woodl	ie		Jock 1	1 6	
Name of Driller	lave.			Dichimond		
Address	e o for		Ó	· ·		
	•••••••••••••••••••••••••••••••••••••••		KB St			
Licence Number. / 7/					2" for pt	
I certify that the f					from	
statements of fact a			1		208	
Date 19 4.15 27 202	lagher		03		1	
Sig	ature of Licensee		Ť.	\$ 24		
rm 5			P	23		
-			INT.	224 27 3 21 nr12.		

$UIR = \frac{ S ^{2}}{ S ^{R}} = \frac{ 4 3 4 9 6}{ 5 ^{R}}$ $= \frac{ 5 ^{R}}{ 5 ^{C} ^{C} ^{A} ^{A} ^{C}}$ Elev. $= \frac{ 4 ^{R}}{ 4 ^{R}} = \frac{ 3 0 8 }{ 5 ^{C} ^{B} ^{A}}$		No.	TARIO	, 1954	GROUND WA NES 2 ONTARIO RESOURCES O	N <sup>0</sup> <sub>1957</sub> 4162
	Water	)epartmen - W E	t of Mines	ecor	d Ric	
County or Territorial District	Street and N	Number (i ZAA 5:7.	f in Village Address	ge, Town or e, Town or C	City <u>for</u> ity)	word
Pipe and Casing		(year)	,		Pumping Test	
Casing diameter(s)	NONE		Pumping Pumping	level	09.P.9	******
Well Log	r				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)
- Clay		28				· · · · · · · · · · · · · · · · · · ·
Jume it tom		5-2	/	5-21	40'	Jush
For what purpose(s) is the water the set of	C. ac.			gram below	ation of Well show distances of Indicate north	
Drilling firm	2 10 10 10 10 10 10 10 10 10 10 10 10 10			- A Charles	Joch Pr Dichmon	d Ki
Licence Number. I certify that the for statements of fact as Date. Sign Sign Date. Sign	oregoing are true.		NV.	And M.	124 -7600 3 11 Mr 13	

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	316/4	f. "A"			GROUN	D WATER BRANCH
UIM 1182 41315101			<u>نم</u>	¢		
					15 NU	N 2 6 1997 63
R 5101014111	<u>8 5</u> N	e j		7	ON'	TARIO WALLER
Elev. 4 R 0308		ON	TARIO		RESOUR	CES JUMMISSION
Basin 25	The W	ater-well I	Drillers	s Act, 1954		
		Departmen	t of 1	Vines		
	Water	·- <b>\</b> \7	11	Recor	3	
County or Territorial District	Parleton	Tow	mahin	Village Town or (		hlow
ConLot. 24 Owner		Number (i	f in V	illage. Town or C	ity /	a ba d
Owner Cella Hang	Blden	Íð.	Add	ress	Lun ond	K.t
Date completed	Q	57				
(đay)	(month)	(year)	)			
Pipe and Casi	ng Record				Pumping Test	
Casing diameter (s)			Stat	ic level		
Length(s) $2f$			Pum	ping rate	In al. D.	2/
Type of screen	NONE	••••••••••••••••••••		ping level		
Length of screen				ation of test		
						•••••••
Well Lo	g			•	Water Record	········
	_			Depth (s)		1
Overburden and Bedrock Record	From ft.	To ft.	at which water (s)		No. of feet water rises	Kind of water (fresh, salty,
Clay	111	20	,	found		or sulphur)
		-00				
p						
Jume stone	28	54	<u> </u>	58'	40'	Jush.
		·				<u> </u>
		·				
		·····				
For what purpose(s) is the water	to be used?	1		2		17
home			_		tion of Well	,
Is water clear or cloudy?				n diagram below s		
Is well on upland, in valley, or on	hillside?	ller.	1	oad and lot line.	Indicate north	by arrow.
				,		
Drilling firm In Marcolan Address 99 Dacoda	and the second s				1 5	
Address	wood	like			Joch Di	
l'élacos		••••••		X	1- mil	P'
Name of Driller	1 de galan			S for	et uses on a	
Address	·····		N/L			
			ΛV	/ 1	1 1	
Licence Number			UV/	n n		
I certify that the				, Å		
statements of fact	are true.			Cr V		
Date The Tal	un alle			Ja Sa		7- ,
Si	snature of Licensee	••••••		Pot	24 7000	frons-St.
				Pon	3	V
Form 5				for Con Will	71-14	
				mar		

**5** - Call (1997)

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M	316/47.	A" Start St	<b>₽</b> .₩		(UF) M
M 1 8 2 4 3 5 1 4	5 <sup>F</sup>	K		15	Nº <u>9169</u>
5 R 500380				Finite Division	VATER BRANK
Elev. 4 R 0308	-	• •	ARIO	1	
			rillers Act, 1954	MAY	2) 1958
Basin 215		Department		ONT	ARIO WATER
T	Nater	∶-We	ll Recor	d RESOUR	ARIO WATER CES COMMISSION
				1	HMOND
County or Territorial District	$C_{1}/C_{1} \in C_{1}$		n Village, Town or N Village, Town or C	City	
			Address	1 <b>ty)</b>	
				** * * * * * * * * * * * * * * * * * * *	•••••••••••••••••••••••••••••••••
(day)	(month)	(year)			·····
Pipe and Casing				Pumping Test	
Casing diameter (s)	4 "		Static level	FOP	<sup>*</sup> O <sup>*</sup>
Length(s)	* * * = = = * = *		Pumping rate	30 582	
			Pumping level		
Length of screen	· · · · · · · · · · · · · · · · · · ·		Duration of test		••••••
Well Log				Water Record	
	From	То	Depth(s)		Kind of water
Overburden and Bedrock Record	ft.	10 ft.	at which water (s) found	No. of feet water rises	(fresh, salty, or sulphur)
CLAY BOUIDERS	<u> </u>	25			
HAGD DO.	.25	30			
SREE 2 MARSON AND	· · · · · · · · · · · · · · · · · · ·				
	30	47	35.45	and the	P. Byst
		······			
For what purpose(s) is the water to	be used?	1	Loc	ation of Well	ak
Is water clear or cloudy?	······ · 2. 2		In diagram below s		well from
Is well on upland, in valley, or on h			road and lot line.	Indicate north	by arrow. 🎢
·····	••••				۲( )
Drilling firm			5		1
Address	28 - 5 2 2 	••••••	×		Ĩ
Name of Driller	•••••••••••••••••••••••••••••		( SE.0.	780'	ran' +
Address				30	
			OT:	ANS STORCYYR	29 p
Licence Number			k I		7
I certify that the for statements of fact ar				,/	4
		2.2	<b>()</b>	4	
Date	ature of Licensee	Creation			
Signa Signa	OF LAUCHISCO	4.º	$\boldsymbol{\lambda}_{i}$		
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	<u> </u>	G/4F. H	7.4		under
UIM 1 8 2 413141915	15	THE S		GROUND WA	No 49179
5 R 5004112				1	
Elev. $4^{ R } 0_{ 3 C 8 }$		ON		0072	8 1958
				ONTADIA	154 Street
Basin 215			rillers Act, 1954 t of Mines	RESOURCES C	OMMISSION
· · · · · · · · · · · · · · · · · · ·					
	Nater	-We	ell Reco	ord	
	amlatan		$\bigcirc$	RICHA	
County or Territorial District	arleton	Tow	nship, Village, Town	n or City	ad Ont
ConLot25 OwnerCoady Constructi	Street and N on	umber (i	f in Village, Town	or City)Richmon Ellendale Cresc	ant.
Date completed Sept. 17,	1958		Address		
(day)	(month)	(year)			
Pipe and Casing	Record		·· <del>···································</del>	Pumping Test	
Casing diameter (s)			Static level	T4 ft.	
Length(s)			Static level	300 gph	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Type of screen				2I ft.	
Length of screen			Duration of test	I hr	
	·····			·	
Well Log	,			Water Record	
	The second		Depth (s)		Kind of water
Overburden and Bedrock Record	from ft.	To ft.	at which water (s) found	No. of feet water rises	(fresh, salty, or sulphur)
			Toung		
Clay	0	16			
limestone	16	<b>2</b> 71	71	57	fresh
	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·	
					-
For what sumsaa(a) is the material			······································		
For what purpose(s) is the water t house	O De used?			Location of Well	
Is water clear or cloudy?Clea:				elow show distances o	
Is well on upland, in valley, or on 1			road and lot	line. Indicate north	by arrow.
	•••••••		· · ·		<u> </u>
Drilling firmF.A. McLean.&	Son		5 J		E
Address		••••••			
W Kayanad					
Name of Driller					
Address					
Licence Number					
I certify that the f	oregoing				
statements of fact a	. – –				
(0)	mer.				
Date Sept 30	nature of Licensee		n de la constante de la consta	ST	
				· · · · · · · · · · · · · · · · · · ·	
Form 5			× 20 *		
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CSS.88

Basin 25 WATI	ER WE	LL F	ission Act, 1957 RECORI	) Ric	G I C 1959 BO WATER RAMCH G I C 1959 BO WATER S CUMMISSION H 75150
County or District. CA.L. E. T. A.F.					59
		ess	(day	month 9	5-9. year
Casing and Screen Record				ping Test	A
Inside diameter of casing Total length of casing Type of screen Length of screen Depth to top of screen Diameter of finished hole	26 feet nord nord nord	Test-pur Pumping Duration Water c Recomm	vel nping rate g level n of test pumping lear or cloudy at e nended pumping	end of test	21 G.P.M. 10 feet 12 H. Clean 2. G.P.M.
		with	pumping level of		
Well Log	From	То	Depth(s) at which	ter Record No. of feet	Kind of water (fresh, salty,
Overburden and Bedrock Record	ft.	ft. \$5	water(s) found	water rises	sulphur)
Sorry line Kock		<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	<u> </u>		
For what purpose(s) is the water to be used? HAUSE Is well on upland, in valley, or on hillside? Updand Drilling Firm Diparcel Constant Address Licence Number 257 Name of Driller Address Date 20/4/57 (Signature of Licensed Drilling Contracto		ł	n diagram below oad and lot line	. Indicate north	

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1/1	316/4f. 1	т. А			
UIM X BZ 41315151315 F		Y DE Y		r	<del>No 92</del> 35
5 R 50041100 N				GROUND WAT	NO 9235 ER BRANCH
Elev. 4 R 0 3 0 0		10 501		SEP 7	1950
Basin 25	rio Water R	esources Com	mission Act, 19	51	
WAT	ER W	VELL.	RECOR		DETENISSION
A A F				P.	1 ,
County or District Caleleur			o, Village, Town o	r City	hmond
Con Lot -		e cor	npleted S	mon	year)
		ress	Richn	und	·····
Casing and Screen Record	Î		Pu	mping Test	
Inside diameter of casing 4		Static l	evel 5-7		
Total length of casing 26'			mping rate	6	
Type of screen		Pumpir	ng level 6		G.P.M.
Length of screen		1		1 11 1	<u>k</u> .
Depth to top of screen. Diameter of finished hole.	••••••	Water	clear or cloudy at	~ /	
Diameter of finished hole		Recomr	nended pumping		-
			n pumping level o		at 30Hr.
Well Log			Wa	iter Record	/
	From	То	Depth(s)		Kind of water
Overburden and Bedrock Record	ft.	ft.	at which water(s) found	No. of feet water rises	(fresh, salty, sulphur)
clay	0	13			
- to to to	/2	20			
Wroken lemestine	13	20			
limestone	20	59	55	50	Kesh
	······				
					-
					<b>7</b>
For what purpose(s) is the water to be used?			Locat	ion of Well	n/
nonse	A	Ir	n diagram below	show distances of	f well from
Is well on upland, in valley, or on hillside?	eplana		ad and lot line.		
	/				//
Drilling Firm					/~
Address					. /
				the	
Licence Number 483	•••••	OTTAN	IA ST		<u>/</u>
			107	5' K 100'	
Name of Driller Bent Sperk	?	t	-1		
Address				(	
Date (119 23/60			DELY	/	
(Signature of Licensed Drilling Contractor)	ko		3090 11-		
(		ma	12 BORO CREEK		
Form 5 15M-58-4149					
15M-58-4149		I			

3IG/4f. The interval of the	LL REC	Act ORD Town or City.	ONTARIO WA	p62 9257 ATER MISSION
Casing and Screen Record		D		
Inside diameter of casing 5 "	Static lovei		ng Test	
Total length of casing $28.5$				
Type of screen	Pumping level	ate	17'	G.P.M.
Length of screen	Duration of test		61	
Denth ( )	Water clear or cl	pumping	2 1	LCEAR
Diameter of finished hole 446				G.P.M.
	with pump settin	by of	ΓΛ΄ foot hole	w ground surface
Well Log	Famp bettin			<b>Record</b>
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty,
sandy clay with boulders	0	23'		sulphur)
blues linestone	23	80	76'	piesn
For what purpose(s) is the water to be used?		Location	of Well	
household	In diagran	n below show	distances of well	l from
Is well on upland, in valley, or on hillside?	road and	log line. Ind	icate north by a	arrow.
Drilling or Boring Firm Capital Hater	Viano	A TANK		_ · · · ·
& upply	Rich	YYC.		
	05	an nga minanta ina tika katan paning majakakan kataka	E	101110
Ottawa Ont		<b>(</b>	~ :	
Licence Number 482	2 100			A
Name of Driller or Borer a Kavanagh Address & Cittyvillo, Ont	*	ì		1
Address Stattsville and Date, Mar 29 1962				3
Walter Hairin aga		•	4 9	
(Signature of Licensed Drilling or Boging Contractor)			$\Gamma$	<b>x</b> .
Form 7 5M-61-3852		./		
OWRC COPY		V		
			CSS.S8	

2 31G-/4f. "A"	ORRE		OURD WATER B	RANGH /
UIM 1 8 2 4 3 4 9 5 5 F			.151	10 97271
$\frac{5}{5} R = \frac{5004175}{5} R$	Mutters Commission	Act		
Elev. 4 R 0131015 WATER WEI		1	ORIANO MAT LANCE CONTRACTOR	
Basin 25 County or District			s S	1
Con. /// Lot			June	hmond 63
	dress Ri	(day	month	year)
Casing and Screen Record				
Inside diameter of casing 5	Static level	-	ng Test	
Total length of casing <b>19</b>				G.P.M.
Type of screen				
Length of screen	Duration of test		A	
Depth to top of screen	Water clear or cl			
Diameter of finished hole 5 "	Recommended p		<u></u>	x
			0 feet belo	w ground surface
Well Log			1.	r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
play . r	0	16	40	Sresh
blue Stimestone	16	64	62	1
For what purpose(s), is the water to be used?		Location	of Well	<u></u>
NEW household	_		distances of wel	
Is well on upland, in valley, or on hillside? upland	road and	lot line. In	dicate north by	arrow.
Drilling or Boring Firm Capital Hater		neB		
& upply	<del>-</del>	A		
Address 1243 Heron Rd		to	X.	
Ottawa Licence Number 976		K	F-	
Name of Driller or Borer M Kavanagh		A.		
Address			F	
Data 14 June 63	Cockbur	n st		
Halter Lavanaah	30% (7	40>	<u></u> .	$\overline{\}$
(Signature of Licensed Drilling or Horing Contractor)	-		C	
			3	$\mathbf{X}$
Form 7 10M-62-1152			R	X

$\frac{316/44}{5} \cdot \frac{74^{11}}{18} = \frac{413151090}{51090} = \frac{15}{15} \cdot \frac{510101411310}{15} \cdot \frac{15001411310}{15} \cdot \frac{15001411310}{15} \cdot \frac{150014111310}{15} \cdot \frac{1500141111310}{15} \cdot \frac{150014111310}{15} \cdot \frac{1500141111310}{15} $			15 Nº JAN 1 ONTARIO	sion 92.91 9 1965
Basim $\frac{2}{2}$ $\frac{5}{2}$ $\frac{12}{2}$ $\frac{12}$		wn or City R L6 NOV. <sup>day</sup>	month	year)
Casing and Screen RecordInside diameter of casing5"Total length of casing23 'Type of screen23 'Length of screen5"Depth to top of screen5"Diameter of finished hole5"	Static level Test-pumping rat Pumping level Duration of test p Water clear or clo Recommended pu	e umping udy at end of	18 5 30 1hr. test clo	G.P.M.
Well Log         Overburden and Bedrock Record         clay         limestone	with pump setting From ft. 0 12		) feet belo Wate Depth(s) at which water(s) found	w ground surface r Record Kind of water
For what purpose(s) is the water to be used? New house Is well on upland, in valley, or on hillside? upland Drilling or Boring Firm APITAL WATER SUPPLY	road and	n below show	of Well v distances of we dicate north by	ell from arrow.
<ul> <li>Drilling or Boring FIRDAPTIAL MALTIN BOTTED</li> <li>Address 1245 Heron Rd., Ottawa 733-0600</li> <li>Licence Number1223</li> <li>Name of Driller or Borer M Kavanagh</li> <li>Address</li> <li>Date Not 17 1964</li> <li>Hatter Yawaya</li> <li>(Signature of Licensed Drilling or Boring Contractor)</li> </ul>	R Car	Bur	<u>ke</u> 00	1 2 2 T
Form 7 15M-60-4138			(* 1997) 	

$\frac{316/44}{5} \cdot \frac{74^{11}}{18} = \frac{413151090}{51090} = \frac{15}{15} \cdot \frac{510101411310}{15} \cdot \frac{15001411310}{15} \cdot \frac{15001411310}{15} \cdot \frac{150014111310}{15} \cdot \frac{1500141111310}{15} \cdot \frac{150014111310}{15} \cdot \frac{1500141111310}{15} $			15 Nº JAN 1 ONTARIO	sion 92.91 9 1965
Basim $\frac{2}{2}$ $\frac{5}{2}$ $\frac{12}{2}$ $\frac{12}$		wn or City R L6 NOV. <sup>day</sup>	month	year)
Casing and Screen RecordInside diameter of casing5"Total length of casing23 'Type of screen23 'Length of screen5"Depth to top of screen5"Diameter of finished hole5"	Static level Test-pumping rat Pumping level Duration of test p Water clear or clo Recommended pu	e umping udy at end of	18 5 30 1hr. test clo	G.P.M.
Well Log         Overburden and Bedrock Record         clay         limestone	with pump setting From ft. 0 12		) feet belo Wate Depth(s) at which water(s) found	w ground surface r Record Kind of water
For what purpose(s) is the water to be used? New house Is well on upland, in valley, or on hillside? upland Drilling or Boring Firm APITAL WATTER SUPPLY	road and	n below show	of Well v distances of we dicate north by	ell from arrow.
<ul> <li>Drilling or Boring FIRDAPTIAL MALTIN BOTTED</li> <li>Address 1245 Heron Rd., Ottawa 733-0600</li> <li>Licence Number1223</li> <li>Name of Driller or Borer M Kavanagh</li> <li>Address</li> <li>Date Not 17 1964</li> <li>Hatter Yawaya</li> <li>(Signature of Licensed Drilling or Boring Contractor)</li> </ul>	R Car	Bur	<u>ke</u> 00	1 2 2 T
Form 7 15M-60-4138			(* 1997) 	

UTM $1/8^2$ $4/3/5/2/10^{P}$ $5^{R}$ $5/0/0/4/0/5/5^{He}$ Ontario Water Resounces Elev. $4^{R}$ $0/3/10$ WATER WEL		2	DIV DEC 1	RESOURCES ISIONS NO ISIONS NO ISIONO	9303
Elev. $A^{ R } = 0  3 /10 $ WATER WEL Basin $ Z  = 5$ Con Lot Lot	ownshi	, Village Tov	vn or City	Richn Det month	ind 1966 year)
Casing and Screen Record         Inside diameter of casing       5         Total length of casing       3.0         Type of screen       1         Length of screen       5         Depth to top of screen       5         Diameter of finished hole       5         Well Log         Overburden and Bedrock Record         Aardpan & boulders         Length of screen         Depth to top of screen         Diameter of finished hole       5         Well Log         Overburden and Bedrock Record         Length of screen         Depth to top of screen         Diameter of finished hole         Well Log         Overburden and Bedrock Record         Length of screen         Depth to top of screen         Overburden and Bedrock Record         Length of screen         Depth to top of screen         Overburden and Bedrock Record         Length of screen         Length of screen         Depth to top of screen         Depth top sc	Test Pum Dur Wat Rec	ping level ation of test pu er clear or clou ommended pu	10 24 mping idy at end of mping rate	/ hr test clou 5 feet below	G.P.M.
For what purpose (s) is the water to be used? Menu house Is well on upland, in valley, or on hillside? upland Drilling or Boring Firm apital Hatu Address // Authora Hatu Address // Authora Hatu Licence Number 2158 Name of Driller or Borer A Swtt Address Date Oct 2158 Date Oct 2156 Date Oct 2156 Manual Contractor) Form 7 15M-60-4138 OWRC COPY		In diagram road and	Location h below show lot line. Ind	of Well distances of we dicate north by 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 35 34 34 35 34 34 34 34 34 34 34 34 34 34 34 34 34	Il from arrow.

31G/4f. 77" UIN $187$ $4134910F$ $5R 50041785The Ontario Water Resources Elev. 4R 0305 WATER WEL Basing 215 Color To Con. Lot. Do$	L RECC	DRD	VATER RESOLUTION DIVISION SE51 NG ONTARIO WA RESOURCES COM Resources com Richn	9 <b>3</b> 11
	ress (A AC			
Casing and Screen Record		Pumpin	g Test	
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Well Log	r i i i i i i i i i i i i i i i i i i i	<u> </u>		r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Clay Baulders & gravel limestone	0' 14 18	141 18 55	53	fresh
For what purpose(s) is the water to be used? New house Is well on upland in valley or on hillside? + 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	In diagrar road and	n below shov	of Well v distances of we dicate north by	ell from arrow.
Drilling or Boring Firm (apital Mater Address // Ashford Di Licence Number Name of Driller or Borer Address Date June 21 1967 Matter avanagh (Signature of Licensed Drilling or Boring Contractor) Form 7 15M-60-4138		- Yo	k St XF- U E SC 50	A 240 X 3 PO Here
OWRC COPY		(****)	5. Š	

UIM $/ 8 ^2$ $4 3 5 6 5 0 ^F$ $ 5 ^R$ $5 0 0 4 / 3 0 ^N$ Ontario Water Resounce Elev. $ 4 ^R$ $0 3 / 0 $ WATER WELL Basin $2 5 $ $100$		DRD	WATER NEW DIVENCE 150 1 No. ONTABLO W. RESCUESTON RESCUESTON	9315 937
ConDa	ate completedc	Ø 1 /	ang month of	/ 1967 year)
Casing and Screen Record         Inside diameter of casing       5         Total length of casing       2.6'         Type of screen       2.6         Length of screen       2.6         Depth to top of screen       5         Diameter of finished hole       5         Well Log         Overburden and Bedrock Record         Quevel         Market Depth	Static level Test-pumping ra Pumping level Duration of test p Water clear or clo Recommended p with pump settin From ft. 0' 15'	te / 0 / 2 / pumping pudy at end of t pumping rate	/ hr est Son feet belo	G.P.M.
For what purpose(s) is the water to be used? Mew house Is well on upland, in valley, or on hillside? Drilling or Boring Firm apital Natur Address /4 Ashford Address Licence Number 2381 Name of Driller or Borer M Kawamagh Address Date Aug 25, 1967 Matter Address Date Aug 25, 1967 Matter Address Matter Address	road and		distances of we icate north by $tauta\cdot 2$	

15:118 4 35110 CODED WATER RESOLATION 150977 4:150 04 DIVISION Ontario Water Resources Commission Act 030 NOV 1 4 1968 RECO INTARIO WATER County or District ... Township, Village, Town or Cit こう 163 /5 Con. Lot Date completed non **Casing and Screen Record Pumping Test** Inside diameter of casing. 5 Static level ..... 2 Total length of casing 10 Test-pumping rate .... G.P.M. Type of screen 5 3 Pumping level Length of screen Duration of test pumping Water clear or cloudy at end of test Depth to top of screen Diameter of finished hole Recommended pumping rate 5 G.P.M. with pump setting of 60 feet below ground surface Well Log Water Record Depth(s) at which water(s) Kind of water (fresh, salty, sulphur) From ft. To ft. Overburden and Bedrock Record found 0 へ 83 O tones 13' 85 For what purpose(s) is the water to be used? Location of Well neur Louse In diagram below show distances of well from road and lot line. Indicate noted by arrow. Is well on upland, in valley, or on hillside? and Drilling or Boring Firm Address..... 70 Licence Number nai Name of Driller or Borer. Address. Date (Signature of Licensed Drilling or Boring Contractor) Form 7 5M 60-20912 OWRC COPY CSS.S8

8 4 35 CODE 1509799 MAY 8 1968 Dntario Water Resources Commission Act RECORD ONTARIO WATER **...**n RESOURCES COMMISSION County or District nmo Township, Village, Town or City... Con..... .Lot ..... 2 ess Casing and Screen Record **Pumping Test** Inside diameter of casing..... Static level.... Total length of casing <u>م</u> ک Test-pumping rate G.P.M. Type of screen Pumping level. Length of screen Duration of test pumping...... Depth to top of screen..... Water clear or cloudy at end of test... Diameter of finished hole ..... Recommended pumping rate G.P.M. 20 with pump setting of..... feet below ground surface Well Log Water Record Depth(s) at Kind of water From ft. To ft. Overburden and Bedrock Record (fresh, salty, sulphur) which water(s) found 1 1 0 14 191 14 estone ł 70 1 For what purpose(s) is the water to be used? Location of Well Louse new In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley s on hillside? Drilling or Boring Firm Address. <del>ke</del> 8 5 Licence Number Name of Driller or Borer. Address Date / 50' (Signature of Licensed Drilling or Boring (Contractor) Form 7 15M-60-4138 OWRC COPY CSS.S3

18.435015 WATER RESOURCES 150980 0141215 CODED DIVISION MAY 8 The Ontario Water Resources Commission Ad 1968 RESOU Township, Village, Town or City. County or District 24 .Lot Date completed Con..... dress. **Pumping Test Casing and Screen Record** 6 Inside diameter of casing..... Э Static level ... Total length of casing 22 10 Test-pumping rate ..... G.P.M. Pumping level... Type of screen Duration of test pumping Length of screen Water clear or cloudy at end of test..... L Depth to top of screen 5 Recommended pumping rate... G.P.M. Diameter of finished hole with pump setting of **3 0** feet below ground surface Well Log Water Record Depth(s) at Kind of water From ft. To ft. (fresh, salty, sulphur) Overburden and Bedrock Record which water(s) found  $\mathcal{O}$ 1 '5 5 5 60 Location of Well For what purpose(s) is the water to be used? In diagram below show distances of well from new road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside Drilling or Boring Firm Address urked γ ב Licence Number..... Name of Driller or Borer. Address Date. (Signature of Licensed Drilling or Boring(Contractor) Form 7 15M-60-4138 OWRC COPY CC ....

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The Ontario Water Re	sources Commis	sion Act	E dation	
WATER WE	LL RE	CORD	ONTARI9 RESOURCE	DE HESTER NO
2 5 County or District				
Con. TIL Lot 23		- *: j		127
		(day	month	year)
			· · · ·	
Casing and Screen Record		Pumpi / 0	ng Test	
Inside diameter of casing		-		G.P.M.
Type of screen	Pumping lev	rel		G.F. <b>M</b> .
Length of screen			- ( )	
Depth to top of screen		or cloudy at end o		
Diameter of finished hole	Recommend	ed pumping rate		G.P.M.
· · · · · · · · · · · · · · · · · · ·	with pump s	etting of	feet bel	ow ground surface
Well Log	t			er Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Blue stay	)	15		
Common o D	10	1.1		
- yr sy invistore cach	/7_	<u> </u>	40-60	fresh
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For what purpose(s) is the water to be used?			of Well	
per hard t		ıgram below shov and lot line. In		
Is well on upland, in valley, or on hillside?		1 L la	# 1	
Drilling or Boring Firm le H. Apres has Address Statt with the Trans	50'			
Address Statt State 7. 7.			:	
				 12 H/M ONE
Licence Number 31 40				
Name of Driller or Borer And Africa The Spranks Address 100 main St. Stitts alle		YOAL	and an	
Address 100 main ST. D. T. I. Sulle		<u> </u>	<u> </u>	·
Date D. J. 3 J	an official and a second and a se	na anti-constantina anti-constantina a constantina anti-constantina anti-	ala nya da anala ang ang ang ang ang ang ang ang ang an	terne −5×25 de la factoria <b>(</b> terne − 1) terne −5×25 de la factoria <b>(</b> terne − 1) terne −5 (terne − 1) te
(Signature of Licensed Drilling or Boring Contractor)		ic K	RIVER	, s , s
Form 7 5M 60-20912				
OWRC COPY			د. محمد بادی اور بخو وجو	
			<b>C</b> SS <b>.</b> S8	

182414830 , TIA DIVISION OF 1510026 WATER RESOURCES 31F/8E MAY 5 1.69 The Ontario Water Resources Commission Act ev. 03165 ONTARIO WATLA SOURCES COMMISSION `-.sin ; ; 25 ...Township, Village, Town or City County or District Car Date completed 5 23 5-42 Con. 12 .....Lot. Meleag dress 255 **Casing and Screen Record Pumping Test SH** Static level Inside diameter of casing.... Test-pumping rate 300 CAL PER HR. G.P.M. Total length of casing Pumping level 22 Type of screen Duration of test pumping 2 HRS. Length of screen Water clear or cloudy at end of test CIFARDepth to top of screen Recommended pumping rate 300 gal p=R //RG.P.M. Diameter of finished hole with pump setting of 22' feet below ground surface Well Log Water Record Depth(s) at Kind of water From То **Overburden and Bedrock Record** which water(s) (fresh, salty, ft. ft. found sulphur) SAND Ď // GRANIT 88. LACK. 88. FRESH **Location of Well** For what purpose(s) is the water to be used?... HOUSE In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? /////S/DE VOUNGHUSBA YOUTORE, DUNROBIN, Drilling or Boring Firm  $W, A \cdot \mathcal{DFFVY}$ Address 2898 HAUCHION SI. OTTAWA 14 ONT Licence Number Name of Driller or Borer W. A. UEEVY: Address 2898 HRUGHTON ′ Ś Date & ANUA. 23 1969 in (Signature of Licensed Drilling or Boring Contractor) Form 7 5M 60-20912 OWRC COPY

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The Ontario Water Reso	urces Commission	Act		P
ev 5 R 013115 WATER WEL	L REC	DRD		• •
County or District Carl Lot 34 WATER RESOURCE	ownship, Village, D	own or City	Richm	ond
Con. 111 Lot 31 WATER RESOURCE.	ate completed	1	apr.	1969
	dress 218	monte	rey Dr	year)
		Pumping	sour	wa
Casing and Screen Record	Static level	15		
Inside diameter of casing 5'' [1:500 Total length of casing 38'	Test-pumping ra	<sub>te</sub> 10		G.P.M.
Type of screen	Pumping level	20'		
Length of screen	Duration of test p			
Depth to top of screen	Water clear or clo	oudy at end of	test	
Diameter of finished hole 5"	Recommended p			
	with pump settin	g of J	<b>D</b> feet belo	w ground surface
Well Log				r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
clay	0	151	84'	
Sandy anguel with boulders	15'	29'		
		C.C.		
limestorie	29'	851		
For what purpose(s) is the water to be used?		Location		1
new house			distances of we licate north by	
Is well on upland, in valley or on hillside?				
Drilling or Boring Firm (apital Hater			14.7 Mar	
111 Reliensty sta.	·			
Address 17 ashford D		<u>z</u>		
	X	2	48	7
Licence Number 3216 Name of Driller or Borer M. Kavan cigh	V 3	` o		1
Address	いかみ	es.		90
Date 1 apr 14, 1969	Re			.2
Halter Lavanagh				$\checkmark$
(Signature of Licensed Drilling or Boring Contractor)				
Form 7				
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GENERAL COLOUR		SHIF BOROUGH CITY Ficher A A A A A A A A A A A A A	9 K ZSTZ	Pon RC. ELEV. 25 26		CON., BLOCK, TR COLLA RC. BASIN CODE SO SO SEE INSTRUCTION ENERAL DESCRIPTION	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
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31 / 1002/16015/		- 1 - 1 - 1				41 1			
	21 00712AST								
1 2 10 1415			DEN UA			54 SIJE(S) OF OPENIN (SLOT NO.)	31-33	65 01AMETER 34-	-38 LENGTH 39
AT - FEET KIND OF		MATERIAL				MATERIAL AND T	PF		HES ***
10-13 1 #FRESH	INCHES	1 1 🖉 STEEL 12	INCHES	FROM	TO 2 13-16 0 V			OF SCREE	EN FEET
15-18 1 🗌 FRESH 💠	3 🗆 SULPHUR <sup>19</sup>		.244	O de	24 6	PLUGG	ING &	SEALING	
	3 SULPHUR 24 17-18	4 OPEN HOLE 8 1 STEEL 19 2 GALVANIZED			20-23 D	PEPTH SET AT - FE	ET		(CEMENT GROUT, LEAD PACKER, ETC.)
2 🗌 SALTY		3 CONCRETE		. 0	0071	10-13	14-17	i	
2 🗌 SALTY	24-25	5 1  STEEL 26 2  GALVANIZED	5		27-30		2-25		
2 🗌 SALTY	3 🗌 SULPHUR 4 🗌 MINERAL	3 CONCRETE				20-23			
PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF PU	16 10 17-1			LOCATI	ON OF	WELL	
STATIC LEVEL PUMP 2 BAILE BAIL	VFI 25		PUMPING	Ľ		M BELOW SHOW I INDICATE NORTH		ELL FROM ROAD A	AND .
	22-24 15 MINUTES 30 MINU		60 MINUTES	-37					
07 FEET 050				EET 42	<b>`</b> .				
IF FLOWING, GIVE RATE	GPM.		2 🐹 CLOUDY						
RECOMMENDED PUMP TYPE	PUMP SETTING 065	43-45 RECOMMENDED PUMPING FEET RATE	04 <sup>46-</sup> GP						
	GPM./FT. SPECIFIC CAPACIT		-				1. 1. 1.		
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STATUS 3		UNFINISHED						• •	r
2 []		DMMERCIAL UNICIPAL				07	town	st	
	IRRIGATION 7 D PU INDUSTRIAL 8 D CO	JBLIC SUPPLY DOLING OR AIR COND			+10'		·······		
57		9 🗌 NOT	USED		**			¥.	
	CABLE TOOL ROTARY (CONVENTIONAL) ROTARY (REVERSE)	6   BORING 7   DIAMOND 8   JETTING						2 m 2 m	
	ROTARY (REVERSE) ROTARY (AIR) AIR PERCUSSION				ERS REMARKS:				
NAME OF WELL CONTRACTO			ENCE NUMBER		ATA	58 CONTRACTOR		RECEIVED	63-68
Henry Ma	is Well L	Inthing 1.	5520			36	44	10126	<b>.9</b>
Box 326,		Ont:		L R				hills	<u>-: [][</u>
Z AME OF DEILLER OR BORI	Mains	LIC	ENCE NUMBER		EMARKS:				

Watter Well Record         Webr revenent in Ontorio I. PRINT ONLY IN SPACES PROVIDED       11       15 10 409       III       III         2. CHECK CORRECT BOX WHERE APPLICABLE       11       15 10 409       III       III       III         COUNDED OR DISTRICT       TOWNSHIP, BOROUGH, CITY, TOWN, WILLAGE       CON., BLOCK, TRACT, SURVEY, ETC.       III         OWNER (SURNAME FIRST)       28-47       ADDRESS       DATE COMPLETED       48-         OWNER (SURNAME FIRST)       28-47       ADDRESS       DATE COMPLETED       Max       JA         III       V       III       III       IIII       IIII       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	53 YR. <b>69</b> 47
2. CHECK CORRECT BOX WHERE APPLICABLE       12       10       14       15         COUNTE OR DISTRICT       TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE       CON., BLOCK, TRACT, SURVEY, ETC.       LO         OWNER (SURNAME FIRST)       28-47       ADDRESS       ADDRESS       DATE COMPLETED       48-4         OWNER (SURNAME FIRST)       28-47       ADDRESS       ATTICUE       DATE COMPLETED       48-4         OWNER (SURNAME FIRST)       28-47       ADDRESS       ATTICUE       DATE COMPLETED       48-4         OWNER (SURNAME FIRST)       28-47       ADDRESS       ATTICUE       DATE COMPLETED       48-4         OWNER (SURNAME FIRST)       28-47       ADDRESS       ATTICUE       DATE COMPLETED       48-4         TO       10       11       12       DATE COMPLETED       48-4         TO       10       12       10       14       18       0         11       12       10       12       17       18       0       25       26       30       31         12       12       17       18       0       24       25       26       30       31       14       14       14       15       16       17       16       16       16	T 25-27
OWNER (SURNAME FIRSI)     2547     Montest     Ittlevelle     Out     Day     Day     Jay	YR. 69
21     J ANE     20 J J S O 2 O J J J S O 2 O J J J S O 2 O J J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J J S O 2 J S O 2 J J S O 2 J S O	
I     I     I     I     I     I     I       IOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)       GENERAL COLOUR     MOST COMMON MATERIAL     OTHER MATERIALS     GENERAL DESCRIPTION     DEPTH - FROM       Brown     Common Material     OTHER MATERIALS     GENERAL DESCRIPTION     Depth - FROM       Brown     Common Material     Other Materials     GENERAL DESCRIPTION     Depth - FROM	
GENERAL COLOUR     MOUST COMMON MATERIAL     OTHER MATERIALS     GENERAL DESCRIPTION     FROM       brown     class     boulders     packed     0'	
brown clay voulais pluched	
	181
cney limestone hard 18	60
6 0	
	i
(31) bar 86ast 3   aaga21.5	
	75 80
41     WATER RECORD     51     CASING & OPEN HOLE RECORD     SIZE(5) OF OPENING     31-33     DIAMETER     34-38     LE       WATER FOUND SEET     KIND OF WATER     MATEDIAL     WALL THICKNESS     DEPTH - FEET     W     WATERIAL     AND TYPE     INCRESS	FEET
	41-44 80 FEET
15-18 1 FRESH 3 SULPHUR 19 $06$ 3 CONCRETE 2 SALTY 4 MINERAL $06$ 4 CONCRETE 4 CONCRETE 61 PLUGGING & SEALING RE	
20-23     1     FRESH     3     SULPHUR     2     GALVANIZED       2     SALTY     4     MINERAL     3     CONCRETE     10-13     14-17	ACKER, ETC.)
1    FRESH 3    SULPHUR 2    SALTY 4    MINERAL 24-25 1    STEEL 26 27-30 18-21 22-25	
1 FRESH 3 SULPHUR     3 CONCRETE       2 SALTY 4 MINERAL     4 OPEN HOLE	
71     1     PUMP	1
STATIC     END OF     WATER LEVELS DURING     2 Grad     RECOVERY       U     19-21     22-24     15 MINUTES     30 MINUTES     60 MINUTES	¥
$\frac{1}{3} \frac{0/1}{_{\text{FEET}}} \frac{0/3}{_{\text{FEET}}} \frac{0/3}{_{\text{FET}}} 0/$	/
Z IF FLOWING, 38-41 PUMP INTAKE SET AT WATER AT END OF TEST 42 GIVE RATE GIVE RATE GPM. FEET 1 CLEAR 22 CLOUDY FEET 43-45 RECOMMENDED 46-49	
2 A SHALLOW DEEP SETTING 0 30 FEET PUMPAGO 5 GPM.	
STATUS 3 I TEST HOLE 7 I UNFINISHED OF WELL 4 RECHARGE WELL	
WATER     1 S COMMESTIC     5 COMMENTIC       2 STOCK     6 MUNICIPAL       3 IRRIGATION     7 PUBLIC SUPPLY	
USE O/ 4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING OTHER 9 NOT USED	
57     1 Decable tool     6 Boring       METHOD     2 ROTARY (CONVENTIONAL)     7 Diamond       OF     3 ROTARY (REVERSE)     8 DIETTING	
DRILLING 4 ROTARY (AIR) 9 DRIVING 5 AIR PERCUSSION DRILLERS REMARKS:	1
5 anital Hater lungly 3216 2 1503 29/26	<b>8 9</b> 3-68 80
& 14 ashlord Dr Ottawa 15	~~
Image: Submission date     Incence number     Image: Submission date       Image: Submission date     Image: Submission date     Image: Submission date	
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	$\vee$	Ontario 1. PRINT ONLY IN SF 2. CHECK 🛛 CORREC	CT BOX WHERE APPLICABLE		- deservation and the second		<u>                                      </u>	22 23 24 OT 25-27
			TOWNSHIP, BOROUGH, CITY, TOWN, VIL	LAGE		CON., BLOCK, TRACT, SURVEY, ETC.		LOT 25-27
	OWNER (SURNAME FI	RST) 28-47	ADDRESS 0 + +++	0	a D	+		<sup>8-53</sup>
]	Now o		ROMED S LILLAL			RC. BASIN CODE	<u></u> мо. <u></u>	<u>YR.</u> ₩
	$(21^{1})$	т <u> </u> м <u>10</u> <u>12</u>	17 18 24	25	0 3 1 5	5 2 5 · · · · · · · · · · · · · · · · ·		47
$\overline{\ }$		LO	G OF OVERBURDEN AND B	EDROC	K MATERIA	LS (SEE INSTRUCTIONS)	DEPTH	- FEET
	GENERAL COLOUR		OTHER MATERIALS			GENERAL DESCRIPTION	FROM	то
	brown	clay	boulders			packed	0	17'
		0				<u> </u>		A
	grey	limestone	>			hard	17	58
	0 0		· · · · · · · · · · · · · · · · · · ·					
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	31 00/1	76/ast/13 1 12/2519	dol/st.   .         .   .					
	32							
	41 WATE		51 CASING & OPEN H	OLE	RECORD		5 DIAMETER 34-38	LENGTH 39-40
$\mathcal{L}$	WATED FOUND AT - FEET	KIND OF WATER	INSIDE WALL DTAM. MATERIAL THICKNESS INCHES A INCHES	DEP FROM		MATERIAL AND TYPE	INCHES DEPTH TO TOP OF SCREEN	FEET 41-44 80
		FRESH 3 🗌 SULPHUR 14	581 1 STEEL 12 /88	0	0211-16	S		FEET
		] FRESH 3 🗌 SULPHUR <sup>19</sup> ] SALTY 4 🔲 MINERAL		2	1 38	61 PLUGGING & SI		
		FRESH 3 SULPHUR	17-18 1 STEEL 19 2 GALVANIZED		20-23	DEPTH SET AT - FEET         MATERIAL           FROM         TO           10-13         14-17		MENT GROUT, PACKER, ETC.)
	25-28 1	FRESH 3 SULPHUR 29	24-25 1 □ STEEL 25		O058	18-21 22-25		
	30-33	SALTY 4 MINERAL FRESH 3 SULPHUR 34 80	2 GALVANIZED 3 CONCRETE			26-29 30-33 80		
		SALTY 4 MINERAL	4 OPEN HOLE	r				
			01 15-16 DD	17-18 _MINS.		LOCATION OF W		
		WATER LEVEL 25 END OF WATER PUMPING WATER	LEVELS DURING		LOT	DIAGRAM BELOW SHOW DISTANCES OF WEL LINE. INDICATE NORTH BY ARROW.	L FROM ROAD AND	.1
		22-24 15 MINUTES 26-2		TES 35-37				$\mathbf{A}$
	U IF FLOWING, GIVE RATE	38-41 PUMP INTAKE S		FEET 42				
	IF FLOWING, GIVE RATE C RECOMMENDED PUR	GPM. MP TYPE RECOMMENDED	FEET 1 CLEAR 2 CLO	UDY 46-49				
	C SHALLOW		30 FEET RATE 0005	GPM.	<del></del>	mb lt i		
ļ	50-53 _ <i>QQ</i> _	<u>2_5</u> GPM./FT. SPECIF	IC CAPACITY		(			
	FINAL STATUS	<sup>1</sup> WATER SUPPLY <sup>2</sup> OBSERVATION WEL		PPLY		ta ta		
	OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 🗍 UNFINISHED				_	
	WATER /		5 COMMERCIAL 6 MUNICIPAL		0.1		5	
	USE		7 D PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING		La	(16 jog		
1		57 1 CABLE TOOL	9 🗌 NOT USED 6 🗌 BORING			8	-	
	METHOD OF	2 ROTARY (CONVENT 3 ROTARY (REVERSE	IONAL) 7 DIAMOND			1	-	
	DRILLING	4 ROTARY (AIR) 5 AIR PERCUSSION	9 🗍 DRIVING		DRILLERS REMARI	<b>(</b> 5-		
					DATA	58 CONTRACTOR 59-62 DATE RE	291269	63-68 80
	5 april	al Hales	Supply 3211	•	DATE OF INSPE	1.50		·
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2	M 10 12	G OF OVERBURDEN AND BEDROCK	( MATERIALS (SEE INSTRUCTIONS)	
ENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM TO
BROWN	CI-A-	SAND STUNES	PACKED	0 8
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WATER FOUND		(NSIDE	TH - FEET	INCHES
AT - FEET	KIND OF WATER	DIAM. MATERIAL THICKNESS INCHES FROM		OF SCREEN
15-19	SALTY 4 MINERAL	8 4 2 GALVANIZED 12 188 0		
	5 FREEL 2 19		EL DUIGGING & SE	ALING RECOR
210 2	FRESH 3 SULPHUR 19	3 CONCRETE 8 4 0 OPEN HOLE 17-18 1 STEEL 19	61 PLUGGING & SE	CEMENT GROU
20-23 1 20-23	SALTY         4         MINERAL           FRESH         3         SULPHUR         24           SALTY         4         MINERAL         24	3 □ CONCRETE 4 2 OPEN HOLE 17-18 1 □ STEEL 19 2 □ GALVANIZED 3 □ CONCRETE	17 61 PLUGGING & SE	CEMENT GROU
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20-23 1 20-23 1 25-28 1 25-28 1 2 30-33 1	SALTY       4       MINERAL         FRESH       3       SULPHUR       24         SALTY       4       MINERAL         FRESH       3       SULPHUR       29         SALTY       4       MINERAL         SALTY       4       MINERAL         FRESH       3       SULPHUR         FRESH       3       SULPHUR         FRESH       3       SULPHUR	3 □ CONCRETE 4 ☑ OPEN HOLE 17-18 1 □ STEEL 19 2 □ GALVANIZED 3 □ CONCRETE 4 □ OPEN HOLE 24-25 1 □ STEEL 26 2 □ GALVANIZED 3 □ CONCRETE	Control	CEMENT GRO
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W	ater management in Ontari	PRINT ONLY IN SPACES PROV     2. CHECK X CORRECT BOX WH	1DED . 11		1510	923 - MUNIC	5 <u>70/</u>	CON.	22 23 24
co	and the		Richmone	LAGE		CON., BLOCK,	TRACT, SURVEY, ET	C. E COMPLETED	LOT 25-27
٥v	Inter (SURNAME FIRST)	Construction	ADDRESS Rich	inor	1 (	RC, BASIN CO	DAY	20 NO DO	<u>E_vr.70</u>
		$ \begin{array}{c c} \text{ONE} & \text{EASTING} \\ \hline 18 & 4 & 3 & 4 & 9 & 4 \\ \hline 10 & 12 & 17 \\ \hline 10 & 12 & 17 \\ \hline \end{array} $	NORTHING 5004290	RC	$\frac{O_1 3_1 O_1 S}{26}$	$\begin{array}{c} \text{RC} & \text{BASIN CC} \\ \text{HA} & 2 5 \\ 30 & 31 \end{array}$			47
F		LOG OF		BEDROC	K MATERIAI	GENERAL DESC			I - FEET
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1 A	32 <u>10 14 1</u> 41 WATER		ASING & OPEN	HOLE	43 RECORD	SIZE (S) OF OP	ENING 31-33	65 DIAMETER 34-38	75 80 LENGTH 39-40
	WATER FOUND KIN	ND OF WATER	MATERIAL WALL THICKNI INCHE	ESS DE	PTH - FEET M TO		D TYPE	INCHE DEPTH TO TOP OF SCREEN	
)Ø	55 <sup>10-13</sup> 2 SAL <sup>1</sup> 15-18		11 1 STEEL 12 2 GALVANIZED 3 CONCRETE	80	13-16	61 PLUG	GING &	SEALING F	RECORD
-	2 🗌 SAL 20-23 1 🔲 FRE	TY 4 MINERAL 17- SH 3 SULPHUR 24	4 OPEN HOLE 7 0 18 1 STEEL 19 2 GALVANIZED		20-23	DEPTH SET AT	FEET MATER		CEMENT GROUT, AD PACKER, ETC.)
	2 🗌 SAL 25-28 1 🗍 FRE 2 🗌 SAL	SH 3 SULPHUR 29	3 CONCRETE OPEN HOLE 25 1 STEEL 26		<i>0055</i> 27-30	18-21	22-25		
ŀ	30-33 1 🗌 FRE 2 🗋 SAL	SH 3 SULPHUR 34 80	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE			26-29	30-33 80		
		10 PUMPING RATE	11-14 DURATION OF PUMPING GPM. 15-16 HOURS	0 17-18 MINS.			TION OF		
	STATIC WA	TER LEVEL 25 END OF PUMPING WATER LEVELS		G		LINE. INDICATE NO	The by Arrow.	WELL FROM ROAD AN	$\lambda$
	POG FEET	LO FEET 006 FEET 000	S FEET 006 FEET	35-37 FEET 42		J.		100	
	GIVE RATE	38-41 PUMP INTAKE SET AT	WATER AT END OF TEST	CLOUDY 46-49			j.	< 50 ×	
	RECOMMENDED PUMP TY	DEEP SETTING	FEET RATE	GPM.			d'a		والأعل
l [	FINAL 54					2	17		
	STATUS OF WELL		ABANDONED, POOR QUALIT UNFINISHED	ΓΥ		m	K		
	water	2 тоск 6 🗆	COMMERCIAL Municipal Public Supply						
	USE 01		COOLING OR AIR CONDITIONIN 9	G	0	ttama	st.		
	METHOD 57	1 CABLE TOOL 2 ROTARY (CONVENTIONAL)							
· .	OF DRILLING	<sup>3</sup> ROTARY (REVERSE) <sup>4</sup> ROTARY (AIR) <sup>5</sup> AIR PERCUSSION	8 🗌 JETTING 9 🔲 DRIVING		DRILLERS REMAR	RKS:			
	o NAME OF WELL CONT	Mains Well	Dully 36	imber 44	DATA SOURCE DATE OF INSP		644	2°011'	70 63-68 80
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	Z AME OF DRILLER O	A acres		JNBER				g : . • •	
	O SIGNATURE OF CONT	y Mains	DAY SO MO	<u>YR</u>	<b>H</b> O				
	OWRC CO	PY							

LL REC T <u>6wnship</u> , Village, T Date completed	<b>ORD</b>	0xford	Richmond 1968
	Pumpir	ng Test	
Static level			
Pumping level	24		
Duration of test	pumping	1/2 hr.	
Water clear or cl	oudy at end of	ftest <b>clear</b>	•
Recommended	oumping rate	3	G.P.M.
with pump settir	ng of <b>100</b>	feet belo	w ground surface
		Water	Record
From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
0	26	100	fresh
road and	n below show lot line. Ind $\frac{1}{15}$ $\frac{15}{15}$ $\frac{5}{15}$ $\frac{5}{15}$ $\frac{5}{15}$	distances of well icate north by a $0^{1}$ $1^{1}$ $1^{1}$ $1^{1}$ $1^{3}$	arrow.
	Date completed Iress Kemy Static levei Test-pumping radius Pumping level Duration of test Water clear or cl Recommended p with pump settin From ft. 0 26 In diagram road and	Date completed 14th (day Iress Kemptville, Pumpin Static level 4 Test-pumping rate 200 Pumping level 24 Duration of test pumping Water clear or cloudy at end of Recommended pumping rate with pump setting of 100 From ft. ft. 0 26 26 104 Locotion In diagram below show road and lot line. Ind $\int_{V_1}^{V_1}$ $\int_{U_2}^{U_2}$ $\int_{U_2}^{U_2}$ $V_3$ $V_4$ $V_5$	From ft.To ft.Depth(s) at which water(s) found0261002610410026104100261041002610410026104100261041002610410026104100261041002610410026104100261041002610410026104100261041002610410026104100261041002715010128150101291501012915010120150101

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14 0 5 0 0 3 8 4 0 14 0 5 0 0 3 8 4 0 The Ontario Water Res		•	316, , 5110 8	B
County or District Grenville CAKLETON Con. THE Lot + 24	Township, Village, Date completed	Town or City 14th (day	June	1968 year)
Casing and Screen Record			ng Test	
Inside diameter of casing $6.3/16$			_	
Total length of casing 29				XXXXXXXX
Type of screen	1			
Length of screen	Duration of test	pumping	1/2 hr.	
Depth to top of screen	Water clear or c	loudy at end o	f test clea	ar
Diameter of finished hole 6	Recommended	pumping rate	2	G.P.M.
·	with pump setting	ng of 78	feet belo	w ground surface
Well Log			Wate	r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
<u> </u>	0 26	26 80	35-68	fresh
For what purpose(s) is the water to be used? house		Location		N
Is well on upland, in valley, or on hillside? Drilling or Boring Firm J.B. DUFRESNE & CO. LIMITED	road and	n below show lot line. Ind	distances of wel licate north by	
Address       1014 Maitland Ave.,         Ottawa 5, Ont.         Licence Number       2999         Name of Driller or Borer       R. Laniel         Address       6 Bellevue Cr Lucerne, Que.         Date       June 14th 1968	Cock Au		LOT 1 40'	Lot 2
for: J.B. Dui resne CO. Limited Form 7 5M 60-20912 OWRC COPY			RICHM CS9.58	OND p/Kn
	MMM 181 11			1 c/Km

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0189	1 FRESH 3 SULPHUR 29 2 SALTY 4 MINERAL	24-25 1 STEEL 26	-	27-30	18-21	22-25		
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i	Water management in Ontario 1. PRINT ONLY IN SI		1511257	MUNICIP.	CON.
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d W II	RECOMMENDED PUMP TYPE RECOMMENDED	43-45 RECOMMENDED 46-49	2 092 7	1 Fmi	
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COUNTOR DISTRICT	2. CHECK 🔀 CORRI	ECT BOX WHERE APPLICABLE		Richard	10	14 15 URVEY, ETC.	Ĺ	0T 25.17
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22-28 1 2 30-33 1 2 30-33 1 2 71 NHPING TEST N 1 PUMP STATIC LEVEL 19- 19- 19- 19- 19- 19- 19- 19- 19- 19-	□       SALTY       4       MINERAL         □       FRESH       3       SULPHUR       29         □       SALTY       4       MINERAL         □       FRESH       3       SULPHUR       34         □       FRESH       10       PUMPING RA       2       0         2       BAILER       ●       ●       ●       ●         21       0.5       ●       ●       ●       ●         22       0.5       ●       ●       ●       ●         38-41       PUMP INTAK       ●       ●       ●       ●         PUMP TYPE	17-18       1       STEEL         2       GALVANIZEC         3       CONCRETE         4       OPEN HOLE         24-25       1       STEEL         2       GALVANIZEC       3         3       CONCRETE       4         4       OPEN HOLE       1         TE       11-14       DURATION OF         GPM       Q/// H       1         LEVELS DURING       2       2         IS       30 MINUTES       45 MINUT         FEET       FEET       0       5         FEET       FEET       0       5         PECIFIC CAPACITY       FEET       RECOMMENDE PO         S       ABANDONED, INS       FEET         S       ABANDONED, PO       7         UNFINISHED       5       COMMERCIAL         6       ABANDONED, PO       7         9       UNFINICIPAL       7         9       UNFINICIPAL       6         10       <	19 26 26 26 26 27 26 26 20 20 20 20 20 20 20 20 20 20	27-30 IN DIAGI LOT LIN	FROM         TO           10-13         14-1           18-21         22-2           26-29         30-3           LOCATIO           RAM BELOW SHOW DIS           E.         INDICATE NORTH	N OF WELL NOF WELL TANCES OF WELL BY ARROW.	- 350	
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	41 WATER I		51 CASING &				SIZE(S)	OF OPENING	31-33 DIAMETE	R 34-38 LE	75 80 NGTH 39-40
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00	2 □ SALT 15-18 1 □ FRES	Y 4 □ MINERAL H 3 □ SULPHUR <sup>19</sup>	10-11 1 D STEEL 2 GALVANIZED 3 GONCRETE	188 C	5	25	[v]			FSCREEN	FEET
	20-23 1 🗌 FRES	Y 4 [] MINERAL H 3 [] SULPHUR 24 Y 4 [] MINERAL	4 OPEN HOLE 17-18 J STEEL 2 GALVANIZED	19		20-23	DEPTH SET	PLUGGIN T AT - FEET TO	MATERIAL AND T	VDE CEMEN	RD T GROUT, KER, ETC )
	25-28 1 🗍 FRES	H 3 [] SULPHUR <sup>29</sup> Y 4 [] MINERAL	3 CONCRETE 4 OPEN HOLE 24-25 1 STEEL	26		27-30	10-13				
		H 3 🗌 SULPHUR <sup>34</sup> 60 4 🗋 Mineral	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE				26-29	30-33 80			
	PMPING TEST METHOD	10 PUMPING RATE		PUMPING 5-16 DURS			LO	CATION	OF WELL	350	4
TEST	LEVEL ENU	PLEVEL 25 DOF WATER LEVEL PING 22-24 15 MINUTES 1 3	LS DURING	RUMPING RECOVERY 5 60 MINUTES		IN DIAG	RAM BELOW	SHOW DISTANC	ES OF WELL FR RROW.	OM ROAD AN	D
	IF FLOWING,	FEET 030-220 FEET 38-41 PUMP INTAKE SET A	30 21-31 030 3	12-34 FEET 30 FEET		GHE		∿ ∕			
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	MINISTRY OF	THE ENVIRON			<b>L</b>		<u> </u>	<u> </u>		FORM 7 M	OE 07-091

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		205				54	31-33 DIAMETER 34-38 LENGTH 39-40
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	2 _ s	RESH 3 _ SULPHUR <sup>19</sup> ALTY 4 _ MINERAL RESH 3 _ SULPHUR <sup>24</sup> ALTY 4 _ MINERAL	2 GALVANI. 3 GONGRET 4 OPEN HO 17-18 1 STEEL 2 GALVANI	E 1000	0 <b>13/</b> 20-23	61 PLUGGII DEPTH SET AT - FEET FROM TO	MATERIAL AND TYPE (CEMENT GROUT. LEAD PACKER, ETC.)
	25-28 1 [] F 2 [] S 30-33 1 [] F	RESH 3 _ SULPHUR <sup>29</sup> ALTY 4 _ MINERAL RESH 3 _ SULPHUR <sup>34</sup> 60 ALTY 4 _ MINERAL	3 CONCRET 4 OPEN HO 24-23 1 STEEL 2 GALVANII 3 CONCRET 4 OPEN HO	LE 26 ZED E	27-30	10-13 14-17 18-21 22-25 26-29 30-33 80	•
	PMPING TEST METHOD		GPM	0F PUMPING 15-16 HOURS 17-18			OF WELL 3504
G TEST	LEVEL 19-21	END OF PUMPING 22-24 30 FEET FEET WATER LEV 15 MINUTES 26-28 FEET	30 MINUTES 30 MINUTES 30 Z9-31 FEET 030	32-34 FEET 030 <sup>35-37</sup>	LOT LI		
PUMPING	IF FLOWING, GIVE RATE RECOMMENDED PUMP T	PUMP		END OF TEST 42 LEAR 2 D CLOUDY DED 46-49 GPM			7
	50-53	GPM./FT. SPECI I CL_WATER SUPPLY 2 OBSERVATION WELL	FIC CAPACITY 5 🗋 ABANDONED, 11 6 🗋 ABANDONED, P	NSUFFICIENT SUPPLY			e t .
	OF WELL	2 STOCK	7 UNFINISHED  5 COMMERCIAL  6 MUNICIPAL  7 UPUBLIC SUPPLY		4	.15 m	x well .
-		4         INDUSTRIAL           I         OTHER           I         CABLE TOOL	COOLING OR AIR C(         9	NOT USED		107 Town ST.	$\rightarrow \int_{2\pi'}$
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· 2 · · · · · · · · · · · · · · · · · ·	LC	DG OF OVERBURDEN AND BED	ROCK MAT	ERIALS (SEE INSTRUCTION	NS)		4/
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2 [] SAL	LTY 4 $\square$ MINERAL ESH 3 $\square$ SULPHUR 34 $B$	24-25 1 [] STEEL 26 7 [] GALVANIZED 3 [] CONCRETE			22-25		
2 [] SAL	TY 4 MINERAL	4 TOPEN HOLE	<u> </u>		ON OF WELL		
71 1 LS PUMP 2	1	15-16	17-18	IN DIAGRAM BELOW SHOW			
LEVEL	END OF WATER PUMPING 22-24 15 MINUTES	LEVELS DURING 2 [] RECOVERY		LOT LINE INDICATE NO	RTH BY ARROW.		
IS IS THE IS	26- 75 FEET 25 F	an 25 min 25 min 25	FEET 42	King St.	· · · · · · · · · · · · · · · · · · ·	5 mi	1
	GPM	FEET 1 CLEAR 2 CLO	UDY	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>г</u> ,	······································	₹
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54	1 WATER SUPPLY	S 🗋 AHANDONED, INSUFFICIENT SUP		11191			12
FINAL STATUS OF WELL	2 D OBSERVATION WI 3 TEST HOLE 4 RECHARGE WELL	LL 6 🗍 ABANDONED POOR QUALITY 7 🗍 UNFINISHED					2
55.56	1 C DOMESTIC	5 COMMERCIAL 6 MUNICIPAL			L.		3
WATER USE	IRRIGATION	7 D PUBLIC SUPPLY COOLING OR AIR CONDITIONING					23
	O OTHER	<sup>9</sup> □ NOT USED		House # 11			0
METHOD OF	2 🗍 ROYARY (CONVE 3 🗍 ROTARY (REVER	NTIONAL) ? DIAMOND		House # 11 Ku	ny St.		
DRILLING	4 D ROTARY (AIR) 4 D ROTARY (AIR) 4 D ROTARY (AIR)			REMARKS			**
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ADDRESS DON 490	STITTSU	LLE	SE		NSPECTOR		
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	icia and	SUBMISSION DATE	OFFICE				
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030	<sup>1</sup> FRESH <sup>3</sup>	SULPHUR	1 ~ 13	GALVANIZED	.188	0	0029	61					FEET
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	54	WATER SUPPLY						·	a" Ja				2
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OF	5	ROTARY (CONVENT ROTARY (REVERSE) ROTARY (AIR)	8	DIAMOND JETTING DRIVING				-	# 111 Kong -	St.			
	s 💽	AIR PERCUSSION		_ ,		DRILL	ERS REMARKS		. 0				11
4.00	ELL CONTRACTOR	ATER S.	UPPLY		SSP			58 CONT	RACTOR 59	-62 DATE RE		097	63-68 80
ADDRESS ADDRESS NAME OF DR	( <b>a</b>	TITTSUIL		/		E ON	ATE OF INSPECTIC		INSPECTO	R	+ 1	20	
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MINIST	RY OF TI	HE ENVIRC	NMENT (	COPY								FORM NO.	0506-4-77

The Ontario Water Resource 1516764 ina. '3 Sichmon tice мо ULA. LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) DEPTH - FEET GENERAL DESCRIPTION OTHER MATERIALS SENERAL COLOUR FROM hasdpan 28 Ø Clay limestore 28 64 31 11 32 1 2 3 OPEN HOLE RECOV 41 WATER RECORD CASINC P SCREEN PERCH LEFT ATER FOUN react V/A 17 60 31 ./88 0 6 61 PLUGGING & SEALING RECORD .... SALTY LOCATION OF WELL 5 0 GPM 1 Jugar SAU 1 N DEALBEAM RELEAM SPOW DISTANLES OF WELL FROM ROAD AND LOTTING — INDUCATE NORTH PS APRICA 25 6 30 9000 11196 3 SHALLOW + LET 1 DEEP WAREY POPLY D DECLAYATION WELL TESTION I REC 42 POT WELL T PARONED J ARANDONED FINAL ALCOVACI A STATUS C UNING AD OF WELL DOME THE C COMMERCIAL C MUNICIPAL C P 181-C SUPPLY C STOCK WATER 2 C NOT USED C INDUSTRIAL USE OHawa 🖸 or ca St 5 🗇 85994 CAPLE TOOL метнор С прамоко С рідмоко С дугата POTARY + CONSENTIONAL
 ROTARY + REVENSE + OF 이미니NG 271178 OMLY Mains ald Dieling on 326 Richmand only Maine 36 3644 Henry SAU3 USE ( 78 8 10

Ministry of the Environment		The Ontario	Water Resources	Act 3/G4F
Ontario		•	ELL R	RECORD
1. PRINT ONLY IN SPA	BOX WHERE APPLICABLE	1516764	MUNICIP 15701	CON.
arleton	TOWNSHIP, BORDINGH, CITY TOWN, VILLAGE		BLOCK TRACT. SURVEY, ETC	PT) #319
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41 WATER RECORD 5	CASING & OPEN HOLE	RECORD Z SIZE (S	4 0 OF OPENING 31-33 NO J	65 75 80 DIAMETER 34-38 LENGTH 39-40
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25-28 1 FRESH 3 7 SULPHUR 29	3 □ CONCRETE 4 □ OPEN HOLE 24-25 1 □ STEEL 28	27-30 18-2		
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71 PUMPING TEST METHOD 10 PUMPING RATE	11-14 DURATION OF PUMPING	LC	CATION OF W	ELL
STATIC WATER LEVEL 25 LEVEL END OF WATER LEVELS	DURING <sup>1</sup> A PUMPING <sup>2</sup> RECOVERY	IN DIAGRAM BELOV LOT LINE. INDIC	W SHOW DISTANCES OF W CATE NORTH BY ARROW.	ELL FROM ROAD AND
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OF 3 I ROTARY (REVERSE) A ROTARY (AIR) 5 I AIR PERCUSSION	* DETTING 9 DRIVING	DRILLERS REMARKS:		
E Geny Mains Well	Milling Licence NUMBER	DATA 58 CON	2/1/	1VED 2711 ? 8 80
ADDRESS Sor 326, K	ichnone Ont.	DATE OF INSPECTION	644 INSPECTOR	J.R.P
Ino Henry Ma		inc markag.		0.0.
O SIGNATURE OF CONTRACTOR	DAY LO MO 8 YR	OFFICE		
MINISTRY OF THE ENVIRONM	ENT COPY			FORM NO. 0506-4-77

The Ontario Water Resource 1516764 ina. '3 Sichmon tice мо ULA. LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) DEPTH - FEET GENERAL DESCRIPTION OTHER MATERIALS SENERAL COLOUR FROM hasdpan 28 Ø Clay limestore 28 64 31 11 32 1 2 3 OPEN HOLE RECOV 41 WATER RECORD CASINC P SCREEN PERCH LEFT ATER FOUN react V/A 17 60 31 ./88 0 6 61 PLUGGING & SEALING RECORD .... SALTY LOCATION OF WELL 5 0 GPM 1 Jugar SAU F N DEALBEAM RELEAM SPOW DISTANLES OF WELL FROM ROAD AND LOTTING — INDUCATE NORTH PS APRICA 25 6 30 9000 11196 3 SHALLOW + LET 1 DEEP WAREY POPLY D DECLAYATION WELL TESTION I REC 42 POT WELL T PARONED J ARANDONED FINAL ALCOVACI A STATUS C UNING AD OF WELL DOME THE C COMMERCIAL C MUNICIPAL C P 181-C SUPPLY C STOCK WATER 2 C NOT USED C INDUSTRIAL USE OHawa 🖸 or ca St 5 🗇 85994 CAPLE TOOL метнор С прамоко С рідмоко С дугата POTARY + CONSENTIONAL
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STATIC WATER LEVEL 25 LEVEL END OF WATER LEVELS	DURING <sup>1</sup> A PUMPING <sup>2</sup> RECOVERY	IN DIAGRAM BELOV LOT LINE. INDIC	W SHOW DISTANCES OF W CATE NORTH BY ARROW.	ELL FROM ROAD AND
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	] COMMERCIAL ] MUNICIPAL ] PUBLIC SUPPLY	31	0; 10 X 100	
	COOLING OR AIR CONDITIONING			
METHOD			Itawa St.	
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ADDRESS Joy 326, K	ichnone Ont.	DATE OF INSPECTION	644 INSPECTOR	J.R.P
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MINISTRY OF THE ENVIRONM	ENT COPY			FORM NO. 0506-4-77

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COUNTY OR DISTRICT		TOWNSHIP, BOROUG	H. CITY, TOWN, VILL	AGE		1	Ottawa	RVEY. ETC. 2	\$774	LOT 25-27 024
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		THING	03,9,9,9	<u> </u>			BASIN CODE	1	1	
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	Limestone								23	50
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(31) 00,23									1 Contraction	and the second
WATTER FOUND AT - FEET         I         F           10-13         I         I         F           0043         2         S           15-18         I         F           2         S           20-23         I         F           2         S           20-23         I         F           2         S         S           23-28         I         F           2         S         S           30-33         I         F	ALTY     4     MINERAL       RESH     3     SULPHUR     24       ALTY     4     MINERAL       RESH     3     SULPHUR     29       ALTY     4     MINERAL       RESH     3     SULPHUR     34       RESH     3     SULPHUR     34       MINERAL     MINERAL	NSTDE DIAM INCHES 10-111 1 STEEL 2 GALVAN 3 GONCRI 4 OPEN H 17-18 1 STEEL 2 GALVAN 3 GONCRI 4 OPEN H 24-25 1 STEEL 2 GALVAN 3 GONCRI 4 OPEN H	INCHES 12 12 12 12 12 12 12 12 13 13 13 13 13 14 15 15 15 15 15 15 15 15 15 15		ертн - FEET м то 13-16	00 61 0EPTH SE FROM 10-1 18-2 26-21	AL AND TYPE PLUGG T AT - FEET TO 1 22-25 3 30-33 (	MATERIAL AN		LENGTH 33-4 FEE 41-44 FEET DRD ENT GROUT ACKER ETC )
71 1 PUMP 2			Nours 30	17-18 MINS						
LEVEL 19-21	PUNPING 22-24 45 FEET 38-41 PUMP INTAKE S GPM FYPE RECOMMENDED PUMP	29-31 <b>708</b> FEET <b>008</b> SET AT WATER / FEET 1	FEET	15-37 FEET 42	IN DIAG		A CATE NORTH BY		. FRUM KUAD .	
FINAL STATUS OF WELL / STATUS STATUS STATUS	Image: Supply       2     OBSERVÀTION WEL       3     TEST HOLE       4     RECHARGE WELL       Image: Supply Supplies Supply Supply Supply Supply Supply Supply Supply Sup		)	PLY	/\\A	yd_	oll V STREE	T R	IC H AAD	<u>~</u>
METHOD OF DRILLING		6 🗋 BOR (IONAL) 7 🗌 DIA	MOND Ting		DRILLERS REMARKS					$\left( \begin{array}{c} \\ \end{array} \right)$
MAME OF WELL COM	Water Supp	ly Ltd.	LICENCE NUMBER		DATA SOURCE DATE OF INSPECT	3	INTRACTOR 59- 504 INSPECTOR		018	8 Ø <sup>3-41</sup>
	Raven Ave.,	Ottawa, C	LICENCE NUMBER		REMARKS UD ILL O		k.	A3 C55.58		¥80
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Ministry of the			Ontario Water Resource	31646
2. CHECK X COR	SPACES PROVIDED RECT BOX WHERE APPLICABLE	15172	200 <u>[<u>5</u>7,0,1]</u>	6.9.4
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILL.		CON. BLOCK. TRACT. SURVEY	te the second se
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L(	18 24			
GENERAL COLOUR MOST COMMON MATERIAL	OG OF OVERBURDEN AND BEE	DROCK MATERIA	GENERAL DESCRIPTION	DEPTH - FEET
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	51 CASING & OPEN HOLE	RECORD	Z (SLOT NO) 31-33	65 75 DIAMETER 34-38 LENGTH 39.4
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2 SALTY 4 MINERAL		0 0021	61 PLUGGING &	SEALING RECORD
20-23 1 FRESH 3 SULPHUR 24 2 SALTY 4 MINERAL 25-28 1 SECSU 1 SOLO	<sup>2</sup> GALVANIZED <sup>3</sup> CONCRETE	20-23		AL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
Z SALTY 4 MINERAL	4 □ OPEN HOLE 24-25 1 □ STEEL 26 2 □ GALVANIZED	27-30	10-13 14-17 18-21 22-25	
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UMPING TEST METHOD 10 PUMPING RATE	11-14 DURATION OF PUMPING		LOCATION OF W	
STATIC WATER LEVEL 25 LEVEL END OF WATER LEVELS	DURING 1. PUMPING	IN DIAGRA	AM BELOW SHOW DISTANCES OF	
19-21 22-24 IS MINUTES 30 26-24	2 RECOVERY MINUTES 45 MINUTES 60 MINUTES 29-31 32-34 35-37	LOT LINE.	INDICATE NORTH BY ARROW.	AND
P 10 FEET 195 FEET FEET FLOWING IVE RATE 30-41 PUMP INTAKE SET AT	115ET 110ET 110ET		s	N
GPN COMMENDED PUNP TYPE RECOMMENDED	FEET 1 2 CLEAR 2 CLOUDY 43-45 RECOMMENDED 46-45		0	71
SHALLOW TO DEEP SETTING	PUMPING			
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TATUS	ABANDONED, INSUFFICIENT SUPPLY     ABANDONED POOR QUALITY     UNFINISHED	.*	T P VIL	LAGE
55-56 1 CADOMESTIC 5	COMMERCIAL		4/0' 9	
INC. AL 3 DIRRIGATION 7	MUNICIPAL PUBLIC SUPPLY COOLING OR AIR CONDITIONING			LHMOND
57 OTHER	ING USED		₹ 185	
ETHOD 4 CABLE TOOL P COTARY (CONVENTIONAL) OF 4 ROTARY (REVERSE)	BORING     DIAMOND			
RILLING 4 ROTARY (AIR) C AIR PERCUSSION	<ul> <li>D JETTING</li> <li>D DRIVING</li> </ul>		₩ ₹	
E OF WELL CONTRACTOR	LICENCE NUMBER	DRILLERS REMARKS	51 CONTRACT	
McLean Water Supply	Ltd. 3504		SA CONTRACTOR 39-62 DATE RECEIV	<b>0180</b>
A. Scharf			INSPECTOR	
A. Scharf	SUBMISSION DATE			·
?-1. laparel	DAY 11 MO 7 YR 79		, ,	
STRY OF THE ENVIRONM	ENT COPY	<u> </u>	······································	FORM NO. 0506-4-77

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ntario	1. PRINT ONLY IN 2. CHECK 🔀 CORR	NECT BOX WHERE APPLICABLE	15175		<b>RF</b>	
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		TP#	Richm	ond HOA220 DAT		20-53 YR
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NERAL COLOUR	MOST COMNON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	FROM	тс
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1/	. 1.	<u> </u>				
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TER FOUND	KIND OF WATER	51 CASING & OPEN HOL	DEPTH - FEET	SIZE ISI OF OPENING 31-33	DIAMETER 34-38	LENGTH
	FRESH 3 [] SULPHUR 14 SALTY 4 [] MINERAL	DIAM MATERIAL THICKNESS INCHES INCHES	FROM TO	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	41-4 Fe
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25-28 1	] FRESH 3 [] SULPHUR <sup>29</sup> ] SALTY 4 [] MINERAL	4 OPEN HOLE 24-25 1 STEEL 26	27-30	10-13 14-17 18-21 22-25		
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NAME OF DRILLE	denny /	DAY NO YR				

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I NAME OF DRILLERY OF BORER	Mais	LICENCE NUMBER			<u>l</u>		
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MINISTRY OF THE EN	VIRONMENT COP	γ	<u></u>			FORM NO. 0506	-4-77 FORM 7

Ministry		The Ontar	io Water Resource	31648
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Ontario 1. PRINT ONLY 1. 2. CHECK 🛛 CO	IN SPACES PROVIDED	1518220		
COUNTY OP DISTRICT	TOWNSHIP, BOROJGH, CITY, TOWN, FILLA	GE	IN. BLOCK, TPAET, SURVEY E	
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SS-S6 1 E DONESTIC 2 □ STOCK 3 □ IRRIGATION	COMMERCIAL     MUNICIPAL     DUBLIC SUPPLY		$\leq$	
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5 Henry Mains Un	Drillerg Sto44		CONTRACTOR 59-62 DATE	60583
Jon 326, Rich	nor Out	DATE OF INSMECTION	INSPECTOR	
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LOG OF ON	VERBURDEN AND BEDR	OCK MATERIA	LS (SEE II	NSTRUCTIONS)		
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RECOMMENDED PUMP TYPE RECOMMENDED 43-45 D SHALLOW DETING OLO FEET	RECOMMENDED 46-49			i	¥ 7	
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NAMEDE WELL CONTRACTOR A 1 AA	LICENCEJNUMBER	DRILLERS REMARKS	East SE CONT	t side of	double	
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NAME OF DRILLER OF BORTH	LICENCE NUMBER					
SIGNATURE OF CONTRACTOR	MISSION DATE	OFFICE				
MINISTRY OF THE ENVIRONMENT CO	fR	0			FORM NO. 0506-4	-77 FORM 7

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31 32 41 WATER	RECORD	44/64 . ] . ] . [4/1/2 1 . ] . ] . ] . ] . ] . ] . ] . ] . ] .	282/.51.1.			Z SIZE(S (SLOT	OF OPENING	31-33	65 0 DIAMETE	R 34-38	
WATER FOUND AT - FEET	KIND OF WATER		WALL THICKRESS INCHES 12				IAL AND TYPE			INCHES DEPTH TO TOP OF SCREEN	FEE 41-44 80 FEET
2 _ SA 20-23 1 _ FR 2 _ SA 25-28 1 _ FR	LTY         4         MINERAL           IESH         3         SULPHUR         24           ILTY         4         MINERAL         24           IESH         3         SULPHUR         24	4 OPEN HOLE 17-18 1 STEEL 2 GALVANZE: 3 CONCRETE 4 OPEN HOLE 24-25 1 STEEL	E 700		20-23 0/28 27-30			MATER	SEAL	CE (CE	MENT GROUT, PACKER, ETC. )
2 _ SA 30-33 1 _ FF 2 _ SA	RESH <sup>3</sup> SULPHUR <sup>34</sup> <sup>80</sup>	2 🗌 GALVANIZE 3 🗋 CONCRETE 4 🗌 OPEN HOLI	E			26-2	9 30-33	80			
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FINAL STATUS OF WELL 55-56	MATER SUPPLY     OBSERVATION WELT     OBSERVATION WELT     TEST HOLE     A RECHARGE WELL	5 ABANDONED, IN 6 ABANDONED, Pr 7 UNFINISHED				<sup>383</sup> ، بعي <sup>383</sup>	μ.`				
WATER USE	2 STOCK 3 IRRIGATION 4 INDUSTRIAL OTHER	6 🗌 MUNICIPAL 7 🗍 PUBLIC SUPPLY 8 🗌 COOLING OR AIR CO	ONDITIONING NOT USED		3091	101					
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	y Main	SUBMISSION DATE 1 DAY MO	1 14 11	OFFICE				1.199.19 S		N	NI

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		UBLIC SUPPLY OOLING OR AIR CONDITIONING 9 🔲 NOT USED			V <sup>5m</sup>		
	CABLE TOOL	6  BORING				7	
OF / 3 DRILLING	ROTARY (CÓNVENTIONAL) Rotary (Reverse) Rotary (Air)	7 🔲 DIAMOND 8 🔲 JETTING 9 💭 DRIVING				 ^	
NAME DE WELL CONTRACTO	AIR PERCUSSION	11 LICENCE NUMBE	8		side of doube		
ADDRESS (	Kains Well	Drilling 364	<u> </u>		TRACTOR 59-62 DATE RE	3108	3
NAME OF DRUCER OR BORE	6, Kichmon	LICENCE NUMBE	L R			~	
SIGNATURE OF CONTRACTOR	2 Maine	SUBMISSION DATE	OFFICE	/			
		DAY 22 NO. 9 Y					

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Mark correct box with a checkmark, where applicable.

## The Ontario Water Resources Act WATER WELL RECORD

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	unty or District					/Borough/City/		9		Con bl	ock tract survey 3	, etc. L	ot 25-27 25
	<u>Attawa (</u>	arleton			Address	Goulbou					Date		48-53
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		r			VERBURDEN		OCK MAT	FERIALS (s				Dep	h - feet
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31													
41										of opening	31-33 Diameter	34-38 Len	
Wa	ater found	Kind of w		Inside diam	Material	Wall thickness	Depth From	- feet To	(Slot N	lo.)	i	nches	feet
	10-13 1		Sulphur 14 Minerals	inches 6 <sup>10</sup> 11/4	Calvanized	inches <b>188</b>	0	2215	Materia	al and type		Depth at top	of screen 30 41-44
$\vdash$	55 <sup>2</sup> [ 15-18 <b>N</b>		Salphur 19		Concrete								feet
	20.22	Salty 6	Minerais	17-18	Plastic     Steel     19			20-23	61	PLUGGI	NG & SEALING	Abandon	
			Minerals		Galvanized     Goncrete     Zopen hole		22.5	73	Depth set From	t at - feet To	Naterial and type (Ce	ment grout, t	entonite, etc.)
			Sulphur 29 Minerals		Plastic     Def 26			27-30	10-13 <b>21</b>	14-17 0	Grouted -	Cemen	t (3)
	30-33 1 [	] Fresh 3 []	Sulphur <sup>34</sup> <sup>60</sup> Minerals		Galvanized     Galvanized     Concrete     Open hole				18-21 26-29	22-25 30-33 80	T		
	2 [	Salty 6											
71	Pumping test n		Pumping rate	11-14 15 GPM	Duration of pumpi 15-16 Hours	ing 17-18 Mins				OCATION (			
F	Statia loval	Water level and of pumping	25 Water levels	-		2 🗆 Recovery		In diagran Indicate n	n below sho orth by arro	ow distance ow.	es of well from r	oad and lo	ot line.
TEST	19-21	22-24	15 minutes 26-28	30 minutes 29-31	45 minutes 32-34	60 minutes 35-37					Ś		
PUMPING	10*38	35 feet	70 feet Pump intake set	50 feet	35 feet Water at end of tes	35 feet st 42					¥		
PUM	Recommended	GPM	Recommended	<b>feet</b> 43-45	Clear Recommended	Cloudy 46-49		. 1	Ċ.	>	n N N		
	□ Shallow	Deep	pump setting	50 feet	pump rate	5 дрм		Kir	ig Str	reet	` ]		<del></del>
	50-53 NAL STATU		54						į	28	1		t I
	<sup>1</sup> Water sup <sup>2</sup> Observati		5 🖸 Abandoned, 6 🗍 Abandoned,		oply <sup>9</sup> 🗌 Unfinish <sup>10</sup> 🗍 Replace				1 1	Ž	24'		ŧ
	<ul> <li><sup>3</sup>          Test hole     </li> <li><sup>4</sup>          Recharge     </li> </ul>		7 🗋 Abandoned 8 🗋 Dewatering						ł	G	L	7	1
w	ATER USE		55-56						1				1
	<ol> <li>Domestic</li> <li>Stock</li> <li>Irrigation</li> </ol>		5  Commercial 6  Municipal 7  Public suppl		9 Not use 10 Other	) 			1	<b>.</b> # (	72	I	ł
	4 🗌 Industrial		8 Cooling & ai					, es			,		4
M			TION 57 5 CXAir percussion		<sup>9</sup> Driving		15	es o o de la contra de la contr	5				
	<ul> <li><sup>2</sup> Botary (classifier)</li> <li><sup>3</sup> Botary (relation)</li> </ul>	onventional) everse)	6 🗍 Boring 7 🗍 Diamond	511	<sup>10</sup> Digging <sup>11</sup> Other			, refere				000	500
	4 Rotary (a	ir)	<sup>8</sup> Jetting					<u> </u>				220	588
Na	ame of Well Contr	ractor				or's Licence No.			58 Contractor	550	59-62 Date rece		63-68 80
Ad	Capital dress	Water S	Supply L	tđ.	1558		No Inste	of inspection	120	D D D Inspector	JAN	292	
	Box 490 ame of Well Tech	Stitte	sville, (	Ontaric	K2S 1A6	an's Licence No.		arks					
	s. Mille	er,			TO	097	AT SINIM					CSS.E	S1
Sig		icial/Contractor	$\neg \Lambda$		Submission da day <b>20</b> mo		WIN						

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<b>(</b> )	Ontario
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) Ont	ario Ministry of the Environme	nt					The	e Ontario WATE			rces Act CORD
nt only in spac ark correct box	es provided. with a checkmark, where	applicable.	1	2	15	5317	78		<b>A A</b>		22 23 24
ounty or District			Township/Bord		fown/Village	•			tract surve	y, etc. L	_ot 25-27
tawa Car	rleton		Goulbou Address 6180 Ott	····	# 35 Street	, Rich	KOA 220	3	Date completed	16	26 03 01 month year
2	U T M 10						ation RC	Basin Code			iv 47
					OCK MAI	ERIALS (S		-		Dep	oth - feet
eneral colour	Most common materi	ai	Other ma	aterials			Genera	description		From	То
rown	Hardpan	B	oulders						we what has not a t	0	11
rey	Limestone					ha	rd			11	75
					1.1				1 1 1	1	
1 2	$\frac{1}{1}$					$\frac{1}{1}, \frac{1}{1}, \frac$		<u></u>	⊥⊥   [⊥⊥⊾ · ·     · ·		
10 10		51 CA	SING & OPEN			-4	54 Sizes of	opening 3	1-33 Diameter	· 34-38 Ler	75 80 ngth 39-40
ater found - feet 69 <sup>10-13</sup> 1 2 15-18 1	Kind of water Cresh 3 Sulphur 14 Satty 6 Gas Fresh 3 Sulphur 19 Com 4 Minerals	Inside diam inches 6 1/4 10 2 3 1 4 1	Material Ir Steel <sup>12</sup> Galvanized Concrete Open hole Plastic	Vall nickness nches	Depth From	To 21 <sup>13-16</sup>	(Slot No Material	and type	& SEALING	inches Depth at top	41-44 f <del>eo</del> t
1² L	Salty 6 🗆 Gas	17-18 1				20-23			a SEALING		ument

<b>69</b> <sup>10-13</sup>	<sup>1</sup> Norsh TESUBBO <sup>2</sup> Satty 6 □ Gas	r 14 İs	6 I/4	2 Galvanized 3 Concrete	.188	0	<b>21</b> <sup>13-16</sup>	S	a and type		41-44 feet	•
15-18	1 □ Fresh 3 □ Sulphu 2 □ Salty 6 □ Gas			4  Open hole 5 Plastic				61	PLUG	GING & SEA		
20-23	1 🗆 Fresh 3 🗆 Sulphu		17-18	1  Steel 1 2 Galvanized			20-23	- Death and	Annula	r space	Abandonment	
	2 Salty 6 Gas	ls	6"	3 Concrete 4 Open hole		21	75	From	tat-feet To	Material and ty	pe (Cement grout, bentonite, e	эtс.)
25-28	1 🗆 Fresh 3 🗆 Sulphu		24-25	5 D Plastic			27-30	21	<b>0</b>	Grouted	3 (3)	
	<sup>2</sup> Salty 6 Gas			2 Galvanized			21-00	18-21	22-25			
30-33	1 □ Fresh <sup>3</sup> □ Sulphu 2 □ Salty <sub>6</sub> □ Gas			3 Concrete 4 Open hole 5 Plastic				26-29	30-33	80	••••••••••••••••••••••••••••••••••••••	
						,	× –					
71	est method 10 Pump 2  Bailer	ing rate	11-1- 8 GPM	- 16	ng 			L	OCATIO	N OF WELL		

71 1 🕱 Pump 2 🗆 Bailer 🛛 8 GPM	15-16 17-18 Hours Mins	LOCATION OF WELL	
Statis Isual Water level 25 Water levels during 1	Pumping 2 🗌 Recovery	In diagram below show distances of well from Indicate north by arrow.	road and lot line.
Static level     end of pumping     virale levels during     initial       19-21     22-24     15 minutes 26-28     30 minutes 30 minutes 26-28       9 * 6 *     25     73     30       feet     feet     feet     feet       If flowing give rate     38-41     Pump intake set at       GPM     feet     feet       Recommended pump type     Recommended     43-45	25     feet     25       Water at end of test     42       □ Clear     I Cloudy       Recommended     46-49	<u>Ottawa Street</u>	<u> </u>
□ Shallow 🙀 Deep Pump setting 30 feet	pump rate 5 GPM	•	c
50-53	•		
FINAL STATUS OF WELL     54       1 1 Water supply     5 Abandoned, insufficient s       2 0bservation well     6 Abandoned, poor quality       3 1 Test hole     7 Abandoned (Other)       4 Recharge well     8 Dewatering	upply <sup>9</sup> Unfinished <sup>10</sup> Replacement well	Pitless 1	can
WATER USE       55-56         1       Domestic       5         2 \$\vec{f}\$ Stock       6         3       Irrigation         4       Industrial         8       Cooling & air conditioning	9 🗋 Not use 10 🗌 Other	Well in Back For watering animals	
METHOD OF CONSTRUCTION 57	······································		
1       Cable tool       5       First Air percussion         2       Rotary (conventional)       6       Boring         3       Rotary (reverse)       7       Diamond         4       Rotary (air)       8       Jetting	9 Driving 10 Digging 11 Other		230041
Name of Well Contractor	Well Contractor's Licence No.	Data 58 Contractor 59-62 Date re	ceived 63-68 80
Capital Water Supply Ltd.	1558	O Date of inspection	R 2 6 2001
Box 490, Stittsville, ON, K2 Name of Well Technician S. Miller Signature of rechnician/Contractor	s 1A6 Well Technician's Licence No. TOO97 Submission date day 16mo 3 yr 01	Remarks	CSS.ES1
2 - MINISTRY OF THE ENVIRONME			0506 (07/00) Front Form 9

🕅 Ontario	Ministry of the Environment		T		r Resources Act ELL RECORD
Print only in spaces pro Mark correct box with a	ovided. a checkmark, where applicabl	<b>e</b> . [11]	1533 <b>079</b>		
County or District	<u> </u>	Township/Borough/City/T		Con block tract su	
Ottawa Carl	eton 28-47 First Name	Goulbo	urn	3Date	<b>23</b> 48-53
Maple Mount	ain Homes	P.O. Box 730	Richmond, Ontario	KOA 220 complete	<sup>ed</sup> 21day 8 month02year
21		sting Northing		RC Basin Code ii	
General colour	Most common material	OverBORDEN AND BEDR	OCK MATERIALS (see instru Gen	eral description	Depth - feet From To
Brown	Clay	Stones			0 12
Gray	Clay	Stones			12 26
Gray	Limestone				26 180
Gray & Whit	e SAndstone				180 240
	Note	Casing was left ]	foot above ground	] level	
		at time of drilli			
			••• <b>9</b>		
		┺╍┵┙└╌╴╴╴╴╴╴╴╴╴╴╴╴╸╸╸			
10 14 15 41 WATER RE	CORD 51	CASING & OPEN HOLE R		s of opening 31-33 Diame	75 80 eter 34-38 Length 39-40
Water found Kir at - feet	nd of water linside diam	Wall Material thickness	Depth - feet         Z         (Slot)           From         To         U         Mate	t No.)	inches feet
236 <sup>2</sup> Salty	3 Sulphur 14 4 Minerals 6 Gas 5 Gas	inches 1 Steel 12 2 Galvanized 3 Concrete 4 Open hole	0 29°	erial and type	Depth at top of screen 41-44 feet
1 L Fresh 2 L Salty	4  Minerals 6  Gas 17-18	ε   Plastic   19   19   19   19   19   19   19   1	20-23 61		Abandonment
<sup>20-23</sup> ≀ □ Fresh 2 □ Salty	4 🔟 Minerais	2 Galvanized 2 Concrete		Set at - feet Material and type	(Cement grout, bentonite, etc.)
25-28 1 🗆 Fresh	3 🗆 Sulphur 29	t in Open hole ε □ Plastic 26	29 240 From 10-13 27-30 29	10 3 14-17	- Cement (4)
2 □ Salty 30-33 1 □ Fresh 2 □ Salty	6 Gas	1         Steel         20           2         Galvanized         3           3         Concrete         4           4         Open hole         5           5         Plastic         1	27-30 <b>29</b> 18-21 26-25	22-25	
Pumping test method	10 Pumping rate 11-14	Duration of pumping			
71 1 Pump 2 Baile	er 20 GPM vel 25 Water levels during 1	Pumping 2 Recovery	1 7	LOCATION OF WELL how distances of well from rrow.	m road and lot line.
IS I A 1 3 Her 75	<sup>22-24</sup> 15 minutes 26-28 30 minutes 29-31	45 minutes 32-34 60 minutes 35-37	'		
E Id 3det 75	feet         225jeet         150 feet <sup>38-41</sup> Pump intake set at	t 100 feet 75 feet Water at end of test 42			
Recommended pump typ	GPM feel e Recommended <sup>43-45</sup>		0#	awa St	
□ Shallow	numn setting	pump rate		and St	l l
50-53		-		à 1 5 20'	
FINAL STATUS OF 1 Water supply Deservation well Test hole Recharge well	54     54       5 Abandoned, insufficient s     6 Abandoned, poor quality       7 Abandoned (Other)     8 Dewatering	upply <sup>9</sup> Unfinished <sup>10</sup> Replacement well		G	کودی
WATER USE Domestic Stock Irrigation Irrigation METHOD OF COME	55-56 5 Commercial 6 Municipal 7 Public supply 8 Cooling & air conditioning	9 🔲 Not use 10 🗌 Other		ļ	mer-
METHOD OF CONS 1 Cable tool 2 Rotary (convention 3 Rotary (reverse) 4 Rotary (air)	5 🛫 Air percussion	<sup>9</sup> Driving 10 Digging 11 Other			ا 250384
Name of Well Contractor		Well Contractor's Licence No.	► Data 58 Contrac	tor 59-62 Date	EP 1 6 2002 63-68 80
Address	ter Supply Ltd.	1558	Source Date of inspection	558 SI	EP 1 6 2002
P.O. Box 4 Name of Well Technician	90 Stittsville, (	Well Technician's Licence No.	S ≻ Remarks		CCC ECO
S. Niller Signating of Technician/Con	ntector	T0097 Submission date	MINISTF	· · · · ·	000.E02
Signature of Technician/Col		day 23 mo8 yD2	4 W		

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0506 (07/00) Front Form 9

Print only in spaces provided. Mark correct box with a checkmark, where applicable.          11       1533080	
Ottawa Carleton       Goulbourn       2       222         Owner's sumame       28:47       First Name       Address       Date       Completed       Date       Completed       Oute       Completed       Oate       Completed       Comp	hth2 year iv feet To 8
C\$N Electric Ltd.       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Zone       Easting       Northing       RC       Elevation       Ranotick, Ontario       completed 20 day 08 mo         21       Elevation       Most common material       Other materials       General description       Depth         brown cl       Clay       stones       packed       0       packed       0	™ 47 feet To 8
Zone     Easting     Northing     RC     Elevation     K/2/14     H/2/14     H/2/14       21     10     11     11     11     11     11     11     11       21     10     11     11     12     12     12     12     12     13     14     14       21     10     11     11     12     12     12     12     13     14       11     12     12     12     12     12     12     13     14       12     12     12     12     12     12     13     14       12     12     12     12     12     13     14     14       12     12     12     12     12     13     14       12     12     12     12     12     13     14       13     14     14     14     14     14       14     15     16     16     16     17       16     R     10     10     10     10     10       16     R     10     10     10     10     10       16     R     10     10     10     10     10       17 <t< td=""><td>™ 47 feet To 8</td></t<>	™ 47 feet To 8
LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)         General colour       Most common material       Other materials       General description       Depth- From         brown cl       clay       stones       packed       0	то 8
General colour     Most common material     Other materials     General description       brown cl     clay     stones     packed     0	то 8
DEOWII CI CI AY SCORES PACAGE	
grey     limestone     medium     8       Image: Strategy of the strategy of	125
Note: Casing was left 1 foot above ground level at time of drilling.	
<u> </u>	
41 WATER RECORD 10 14 15 21 32 43 54 65 11 CASING & OPEN HOLE RECORD 10 14 15 21 32 43 65 10 14 15 CASING & OPEN HOLE RECORD 10 14 15 21 21 21 21 21 21 21 21 21 21 21 21 21	75 80 39-40
at - feet Kind of water diam Material thickness From To	feet screen 30
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	41-44 feet
15-18 1 C C C C C C C C C C C C C C C C C C	
20-23 1 Eresh 3 Sulphur 24 5 7/8 2 Galvanized 3 Concrete 20 24 C 1 25 C 24 C 24 C 24 C 24 C 24 C 24 C 24 C	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	
2 Saity 6 Gas 1 Stephen 3 Sulphur 34 60 3 Concrete	
1       Fresh       4       Open hole       26-29       30-33       80         2       Satty       6       Gas       5       Plastic       1	
Pumping test method       10       Pumping rate       11-14       Duration of pumping         71       Pumping test method       10       Pumping rate       11-14       Duration of pumping         71       Pumping 2       Bailer       12       GPM       1       15-16       17-18         Nins       LOCATION OF WELL	
Static layer Water level 25 Water levels during 1 Pumping 2 Recovery	ne.
19-21 22-24 15 minutes 26-28 30 minutes 29-31 45 minutes 32-34 60 minutes 35-37	
12*5     50     feet     120     feet     75     50       If flowing give rate     38-41     Pump intake set at     Water at end of test     42       If flowing give rate     GPM     feet     Clear     203 Cloudy	
GPM feet Clear XIX Cloudy Recommended pump type Recommended <sup>4345</sup> Recommended <sup>4649</sup>	
Shallow Groeep pump setting 95 from pump rate 5 GPM	
50-53     50-53       FINAL STATUS OF WELL     54       12 Water supply     5 <ul> <li>Abandoned, insufficient supply</li> <li>Beplacement well</li> </ul> 35 <ul> <li>King Siret.</li> <li>King Siret.</li> </ul> 36 <ul> <li>King Siret.</li> <li>King Siret.</li> <li>King Siret.</li> <li>King Siret.</li> <li>King Siret.</li> </ul>	
3     Test hole     7     Abandoned (Other)       4     Recharge well     8     Dewatering	
WATER USE         55-56           1 Domestic         5 □ Commercial         9 □ Not use	
2 Stock       6 Municipal       10 Other       13         3 Inrigation       7 Public supply       14         4 Ondustrial       8 Cooling & air conditioning       14	
METHOD OF CONSTRUCTION         67           1         Cable tool         5 X Air percussion         9 Driving           2         Rotary (conventional)         6 Boring         10 Digging	
a Dotary (convention)       a Dotary (convention)       b Dotary (convention)       c Dotary (convent	80
	63-68 80
Capital Water Supply Ltd. 1558	
Address Date of inspection Inspector	
	-52
Signature of Technician/Contractor Submission date	
2 - MINISTRY OF THE ENVIRONMENT COPY 0506 (07/00)	

Signature of/Technician/Contractor	Submission date day22 mo 08 yr02	NIN
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<b>P</b> C	ntario	Ministry o the Enviro			Place sticker and p	rint number below)	Regulation	n 903 Onta	Well F	Record
	ns for Comp			······	3675					of
<ul> <li>All Sec</li> <li>Questi</li> <li>All me</li> <li>Please</li> </ul>	tions <b>must</b> be ons regarding <b>tre measuren</b> print clearly ir	completed in completing th <b>ents shall b</b> blue or blaci		ys in proces be directed <b>0<sup>th</sup> of a met</b> i	sing. Further to the Wate r <b>e.</b>	instructions a	nd explanations an ement Coordinato	e availahle	on the back c 35-6203.	of this form.
Well Own First Name	er's Informat	ion and Loc Last Nar	ation of Well In		MUN Mailing Addro		CON		LOT	
Hank Del	(emp & Van		ruction		2069	Qoodroffe	Ave			
Ottawa (	ict/Municipality <b>arleton</b> Vell Location (Co	unty/District/M	Township/City/To Ottawa				tal Code 2C 3H1		Number (inclue 26 6729 Concession	, 
Ottava (	arleton Number/Name				Goulbour City/Town/	<b>n</b>	011-10	24/25	3	
	1 3. Hing				Unit Make/	ond			t/Block/Tract e	
	8 3	18 43	6457 50	rthing 04602	Garmi		e of Operation:	Undifferentia	A	raged
General Color		Non material	aterials (see ins	structions)		Gener	al Description	· · ·	Depth	Metres
brown	clay	·							From 0	To <b>2.43</b>
brown	hardpar	2	layered			hard & lay	vered		2.43	4.26
grey	limesto	ne	layered		1	hard			4.26	18,59
grey	limest	ne		·					18.59	22.25
		-								
								······································		
Hole	Diameter	<u> </u>	Con	struction Re			11			
Depth	Metres Diame	ter Inside	Con	Wall	Depth	Metres	Pumping test met	Test of We		Recovery
From	To Centime	tres diam	Material	thickness		То			Vater Level Time Metres min	Water Level Metres
	6.40 22.7			Casing			Pump intake set a (metres)	it - Static Level		
6.40	22.24 15.3		Steel Fibreglass	S			Pumping rate - (litres/min)	1	1	
Wat	er Record	15.86	Plastic Concrete	0.48	+.45	6.40	Duration of pumpi	~	2	
Water found atMetres	Kind of Wate		Steel Fibreglass	S			Final water level e		<u>``3</u>	- -
<b>8</b> 53 m Gas Other:	Salty Mine		Plastic Concrete				of pumpingme	etres		
12.49	 Fresh 🛄 Sulpt	nµr	Steel Fibreglass	5			type. □Shallow □[	Deep	4	
Gas [16.15-18]	Salty Mine	rals	Plastic Concrete		1		Recommended pu depthme	tres	5	
	Fresh Sulpi			Screen			Recommended pu	10	10	
Other:		diam	Steel Fibreglass	Slot No.			(litres/min) If flowing give rate		15 20	
After test of we	ell yield, water wa sediment free	S	Galvanized	· .			(litres/min) If pumping disconti	25 ¶* 30	25 30	
Other, spe	cify		No	Casing or Sc	reen		ued, give reason.	40	40	
Chlorinated	Yes 🗌 No		Copen hole		6.40	22.74		50 60	50 60	
Death and at 1		Sealing Reco			Abandonment			on of Well		-
Depth set at - 1 From	To Material an	d type (bentonite s	slurry, neat cement slurr		me Placed pic metres)	In diagram below Indicate north by	w show distances of w y arrow.	ell from road	, lot line, and bu	ilding.
6.40 (	) grou	ted: bent	onite slurry	r1	98m3	KA	y arrow. Brest we	<b>`</b>		
· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·				wer ver	*5		
		2					rd.	··· • • • •		Stree
l		Method of (	Construction			Richard				- E - S - E
Cable Tool		ary (air)	Diamond		Digging					Ottawa
Rotary (conv		percussion ing	Jetting	· [	Other		King St.		*******	- 7
Domestic		Wate	r Use	nhu	Other					
Stock	Cor	nmercial	Not used	air conditioning				Dete Mall C		•
		Final Stat	us of Well	State of the second	· ··· · · · · · · · · · · · · · · · ·	Audit No. Z	13768	Date Well C	2005	MM DD 3 16
Water Supp		e well ned, insufficient si	Dewatering		ioned, (Other)	Was the well ov package delivered	vner's information d? Yes No	Date Deliver	red YYYY 2005	MM DD 3 22
Test Hole		ed, poor quality	Replaceme	ent well			Ministry	Use Only		
Name of Well C	ontractor		4	/ell Contractor's	Licence No.	Data Source		Contractor		<b>२</b>
Business Addre	Water Sup	umber, city etc.)	- mag 41-	1558		Date Received		Date of Insp	ection YYYY	MM DD.
Name of Well T	echnician (last nan	u <b>e, Untar</b> : ne, first name)		/ell Technician's	Licence No.	Remarks	AY 18 2005	Well Record	l Number	·
Miller, Signature of TA	hnician/Contracto		Da	TOO97	Y MM DD	6 - N#	1. A.	¥		
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Instructior	ns for Compl	eting	g For	m	<u> </u>	70130	073			n y Taol	¢,	age _	of _
• For use	in the <b>Provin</b>	ce o	f Onta	ario only. Thi	s docume	nt is a perr	nanent leg	al document.	Please retain for futu	ire refe	erence.		
	ons regarding	çomp	bleting	this applicati	ion can be	e directed to	o the Wate	r Well Manage	nd explanations are av	/ailable t 416-2	∍ on the ba 235-6203	ick of	this for
<ul> <li>All met</li> </ul>	tre measurem	ents	s shall	I be reported	to 1/10 <sup>th</sup>	of a metre	·		Ministry Us				
	er's Informat			,	Vell Infor	mation	MUN		CON			LOT	
Vttawa C	Carleton			· · ·			Goulb			1 100		001011	
RR#/Street N	umber/Name	<b>c</b> .			- *		City/Town/\	/illage	Site/Comp	4/25 artmen	nt/Block/Tra	act et	С.
GPS Reading	NAD	Zone	Ę	asting	Northin	ıg	Ricl Unit Make/	Model Mod	le of Operation: 🗌 Und	differenti	iated 😽	Avera	aged
Log of Ove	8 3  erburden and	18 Bec	drock	35246 Materials (	<u> </u>	4428	Garmin		Diff	ferentiate	ed, specify		
General Colou					Other Mate	·····		Gene	ral Description		Dept		Metre
brown	clay			sten				<b>t t</b>		· .	Fro	m	To
grey	limesto	ne		ALOU			-	acked dium hard			0		3.65
			Contraction of the second								3.6	>	45.1
		a providence in the second		5								1	
		<b>_</b>	100 million (100 m										· .
		<b> </b>	The second second second second second second second second second second second second second second second se										
			2)	·					······			·	
Hole	Diameter	╞┑┍			Conot-	uction Reco	ard		7,	4 - 5 3 4			
	Metres Diamet	er	Inside	e		Wall	Depth	Metres	Pumping test method		Vell Yield	R	ecovery
From	To Centimet	+ I .	diam centimeti	n Mater		thickness	From	То	submersible	Time		Time	Water Le
0 6	.40 22.	75		les		centimetres		10	Pump intake set at -	min Static	Metres	min	Metre
6.40 4	5.18 15.	39  -		Steel		Casing			Pumping rate -	Level	-	1	
			15.8	B6 Plastic	Concrete	0.48	+.45	6.40	(litres/min) Duration of pumping				
Water found at Metres	er Record Kind of Wate	╆┥┡		Galvanized	J	0.40	****	0,40	hrs + min	2		2	
43,58	 Fresh Sulph		and a second second	Plastic	Ŭ				Final water level end of pumping	3		3	-
Other:	Salty Miner	als	and a second second second second second second second second second second second second second second second	Galvanized					Recommended pump	4		4	
NOT TEST			an san san san san san san san san san s	Steel	-				type.	2	· · ·		
Gas Other:	Salty Miner	als	an the second second second second second second second second second second second second second second second	Galvanized					Recommended pump depthmetres	5		5	
m	Fresh Sulph					Screen			Recommended pump	10		10	
Gas Gas Other:	Salty Miner		Outsid diam			Slot No.			(litres/min) If flowing give rate -	15 20		15 20	
After test of we	Il yield, water wa		a de la contra	Plastic					(litres/min)	25		25	
Other, spec						ing or Scre	en		If pumping discontin- ued, give reason.	30 40		30 40	
Chlorinated w	Yes No	╞╌╢┣		39 Topen hole					4	50		50	
							6.40	45,18	][	60		60	
Depth set at - M	Plugging and letres Material and			ecord	Annular s	···· · · · · · · · · · · · · · · · · ·	e Placed	In diagram belo	Location of well fr			nd bui	Iding
From	To			_		.c. (cubic	metres)	Indicate north b	y grow. Ottaw				any.
5.40 (	0 grout	ed:	ben	ntonite s	Lurry	.154	<b>m</b> 3		Y Urraw	<u></u>	UNCE	È	
			-+	<u></u>									
				· · · · · · ·									to
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											_		01
	E Dat			of Constructio	-		<u> </u>		( Innon		Ð		King
Cable Tool	entional)	ary (air	r)	Di	<b>on</b> iamond		Digging Other		R. Simon	-		-	
I	entional)  🙀 Air	ry (air percus	r) ssion	Di Je Dr	iamond				F. J. mond	T	& est Notell		
Rotary (conve Rotary (rever	entional) 🙀 Air (	ary (air percus ng	r) ssion	Di Je Di Vater Use	iamond etting		Other	A Z	Ridimond	T	est Well #1		-
Rotary (conversion) Rotary (rever Domestic Stock	entional) 🙀 Air   rse) 🗍 Bori 🗌 Indu	ary (air percus ng istrial merci	r) ssion <b>W</b> i	Di   Je   Di   ater Use   Pu   No	iamond etting riving ublic Supply ot used			R R			ギン		
Rotary (conve Rotary (rever	entional) 🙀 Air   rse) 🗍 Bori 🗌 Indu	ary (air percus ng strial merci icipal	r) ssion Wa	Di   Je   Di   ater Use   Pu   No	iamond etting riving ublic Supply		Other	Audit No. Z					MM D
Rotary (conv Rotary (rever Domestic Stock Irrigation	entional) 🙀 Air   rse) 🗍 Bori Indu Con Mur y Recharge	ary (air percus ng strial merci icipal f well	r) ssion Wi ial F <b>inal S</b>	Di   Je   Dr   dter Use   Pu   Na   Ca Status of Well   Ur	iamond atting ublic Supply ot used ooling & air co	onditioning	Other	Was the well o	<b>13770</b> Date wner's information Date		Completed YYYYY 2005 ered YYY	YY YY	MM D 3 17 MM D
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Rotary (convergence)         Rotary (revergence)         Domestic         Stock         Irrigation         Water Supply         Observation of Test Hole	entional) Air rse) Bori Con Mur y Recharge well Abandor Abandon Well C	ary (air percus ng strial merci icipal f ed, ins ed, po	r) ssion Wi ial Final S sufficien por quali	Di   Je   Dr   dter Use   Pu   Na   Ca Status of Well   Ur nt supply   De	iamond atting ublic Supply ot used ooling & air co nfinished ewatering eplacement w formation	onditioning	Other Other ned, (Other)	Was the well o	13770 Dat wner's information ad? Yes No Ministry Use	e Well e Delive	+ 1 Completed 2005 ared 777 2005	YY 	мм р 3 117 мм р 3 122
Rotary (convergence)         Rotary (revergence)         Domestic         Stock         Irrigation         Water Supply         Observation v         Test Hole         Iame of Well Question	entional) Air rse) Bori Con Mur y Rechargu well Abandor Abandon Well Contractor	ary (air percus ng strial merci icipal f ed, ins ed, po contra	r) ssion Wi ial Final S sufficien por quali actor/T	Di     Jee     Di     Jee     Di     Tsupply     De     Technician Inf	iamond atting ublic Supply ot used ooling & air co nfinished ewatering eplacement w formation	onditioning	Other Other ned, (Other)	Was the well o package deliver	13770 Dat wner's information ad? Yes No Ministry Use	e Well e Delive e Only ntractor	₩ 1 Completed YYYY 2005 ared 2005 2005 1 5	5	мм р 3 117 мм р 3 122
Rotary (converted and the second converted and the second convert	entional) Air rse) Bori Con Mur y Recharg, well Abandor Abandon Well C ontractor Water Supposs (street name, no	ry (air percus ng strial merci icipal f well ed, ins ed, po ontra	r) ssion Mi al Final S sufficien sor quali actor/T Ltto , city etc	Di     Jee     Di     dater Use     Pr     Pr     Co     Status of Well     Ur     t supply De     Ity Re     Technician Inf	iamond etting riving ublic Supply ot used ooling & air cr ooling & air cr evatering eplacement w formation Well C	onditioning Abando vell	Other Other ned, (Other)	Was the well or package deliver	13770 Dat wner's information ad? Yes No Ministry Use Cor	e Well e Delive e Only ntractor	+ 1 Completed 2005 ared 777 2005	5	MM 117 MM 0 3 122 8
Rotary (conv     Rotary (rever     Rotary (rever     Stock     Irrigation     Water Supply     Observation v     Test Hole     Vame of Well Co     Lapital     Jusiness Addres     Sox 490     Vame of Well Te	entional) Air rse) Bori Con Mur y Recharg well Abandor Abandon Well Contractor Nater Supp ss (street name, no Stittsvill cohnician (last nam	ry (air percus ng strial merci icipal f well ed, ins ed, po ontra	r) ssion Mi al Final S sufficien sor quali actor/T Ltto , city etc	Di     Jee     Di     dater Use     Pr     Pr     Co     Status of Well     Ur     t supply De     Ity Re     Technician Inf	iamond etting riving ublic Supply ot used ooling & air cr ooling & air cr ooling & air cr anfinished ewatering eplacement w formation Well C	onditioning Onditi	Other Other ned, (Other) icence No.	Was the well or package deliver	13770       Date         wner's information       Date         ad?       Yes       No         Ministry Use       Cor         YYYY       MM       DD         AY       18       2005	e Well e Delive e Only ntractor e of Insp	₩ 1 Completed YYYY 2005 ared 2005 2005 1 5	5	MM DI 3 17 MM DI 3 22 8
Rotary (conversional conversional conve	entional) Air rse) Bori Con Mur y Recharg well Abandor Abandon Well Contractor Nater Supp ss (street name, no Stittsvill cohnician (last nam	ry (air percus ng strial merci icipal ed, ins ed, po <b>ontra</b>	r) ssion Mi al Final S sufficien sor quali actor/T Ltto , city etc	Di     Jee     Di     dater Use     Pr     Pr     Co     Status of Well     Ur     t supply De     Ity Re     Technician Inf	iamond atting riving ublic Supply ot used ooling & air co nfinished ewatering eplacement w formation Well C Well 1	onditioning Onditi	Other Other ned, (Other) icence No.	Was the well o package deliver Data Source Date Received	13770       Date         wner's information       Date         ad?       Yes       No         Ministry Use       Cor         YYYY       MM       DD         AY       18       2005	e Well e Delive e Only ntractor e of Insp	the hyperbolic state of the h	5	MM DI 3 17 MM DI 3 22 8

🕅 Ontario	Ministry of the Environ	Well Tag	N A Qui	1341	below)	Well Record Regulation 903 Ontario Water Resources A
Instructions for Comple	tina Form	A	043	341	1	page of
<ul> <li>For use in the Province</li> <li>All Sections must be of</li> </ul>	e of Ontario completed in from the ompleting this	ull to avoid delays i application can b	in processing be directed to	. Further	instructions and	ease retain for future reference. d explanations are available on the back of this form Desk (Toll Free) at 1-888-396-9355.
Please print clearly in I	plue or black i	nk only.		MUNI		Ministry Use Only
813	arle wrke	5730 _ 5776 1923 500	red Ci 194238	to/Town/V	bo ur	Lot
Log of Overburden and		terials (see instr	uctions)	0	>	Description Depth Metres
General Colour Most comm		Other Mate	erials		Genera	al Description Depth Metres
- Gr	ey l	inesto	V Come			4.57 54,3
		<b>~</b> -				*
Hole Diameter Depth Metres Diameter	er Inside	Consti	ruction Recor	d Depth	Metres	Test of Well Yield           Pumping test method         Draw Down         Recovery
From To Centimetr		Material	thickness	From	То	Su BRANCE Time Water Level Time Water Level min Metres
0 24-0 4			Casing			(metres) Static 1,70 164
		Steel Fibreglass	21 mm			Pumping rate - 1 4-33, 1 1(.30
Water Record	15,88	Steel Fibreglass Plastic Concrete Galvanized	.48	$\bigcirc$	15.21	Duration of pumping 2 2 7 2 2 8 70
Water found atMetresKind of Water		Steel		*****		
Gas Salty		Plastic Concrete Galvanized				of pumping4-0 metres
Conter:	Ir	Steel Fibreglass				Recommended pump 4 7 4 4 5 5 4 4 5 5 4 4 5 5 5 4 4 5 5 5 5
Ges Salty Miner		Plastic Concrete Galvanized				depth
m Fresh Sulphu			Screen			Recommended pump 10 1351 10 1.10
Gas Salty Minera	als Outside diam	Steel Fibreglass	Slot No.			Interference         Item         Item
After test of well yield, water was		Plastic Concrete - Galvanized				(litres/min) 25 14 4 5 25 If pumping discontin- 30 15 35 30
Other, specify		No Ca	sing or Scree	n		ued, give reason. 40 15.76 40
Chlorinated Kes INo		<b>yo</b> pen hole	6	210	24-38	50 60 50
Plugging and	Sealing Reco	r <b>d 🏹 A</b> nnular		ndonment		Location of Well
From To	type (bentonite sl	urry, neat cement slurry) e	etc. Volume (cubic n		In diagram below Indicate north by	v show distances of well from road, lot line, and building a row.
6.10 3.05 Neat	(enest)	Slucry_	<u> </u>	16		
3,05 0 Bart	sout s	sunry	< 0 <sup>1</sup>	45		135'
					2	
						12 -
Cable Tool	Method of C ry (air)	onstruction		ligging	Mal	- 67 Burke Street
Rotary (conventional)	percussion	U Jetting		Other		6 street
	Water	· Use			S	21.
Li Lined	mercial	Public Supply Not used		)ther	and the second second	
Irrigation Mun	icipal Final State	Cooling & air	conditioning		Audit No.	55591 Date Well Completed
Water Supply Recharge	e well	Unfinished	Abandon	ed, (Other)	Was the well ov package delivered	vner's information Date Delivered YYYY MM DE
Test Hole Abandon	ed, insufficient su ed, poor quality	Replacement				
Name of Well Contractor	Same -		Contractor's Lic	ence No.	Data Source	Ministry Use Only
HTR KOCK -	mber, city etc.)	weak	$\overline{a} > l$	ЦЧ	Date Received	A YYY 2000 DD Date of Inspection YYYY MM DD
	CHANN	JO QUE	KOA 2 I Technician's Lic			Well Record Number
HOGAN	DA	7 <	TSOS	8	Remarks	
Signature of Technician/Contractor	$\geq$		Submitted yyyy	M BD		
0506E (08/2006)			Ministr	50 Cam	a	Cette formule est disponible en frança

Ministry's Copy

Cette formule est disponible en français



Well Ta A 043482 nt Below)

A043482

Well Record

Regulation 903 Ontario Water Resources Act

Page\_\_\_ \_\_\_ of \_\_\_

Address of Well Location (Street Number/Name, RR)	outh	Concession
County/District/Municipality City/Town/Village		Province Postal Code Ontario
UTM Coordinates Zone Easting Northing GPS Unit Make Model NAD 8 3 8 4 3 2 4 8 5 0 4 3 4 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Mode of Operation:	Undifferentiated
Overburden and Bedrock Materials (see instructions on the back of this form) General Colour Most Common Material Other Materials	General Description	Depth ( <i>Metres</i> )
Sondy Clay Gavel		From To
Grey'hmestare	·	6,10,54,99
	· · · · · · · · · · · · · · · · · · ·	
APlan AR-106AD	Pat1-2-3-	3-9-12 10
Annular Space/Abandonment Sealing Record Depth Set at (Metres) Type of Sealant Used Volume Placed	Results of W Check box if after test of well yield,	ell Yield Testing
From To (Material and Type) (Cubic Metres)	water was:	Time         Water Level         Time         Water Level           (Min)         (Metres)         (Min)         (Metres)
	If pumping discontinued give reason:	Static 87. Static 84 Level 87. Level 84
	Pumping test method	2563 2487
Method of Construction Water Use	Pump intake set at (Metres)	35,66 3
Cable Tool Diamond Public Commercial Not used	Pumping_rate (Litres(10))	45,694
Rotary (Reverse)       Driving       Livestock       Test Hole       Monitoring         Rotary (Air)       Digging       Irrigation       Cooling & Air Conditioning         Air percussion       Boring       Industrial	Duration of pumping	10 576 10
Other, specify Other, specify Status of Well	Final water level end of pumping	155,79 15
Water Supply         Dewatering Well         Observation and/or Monitoring Hole           Replacement Well         Abandoned, Insufficient Supply         Alteration (Construction)	Recommended pump type	20 5 8 20
Test Hole       Abandoned, Poor Water Quality       Other, specify         Recharge Well       Abandoned, other, specify	Recommended pump depth Metres	30 5,82 30
Location of Well Please provide a map below showing: - all property boundaries, and measurements sufficient to locate the well in relation to fixed points,	Recommended pumprate	40 5,83 40
- an arrow indicating the North direction - detailed drawings can be provided as attachments no larger than legal size (8.5" by 14") - vidigital pictures of inside of well can also be provided	If flowing give rate (Litres/min)	60 5 84 60
40'-00	the second second second second second second second second second second second second second second second se	r Details
# 108		and the second se
King & Jolkm		
Ottanta Street		esh
Ottawa SI	Galvanized Geveniused	Diameter of the Hota (Oentimetres)
Date Well Completed   Was the well owner's information   Date the Well Record and Package	Fibreglass     Fibreglass       Plastic     Plastic	Depth of the Hole (Metros)
(yyyy/mm/dd) package delivered? Over No Delivered to Well Owner (yyy/mm/dd)	Concrete Concrete	Wall Thickness (Metres)
Well Contractor and Well Technician Information           Business Name of Well Contractor         Well Contractor's Licence No.	Open Hole 7-24.7° Disinfected?	1 Inside Diameter of the Casing (Metres)
Business Address (Street No./Name, number, RR) Manicipality	Yes No	Depth of the Casing (Metres)
Brovince Postal Code Business E-mail Address	Audit No. 7 60179	r Use Only Well Contractor No.
Bus Telephone No. (inc. area code) Name of Well Technician (Last Name, Free Name)		Date of Inspection (yyyy/mm/dd)
Well Lechnician S Licence No. Signature of Technician Date Submitted (yyy/mm/dd)	Remarks	
0506E (11/2006) Ministry's Copy		© Queen's Printer for Ontario, 2006

 Image: Winistry of the Environment
 Well Tag No. (Pla A 068479

A-OCEAT9

Well Record

Regulation 903 Ontario Water Resources Act
Page \_\_\_\_\_ of \_\_\_\_

Well Owner's Information

UTM Coordinates NAD 83	10 1251972	C	ity/Town/Village	8			Provin	ce	Postal	Code
UTM Coordinates NAD   8   3 Overburden an	Zone Easting 197		RK	HM	OND		Ont	ario	KO	127
		OCHO M	S Unit Make	Madel	Mode of O	peration:	Undiffe	rentiated	KAVE	raged
an	d Bedrock Materials (see inst Most Common Material	ructions on the back of this Other Materi			General De	ecription			Depth	(Metres)
CALL	CAN.				General De	scription		/	From	205
a	TIL	STORES							205	5.1B
GRET	WMESTERE	caras						-	5,18	Hard
	Annular Space/Abando	nment Sealing Record	1		) [	Results of W	oll Viel	d Testing		
Depth Set at (Mar	tres) Type of Sea	alant Used	Volume F		Check box if after test		Dr	aw Down	_	ecovery
From To	(Material ar	ia Type)	(Cubic M	etres)	Water was:		Time (Min)	Water Leve (Metres)	I Time (Min)	Water Leve (Metres)
an lon	Good,		0.0	-	Cannot develop t state	o sand-free	Static Level	2.77	Static	
					If pumping discontinue	d, give reason:	1	4.10	1	17.72
					Pumping test method	r .	2	4.91	2	16,98
					Plant	•	3	590	3	16.17
Method o Cable Tool	Diamond Pu	blic Commerci	and a strength of the local data in the local data in	used	Pump intake set at (A	He').	4	691	4	1579
Rotary (Conver	ntional) 🗌 Jetting 🛛 其 Do	mestic 👘 🗌 Municipa	I Dev	watering	Pumping rate (Litres/	TE 1	5	7.22	5	417
Rotary (Reverse Rotary (Air)	Digging Irri		e 🛄 Mo & Air Conditionin	nitoring g	Duration of pumping	Ogns.	10	0.11	10	1732
Air percussion Other, specify		lustrial her, <i>specify</i>				nin	15	161	15	1017
	Status	of Well			Final water level end o (Metres)	pumping	20	1200	20	070
Water Supply Replacement W	Dewatering Well     Dewatering Well     Abandoned, Insufficie		ion and/or Monito (Construction)	ring Hole	Recommended pump			20		711
Test Hole	Abandoned, Poor Wa	ter Quality Dother, sp			Shallow De Recomposeded pump	· · · · · · · · · · · · · · · · · · ·	25	10.20	25	1AH
Recharge weil	Location				43 Metres	40')	30	12.49	30	6,48
	map below showing: daries, and measurements sufficie		tion to fixed noin	A	Recommended purp (Litres/min)	rate /5	40	17-12	40	7.93
<ul> <li>an arrow indicating</li> </ul>	ng the North direction s can be provided as attachments i			W	If flowing give rate	I cope	• 50	18,28	50	3.77
<ul> <li>vidigital pictures of</li> </ul>	of inside of well can also be provide	ed	.5 Dy 14 )		(Litres/min) V	A.	60	A.CO	. 60	3.29
	6041 Ottai	ast m					r Detai	and the state of the state of the state of the state of the state of the state of the state of the state of the	1	
		A chal		H	Water found at Depl		of Wate	r Salty 🔲 S	ulphur	Minera
	.1	Nag	×	~	Water found at Dept	h Kind d	of Wate	r	-	
	H		5 #		Water found at Dept	A	esh	Salty S	ulphur	Mineral
			$> \not \! / $						ulphur	Mineral
		-	× #		Casing Used	Screen Used	1	Casing a	nd Well	Details
	5		A -	$\prec$	Galvanized	Galvanized	Dia	<b>H</b> -61	Hole (Ce	514"
	Ottena St -		*	(	Fibreglass	Fibreglass	De	pth of the Ho	le (Metre	(571)
Date Well Comple	eted   Was the well owner's inform	Delivered to We	ecord and Pack	age Inflat		Plastic Concrete	Wa	II Thickness	(Metres)	(ce)
Lugar	<u> </u>	No	ROLEJU	dD	No Casing and				6	.(20°)
Business Name of	Well Contractor and Well	·		nce No	Open Hole	5-46.3	6	ide Diameter	of the C	644
YANION	N DRILLING	L	107	D	Disinfacted?" Yes No	The factor of	De	oth of the Ca	sing (Ma	30
BOXI	; (Street No./Name, number, RR)	Municipal	KENHA	51	A INO	Ministry	/ Use (	Inly	C	5
Province ON	KOHAO STA	E-mail Address	ybens,	(a	Audit No. z 775	91	Well C	ontractor No		
	Garage Name of Well Te	chnician (Last Name, Fig	Subarity	Company of the	Date Received (yyyy/m/ AUG 2 8		Date of	Inspection ()	/yyy/mm/	id)
A REPORT OF A REPO	Signau of Rechild		MOIND	/mm/ddl	Remarks					

Po	ntario Minist	ry of nvironment	Well T	ag No. (Place Sticker a	nd/or Print Below)	2 Jation	903 O			Record
Measurem	ents recorded in: X	Aetric 🗌 Imp	erial	A003092				Page_		of
	ner's Information	ont Name / Ora	opization		5 mail Address					
First Name Talos	Custom Home	.ast Name / Org S	anization		E-mail Address					Constructed ell Owner
Mailing Add	dress (Street Number/Nar	ne)		Municipality	Province	Postal Code	1	Telephone N	0. (inc.	area code)
5509 ( Well Loca	Canotek Rd,	Unit 1		Ottawa	Ontario	K1J 9J8	3 6	13 74	7 39	993
	Well Location (Street Nur	mber/Name)		Township		Lot	515293	Concession	223223	
	- Richmond	Forest		Goulbourn		25		3		
	trict/Municipality a Carleton			City/Town/Village Richmond			Provin Onta		Posta	I Code
	inates Zone Easting	North	ing	Municipal Plan and Subl	ot Number		Other			
	8 3 18 43524		04413							
General Co	olour Most Com	als/Abandonm		ord (see instructions on the ther Materials		al Description		3713114-112		oth ( <i>m/ft</i> )
D									From	To
Brown	Sandy C		Bou1	ders	Packed				0	6.70
Gray	Limesto	ne			Medium			6.	,70	37.48
Depth Se	et at ( <i>m/ft</i> )	Annular Sp Type of Sealan		Volume Placed	After test of well yield, w	vater was:		d Testing aw Down	R	ecovery
From	То	(Material and T		(m³/ft³)	Clear and sand fr		Time (min)	Water Level		
8.83	0 Grouted	d Benton	ite Slur	ry .21m <sup>3</sup>	Other, specify	d give reason:	Static	(m/ft)	(min)	(m/ft)
					in pumping discontinues	a, give reason.	Level	4.40		
					Pump intake set at (m	./9/1	1	5.80	1	6.28
					22.85	(n)	2	6.51	2	5.19
Meth	nod of Construction		Well U	se	Pumping rate (I/min / 0	GPM)	3	6.99	3	4.74
Cable To		Public	Comm	ercial Not used	54.6 Duration of pumping		4	7.31	4	4.62
Rotary (C	Conventional)  Jetting Reverse)  Driving	X Domes				in	5	7.53	5	4.59
Boring	Digging	Irrigatio	on Coolin	g & Air Conditioning	Final water level end of	pumping (m/ft)	10		10	
Air percu	issionAir Decify	Other,			8.30	- (0010	15	7.95	15	4.53
	Construction R	ecord - Casing	3	Status of Well	If flowing give rate (Vm	um-/ GPM)		8.13		4.50
Inside Diameter	Open Hole OR Material (Galvanized, Fibreglass,	Wall Thickness	Depth (m/ft)	Water Supply	Recommended pump	depth (m/ft)	20	8.20		4.48
(cm/in)	Concrete, Plastic, Steel)	(cm/in)	From To	Replacement Well     Test Hole	22.85 Recommended pump	rato	25	8.22	25	4.47
15.86	Steel	.48 +	8.83	B Recharge Well	(Vmin / GPM)		30	8.24	30	4.46
				Observation and/or	45.5 Well production (Vmin	/ GPM)	40	8.25	40	4.45
				Monitoring Hole			50	8.27	50	4.44
				<ul> <li>(Construction)</li> <li>Abandoned.</li> </ul>	Disinfected?		60	8.30	60	
in the second	Construction R	ecord - Screen		Insufficient Supply		Map of We	ell Loc			
Outside Diameter	Material	Slot No.	Depth (m/ft)	Water Quality	Please provide a map t				ack.	$\wedge$
(cm/in)	(Plastic, Galvanized, Steel)	0101140.	From To	Abandoned, other, specify						R
						1 Lot	3	1		
				Other, specify		1.1				
Con City	Water Det	ails		Hole Diameter	t					
	d at Depth Kind of Water		Intested De From	pth (m/ft) Diameter To (cm/in)	ž					
	v/ft) Gas Other, spe d at Depth Kind of Water			8.8315.86	あ	i i	×			
	v/ft) Gas Other, spe				ST .	1		1		
	d at Depth Kind of Wate		Intested 8.83	37.4815.23	X Cha	nonhoi	se	Drive	e	
(m	v/ft) Gas Other, spe								- me	and -
Business Na	ame of Well Contractor	or and Well Te	chnician Inform	ation /ell Contractor's Licence No.				Ric		est
	al Water Sup			1 5 5 8					40	
Business Ad	ddress (Street Number/Na		N	lunicipality	Comments:					
Box 4 Province	90 Postal Code	Business F-	mail Address	Stittsville						
Ontar	io K2S 1A6	offic	e 🙋 capit	alwater.ca		ackage Delivere		Minist	ry Us	Only
<b></b> .	one No. (inc. area code) Na	me of Well Tech	nnician (Last Name	, First Name)	information package delivered 210	08 08 1	0 0	Audit No. Z	8/	1379
	36 1766 ian's Licence No. Signature	Miller,	Stephen nd/or Contractor D	ate Submitted		ork Completed		OCT	147	008
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🗑 On	itario	Ministry o the Enviro	onment	Well Tag N	lo. ( <i>Place</i> S A0514		/or Print Below)	ू 2 <sup>gulation</sup>	n 903 O	We Intario Wat Page	er Reso	
Wall Owner's	Informatio								1201200	raye_		//
Well Owner's First Name	Informatio	Last N	Name		E-m	ail Address	S				Vell Cor	structed
Talos Cust Mailing Address				Municipality	, I		Province	Postal Code		Telephone N	by Well	
5509 Canot				Otta			Ontario	K1 J9	586	5 1 3 7	4 7 3	3 9 9 3
Part A Constr Address of Well				and the second se	wnship			Lot		Concession		
Lot 33 Ric					Goulbo	urn		25			3	
County/District/M Ottawa Car				Cit	y/Town/Villag Richmo	-			Provin Ont:		Postal	Code
UTM Coordinates		ting	Northing	GPS	Unit Make	Model	Mode of	Operation:		rentiated	Ave	raged
NAD 83			0 5 0 0 4			Garm	in Differ	rentiated, specify			1	
Overburden an General Colour		mmon Materia		Other Materia	a construction of the second second		General	Description			Depth From	(Metres)
Brown	Clay		Ste	one			Packed				0	6.09
Gray	Limest	one					Broken				6.09	8.22
Gray	Limest						Medium				8.22	1 C
Depth Set at (Me			f Sealant Used	aling Record	Volume	Placed	Check box if after to	Results of W est of well yield,	Dr	raw Down		ecovery
From To			ial and Type)	-		Metres)	water was:		Time (Min)	Water Leve (Metres)	Time (Min)	Water Level (Metres)
9.14 0	Gro	uted Ben	tonite S	lurry	2.5	2m <sup>5</sup>	Cannot develo state	-	Static Level	0.07	Static Level	
							If pumping disconti	nued, give reason	1	5.13	1	4.42
							Pumping test met	hod	2	5.54	2	4.15
							Subme Pump intake set a	ersible	3	5.71	3	4.09
Method	of Construct		Public	Water Us		lot used	18.	(	4	5.81	4	4.05
Rotary (Conve	entional) 🔲 Je	etting	Domestic Livestock	Municipal		Dewatering Monitoring	Pumping rate (Litr 54.		5	5.86	5	4.02
Rotary (Air)		)igging [	Irrigation		Air Condition		Duration of pump		10	5.96	10	3.96
Air percussion			Industrial Other, specify				hrs + Final water level er	min	15	6.01	15	3.94
Water Supply		Sta Dewatering Well	tus of Well	Obeenuati	on and/or Mon	itarina Hale	(Metres) 6.		20	6.03	20	3.93
Replacement	Well 🗌 A	bandoned, Inst	ufficient Supply	Alteration	(Construction		Recommended po	ump type	25	6.05	25	3.92
Test Hole     Recharge Wel		Volume of the Albandoned, Poc	or Water Quality er, specify	Other, sp	ecify		Recommended p	ump depth	30	6.07	30	3.91
			ation of Well				15.23 Met Recommended p		40		40	3.90
Please provide a - all property bour	ndaries, and m	easurements s	ufficient to locate	the well in relat	ion to fixed po	oints,		.5	50	6.08 6.09	50	3.90
<ul> <li>an arrow indicat</li> <li>detailed drawing</li> <li>vidigital pictures</li> </ul>	gs can be provi	ded as attachm		an legal size (8	.5° by 14")		If flowing give rate (Litres/min)	9	60	6.09	60	3.89
- vidigitai pictures	of inside of we	ni cari aiso de p	10VIGBG					Wat	er Deta			5.09
~33 /		- Choy	nonhous	e Drive			Water found at I		of Wat		Teste	ed Minerals
Lo y	×				Kina Street		27 .73 Metres Water found at I		of Wat		Jupnu	
_ 6 [	/				10	,					Sulphur	Minerals
	/	~	Forest	à		2	Water found at I		of Wat		Sulphur	Minerals
			Lorest		X		Casing Used	Screen Use		Casing a		
	'						Galvanized	Galvanized	D	iameter of the 15.		entimetres)
							Fibreglass	Fibreglass	D	epth of the He	ole (Metre	es)
Date Well Com (yyyy/mm/dd)		he well owner's ge delivered?		Date the Well R Delivered to We	ell Owner (yyy		Plastic Concrete	Plastic	v	Vall Thickness	(Metres)	
2008/7/22			Yes No	2008/7/			No Casing a	and Screen Use	d	0.4 Iside Diamete		asing (Metres)
Business Name	of Well Contra	actor			Contractor's L		Open Hole			15.	86	
Capital Wa Business Addres	-			Municipal		5 8	Disinfected?	0	D	epth of the C		
Box 490				Stit	tsville			Minist	ry Use	Only		
Province Ontario	Postal C KI2 IS		siness E-mail A		ter ca		Audit No. z 7	7400	Well	Contractor N	0.	
Bus.Telephone N		de) Name of W	/ell Technician (	Last Name, Fi			Date Received (yy		Date	of Inspection	(yyyy/mn	Vdd)
6  1  3  8   3 Well Technician's			ler, Step		e Submitted (j	www.mm/deft	UUI 14 Remarks	2008				
	9 7	All.	hun		x 8/7/3							
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€>c	Intario	Minisi O the Ei	try of nvironmer	nt	Well Ta			A 06827		n 903 (			Record
Measuren	nents recor	rded in: [ 🕅	Metric	Imperial		NOO	5270		guiado	1000	Page	ter nes	of
and the second se		ormation					STREET, STR			1111		101010	
First Name	-	n Homes	.ast Name /	Organizatio	n			E-mail Add	ress				Constructed
Mailing Ad	Idress (Stre	et Number/Na	me)		1	Municipality		Province	Postal Code		Telephone N	,	area code)
		c Road -	Unit 1			Ottawa	a	Ontario	K 1 J 9	18	613 7	47 3	003
Well Loc Address of		tion (Street Nu	mber/Name		13141115	Township			Lot		Concession		,,,,
Lot 9	- Rich	mond For		<i>.</i>							Concession		
County/Dis	strict/Munic	ipality	000		4	city/fown/vi	0		25	Provir		Postal	Code
Ottawa UTM Coord	dinates Zon		, N	lorthing		Richmo Municipal Pla		ot Number		Ont			
NAD	8 3 1	8 4 3 5	3 3 3 5	5004	508	_							
Overburd General C		Most Com					and the second second second second second second second second second second second second second second second	e back of this form)				Den	th ( <i>m/ft</i> )
Brown			ion materia			her Materials			General Description			From	To
Grat		Clay Limest			Stones	S		Sticky				0	5.48
Grat		Linest	one									5.48	37.48
				0									
Depth Se	et at ( <i>m/ft</i> )		Annula Type of Se	the second second second		Volume	Placed	After test of well	Results of We yield, water was:		d Testing aw Down	Re	ecovery
From	To	0	(Material a				//t³)	Clear and s	and free	Time (min)	Water Level	Time	Water Level
8.53	0	Grouted	Bentor	nite Sl	urry	.42m <sup>3</sup>	)		ntinued, give reason:	Static	(m/ft)	(min)	(m/ft)
								in pumping diaco	nunded, give reason.	Level	4.48		
								Pump intake set	at (m/8)	1	5.23	1	4.86
								22.8		2	5.39	2	4.70
Meth	hod of Co	nstruction			Well Us	e	I CONTRACTOR	Pumping rate (I/		3	5.46	3	
Cable To		Diamond			Comme	rcial	Not used	54.6 Duration of pum		4	5.50	4	4.62
	Conventional Reverse)Ai			mestic restock	Municip  Test Ho		Dewatering Monitoring	hrs +	min	5	5.53	5	4.61
Boring		Digging		gation	Cooling	& Air Conditio	oning		end of pumping (m/tt)	10	5.55	10	
Other, s				dustrial her, <i>specify</i> _				5.6 If flowing give ra		15		15	4.57
	Co	nstruction Re	ecord - Ca	sing		Status	of Well	In nowing give ta	te (anniny Grim)	20	5.60	20	4.54
Inside Diameter		e OR Material ed, Fibreglass,	Wall Thickness		n ( <i>m/ft</i> )	X Water S			pump depth (m/ft)		5.62		4.52
(cm/in)		Plastic, Steel)	(cm/in)	From	To	Test Ho	le	18.2 Recommended		25	5.64	25	4.52
15.86	Ste	el	.48	+.45	8.53	Recharg	·	(Vmin / GPM)		30	5.56	30	4.52
						Observa Monitorir		45.5 Well production	(Vmin / GPM)	40	5.67	40	4.52
						Alteratio	n	Disinfected?		50	5.68	50	4.52
						(Constru Abando		X Yes No		60	5.69	60	4.52
dan ta	C	onstruction Re	ecord - Scre	en		Insufficie Abando	ent Supply ned, Poor		Map of We	ell Loc		13144	
Outside Diameter		aterial Ivanized, Steel)	Slot No.	· ·	n ( <i>m/ft</i> )	Water C	· · ·	Please provide a	map below following	instructi	ons on the ba	ick.	
(cm/in)	,			From	To	specify		5 smont	2				
				1		Other, s	pecify	R. domond Fore	st				
									Chanon	00	ISP		
Water foun	d at Depth	Water Det Kind of Water			the state of the s	lole Diamet th (m/ft)	er Diameter		×	1100	JSC		
		Other, spe		N Unitested	From	То	(cm/in)						B
Water foun	d at Depth	Kind of Water	Fresh	Untested	0	8.53	15.86						্ৰ হ
	vft) Gas	Other, spec Kind of Water		Untootod	8.63	37.48	15.23	1 Lot	9 1				$\checkmark$
	vft) Gas	Other, spec		Uniesieu									
	W	ell Contracto	/	Technicia	n Informat	tion							
Business Na					We	I Contractor's							
		C Supp1y et Number/Nar			1 Mu	5 . nicipality	5 8	Comments:					
Box 490	0					tittsvil	11e						
Province		ostal Code		E-mail Add	ress			Mall mark	1. D. 1. D. 1				
Ontario Bus.Telepho	ne No. (inc.	2 S 1 A area code) Nar	o offi ne of Well T	ce 🙋 ca Technician (1	pitalwa ast Name	ater.ca		information	ate Package Delivered	. 11	Audit No.7	ry Use	Only
6 1 3 8	8 3 6 1	766	Miller	r. Sten	hen			delivered 2	00809	2 7	0.07	84	400
	an's Licence	No. Signature	of Technicia	in and/or Co	ntractor Dat			X Yes			UUI	1 4 Z	DU
0 0 0506E (12/200	<b>9</b>	any	phana	-	X	0 0 8 0 Ministry		2	00809	1 0	Received © Queen's F	Printer for	Ontario, 2007

\$>0	ntario	Minist the Er	ry of ivironmeni	t	Well Ta	ag No. (Plac A068		nd/or Print Bel		n 903 C			Record
Measurem	ents recor	ded in: X	Metric	Imperial							Page		of
Well Ow													
First Name Talos		1 Homes	.ast Name /	Organizatior	1			E-mail Ad	dress		0		Constructed ell Owner
		et Number/Nar	ne)			Municipality		Province	Postal Code		Telephone	No. (inc.	area code)
		Road -	Unit 1			Ottawa	a	Ontar	io K 1 J 9	J 8	613	747 1	3993
Mell Loca Address of		ion (Street Nur	mber/Name)			Township			Lot	0.000	Concessio	1	
Lot 2	- Rich	mond For				Goulbo			25		3		
County/Dis	strict/Munici a Carle					City/Town/Vil Richmo	0			Provin Ont:		Posta	I Code
UTM Coord			1 No	orthing		Municipal Pla		ot Number		Other			
		84352											
General Co			als/Abando non Material	nment Sea		ord (see instri her Materials		back of this form	) General Description		0122056		oth ( <i>m/ft)</i>
Brown	ciour	Clay			Stone			Packe				From 0	4.87
Gray		Limesto	ne			Layers		Mediu				4.87	37.48
oray		111111111111111111111111111111111111111	ne		DIOWI	Layers		neuro				.07	57.40
				-									
Depth Se	et at ( <i>m/ft</i> )		Annular Type of Sea	and the second se		Volume	e Placed	After test of we	Results of We all yield, water was:	and the second division of the second divisio	aw Down	R	ecovery
From	To		(Material an			(m	3/ft3)	X Clear and	sand free	Time (min)	Water Leve (m/ft)	Time	Water Level (m/ft)
7.61	0	Grouted	Benton	ite Slu	urry	.5471	n <sup>3</sup>	Other, sp	continued, give reason:	Static		(mm)	(iiiii)
										Level	4.76	1	
								Pump intake :	set at (m/ft)		6.41		8,11
								22.		2	7.15	2	6.45
Meth	hod of Co	nstruction			Well U	se		Pumping rate	(Vmin / GPM)	3	7,76	3	5,50
Cable To		Diamond			Comme		Not used	54 . Duration of pu		4	8,35	4	5.11
		I) Usetting	4.8	mestic estock	Municip Test He		Dewatering Monitoring	1 hrs +	min	5	8.57	5	4,99
Boring		Digging	🗌 Irrig		Cooling	& Air Condition	oning		el end of pumping (m/lt)	10	9.63	10	4.89
Air percu			Ind	ustrial ner, <i>specify</i> _				10.	57 rate (I/min-/ GPM)	15	10.08	15	4.85
NES HAN	Co	nstruction R	ecord - Cas			Status	of Well			20	1.	20	
Inside Diameter		e OR Material ed, Fibreglass,	Wall Thickness		( <i>m/ft</i> )	X Water S	Supply ement Well		ed pump depth (m/ft)	25	10.26	25	4.82
(cm/in)		Plastic, Steel)	(cm/in)	From	То	Test Ho	ole	22. Recommende			10.34		4.80
15.86	St	eel	.48	+.45	7.61	Rechar	-	(Vmin / GPM)	-	30	10.40	30	4.79
							ation and/or ing Hole	Well production	) on (Vmin / GPM)	40	10.50	40	4.77
						Alterati	on	Disinfected?		50	10.54	50	
						Abando		Yes 🗌	No	60	10.57	60	
	C	onstruction R	ecord - Scre	en	The second	Abando	ient Supply oned, Poor		Map of W				
Outside Diameter		taterial alvanized, Steel)	Slot No.	Depth From	( <i>m/tt</i> ) To	Water (	Quality oned, other,	II .	a map below following	instruct	ions on the t	ack.	
(cm/in)				11011	10	specify		23	Forest				
					1100	Other, a	specify		Lows				
Water four	vd at Depth	Water Det Kind of Water		Unterted	and the second se	Hole Diame	ter Diameter	<u> </u>	hanonhou	S.			+
		Other, spe		Ontested	From	То	(cm/in)				1		She
Water foun	nd at Depth	Kind of Water	r: Fresh	Untested	0	7.61	15.86		i ° ¬		1		
		Other, spe Kind of Water		Untested	7.61	37.48	15.23				1		And
		Other, spe		Sincared							i -		-
		ell Contracto	or and Well	Technicia					1 Lot2		1		
		Il Contractor	Ted		W	ell Contractor's							
		er Supply eet Number/Na			M	1 5 unicipality	5 8	Comments:					
Box 49	90					Stittsv	ille						
Province		ostal Code		E-mail Add		luctor		Well owner's	Date Package Delivere	- bd	Minia	trulle	e Only
Ontari Bus.Telepho		area code) Na				lwater.c	a	information package	Lung Col		Audit No. Z		1 4 0 1
	836	T 1 T P	Mille					delivered	2 0 0 8 0 9 Date Work Completed	PT7	005	04	+401
Well Technic		No. Signature				ate Submitted	0922	X Yes	200809	ple	Received	1 4 4	000
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(P) Or	ntario	Ministry of the Envir		Well Tag	No. (Place St	ticker and	d/or Print B	elow)			We	ell R	ecord
	itario		onnon		A051476	А	051	476	Regulation	n 903 C			ources Act
Well Owner's	s Informatio												
First Name Talos Cus Mailing Address		3	Name	Municipal		ail Addres			Dentel Certe			by Well	Owner
5509 Cano			,	Municipal Ottaw	*		Provin	ario	Fostal Code		Telephone N 613 74		
Part A Constr Address of Well					ownship				Lot		Concession		
Lot 8 Ric		rest			Goulbour				25		3		
County/District/ Ottawa Ca					ity/Town/Villag Richmond					Provin Ont:		Posta	Code
UTM Coordinates NAD 83		ing 5321	Northing 5004487		S Unit Make	Model Garm	1	Mode of Op	peration:	Undiffe	rentiated	Avi	eraged
Overburden ar					s form)	Garm	10	Dineren	nated, specify_				
General Colour		nmon Materia		Other Mater	ials			General De	scription	- 11. - 11.		From	(Metres)
Brown	Sandy Cl		St	ones		1.1.1.1	acked					0	4.57
Gray	Limestor	ie		Medium				lard				4.57	29.86
	Annula	Space/Aba	ndonment Se	aling Record	ł			F	Results of We	ell Yiel	d Testing		
Depth Set at (Ala From To			f Sealant Used al and Type)		Volume I (Cubic N		water was				aw Down Water Level	-	ecovery Water Level
7.77 0	Grout	ed Bent	onite S1	urry	.315m	3		and sand fr ot develop t	ree o sand-free	(Min) Static	(Metres)	(Min) Static	(Metres)
							If pumping	discontinue	d, give reason:	Level 1	3.95	Level	1.06
							Pumping	test method		2	4.94	2	4.36
							Si	ubmersi	ble	3	5.35	3	4.11
Method	of Constructi		Public	Water Us		t used	Pump inta	22.85	and the second se	4	5.39	4	4.08
Rotary (Conve			Domestic Livestock	Municipa		watering	Pumping	rate (Litres/r 54.6	nin)	5	5.43	5	4.06
Rotary (Air)	Dig Bo		Irrigation	Cooling	& Air Conditionin	19		of pumping s + n	nin	10	5,50	10	4.01
Other, specify			Other, specify	·				r level end o		15	5.51	15	3.99
Water Supply		watering Well			tion and/or Monito		in the state	5.58 ended pump	type	20	5.53	20	3.98
Replacement \ Test Hole	Ab	andoned, Poo	fficient Supply r Water Quality	Other, s	n (Construction) pecify		Shail	ow Do	and the second second second second second second second second second second second second second second second	25	5.54	25	3.97
Recharge Wel		andoned, othe	tion of Well				22.8	5_ Metres		30	5.54	30	3.97
Please provide a - all property bour			fficient to locate	the well in rela	ation to fixed poir	nts,	Recomme (Litres/min	45.5	o rate	50	5.55	50	
<ul> <li>an arrow indicati</li> <li>detailed drawing</li> </ul>	is can be provide	ed as attachme		an legal size (8	3.5" by 14")		If flowing (Litres/min	give rate		60	5.56	60	
<ul> <li>vidigital pictures</li> </ul>	or inside or well	can also be pr	ovided						Wate	r Detai			
	Change	abous	e Drive	·		to		und at Dep Metres [		of Wate	Salty Is	Teste	ed Minerals
						Stre	Water for	und at Dep	th Kind o	of Wate	r		
	1	<u></u>	l.	Richma	en d		27,43 Water fo	Metres [ und at Dep	_ 000	of Wate		ulpnur	Minerals
	1			S'our	X	King				_		_	Minerals
	1	-078	1	~ ~	0		Galvani	g Used	Galvanized	_	Casing an ameter of the		and the second se
	1		I.				K Steel		Steel Fibreglass	De	pth of the Ho	39 e (Metre	es)
Date Well Comp (yyyy/mm/dd)		well owner's delivered?			Record and Pack ell Owner (yyyy//		Plastic		Plastic Concrete	W:	29.8 all Thickness		
2008/7/8	Well Con		Yes No	2008/7	/				Screen Used	-	0.48	3	asing (Metres)
Business Name	of Well Contrac	tor	Well Technic		Contractor's Lice			n Hole			15.8	36	
Capital Wa Business Addres			, RR)	1 Municipa	. 5 5 lity	8	Disinfected X Yes	17 No		De	epth of the Ca +.45 t		
Box 490 Province	Postal Co	de Bue	iness E-mail A	Stit	tsville		Audit No.		Ministry	-	Only ontractor No.		
Ontario	K2S 14	of	fice@ca	pitalwat					89				
Bus.Telephone No. 513 836 1			ell Technician ( r, Steph		irst Name)		Date Rece	ived (yyyy/m		Date of	Inspection ()	yyy/mm	/dd)
Well Technician's I				Dat	e Submitted (yy	(y/mm/dd)	Remarks						
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$\square \square$	Ministry of		ag No. (Place S	ticker and	d/or Print Below)	7		We		ecord
( On	tario the Enviror	iment	A0514	73	A 0514	73 ulation	n 903 Oi	ntario Wat	er Res	ources Act
Well Owner's	Information									
First Name Talos Cust	Last Na	me	E-m	ail Addres	ŝs				Vell Cor by Well	nstructed Owner
-	(Street Number/Name, RR)	Munic	ipality		Province	Postal Code		elephone N		
5509 Canot	the second second second second second second second second second second second second second second second s	the same state of the same state of the same state of the same state of the same state of the same state of the	tawa		Ontario	K1J 9J8	3 6	513 74	7 2	993
	uction and/or Major Alte Location (Street Number/Nam		Township			Lot	0	Concession		
	chmond Forest		Goulb		-	25		3		
County/District/N			City/Town/Villag	r			Provinc Onta		Postal	Code
Ottawa Car UTM Coordinates		Northing	Richm GPS Unit Make	Model	Mode of	of Operation:	Undiffer		Ave	eraged
NAD 8 3	18 435285	5004463		Garm	in 🗌 Diffe	arentiated, specify			-	
	d Bedrock Materials (see in								Denth	(Metres)
General Colour	Most Common Material	Other Ma	aterials		General	Description			From	To
Brown	Sandy Clay	Stones			Packed				0	4.57
Gray	Limestone			1	Medium Hard			4	.57	33.52
					<u></u>					
							1			
	Annular Space/Aband	Ionment Sealing Red	cord			Results of W				
Depth Set at (Me From   To		ealant Used and Type)	Volume (Cubic N		Check box if after water was:	test of well yield,		w Down Water Level		ecovery Water Level
7.77 0			4	2m3	Clear and sa Cannot deve		(Min)	(Metres)	(Min)	(Metres)
	or outed bent	Jiiree		2.11	state		Static Level	3.88	Static Level	
					It pumping discont	linued, give reason:	1	5.58	1	5.60
					Pumping test me		2	6.31	2	4.66
					Submer		3	6.66	3	4.28
Method o	Diamond	Public Com		ot used	Pump intake set 22.		4	6.93	4	4.17
Rotary (Conver	ntional) 🗍 Jetting	Domestic Mun	icipal 🗌 De	ewatering	Pumping rate (Lit		5	7.11	5	4.11
Rotary (Revers		Livestock C Test	Hole 🗌 M ling & Air Conditionii	onitoring	54 . Duration of pump		10		10	
Air percussion	Boring	Industrial	ing a r in contaitein		1 hrs +	min		7.47		4.03
Other, specify		Other, specify		-	Final water level e (Metres)	nd of pumping	15	7,56	15	3.98
Water Supply	Dewatering Well	Obse	ervation and/or Monit	~	7.7 Recommended p		20	7.61	20	3.96
Replacement V	Vell Abandoned, Insuffi Abandoned, Poor V		ation (Construction) er, specify	)		Deep	25	7.67	25	3.94
Recharge Well		/			Recommended p		30	7.69	30	3.92
Please provide a r	Location the showing:	on of Well			Recommended p (Litres/min)	tres oump rate	40	7.70	40	3.89
- all property boun	idaries, and measurements suffici ng the North direction	cient to locate the well in	relation to fixed poi	ints,		2010/2012/2012	50	7.70	50	3.88
- detailed drawings	s can be provided as attachmen		ze (8.5" by 14")	$\mathbf{I}$	If flowing give rat (Litres/min)	e	60	7.72	60	5.00
- vidigital pictures (	of inside of well can also be prov	noed				Wata	r Detail	_		
	()	ice Dale			Water found at	Depth Kind	of Water		lacto	d
	Chagoobo	1		ち	31.08 Metres				iphure	Minerals
	1 🖈 .	1		King Street	Water found at	CONTRACTOR OF A DESCRIPTION OF A DESCRIP	of Water esh		ulphur	Minerals
	تے ا	Rior	rocest	S	Water found at	Depth Kind	of Water			
			Forts	, ind	Metres	s 🗌 Gas 🗌 Fr	esh 🔲	Salty S	ulphur	Minerals
				¥	Casing Used		_	Casing an meter of the l		the second second second second second second second second second second second second second second second se
	Lot 6				Galvanized	Galvanized Steel		15.3	9	
					Fibreglass	Fibreglass	Dep	oth of the Hole		s)
Date Well Comp (yyyy/mm/dd)	package delivered?	Delivered to	ell Record and Pac // Well Owner //		Plastic     Concrete	Plastic Concrete	Wa	I Thickness (		
2008/7/8			3/7/9	_		and Screen Used	1	0.48		neine /Materia
Business Name o	Well Contractor and W of Well Contractor		mation Well Contractor's Lic	ence No.	Open Hole		linsi	de Diameter		asing (Metres)
	ter Supply Ltd.		0 0 9		Disinfected?		Dep	oth of the Cas	sing (Me	
Business Address	s (Street No./Name, number, F	,	cipality		Y Yes N			+.40 t	07.	77
Box 490 Stittsvill Province Postal Code Business E-mail Address					Audit No		Vell Co	ontractor No.		
Ontario K2\$ 1A6 office@ capitalwater.ca Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name)					Date Received (yyyy/mm/dd) Date of Inspection (yyyy/mm/dd)				(dd)	
61 3   836   Well Technician's L	1766 Miller	, Stephen	Date Submitted (yy	yy/mm/dd)	Remarks	- 2000			1.12	
009	97 Julik	ran	2008/7,	111						
0506E (11/2006)	agent	A -	Ministry	's Copy	/			© Queen's	Printer f	or Ontario, 2006

Por	ntario	Ministry	y of vironment		Well Tag	g No. (Place Sti							ecord
Measureme			etric 🗌 In	nperial		A068282	A	06828	Regulation	903 0	Page		of
Well Own							INNING			11111	- age_		
First Name	er s mit		ast Name / O	rganization	12114444		121421211	E-mail Add	ress				Constructed
Talos C		Homes et Number/Nam	e)		N	lunicipality		Province	Postal Code	Т	elephone N	/	II Owner area code)
-		Road - U				Ottawa		Ontari	0 K 1 J 9	.I 8	613 74	7 300	3
Well Locat	tion				in the sea			oncuri			Concession	. 37.	5
		ion (Street Num hmond For				ownship			Lot	· · · · · ·	Concession		
County/Distr			est		C	Gou1bourn City/Town/Village			25	Provin		Postal	Code
Ottawa UTM Coordin			Nor	thing	h	Richmond Municipal Plan an	d Sublot	t Number		Onta Other	1r10		
		8 4 3 5 3				namapar rian an	0 000101						
					ling Reco	rd (see instruction	is on the l	back of this form)		SHR		Dent	th ( <i>m/ft</i> )
General Co	lour	Most Comm	on Material		Oth	er Materials			General Description			From	То
Brown		Clay		S	tones							0	3.04
Gray		Clay		S	and			Loose				3.04	6.09
Gray		Limeston	e	В	adly B	roken		Fault	in Rock			5.09	10.97
Gray		Limeston	e					Medium			10	.97	45.10
									Describe of the	II Minl	d Testine		
Depth Sel	t at ( <i>m/lt</i> )		Annular Type of Seal			Volume Pla	ced	After test of well	Results of We yield, water was:		aw Down	R	ecovery
From	То		(Material and			(m <sup>3</sup> /ft <sup>3</sup> )		Clear and Other, spe		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
13.10	0	Grouted	Benton	ite Sl	urry	1.05m <sup>3</sup>	1.1		ontinued, give reason:	Static		1	
										Level		1	0 22
								Pump intake s	et at (m/ft)	2	6.30	2	8.23
								22.			7.38	3	6.70
Meth	od of Co	onstruction			Well Us	se		Pumping rate		3	8.14		5.67
Cable To Rotary (C		Diamond	Dor		Comme		used vatering	54. Duration of pu		4	8.67	4	5.05
X Rotary (R		r Driving	Live	stock	Test Ho	ole 🗌 Mor	nitoring	1_hrs +_	min	5	9.09	5	4.80
Boring	ssion	Digging	Irrig		Cooling	& Air Conditioning	,		l end of pumping (m/tt) • 56	10	10.	10	4.55
Other, sp			Oth	er, specify .			-		ate (I/min-/ GPM)	15	10.27	15	
Incide		Instruction Re			h ( <i>m/ft</i> )	Status of V		Recommende	d pump depth (m/ft)	20	10.41	20	
Inside Diameter <i>(cm/in)</i>	(Galvaniz	e OR Material ed, Fibreglass, Plastic, Steel)	Wall Thickness (cm/in)	From	То	Replacement		1	.85	25	10.47	25	
						Test Hole     Recharge W	Vell	Recommende (l/min / GPM)		30	10.47	30	
15.86	St	eel	.48	+.45	13.10	Dewatering	Well	45	- 5	40		40	
						Observation Monitoring H		Well productio	n (l/min / GPM)	50	10.53	50	
						<ul> <li>Alteration</li> <li>(Construction)</li> </ul>	on)	Disinfected?			10,55	60	
						Abandoned		X Yes		60	10,56	00	
Outside	1	Construction R	ecord - Scre		h ( <i>m/ft</i> )	Abandoned, Water Quali		Please provide	Map of W a map below following			ack.	
Diameter (cm/in)		Material alvanized, Steel)	Slot No.	From	То	Abandoned specify			- 1				
						opeony		Lot			×		
						Other, spec	ify			03	mon	×	
******	1149912	Water Det	tails		Pre-Pre-	Hole Diameter	1.518.948	, L		Au	Korce		
		h Kind of Wate	r: Fresh j	Untesteo	De From		iameter (cm/in)	×					L
		s Other, spe h Kind of Wate		Untester			5.86		1				
	1/ft) 🗌 Ga			entostet			5.23	· · · · · · · · · · · · · · · · · · ·	1				
		h Kind of Wate		Untested	15.10	45.10 1.	5.25	Cha	manhou	se			9
(m		s Other, spe	,	Technici	an Inform	ation							A.
Business N		ell Contractor	and well	rechnicia		ell Contractor's Lice	ence No.						
		r Supply					8	Commente					
Business Av Box 490		reet Number/Na	ine)			lunicipality Stittsvill	0	Comments:					
Province		Postal Code		E-mail Ad		STILLSVIII	Le						
Ontario		K 2 S 1 A c. area code) Na		ice Oc	apital	Water.ca		Well owner's information	Date Package Deliver		Minis Audit No.	try Us	e Only
			Miller,			, , , , , , , , , , , , , , , , , , , ,		package delivered	2 0 0 8 0 9 Date Work Completer		0.0-	84	1333
		e No. Signature	al Technicia	in and or C	ontractor D		an	X Yes No	2/ 0/ 0/ 8/ 01 91		UC1	1 4 20	8
0 0 0506E (12/20		1 Al	yma	1	2	<u>X00809</u> Ministry's				10	© Queen	s Printer f	for Ontario, 2007

Por	ntario	Ministry the Env	of ironment		Well Tag	No. (Place Sticker an A051455	d/or Print Below)		903 Or	We ntario Wate		ecor ources A	
Measuremen	nts recorde	ed in: 🕅 Me	tric 🗌 Im	perial			A 0014			Page		of	_
Well Own	er's Infor		st Narrie / Or	agnization			E-mail Addres	8	HULL		Well C	onstructe	d
First Name Talos C	lustom		st Name / Or	ganization			E-mail Address				by We	I Owner	
Mailing Addr	ess (Street	Number/Name	)		M	unicipality	Province	Postal Code	Т	elephone No	), (inc. a	area code	1
5509 Ca Well Locat		Road - Ui	nit 1		(	)ttawa	Ontario	K1J9	J 8	613 74	7 39	93	12
		on (Street Numl	ber/Name)	DEFENSION DE	T	ownship		Lot	C	Concession			
		ond Fores	st			Goulbourn ity/Town/Village		25	Provinc	е <u>З</u>	Postal	Code	_
County/Distr Ottawa		-				Richmond			Onta	rio			
UTM Coordin	nates Zone	Easting	Nort		M	lunicipal Plan and Sublo	ot Number		Other				
NAD 2	8 3 1 8	4 3 5 2	6 7 5 (	0 0 4 a	4 4 6 ling Reco	rd (see instructions on the	back of this form)		11111				
General Col		Most Commo				er Materials		eneral Description		F	Dept From	h ( <i>m/ft</i> ) To	
Brown	Sa	ndy Clay			Stones	3	Packed				0	5.7	79
Gray		mestone					Medium			5	.79	37.4	18
	12 HARLAN		Annular S	Space				Results of W		the second second second second second second second second second second second second second second second s			
Depth Se From	t at ( <i>m/ft)</i> To		Type of Seal: (Material and			Volume Placed (m <sup>3</sup> /ft <sup>3</sup> )	After test of well yie			aw Down Water Level		ecovery Water Le	vel
7.61	0	Grouted			urry	.42m <sup>3</sup>	Other, specify	y	(min) Static	(m/ft)	(min)	(m/ft)	
			Denteon				If pumping discont	inued, give reason:	Level	4.59			
									1	6.20	1	7.64	4
							Pump intake set a 30.47		2	6.97	2	6.1	7
							Pumping rate (Vm		3	7,52	3	5.32	2
Meth		Diamond	Pub	lic	Well Us		54.6		4	7.89	4	4.96	
Rotary (C	Conventional	) Jetting	X Don	nestic	Municip		Duration of pump 1 hrs +	min	5	8.21	5	4.86	
Rotary (R	Reverse)Ai	r Driving	Live		Test Ho     Cooling	& Air Conditioning	Final water level e	nd of pumping (m/ft,	10	9.15	10		
Air percu			Indu	istrial er, <i>specify</i>			10.18		15		15	4.59	1
U Other, sp		nstruction Re				Status of Well	If flowing give rate	e (l/min-/ GPM)		9.56	20		
Inside	Open Hol	e OR Material	Wall		h ( <i>m/ft</i> )	Water Supply	Recommended p	oump depth (m/ft)	20	9.79			
Diameter (cm/in)		ed, Fibreglass, Plastic, Steel)	Thickness (cm/in)	From	То	Replacement Well	22.85		25	9.83	25		
15.86	Ste	e1	.48	+.45	7.61	Recharge Well	Recommended p (I/min / GPM)	ump rate	30	9.95	30		
						Dewatering Well     Observation and/or	45,5 Well production (	Vmin / GPM)	40	10.01	40		
						Monitoring Hole			50	10.10	50		
						(Construction)	Disinfected?	)	60	10.18	60		
	C	onstruction R	ecord - Scre	en	Call Control of Contro	Insufficient Supply	<b>A</b>	Map of V		cation	11111		
Outside Diameter	N	faterial	Slot No.		h ( <i>m/ft</i> )	Water Quality Abandoned, other,	Please provide a	map below following	g instruct	tions on the b	ack.		
(cm/in)	(Plastic, Ga	alvanized, Steel)		From	То				8				-
						Other, specify		Ridimon	X				+
								1.00	05				V
	is and the	Water Det	and the second se			Hole Diameter							
		Kind of Water		X Untested	From	To (cm/in)		Chanon	nous	e Driv	e		Street
		Kind of Wate		Untested	0 1	7.61 15.86			1				5
		Other, spe			7.61	37.48 15.23	() (	×	1				Ama
		Kind of Wate		Untested	1				1			1	ŕ
1.		Vell Contracto		Technicia	an Informa	ation	i i,	_075	1				
		Il Contractor			W	/ell Contractor's Licence No							
		er Supply reet Number/Na			N	1 5 5 8 Iunicipality	Comments:						
Box 49	90				-	Stittsville							
Province	1	Postal Code		E-mail Ad	ldress		Well owner's D	ate Package Delive	red	Minis	stry Us	e Only	1983
Untari Bus Teleph	one No. (inc	z SIA	of filled of filled of filled of filled of the filled of t	ice (2) Technician	(Last Name	lwater.ca , First Name)	information package 9	00809		Audit No. 7	0	120	0
		1 7 6 6 No. Signature					delivered	ate Work Complete		0.07	0	400	0
		e No. Signature		X		ate Submitted	n □ No 2	0 0 8 0 9	94	Received		and a	
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D Ontar	Minis the E	try of nvironmer	ıt	Well Ta			and/or	Print Below)	□ ulatio	n 903 (			Record
Measurements rec	orded in: 👔	Metric 🗌	Imperial		AO	68310	A	068310	and con		Page	107 110	of
Well Owner's In													
First Name Talos Custo Mailing Address (St	om Homes	Last Name / me)	Organizatio		Municipality			E-mail Address Province	Postal Code		Telephone I	by W	Constructed /ell Owner c. area code)
5509 Canote	ek Road -	Unit 1			Ottawa			Ontario	K1J 9J8	(	613 747	399	3
Well Location Address of Well Loc	cation (Street Nu	mber/Name	)		Township				Lot		Concession		
Lot 14 Rich	mond Fore				Goulbou				25		3		
County/District/Mur Ottawa Carl					City/Town/Vi Richmon	-				Provin Ont:		Posta	al Code
UTM Coordinates Z	one Easting		orthing			an and Suble	ot Nu	mber		Other			
NAD 8 3 1 Overburden and I	8 4 3 5 Bedrock Materi				ord (see inst	nuctions on the	a hack	of this form)		110111			
General Colour		non Materia			her Material		5 WORK		al Description		3643955255	De	pth ( <i>m/lt</i> ) To
Brown	Sandy S	oil		Sto	ones			Packed				0	5.48
Gray	Limesto	ne									5	.48	45.10
Depth Set at (m/ft)	)	Annular Type of Sea			Volum	e Placed	Afte	r test of well yield, v	esults of We	-	d Testing aw Down	F	Recovery
From To		(Material ar			(m	1 <sup>3</sup> /ft <sup>3</sup> )	X	Clear and sand fre Other, specify				Time	Water Level
7.77 0	Groute	d Bento	nite S1	urry	.69m	1 <sup>3</sup>		umping discontinued	l, give reason:	Static		(min)	(mmy
										Level 1		1	0.07
							Pun	np intake set at (m	/ft)	2	5.18	2	8.37
								30.47		3	6.13	2	5,67
	Construction			Well Us			Pun	nping rate (Vmin / G 54.6	SPM)		6.82	3	5.03
Cable Tool	nal) Diamond		blic mestic	Comme	Sector Sector	Not used Dewatering	Dur	ation of pumping		4	7.40	4	4.30
Rotary (Reverse) Boring	Driving		estock gation	Cooling		Monitoring	1 Eina	hrs + m		5	8.60	5	3.45
Air percussion	C Digging	🗌 Ind	lustrial		a Air Conditi	oning	1 11 10	11.64	partipling (mart)	10	9.40	10	3.65
Other, specify	Construction R		her, specify _		Ctotus	of Well	If flo	wing give rate (l/m	in-/ GPM)	15	10.17	15	
Inside Open H	lole OR Material	Wall		(m/ft)	Water :	of Well Supply	Rec	commended pump	depth (m/ft)	20	10.79	20	
	nized, Fibreglass, te, Plastic, Steel)	Thickness (cm/in)	From	То	Replac	ement Well ble		22.85		25	11.05	25	
15.86	Stee1	.48	+.45	7.77	Rechar			commended pump in / GPM)	rate	30	11.18	30	
					Observation Observation	ation and/or	Wel	45.5 production (Vmin)	(GPM)	40	11.47	40	
					Alterati		Dieir	nfected?		50	11,57	50	
					Abando			Yes No		60	11.64	60	
	Construction R	ecord - Scre	and the second se	IL ALERE	Abando				Map of We		ation	1.01	
Outside Diameter (cm/in) (Plastic, 0	Material Galvanized, Steel)	Slot No.	Depth From	( <i>m/ft</i> ) To	Water 0	Quality med, other,	Plea	ise provide a map b	elow following	instructio	ons on the b	ack.	
(Griffin)				10	specify					4	i.		) is
					Other, a	specify					- 1		A
	Water Det	aila			lole Diame						I		0.56
Water found at Dep			Untested	Dep	th ( <i>m/ft</i> )	Diameter			1 1 1	.0t			nonhomen
42.36(m/ft) Ga				From 0	To 7.77	(cm/in) 15.86							E
Water found at Dep (m/ft) Ga			Untested	7.77	45.10	15.23							Š
Water found at Dept	th Kind of Water	Fresh	Untested		45.10	15.25							2
(m/ft)Ga			Technicis	1.6	1								0
Business Name of W			rechnicia		tion Il Contractor's	Licence No.							
Capital Wate						5 8	0		ing str	ret			
Business Address (S Box 490	ueer Numper/Na	me)			nicipality tittsvi	11e	Com	ments:					
Province	Postal Code		E-mail Add	ress		116							
Ontario Bus.Telephone No. (in	K2S 1A6	offic me of Well T	ee cap	italwat ast Name	ter.ca		inform	mation	ckage Delivered	11	Minist Audit No. Z	ry Use	Only
6 1 3 8 3 6 Well Technician's Licen					,		delive	ered Double	8 1 1 0	0 7	2	84	4444
Well Technician's Licen	ce No. Signature	of Technicia	n and/or Co				X	Yes				0.0	2 2003
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Po	ntario	Minist O the Er	ry of nvironmen	t	Well Ta	g No. (Pla			Print Belo		ulatio	n 903 C			Record
Measurem	nents recor	rded in: 🕅 🛛	Metric 🗌	Imperial		AUG	8354	~ `	0000				Page_		of
Well Ow First Name		ormation	.ast Name /	Organizatio	n				E-mail Add	Irocc					A second
Talos Mailing Add	Custon dress (Stre	n Homes et Number/Nar				Municipality			Province	1000	Postal Code		Telephone N	by W	Constructed (ell Owner area code)
Well Loc						Ottawa	1		Ontari	io	K1J 9J8		613 747	399	
		tion (Street Nu chmond Fo		)	1	fownship Gou1ba					Lot 25		Concession		
County/Dis	strict/Munic a Carle	ipality			(	City/Town/Vi	lage				23	Provin Ont:		Posta	I Code
UTM Coord	dinates Zon	Easting		orthing		Richmo Municipal Pla		ot Nur	mber			Other	4110		
		8 4 3 5 drock Materi				rd /see instr	uctions on the	a hack	of this form						
General C			non Materia			er Materials	and the second second second second second second second second second second second second second second second	e Dack	or ans ionn,		al Description		222222228	Dep	oth ( <i>m/ft</i> ) To
Brown		Clay			Stone	S			Pa	icked				0	3.65
Gray		C1ay			Stone	s			St	icky				3.65	6.09
Gray		Limes	tone						Me	dium				6.09	45.10
	81923-012		Annular	Space						R	esults of We	ell Yiel	d Testing	101	
Depth Se From	et at ( <i>m/ft)</i> To		Type of Sea (Material an				e Placed		r test of wel Clear and	l yield, w	ater was:	Dra	aw Down		Recovery Water Level
8.53	0	Grouted			rrv	.69			Other, spe	cify		(min)	(m/ft)	(min)	(m/ft)
								lf pu	imping disc	ontinued	, give reason:	Static Level	4.16		
											40 I	1	6.03	1	12.05
								Pum	np intake s 30	et at (m/ .47	<i>n</i> )	2	7.44	2	10.35
Meth	hod of Co	Instruction		and the second s	Well Us	e		Pum	nping rate (	*	PM)	3	8.49	3	8.73
Cable To		Diamond		blic mestic	Comme		Not used Dewatering	Dura	54 ation of pur	.6 mping		4	9.50	4	7.38
Rotary (		r Driving	🗌 Liv	estock	Test Ho	le 🗌	Monitoring	_1		mi		5	9.99	5	6.10
Boring		Digging	Ind	lustrial	Cooling	& Air Conditie	oning	Final		end of	pumping (m/tt)	10	12.2	9 10	4.25
Other, sp		nstruction Re		ner, specify_	1212111111	Ctature	-6 14/-11	If flo	wing give r		n-/ GPM)	15	13.38	15	4.16
Inside Diameter	Open Ho	le OR Material	Wall		( <i>m/ft</i> )	X Water S	of Well Supply	Rec	ommendeo	t pump (	depth (m/ft)	20		20	
(cm/in)		ed, Fibreglass, Plastic, Steel)	Thickness (cm/in)	From	То	Replace	ement Well ble	Dee		.85		25	14.40	25	
15.86	St	eel	.48	+.60	8.53	Rechar	-		ommendeo n / GPM)		rate	30	14.62	30	
						Observa	ation and/or	Well	45 I production		GPM)	40	14.95	40	
						Alteratio		Disin	nfected?			50	15.09	50	
						Abando	,	X	Yes 🗌 N	No		60	15.23	60	
Outside		onstruction Re	ecord - Scre		( <i>m/ft</i> )	Abando Water (	ned, Poor	Plea	se nrovide :	a man h	Map of We elow following		the second second second second second second second second second second second second second second second s	ank	
Diameter (cm/in)		laterial alvanized, Steel)	Slot No.	From	То		ned, other,		-1		-				
									'N		Ac		× r		
						Other, a	specify			0.0	HMO.		LOT # 2		06
		Water Det				ole Diamet	er	il		Ric	HMONDA		٢		Ster
		Kind of Water Other, spe		X Untested	Dept From	h ( <i>m/ft)</i> To	Diameter (cm/in)			Y	010				
		Kind of Water		Untested	0	8.53	15.86								
	v/ft) Gas d at Depth	Other, spe- Kind of Water		Untested	8.53	45.10	15.07							-	_
	v/ft) Gas			STREETES											
Business Na		ell Contracto	r and Well	Technicia		ion Il Contractor's	Licence No.	-			KING	57	REET		
		r Supply	Ltd.		, ve	1 5									
	ddress (Stre	eet Number/Nar				nicipality		Com	ments:						
Province		ostal Code	Business	E-mail Add	ress	tittsvi	lle								
Ontario Bus Telepho		2 S 1 A area code) Nar	-	ice 🤕	capital	Lwater.	са	inform	nation	Date Pac	kage Delivere	b	Minist Audit No. Z	ry Use	Only
6 1 3 8	8 3 6 1	766		, Step n and/or Op		,		packa delive	ered		N Completed	13	Z	84	445
Well Technici	ian's Licence	No. Signature	of Technicia	n and/or Co		e Submitted 0 0 8 1	1 1 7	X	Yes			1.1		C 0 2	2008
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\$>0	ntaric	Ministr ) the En	y of vironment		Well Tag	g No. (Place Sticker or			903 O			ecord
Measureme	ents record	ded in: □X/M	etric 🗌 li	mperial		A076812	0100	512		Page_		of
Well Owr	ner's Info		ast Name / C	Vicenization			E-mail Addr	999			IM-II C	
			Talos C	_							by We	Constructed
9	,	et Number/Nam c Road –	,		ħ	Aunicipality Ottawa	Province Ontario	Postal Code K1J 9J8		felephone N 613 747	· · ·	
Well Loca		c Koad -	UNIT I	The second		Ottawa	oncaric				,	
		ion (Street Nun 1mond For			Т	ownship		Lot		Concession 3		
County/Dis			est		C	Goulbourn City/Town/Village		25	Provin	ce	Postal	Code
Ottawa UTM Coordi	a Carle		, No	rthing	N	Richmond Municipal Plan and Suble	ot Number		Ont: Other	ar10		
NAD	8 3 1 8	8 4 3 5 2	2 1 6 5	0 0 4								
Overburde General Co		drock Materia Most Comm		nment Sea		ord (see instructions on the ner Materials		General Description		1999998989		th ( <i>m/ft</i> )
Brown	oloui	Clay	on material		Stone		Pack				From 0	<sup>T</sup> ₀ 4.26
		Limest	0.00		SLUIR	25	Medi			4	.26	
Gray		Linest	one				neui	. cim			.20	47.24
Depth Se	et at ( <i>m/ft</i> )		Annular Type of Sea			Volume Placed	After test of well			d Testing aw Down	R	ecovery
From	To		(Material an	d Type)		(m³/ft³)	Clear and s	sand free	Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
7.31	0	Grouted	Benton	ite Sl	urry	.46m <sup>3</sup>		ntinued, give reason:	Static Level	3.75		
									1	4.58	1	3.99
							Pump intake se	et at <i>(m/ft)</i>	2	4.84	2	3.98
							30. Pumping rate (		3	4.93	3	3.83
Meti		Diamond	Pul	blic	Well Us		54.	6	4	4.95	4	3.80
Rotary (	Conventiona	al) 🗌 Jetting	X Do		Municip	Dewatering	Duration of pur 1 hrs +	nping min	5	5.01	5	3.79
Rotary (1		r Driving	🗌 Irrig	gation		& Air Conditioning		end of pumping (m/ft)	10	5.10	10	3.76
🛛 Air percu			Ind	lustrial ner, <i>specify</i> _				25 ate (Vmin-/ GPM)	15	5.10	15	5.70
	Co	Instruction R	ecord - Cas		unu nu	Status of Well			20	5.21	20	
Inside Diameter	(Galvaniz	e OR Material ed, Fibreglass,	Wall Thickness	From	h ( <i>m/ft)</i> To	Water Supply Replacement Well	Recommended	o 1	25	5.22	25	
(cm/in)		, Plastic, Steel)	(cm/in)			Test Hole     Recharge Well	Recommended (I/min / GPM)	pump rate	30	5.23	30	
15.86	St	eel	.48	+.45	7.31	Dewatering Well     Observation and/or	45	5	40	5.29	40	
						Monitoring Hole	Well production	1 (I/min / GPM)	50		50	
						Alteration     (Construction)	Disinfected?	lo	60	5.26	60	
	0	Construction R	ecord - Scre	en	5542873533	Abandoned, Insufficient Supply Abandoned, Poor	<b>A</b> 100 CI 1	Map of W	ell Loo		1111	
Outside Diameter	N	laterial	Slot No.	Dept	h ( <i>m/lt</i> )	Water Quality Abandoned, other,	Please provide	a map below following			ack.	
(cm/in)	(Plastic, G	alvanized, Steel)		From	То	specify		RIC. Fo	HHO	ND		
						Other, specify		1-0	RES	. 7		SIA
												4
Water four	nd at Depth	Water Det Kind of Wate		Vintested	Dep	Hole Diameter oth (m/ft) Diameter						5
	n/ft) Gas		,		From	To (cm/in)			1		7	Tille
		Kind of Wate		Untested		7.31 15.86				-	í.	6
		Kind of Wate		Untested	7.31	47.24 15.55		10T #1			ì	
		s Other, spe		Technicia	an Informa	ation		#1			,	
	ame of We	ell Contractor		reenner		ell Contractor's Licence No.			-			
		er Supply reet Number/Na			M	1 5 5 8 unicipality	Comments:					
Box 49	90				5	Stittsville						
Province		Postal Code		s E-mail Ad	dress			Date Package Deliver	ed	Minis	try Us	e Only
Bus.Teleph	one No. (inc	2 S 1 A	ame of Well	Finician (	Last Name	lwater.ca First Name)	information package	2 0 0 8 1 2		Audit No.Z		1160
6 1 3 Well Technic	8 3 6 cian's Licenc	1 7 6 6 e No. Signature	Mi/11	er, Ste	ephen	ate Submitted	delivered X Yes	Date Work Completed		F	EB	2 2009
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Measureme	ents record	led in: 🙀 M	etric 🗌 li	nperial		A076813	076	813		Page_		of
Well Own	ner's Info	rmation						anter and a state of the second state of the s				
First Name		La	ast Name / C				E-mail Addr	ess				Constructed
Mailing Add	iress (Stree	t Number/Nam		Custom		lunicipality	Province	Postal Code	٦	Telephone N	-	
5509 0	Canotek	Road -	Unit 1			Ottawa	Ontario	K1J 9J8		613 747	399	3
Well Loca		on (Street Nur	aber/Name)		Т	ownship		Lot		Concession		1051031
		ond Fore				Goulbourn		25		3		
County/Dist	trict/Munici	pality	00			ity/Town/Village			Provin Onta		Postal	Code
Ottawa UTM Coordin	a Carle		, No	rthing	N	Richmond Iunicipal Plan and Suble	ot Number		Other	1110		
		3 4 3 5 3	3565	0 0 4								
				nment Sea		rd (see instructions on the					Dep	th ( <i>m/ft</i> )
General Co	olour	Most Comm				er Materials		General Description			From	To
Brown		Cla	у		Stor	nes	ł	Packed			0	5.79
Gray		Lim	estone				N	ledium		-	5.79	48.76
idilare:			Annular	Space				Results of We		the second second second second second second second second second second second second second second second se		
Depth Se From	et at ( <i>m/ft)</i> To		Type of Sea (Material an			Volume Placed (m <sup>3</sup> /ft <sup>3</sup> )	After test of well	yield, water was: sand free		aw Down Water Level		ecovery Water Level
0.02	0	Creation				.43m <sup>3</sup>	Other, spec		(min)	(m/ft)	(min)	(m/ft)
8.83	0	Grouted	1 Bento	nite Si	urry	.4307	If pumping disco	ontinued, give reason:	Static Level	3.90		
									1	5.10	1	5.18
							Pump intake se	et at <i>(m/ft)</i>	2	5.67	2	4.29
							45. Pumping rate (/		3		3	
		nstruction			Well Us		54.		4	5.99	4	3.98
Cable To	Conventional	Diamond		nestic	Comme	termine the second second second second second second second second second second second second second second s	Duration of pur	nping		6.24		3.94
Rotary (F	Reverse)Ai	Driving		estock	Test Ho		hrs +	min end of pumping (m/it)	5	6.47	5	3.92
Boring		Digging	Irrig	<i>x</i>	Cooling	& Air Conditioning	6.		10	6.85	10	
Other, sp	pecify		Oth	ier, specify _				ate (l/min-/ GPM)	15	6.94	15	
	T	nstruction Re			1 ( <i>m/ft</i> )	Status of Well	Deserves ded	nume denth (m/fil	20	7	20	
Inside Diameter	(Galvaniz	e OR Material ed, Fibreglass,	Wall Thickness	From	То	Water Supply Replacement Well	22.	l pump depth (m/ft) 85	25	7.04	25	
(cm/in)		Plastic, Steel)	(cm/in)			Test Hole     Recharge Well	Recommended		30		30	
15.86	St	eel	.48	+.45	8.83	Dewatering Well	(Vmin / GPM) 45.	5		6.97	40	
						Observation and/or     Monitoring Hole	Well production		40	6.97		
						Alteration (Construction)	Disinfected?		50	6.97	50	
						Abandoned,	X Yes 🗌 N	40	60	6.98	60	
	С	onstruction R	ecord - Scre	en	202040	Insufficient Supply Abandoned, Poor	Diamanda	Map of W				NISSIN'
Outside Diameter		laterial alvanized, Steel)	Slot No.	Depth From	n ( <i>m/ft)</i> To	Water Quality Abandoned, other,		a map below following	Instruct	ions on the b	аск. /	
(cm/in)	(, , , , , , , , , , , , , , , , , , ,			PIOII	10	specify	R.	ICHMOND FOREST		N/		L
						Other, specify	I F	FOREST		1º		É
										L.		æ
		Water Det			and the state of t	th (m/ft) Diameter				1		pr.
	nd at Depth n/ft) 🗌 Gas	Kind of Wate		X Untested	From	To (cm/in)						-
		Kind of Wate		Untested	0	8.83 15.86		• -		1.		8
	n/ft) 🗌 Gas				8.83	48.76 15.55				1		Γ
		Kind of Wate		Untested	0.00	40.70 15.55		/		1		
(/)	n/ft) Gas	ell Contracto	/	Technicia	n Informa	tion	i –			HID		
Business N		Il Contractor	and Hell	. connicia	W	all Contractor's Licence No.	1		107	#10		
Capita	1 Wate	r Supply	Ltd.			1 5 5 8	Comment					
	,	eet Number/Na	ime)			unicipality	Comments:					
Box 49 Province		Postal Code	Business	s E-mail Add	dress	Stittsville						
Ontari		2 S 1 A		fice	capita	lwater.ca	Well owner's information	Date Package Deliver	əd	Minis	try Us	e Only
		area code) Na 1 7 6 6				First Name)	package delivered		0 3	Audit No.Z	84	4461
		No. Signature	Miller of Technicia			te Submitted	X Yes	Date Work Completed		FE	B 1	2 2009
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() Or	Ministry the Env	y of vironment	Well Tag	g No. (Place Sticker an A051492	I	Pogulation	903 O			ecord
Measureme	nts recorded in: XXM	etric 🗌 Imperia	ıl	A031492	A 051492	2		Page_		of
Well Own First Name		ast Name / Organia			E-mail Address					constructed
Mailing Addr	ess (Street Number/Nam	Talos Cust	om Homes	funicipality	Province	Postal Code	٦	Telephone N		
	notek Rd. Unit	1	(	Ottawa	Ontario	K1J 9J8		613 74	7 399	)3
Well Local Address of V	Vell Location (Street Num	ber/Name)	T	ownship		Lot	1	Concession		
	Richmond Fores	t		Goulbourn		25	Provin	3	Postal	Code
	ict/Municipality Carleton			City/Town/Village			Onta			
UTM Coordin	ates Zone Easting	Northing		Junicipal Plan and Suble	ot Number		Other			
	8 3 1 8 4 3 5 2 n and Bedrock Materia	ls/Abandonmen	t Sealing Reco				994		Dep	th ( <i>m/ft</i> )
General Co	iour Most Comm	on Material	Oth	er Materials		ral Description			From	To
Brown	Soil		Ston	es	Packed				0	5.48
Gray	Limest	one			Medium			-	5.48	29,86
		Annular Spac				Results of We				
Depth Set From	at ( <i>m/ft</i> ) To	Type of Sealant U (Material and Type		Volume Placed . (m³/ft³)	After test of well yield,			aw Down Water Leve		
8.53	0 Grouted	Bentonite	Slurry	.42m <sup>3</sup>	Other, specify		(min) Static	(m/ft)	(min)	(m/ft)
	o orouceu	beneonice	biuiij	• • • •	If pumping discontinue	id, give reason:	Level	3.90		
					Pump intake set at (r	n/#)	1	4.06	1	4.15
					16.76	in ing	2	4.09	2	4.10
Meth	od of Construction		Well Us	se	Pumping rate (Vmin /	GPM)	3	4.13	3	4.07
Cable To	ol Diamond onventional) Jetting	Public	Comme		54.6 Duration of pumping		4	4.16	4	4.05
	everse) Air	Livestock	Test Ho	ble Monitoring		nin	5	4.19	5	4.01
Boring	Digging	Irrigation	Cooling	& Air Conditioning	Final water level end of 4.34	of pumping (m/ft)	10	4.25	10	3.92
Other, sp	-	Other, sp	ecify		If flowing give rate (I/	min√ GPM)	15	4.27	15	
Inside	Open Hole OR Material	Wall	Depth (m/ft)	Status of Well	Recommended pum	p depth (m/ft)	20	4.29	20	
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness (cm/in) Fr	om To	Replacement Well     Test Hole	16.78		25	4.32	25	
15.86	Steel	.48 +.	45 8.53	Recharge Well	Recommended pum (I/min / GPM)	p rate	30	4.31	30	
	00001		15 0.55	Dewatering Well     Observation and/or	45.5 Well production (Vmii	n / GPM)	40	4.32	40	
				Monitoring Hole	Disinfected?		50	4.33	50	
				(Construction)	X Yes No		60	4.34	60	
RECEIN	Construction R	ecord - Screen		Insufficient Supply		Map of W				
Outside Diameter	Material (Plastic, Galvanized, Steel)	Slot No.	Depth ( <i>m/ft</i> ) om To	Water Quality Abandoned, other,	Please provide a map	below following	instruct	tions on the t	ack.	
(cm/in)				specify		1		1		
				Other, specify	II <i>IX</i>	12	0	1		E.
7.000	Water Det	aile		Hole Diameter	112	1 1		1		R) (
Water found	d at Depth Kind of Water		ested Dep	th (m/ft) Diameter		1 10 + 18	3	1		The second second second second second second second second second second second second second second second se
	(ft) Gas Other, spe d at Depth Kind of Water		From			1 11'				es
(m	/ft) Gas Other, spe	cify	0.50	8.53 15.86	0			_		12.8
	d at Depth Kind of Water		ested 8.53	29.86 15.55	KICI	HOND	P	ORES	T	8
(m	(ft) Gas Other, spe	or and Well Tech	nician Informa	ation						7
	ame of Well Contractor		Ŵ	ell Contractor's Licence No.	1					
	1 Water Supply		1 M	L 5 5 8 Iunicipality	Comments:					
Box 49		Business E-ma	5	Stittsville						
Province Ontari Bus.Telepho	o K 2 S 1 A ne No. (inc. area code) Na			lwater.ca First Name)	information	Package Deliver		Minis Audit No. 7	try Us	
	8 3 6 1 7 6 6 an's Licence No. Signature				delivered ZTU	0' 8' 14 24 Work Completed			8	4464
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Well Own			na na maria						616			A Constants
First Name			ast Name / O				E-mail Addr	ess				Constructed
Mailing Add	Iress (Stree	et Number/Nam	Talos (	Custom		funicipality	Province	Postal Code	1	Telephone N		all Owner area code)
5509 C	anotek	Road - U	Jnit 1			Ottawa	Ontari	o K1J 9J8	(	513 747	399	3
Well Loca		ion (Street Nurr	her/Name)		1	ownship		Lot		Concession		A STARS
		hmond Foi				Goulbourn		25		3		
County/Dist	trict/Munici	pality			C	City/Town/Village			Provin Onta		Postal	Code
Ottawa UTM Coordi	Carle	e Easting	I No	rthing	N	Richmond Municipal Plan and Suble	ot Number		Other			
		8 4 3 5 3					hash of this form)				121.03	
General Co		Most Comm		iment Sea		ord (see instructions on the ner Materials		General Description	14144		Dep From	th ( <i>m/ft</i> ) To
Brown		Sandy Ci	av		Stone	99	Pac	ked			0	4.57
Gray		Limestor			ocone	.0	Med			4	.57	47.24
oray		Dimestor	ic.				neu	1 din		-		47.24
11/11/12			Annular				10 states	Results of We				
Depth Se From	et at ( <i>m/ft)</i> To		Type of Sea (Material and			Volume Placed (m³/ft³)	After test of well X Clear and s	· ·		aw Down Water Level		Vater Level
7.92	0	Grouted	Bentoni	ite Slu	irry	.52m <sup>3</sup>	Other, spec		(min) Static	(m/ft)	(min)	(m/ft)
							If pumping alsco	ntinued, give reason:	Level	4.06		
							Rump intako po	t at (m/R)	1	5.78	1	13.10
							Pump intake se 45.		2	7.03	2	10.78
Meth	hod of Co	Instruction		Personal Contraction	Well Us	se	Pumping rate (l		3	7.83	3	9.02
Cable To	loc	Diamond			Comme	ercial Not used	36. Duration of pur	40 nping	4	8.60	4	7.84
		il) 🗌 Jetting ir 🗌 Driving	X Dor		Municip Test Ho		_1hrs +	min	5	9.02	5	6.88
Boring	innion	Digging	Irrig		Cooling	& Air Conditioning	100 C	end of pumping (m/lt)	10	12	10	4.38
Other, sp				er, specify _			16. If flowing give ra	39 ate (Vmin-/ GPM)	15	12.98	15	4.06
	I	Instruction Re			(	Status of Well		and another for Mill	20	14.11	20	
Inside Diameter	(Galvaniz	e OR Material ed, Fibreglass,	Wall Thickness	From	n ( <i>m/ft</i> ) To	Water Supply Replacement Well		pump depth (m/ft)	25	1. A. A.	25	
(cm/in)		, Plastic, Steel)	(cm/in)		5	Test Hole     Recharge Well	30. Recommended (Vmin / GPM)		30	14.64	30	
15.86	St	eel	.48	+.45	7.92	Dewatering Well		5	40	15.20	40	
						Observation and/or Monitoring Hole	Well production	(Vmin / GPM)	50	15.73	50	
						(Construction)	Disinfected?			16.14	60	
						Abandoned, Insufficient Supply	X Yes N		60	16.39	00	
Outside		Construction R	ecord - Scre		n ( <i>m/ft</i> )	Abandoned, Poor Water Quality	Please provide a	Map of W a map below following			ack.	
Diameter (cm/in)		alvanized, Steel)	Slot No.	From	То	<ul> <li>Abandoned, other, specify</li> </ul>	1 1-				107	# 22
											104	SE A
						Other, specify					#7.	2 8
		Water Det	ails			Hole Diameter	il i		•			57
		Kind of Wate		XUntested	De; From	th (m/ft) Diameter To (cm/in)						
		Other, spen		Untested	0	7.92 15.86	1 1					ž
	n/ft) 🗌 Gas				7.92	47.24 15.39						W
	nd at Depth n/ft) 🗌 Gas	Kind of Wate		Untested			L.					
(**		Vell Contracto		Technicia	In Information	ation	il 📈					
		Il Contractor			W	ell Contractor's Licence No.						
		r Supply reet Number/Na			M	1 5 5 8 unicipality	Comments:					
Box 49	0					Stittsville						
Province		Postal Code		E-mail Add	dress		Well owner's	Date Package Deliver	ad	Minis	try Us	e Only
Ontari Bus.Teleph		K 2 S 1 A		echnician (	Capita Last Name	lwater.ca First Name)	information package			Audit No. Z		1172
6 1 3 C	836	1 7 6 6 e No. Signagure	Miller,	Steph	en	ata Cubralita d	delivered	2 0 0 9 0 1 Date Work Completed	2 1	FEB	12	2009
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Well Own	er's Info						411	E-mail Address					Constructed
First Name		La	st Name / O Talos ()	~	Homes			E-mail Address				by We	II Owner
_		t Number/Nam	e)			Aunicipality		Province Ontario	Postal Code K 1J 9J8		elephone		area code)
Well Locat		Rd. Unit			Real Pr	Ottawa		Untario					
		ion (Street Num		1.	Т	ownship Goulbourn			Lot 25	C	Concessio	n 3	
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Overburde General Co		drock Materia Most Comm		nment Sea		rd (see instructions on t er Materials	the ba		eral Description	111111	22735252	Dep	th ( <i>m/ft</i> ) To
Brown		Sandy Soi			Stone	S						0	4.26
Gray		Hardpan			Bould			Packed				4.26	8.83
Gray		Limestone	2					Medium				8.83	45.10
oray		Dimenter											
													-
										11 10 - 1	Testine		
Depth Se	et at ( <i>m/ft</i> )		Annular Type of Sea			Volume Placed		After test of well yield	Results of We water was:	Dra	aw Down	R	ecovery
From	То		(Material an	d Type)		(m³/ft³)		Clear and sand Other, specify	free	Time (min)	Water Lev (m/ft)	el Time (min)	Water Level (m/ft)
8.83	0	Grouted	Benton	ite Slu	irry	.84m <sup>3</sup>	-	f pumping discontinu	ed, give reason:	Static Level	3.99		
							_			1	4.74	1	4.27
							F	oump intake set at (	· · · · · · · · · · · · · · · · · · ·	2	4.90	2	4.11
								30.47 Pumping rate (Vmin		3	4.94	3	4.04
Meth Cable To		Diamond	D Put	alic	Well U			54.6		4	4.98	4	4
Rotary (C	Conventiona	al) 🗌 Jetting		mestic	Municip	Dewaterir	ng    [	Duration of pumping 1 hrs +	min	5	5.	5	
Rotary (F		Lr Driving	🗆 Irrig	ation		& Air Conditioning		inal water level end		10	5.08	10	
X Air percu			Ind Ott	ustrial ier, <i>specify</i> _				5.14 f flowing give rate (l		15	5.09		
	Co	onstruction R			(- 40)	Status of Well			1 11 ( 20)	20	5.11		
Inside Diameter	(Galvania	ole OR Material zed, Fibreglass,	Wall Thickness	From	h ( <i>m/ft)</i> To	Water Supply Replacement We		Recommended pun 22.85		25	5.12	0.5	
(cm/in)		e, Plastic, Steel)	(cm/in)			Test Hole     Recharge Well		Recommended pun (Vmin / GPM)		30	5.12	0.0	
15.86	Ste	eel	.48	+.45	8.83	Dewatering Well     Observation and/o		45.5		40	5.13		
						Monitoring Hole	^   `	Well production (Vm	iin / GPM)	50	5.13	50	
					-	(Construction)		Disinfected?		60	5.14		
111111111111	(	Construction R	ecord - Scre	en	*******	Insufficient Suppl	· • • •	A. CO.	Map of W	/ell Loo		1617111	
Outside Diameter		Material	Slot No.	1	h ( <i>m/ft</i> )	Water Quality		Please provide a ma	p below following	g instruct	ions on the	back.	1/
(cm/in)	(Plastic, G	Salvanized, Steel)	0.01110.	From	То		",		1		+ 30	1	N /
						Other, specify	-		[	107	# 30	í	LI
									•				L.
Water four	nd at Dept	Water De h Kind of Wate		X Untested	j De	Hole Diameter pth (m/ft) Diamet			;				2
43.27/7	n/ft) 🗌 Ga	S Other, spe	ecify		From	To (cm/in) 8.83 15.8			SHANNON	H	45E		5
	nd at Dept n/ft) 🗌 Ga	h Kind of Wate		Untested	8.83								4
Water four	nd at Dept	h Kind of Wate		Untested									, e
(1		Nell Contract		Technicia	an Inform	ation			au				<i>b</i>
	Name of W	ell Contractor				Vell Contractor's Licence N		RICHMO	EST				
		er Supply treet Number/Na			N	1 5 5 8 Iunicipality	8	Comments:					
Box 49						Stittsville							
Province Ontari	io	Postal Code		s E-mail Ad ice ລັດ		water.ca			Package Delive	red	Min	istry Us	e Only
Bus.Teleph	ione No. (in	c. area code) N				e, First Name)		information package 2Y 0	0 9 0 3	06	Audit No.	09	5337
6 1 3 Well Technic	8 3 6 cian's Licen	1 7 6 6 ce No. Signatur	Mille of Technici	er, Ste an and/or C	phen ontractor	ate Submitted		oeivered	Work Complete			APR	0 6 200
	0 9	7 10	tha	$\sim$		2 0 0 9 0 3 0			0 0 9 0 3	0 5	Received	AIN	
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Measureme	ents record	ded in: 🗌 🕅 Me	etric 🗌 Im	perial		A068288				Page_		of
Well Own	er's Info				in an		E-mail Address					Constructed
First Name			st Name / Or Falos Cu	-			E-mail Address				by We	ell Owner
~		et Number/Nam	e)		1	Municipality	Province	Postal Code		elephone N 513 74		
5509 C		Rd. Unit	t 1			Ottawa	Ontario	<u>KTJ 9J0</u>		515 74	1 399	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		on (Street Num	ber/Name)			Township		Lot	(	Concession 3		
Lot 31 County/Distr	, Rich	mond Fore	est			Goulbourn City/Town/Village		25	Provinc		Postal	Code
Ottawa	Carle	eton				Richmond Municipal Plan and Sublo	t Number		Onta Other	rio		
UTM Coordin		e Easting 3 4 3 5 4		thing		Municipal Plan and Subio	( Number		00101			
		drock Materia	Is/Abandon		aling Rec	ord (see instructions on the				RUHH	Dep	th ( <i>m/ft</i> )
General Co		Most Comm				her Materials	Gene	ral Description			From	4.26
Brown		Sandy Soi	1		Stone		Packed				4.26	7.01
Gray		lardpan			Bou1d	ers	Medium				7.01	45.10
Gray	1	imestone					rieurum					
						-						
	h - h ( - 40)		Annular			Volume Placed	After test of well yield,	Results of We water was:	the second second	d Testing	1	Recovery
Depth Se From	et at ( <i>m/ft</i> ) To		Type of Seal (Material and			(m³/ft³)	X Clear and sand f					Water Level (m/ft)
8.83	0	Grouted	Benton	ite Sl	urry	.84m <sup>3</sup>	Other, specify	ed, give reason:	Static	3.95	(((1117))	(neig
									Level 1	5.30	1	5.62
							Pump intake set at (r	m/ft)	2	5.84	2	4.50
							30.47 Pumping rate (Vmin /		3	6.24	3	4.04
		onstruction			Well U		54.6	GPM)	4	6.53	4	3.93
Cable To	Conventiona		Dor		Comm Munic	ipal Dewatering	Duration of pumping	min	5	6.77	5	3.95
🕅 Rotary (F	Reverse)Aj	Lr Driving	Live		Coolin	iole Monitoring g & Air Conditioning	Final water level end of		10	7.17	10	
Air percu			Indu  Oth	ustrial er, specify			7.78		15	7.37	15	
		onstruction Re				Status of Well	In nowing give rate [//	niii 7 Gewij	20	7.49	20	
Inside Diameter		ole OR Material zed, Fibreglass,	Wall Thickness		h ( <i>m/ft</i> )	Water Supply Replacement Well	Recommended pum		25		25	
(cm/in)	Concrete	e, Plastic, Steel)	(cm/in)	From	То	Test Hole     Recharge Well	22.85 Recommended pum		30	7.58	30	
15.86	2	Steel	.48	+.45	8.83	Dewatering Well	(1/min / GPM) 45.5		40	7.68	40	
						Observation and/or     Monitoring Hole	Well production (Vmi	n / GPM)	50	7.73	50	
						(Construction)	Disinfected?		60	7.78	60	
			and Com			Abandoned, Insufficient Supply		Map of W				
Outside	T	Construction R Material			th ( <i>m/ft</i> )	Abandoned, Poor Water Quality	Please provide a map	below following	; instruct		back.	11
Diameter (cm/in)	(Plastic, G	alvanized, Steel)	Slot No.	From	То	Abandoned, other, specify		LOTY	31			$\mathbb{N}$
					_	Other, specify	1 .	1 LO'			1	1
								Λ			11	
Water four	nd at Dept	Water Det h Kind of Wate	and the second se	🗙 Unteste	d De	Hole Diameter epth (m/ft) Diameter		1	SHE	PRNON	1101.	SE A
43.27(n	n/ft) 🗌 Ga	s Other, spe	ecify		From		\``					K
		h Kind of Wate		Unteste		8.83 15.86						2
		h Kind of Wate		Unteste	d 8.83	45.10 15.23						26
(1		S Other, spe	-	Technini	an Inform	nation		RICHI	YONA	FOR	EST	1/2
	Name of W	Vell Contractor		rechnici		Well Contractor's Licence No.		10/01				
		er Supply treet Number/Na				1 5 5 8 Municipality	Comments:					
Box 49						Stittsville						
Province Ontari		Postal Code		s E-mail Ac	idress		Well owner's Date	Package Delive	red	Min	istry Us	se Only
		c. area code) Na					package 2		0 6	Audit No.		5338
6 1 3 Well Technic	8 3 6 cian's Licen	1 7 6 6 ce No. Signature	Mille:	r, Ste	phen	Date Submitted	delivered Date	Work Complete		-	APP	0 8 900
0 0	) 9	7	the	_1		20090306	□ No 2 0	0 9 0 3	0 5	Received	MIN	
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Measureme	ents record	ded in: 🗌 🕅 Me	etric 🗌 Im	perial		A068288				Page_		of
Well Own	er's Info				in st		E-mail Address					Constructed
First Name			st Name / Or Falos Cu	-			E-mail Address				by We	ell Owner
~		et Number/Nam	e)		1	Municipality	Province	Postal Code		elephone N 513 74		
5509 C		Rd. Unit	t 1			Ottawa	Ontario	<u>KIJ 9J0</u>		515 74	1 399	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		on (Street Num	ber/Name)			Township		Lot	(	Concession 3		
Lot 31 County/Distr	, Rich	mond Fore	est			Goulbourn City/Town/Village		25	Provinc		Postal	Code
Ottawa	Carle	eton				Richmond Municipal Plan and Sublo	t Number		Onta Other	rio		
UTM Coordin		e Easting 3 4 3 5 4		thing		Municipal Plan and Subio	( Number		00101			
		drock Materia	Is/Abandon		aling Rec	ord (see instructions on the				RUHH	Dep	th ( <i>m/ft</i> )
General Co		Most Comm				her Materials	Gene	ral Description			From	4.26
Brown		Sandy Soi	1		Stone		Packed				4.26	7.01
Gray		lardpan			Bou1d	ers	Medium				7.01	45.10
Gray	1	imestone					rieurum					
						-						
	h - h ( - 40)		Annular			Volume Placed	After test of well yield,	Results of We water was:	the second second	d Testing	1	Recovery
Depth Se From	et at ( <i>m/ft</i> ) To		Type of Seal (Material and			(m³/ft³)	X Clear and sand f					Water Level (m/ft)
8.83	0	Grouted	Benton	ite Sl	urry	.84m <sup>3</sup>	Other, specify	ed, give reason:	Static	3.95	(((1117))	(neig
									Level 1	5.30	1	5.62
							Pump intake set at (r	m/ft)	2	5.84	2	4.50
							30.47 Pumping rate (Vmin /		3	6.24	3	4.04
		onstruction			Well U		54.6	GPM)	4	6.53	4	3.93
Cable To	Conventiona		Dor		Comm Munic	ipal Dewatering	Duration of pumping	min	5	6.77	5	3.95
🕅 Rotary (F	Reverse)Aj	Lr Driving	Live		Coolin	iole Monitoring g & Air Conditioning	Final water level end of		10	7.17	10	
Air percu			Indu  Oth	ustrial er, specify			7.78		15	7.37	15	
		onstruction Re				Status of Well	In nowing give rate [//	niii 7 Gewij	20	7.49	20	
Inside Diameter		ole OR Material zed, Fibreglass,	Wall Thickness		h ( <i>m/ft</i> )	Water Supply Replacement Well	Recommended pum		25		25	
(cm/in)	Concrete	e, Plastic, Steel)	(cm/in)	From	То	Test Hole     Recharge Well	22.85 Recommended pum		30	7.58	30	
15.86	2	Steel	.48	+.45	8.83	Dewatering Well	(1/min / GPM) 45.5		40	7.68	40	
						Observation and/or     Monitoring Hole	Well production (Vmi	n / GPM)	50	7.73	50	
						(Construction)	Disinfected?		60	7.78	60	
			and Com			Abandoned, Insufficient Supply		Map of W				
Outside	T	Construction R Material			th ( <i>m/ft</i> )	Abandoned, Poor Water Quality	Please provide a map	below following	; instruct		back.	11
Diameter (cm/in)	(Plastic, G	alvanized, Steel)	Slot No.	From	То	Abandoned, other, specify		LOTY	31			$\mathbb{N}$
					_	Other, specify	1 .	1 LO'			1	1
								Λ			11	
Water four	nd at Dept	Water Det h Kind of Wate	and the second se	🗙 Unteste	d De	Hole Diameter epth (m/ft) Diameter		1	SHE	PRNON	1101.	SE A
43.27(n	n/ft) 🗌 Ga	s Other, spe	ecify		From		\``					K
		h Kind of Wate		Unteste		8.83 15.86						2
		h Kind of Wate		Unteste	d 8.83	45.10 15.23						26
(1		S Other, spe	-	Technini	an Inform	nation		RICHI	YONA	FOR	EST	1/2
	Name of W	Vell Contractor ell Contractor		rechnici		Well Contractor's Licence No.		10/01				
		er Supply treet Number/Na				1 5 5 8 Municipality	Comments:					
Box 49						Stittsville						
Province Ontari		Postal Code		s E-mail Ac	idress		Well owner's Date	Package Delive	red	Min	istry Us	se Only
		c. area code) Na					package 2		0 6	Audit No.		5338
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C.	Ontario

Ministry of the Environment

Measurements recorded in: X Metric Imperial

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

A068296 A 068296

## Well Record

ulation 903 Ontario Water Resources Act

Page\_\_\_\_ of

Well Own	ner's Ir	formation												
First Name		L	ast Name / (	-	Ensured							Constructed		
Mailing Add	tress (St	reet Number/Na		Custom		unicipality		Province	Postal Code	٦	Felephone	by Well Owner ne No. (inc. area code)		
0		ek Road -				Ottawa		Ontari			513 74			
Well Loca														
		cation (Street Nu	· · · · · · · · · · · · · · · · · · ·		To	ownship			Lot		Concessio			
Lot 2 County/Dis		hmond For	est		Ci	Gou1bo			3	Provin	2. ce		l Code	
Ottawa						Richmo	0	Onta						
UTM Coordi	inates Z	one Easting	I No	orthing	M	unicipal Pla	n and Sublo	ot Number Other						
	the second second second second second second second second second second second second second second second s	8 4 3 5	and the second se	in the second second second second second second second second second second second second second second second	the second second second second second second second second second second second second second second second s									
		Bedrock Materi				and an an other states of the		back of this form				Der	pth ( <i>m/ft</i> )	
General Co			non Material			er Materials			General Description			From	To	
Brown		Sandy So	il		Sto	ones		Pac	cked			0	3.35	
Gray		Sandy So	i1		Sto	ones		Pac	cked			3.35	5.79	
Gray		Limeston	е					Мес	lium			5.79	45.10	
Denth Cr	at at / m/f	1	Annular			Valuma	Placed	After test of we	Results of We		d Testing aw Down		Recovery	
Depth Se From		)	Type of Sea (Material an				<sup>3</sup> /ft <sup>3</sup> )	Clear and		Time	Water Lev	el Time	Water Level	
8.83	0	Groute	d Bento	nite Sl	urrv	.42m	3	Other, spe		(min) Static	(m/ft)	(min)	(m/ft)	
					,			If pumping disc	continued, give reason:	Level	3.32			
										1	4.79	1	4.26	
								Pump intake s	et at <i>(m/ft)</i>	2	5.30	2	3.91	
								30.		3		3		
Meth	nod of	Construction			Well Use	9		Pumping rate			5.64		3.46	
Cable To							Not used	54. Duration of pu		4	5.88	4	3.41	
Rotary (C				mestic restock	Municipa		Dewatering Monitoring	1 hrs +	min	5	5.98	5	3.39	
Boring	_	Digging		gation	Cooling 8	& Air Conditio	oning	Final water leve	el end of pumping (m/ft)	10	6.24	10	3.33	
X Air percu				lustrial her, <i>specify</i>					46 rate (I/min / GPM)	15	0.24	15	5.00	
		Construction R	ecord - Cas	sing		Status	of Well		rate (minin / GPM)					
Inside	Open	Hole OR Material	Wall	Depth	(m/ft)	🗴 Water S		Recommende	d pump depth (m/ft)	20	6.37	20		
Diameter (cm/in)		nized, Fibreglass, ete, Plastic, Steel)	Thickness (cm/in)	From	То	Replace	ement Well	22.	the second second second second second second second second second second second second second second second se	25		25		
15.86	6	Steel	.48	+.45	8.83	Recharg		Recommende (I/min / GPM)	d pump rate	30		30		
							ring Well	45.	5 n (1/min / GPM)	40	6.43	40		
						Monitori	ation and/or ing Hole	Well productio	n (I/min / GPM)	50		50		
						Alteratio		Disinfected?			6.44			
						Abando	ned,	X Yes	No	60	6.46	60		
	1	Construction R	lecord - Scre	en			ent Supply ned, Poor		Map of W					
Outside Diameter	(Plastic	Material Galvanized, Steel)	Slot No.	Depth	í í	Water C	Quality oned, other,	Please provide	a map below following	Instruct	ions on the	Dack.		
(cm/in)	(1 18500,	Galvanized, Oteer)		From	То	specify			í.			ł		
						Other, s	snecify					1		
							op e en y	t				1		
		Water De	tails		H	ole Diamet	ter	LOTH	1		•	1	N	
Water four	nd at De	oth Kind of Wate	er: Fresh	X Untested	Depti From	h ( <i>m/ft)</i>   To	Diameter (cm/in)	L				1	3	
		as Other, sp		Listantad	0	8.83	15.86		1			1	21	
		oth Kind of Wate Bas Other, sp		Untested	Ŭ			CHE	ANON HOUSE	. [	TRIVE.		Ś	
		oth Kind of Wate		Untested	8.83	45.10	15.23							
(11	n/ft)	Bas Other, sp	ecify					//					1K	
		Well Contract	or and Well	Techniciar									L'IN	
		Vell Contractor	T. J		Wel	I Contractor's		K					4	
the second second second second second second second second second second second second second second second s		cer Supp1y Street Number/Na			1 Mu	5 nicipality	5 8	Comments:						
Box 49			,			tittsvi	11e							
Province		Postal Code		s E-mail Addi	ess									
Ontari		K 2 S 1 A					L	Well owner's information	Date Package Delivere		Mini Audit No.	stry Us	e Only	
		inc. area code) Ni 5 1 7 6 6				-irst Name)		package delivered	2 Y OY OY 9Y OA BA :	30	Z	09	5324	
_		nce No. Signature		<b>r,</b> Step	tractor Date			X Yes	Date Work Completed					
0 0	9	7 Hol	Ka				3 3 0	No	2 0 0 9 0 3	2 4	Recei	Y 21	2009	
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Measureme		ry of ivironment letric 🗌 Imp		Well Tag	<b>y No.</b> (Place Sticker A068297	and/or Print Below) A 06829	l dation	n 903 O		ater Res	cources Act
Address of \	Well Location (Street Nur	nber/Name)		To	ownship		Lot	(	Concessio	n	
	Chanonhouse D: rict/Municipality	rive		C	Goulbourn ity/Town/Village		25	Provinc	ce	3 Posta	Code
-	Carleton			Ũ	Richmond			Onta		, oota	
	nates Zone Easting	North			lunicipal Plan and Su	olot Number		Other			
	8 3 1 8 4 3 5 n and Bedrock Materia	and the second se	0 0 4	and an an an and a second second second second second second second second second second second second second s	rd (see instructions on t	he back of this form)					
General Co			iem ocu		er Materials		eneral Description			Dep	oth ( <i>m/ft</i> )
Brown	Sandy Cla	av		Stone	5	Pac	ked			0	3.65
Gray	Sandy Cla			Stone		Pac				3.65	5.48
Gray	Limeston			Scone	5	Med				5.48	45.10
Gray	LINESLOID	2				neu	1 dili			5.40	45.10
Depth Set	t at (m/ft)	Annular Sp Type of Sealan			Volume Placed	After test of well yi	Results of We		d Testing aw Down		lecovery
From	То	(Material and 7			(m³/ft³)	X Clear and sa	nd free	Time	Water Lev	el Time	Water Level
8.53	0 Grouted	d Bentoni	te Sl	urry	.63m <sup>3</sup>	Other, specif		(min) Static	(m/ft)	(min)	(m/ft)
							inded, give reason.	Level	3.22		
						Dump intoko ost	at (m/ft)	1	4.72	1	5.09
						Pump intake set a		2	5.55	2	3.92
Moth	od of Construction			Well Us		Pumping rate (I/m		3	6.15	3	3.47
		Public	[	Commer		54.6		4	6.53	4	3.32
	onventional) Usetting	X Domes		Municipa		1 hrot	min	5		E	
$X$ Rotary ( $\pi$	everse) Air Driving	Livesto		Cooling	e 🗌 Monitoring & Air Conditioning		 nd of pumping (m/ft)	10	6.82	10	3.27
X Air percus		Industr Other,				7.7			7.47	4.5	
	Construction R				Status of Well	If flowing give rate	e (I/min / GPM)	15	7.63		
Inside	Open Hole OR Material	Wall	9 Depth	(m/ft)	Water Supply	Recommended p	ump depth (m/ft)	20	7.66	20	
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness (cm/in)	From	То	Replacement Well	22.8		25	7.66	25	
15.86	Stee1	.48	+.45	8.53	Recharge Well	Recommended p ( <i>I/min / GPM</i> )	ump rate	30	7.67	30	
					<ul> <li>Dewatering Well</li> <li>Observation and/or</li> </ul>	45.5 Well production (	1/	40	7.72	40	
					Monitoring Hole	vveii production (/	/min / GPM)	50		50	
					<ul> <li>Alteration</li> <li>(Construction)</li> </ul>	Disinfected?		60	7.72		
					Abandoned, Insufficient Supply	X Yes No			7.73	00	
Outside	Construction R	ecord - Screen	Depth	(m/ft)	Abandoned, Poor Water Quality	Please provide a r	Map of W map below following			back.	
Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	From	То	Abandoned, other specify			1	, K	21	
								L	oT #		
					Other, specify			1.1			
	Water Det	aile		U	ole Diameter			1			
Water found	d at Depth Kind of Water		Untested	Dept	h ( <i>m/ft</i> ) Diamete			1			13
	(ft) Gas Other, spe			From	To (cm/in)	CHA	NON HOUSE	IDR	WE_		N
	d at Depth Kind of Water		Untested	0	8.53 15.8						N
	(ft) Gas Other, spe d at Depth Kind of Water		Untested	8.53	45.10 15.2	3					2
(m/	(ft) Gas Other, spe	cify					RICHMO	ND			141
Project 11	Well Contracto	or and Well Te	chnician				RICHMO FORE	5T			×
	me of Well Contractor	Itd			Il Contractor's Licence No 5 5 8						
	l Water Supply Idress (Street Number/Na			1 Mui	nicipality	Comments:					(
Box 490					tittsville						
Province Ontario	Postal Code K 2 S 1 A	Business E-			water.ca	Well owner's Da	te Package Delivere	ed ]	Mini	stry Us	e Only
		me of Well Tecl		· · · · · · · · · · · · · · · · · · ·		information package			Audit No.		
	3 3 6 1 7 6 6	Miller		A		delivered Z	te Work Completed		2	0.3;	5325
141.11	and a literation of the loss	When i is i			and the second sec	V YOS		11			
Well Technicia	an's Licence No. Signature	Technician a	and or Cor		0 0 9 0 3 3	No 2	0 0 9 0 3	24	ReceMA'	(20	2009



Ministry of the Environment

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

## Well Record

tion 903 Ontario Water Resources Act

Measurements recorded in: X Metric

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Page

of

Address of Well Location (Street Number/Name)					To	ownship	Lot	Concession				
Lot 28		mond For	est			Soulbourn	25	Provin		3 Postal Code		
County/Dist						ity/Town/Village Cichmond		Ont		FUSIAI	Code	
UTM Coordin	nates Zone	e Easting		orthing	M	unicipal Plan and Sublo	ot Number	Other				
	8 3 1 8			0 0 4		d (see instructions on the	back of this form)					
General Co		Most Comm		1		er Materials	General Description	1		Dep From	th ( <i>m/ft)</i> To	
Brown	(	Clay			Ston	ies				0	4.26	
Gray	(	Clay			Ston	ies				4.26	5.79	
Gray	Ι	Limestone	2							5.79	45.10	
			Annular				Results of W	11				
Depth Se From	t at ( <i>m/ft)</i> To		Type of Sea (Material an			Volume Placed (m <sup>3</sup> /ft <sup>3</sup> )	After test of well yield, water was: X Clear and sand free	Time		el Time	ecovery Water Level	
8.83	0	Groute	d Bento	nite Sl	urry	.42m <sup>3</sup>	Other, specify	(min) Static		(min)	(m/ft)	
							If pumping discontinued, give reason:	Level	3.57			
							Dump intoka act at (m/ft)	1	4.49	1	3.67	
							Pump intake set at (m/ft) 30.47	2	4.65	2	3.58	
Meth	od of Co	nstruction			Well Use	9	Pumping rate (I/min / GPM)	3	4.70	3		
Cable To	ol	Diamond			Commer	cial 🗌 Not used	54.6 Duration of pumping	4	4.72	4		
Rotary (C		I) Usetting		mestic estock	Municipa		1 hrs +min	5	4.73	5		
Boring		Digging		gation	Cooling 8	& Air Conditioning	Final water level end of pumping (m/ft)	10	4.75	10		
X Air percus				ner, <i>specify</i>			4.81 If flowing give rate (I/min / GPM)	15	4.77	15		
		nstruction R	ecord - Cas			Status of Well		20	4.80		i	
Inside Diameter	(Galvanize	e OR Material ed, Fibreglass,	Wall Thickness	Depth From	( <i>m/ft</i> ) To	Water Supply Replacement Well	Recommended pump depth (m/ft) 22.85	25	4.80	0.5		
(cm/in)		Plastic, Steel)	(cm/in)			Test Hole Recharge Well	Recommended pump rate	30	4.80			
15.86	S	teel	.48	+.45	8.83	Dewatering Well	(1/min / GPM) 45.5	40		10		
						Observation and/or Monitoring Hole	Well production (I/min / GPM)		4.80	50		
						Alteration (Construction)	Disinfected?	50	4.80			
	1					Abandoned, Insufficient Supply	X Yes No	60	4.81	60		
Outside		onstruction R	ecord - Scre	Depth	(m/ft)	Abandoned, Poor Water Quality	Map of W Please provide a map below following			back.	1	
Diameter (cm/in)	(Plastic, Ga	laterial alvanized, Steel)	Slot No.	From	То	Abandoned, other,						
							1	1	1		Ľ	
						Other, <i>specify</i>			1		Ľ.	
		Water Det	tails		Н	ole Diameter		-	I OT #	2	260	
		Kind of Wate	r: Fresh	X Untested	Depti From	h ( <i>m/ft)</i> Diameter To ( <i>cm/in</i> )	•		1LOT #		57	
		Other, specified of Wate	-	Untested	0	8.83 15.86			1		J.	
		Other, spe			8.83	45.10 15.07	I CHANON HOU	158	1		le la la la la la la la la la la la la la	
		Kind of Wate		Untested			Chimeene				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
(///		Other, spe		Technicia	n Informat	ion						
Business Na			and tren	1001110101		Il Contractor's Licence No.						
		er Supp1y eet Number/Na			1 Mu	5 5 8 nicipality	Comments:					
Box 49		0011001/146				tittsville						
Province	F	Postal Code		s E-mail Add	ress		Well owner's Deta Deckage Deliver	od 1	Mint	etry 11-	Only	
Ontari Bus.Telepho		area code) Na					Well owner's Date Package Deliver information package 2×0×0×0×0×0×0×3		Audit No.	stry Use		
6 1 3	836	1766	. Mil1	er, Ste	phen		delivered Date Work Completed				5328	
Well Technici	ian's Licence	No. Signature	of Technicia	an and/or Co			X Yes 2 0 0 9 0 3	0 0	Received	Y 2 1	2009	
0506E (12/200		May	man	-	2	Ministry's Copy		2 )	© Queer	's Printer fr	or Ontario, 2007	
		/										

Ministry of	Well T A 066513	Well Record
Ministry of the Environment Measurements recorded in:	A066513	Regulation 903 Ontario Water Resources Act Page of

County/District/Municipality       City/TownWillage       Province       Postal Code         Other       Other       Other       Other         Dim Coordinates       Zone       Easting       Northing       Municipal Plan and Sublot Number       Other         NAD       8       3       6       4.3.5.5.2.1       50.0       4.5.5.5.1       Other       Other         Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)       Other       Depth (mm)         General Colour       Most Common Material       Other Materials       General Description       From 50         Greey       Care       Sold State Colour       Not State Colour       Not Common Material       Other Materials         General Colour       Most Common Material       Other Materials       General Description       From 50         Greey       Care       Sold State Colour       Not Colour       Sold State Colour       Sold State Colour         Greey       Care       Care       Care       Care       Care       Care         Greey       Care       Care       Care       Care       Care       Care       Care         Greey       Care       Care       Care       Care       Care       Care
OTM Coordinates       Zone, Easting       Northing       Municipal Plan and Sublot Number       Other         NAD       8       3       6       43552       5004551       Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)       Other         General Colour       Most Common Material       Other Materials       General Description       Depth (m01)         From       10       56       176
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 (no(1))         From       10         General Colour       Most Common Material       Other Materials       General Description       Depth (no(1))         General Colour       Most Common Material       Other Materials       General Description       From       10         General Colour       General Description       0       56'       176'         General Colour       General Description       56'       176'
General Colour     Most Common Material     Other Materials     General Description     Depth (m(n)) From       General Colour     General Description     0     56'       General Colour     General Description     0     56'       General Description     General Description     0     56'       General Description     General Description     0     56'
Annular Space Results of Well Yield Testing
Depth Set at (m/ft) Type of Sealant Used Volume Placed After test of well yield, water was: Draw Down Recovery
If pumping discontinued, give reason: Level 23
52'0 product Slurry 16.8 1 9'6" 1 7'
Pump111take set at (m/t) 2 2 2 5'
Method of Construction Well Use Pumping rate (Vmin (CPM) 3 13'2'' 3 4'
Cable Tool Diamond Public Commercial Not used Duration Commercial A 4 4 3'
Rotary (Conventional)       Jetting         Rotary (Reverse)       Driving         Livestock       Test Hole         Monitoring       Instruction of pumping         5       14 8"
Boring Digging Irrigation Cooling & Air Conditioning Final water level end of pumping (m/tt) 10 16 10
Other, specify If flowing give rate (Umin-/ GPM) 15 16 2 15
Construction Record - Casing         Status of Well           Inside         Open Hole OR Material         Wall         Depth (m/ft)         Awater Supply         Recommended gump depth (m/ft)         20         16.78         20
Diameter (Galvanized, Fibreglass, Thickness From To Replacement Well (12+14) [25] [25] [25] [25]
6' Steel 188' to' 6o' Recharge Well Winn GPM of 30 16'8' 30
6 Devite 62 245 Devition and/or Well production (Vmine (PM)) 40 40
Monitoring Hole 50 50
(Construction) Abandoned, Disinfected? 60 60
Construction Record - Screen Abandoned, Poor Map of Well Location
Outside Diameter (cm/in)     Material (Plastic, Galvanized, Steel)     Slot No.     Depth (m/ft)     Water Quality     Please provide a map below following instructions on the back.
speciny
Other, specify
Water Details     Hole Diameter       Water found at Depth Kind of Water:     Fresh Vintested     Depth (mv/ft)     Diameter       S     (mv/ft)     Gas     Other, specify     To     (cmv/in)       Water found at Depth Kind of Water:     Fresh Vintested     Or 540' 515/14     D-AD     - 2KM
Water found at Depth Kind of Water: Fresh Vintested Depth (m/tt) Diameter So (m/tt) Gas Other, specify To Com/in)
Water found at Depth Kind of Water: Fresh Wintested O 540 515/16.
Water found at Depth Kind of Water: Fresh VIntested
232 (((#)) Gas Other, specify
Water found at Depth Kind of Water:       Fresh Vuntested         230 (n(#t))       Gas       Other. specify         Well Contractor and Well Technician Information         Business Name of Well Contractor
AIRFOCK PRILLING COLTO 11/19
Business Address (Street Number/Name) Municipality Comments:
Province Postal Code Business E-mail Address
SN     Value     Value <td< td=""></td<>
6 38382170 (RAHAM KYAN delivered Date Work Completed
Well Technician's Licence No. Signature of Technician and/or Contractor Date Submitted
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	ntaric	_	vironmen	t Imperial	Well Ta	g No. (Place Sticker ar A068291	nd/or Print Below) A 06829	1 ation	903 O			ecord
Well Own		A		Imperial						rage_	10.00	
First Name	ier s inic		ast Name /	Organizat	on		E-mail Address	5				Constructed
Mailing Add	roce (Strop	et Number/Nam		Custor	n Homes	Municipality	Province	Postal Code	-	Telephone N	,	area code)
-		Rd Un				Ottawa	Ontario	K1J 9J8		513 747		
Well Loca	tion									Concorsion		
		ion (Street Num mond Fore		)		Township Goulbourn		Lot 25		Concession	3	
County/Dist	*		31		(	City/Town/Village			Provin		Posta	Code
Ottawa UTM Coordi			N	orthing		Richmond Municipal Plan and Suble	at Number		Ont: Other	ario		
	8 3 1			50044		anopar nan ana oaba						
				onment S		ord (see instructions on the					Der	oth ( <i>m/ft</i> )
General Co		Most Comm	on Materia			ner Materials	Ge	neral Description			From	6.4
Brown		Soil			Stone	ès						23.46
Gray		Limestone	9								6.4	23.40
								December of M	- 11 3/2 - 1	d Tasting		
Depth Se	et at ( <i>m/ft</i> )		Annular Type of Se	and the second second		Volume Placed	After test of well yie	Results of We		aw Down	R	lecovery
From	То		(Material a			(m <sup>3</sup> /ft <sup>3</sup> )	Clear and san		Time (min)	Water Level (m/ft)	Time (min)	Water Level (m/ft)
8.83	0	Grouted	Benton	nite S	lurry	.52m <sup>3</sup>	If pumping discontin		Static Level	1 1 1 1 1		
									1	4.13	1	4.16
							Pump intake set a	t ( <i>m/ft</i> )	2	4.18	2	4.08
							16.76		3		3	
Meth	nod of Co	onstruction			Well U	S0	Pumping rate (I/mi	n / GPM)		4.20		4.05
Cable To		Diamond		ublic omestic	Comm Municip		54.6 Duration of pumpir	~	4	4.22	4	4.03
X Rotary (F		r 🗌 Driving	Liv	vestock	Test H	ole Monitoring	1 hrs + 30		5	4.23	5	4
Boring	ussion	Digging		igation dustrial	Cooling	8 Air Conditioning	Final water level en 4.35		10	4.28	10	3.96
Other, sp	pecify			ther, specil	/	-	If flowing give rate		15	4.31	15	3.93
Inside	T	le OR Material	ecord - Ca Wall		pth ( <i>m/ft</i> )	Status of Well	Recommended pu	imp depth (m/ft)	20	4.31	20	
Diameter (cm/in)	(Galvaniz	ed, Fibreglass, Plastic, Steel)	Thickness (cm/in)	From		Replacement Well	16.76	5	25	4.32	25	
15.86		teel	.48	+.45	8.83	Test Hole     Recharge Well	Recommended pu (I/min / GPM)	imp rate	30	4.34	30	
			• • • •		0.00	Dewatering Well     Observation and/or	45.5		40	4.33	40	
						Monitoring Hole	Well production (//	min / GPM)	50	4.34	50	
						(Construction)	Disinfected?		60	4.34	60	
202002000000		Design of the second second second second second second second second second second second second second second	and Car			Abandoned, Insufficient Supply		Map of W			1425323	
Outside	I	Construction Re		-	pth ( <i>m/ft</i> )	Abandoned, Poor Water Quality	Please provide a m				ack.	4
Diameter (cm/in)	(Plastic, G	alvanized, Steel)	Slot No.	From	То	Abandoned, other, specify					1	N I
						Other, specify	1º ai	1	~		;	K
						Other, specify	P 19 ;				1	N
		Water Det	the second second second second second second second second second second second second second second second s	an an		Hole Diameter	j  ≉ ;	0			7 1	26
		Kind of Water		X Untest	ed De From	oth (m/ft) Diameter To (cm/in)					1	5710
		Kind of Water		Untest	ed 0	8.83 15.86	i c	HANONI	0115	E DR.	!	
		Other, spe			8.83	23.46 15.55	11					1 P
		Kind of Water		Untest	ed		1					Ŕ
	7	lell Contracto		I Technie	ian Informa	ation	il					
	lame of We	Il Contractor				/ell Contractor's Licence No.						
-		r Supp1y reet Number/Na			M	1 5 5 8 lunicipality	Comments:					
Box 49	0		,			Stittsville						
Province		Postal Code		s E-mail /		inter of	Well owner's Dat	e Package Deliver	ed	Minis	try Us	e Only
Ontari Bus.Telepho		K2S 1A6 area code) Na				vater.ca First Name)	information			Audit No.		
613 83	6 1766		Miller	, Ste	phen		delivered 4	0 0 9 0 5 te Work Completed	_	2	09	-
Well Technic	ian's Licenci Q	e No. Signature	of Technici	ian and/or		ate Submitted		00905	0 6	Received	N 2	3 Z009
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Well Owr	ner's Information											
First Name		ast Name / Or	0	_		E-mail Ad	dress					Constructed ell Owner
Mailing Add	iress (Street Number/Nam	Talos Cu <sup>ne)</sup>	stom H	lomes	Municipality	Province	F	Postal Code			e No. (inc.	area code)
5509 Ca	anotek Road, Un	it 1			Ottawa	Ontari	io	K1J 9J8		613 7	47 39	93
Well Loca	ation Well Location (Street Nur	her/Name)		1968400	Township		L	.ot	1111	Concess	on	
	, Richmond Fore				Goulbourn			25		3		
County/Dist	trict/Municipality			(	City/Town/Village				Provin Onta		Posta	Code
	Carleton	Nort	hing	1	Richmond Municipal Plan and Sublo	t Number			Other			
	8 3 1 8 435287		004427									
	an and Bedrock Materia		ment Sea		ord (see instructions on the ner Materials	back of this form		Description				oth ( <i>m/ft</i> )
General Co		on wateria			ier materials						From	то 6.70
Brown	Clay			Stones			Pack Medi				6.70	25.90
Grey	Limesto	ne		Dark L	ayers		Heur	um			0.70	23.90
10110110100		Annular S	nace				Re	sults of W	ell Yiel	d Testir	q	
	et at (m/ft)	Type of Seala	int Used		Volume Placed	After test of we	ell yield, wa	ter was:	Dr	aw Down	F	Recovery Water Level
From	To	(Material and			(m³//t³)	Clear and Other, sp		)	(min)	vvater Le (m/ft)	vel Time (min)	(m/ft)
8.83	0 Grouted	Bentoni	te Slu	irry	.42m <sup>3</sup>	If pumping dis	continued,	give reason:	Static Level	3.96		
									1	4.10	1	4.16
						Pump intake	,	t)	2	4.15	2	4.11
						18. Pumping rate		26.41	3	4.18	3	4.08
	hod of Construction			Well U		54.		147	4		4	
	Conventional) 🗌 Jetting	Publi		Comme Munici;		Duration of p	umping		5	4.21		4.06
Rotary (P	Reverse)Air Driving	Lives		Cooling	ole Monitoring	hrs + Final water lev				4.24		4.04
X Air percu	ussion	Indu:	strial		g et run oonalaoning		35			4.26		4.
Other, sp			r, specify		Status of Well	If flowing give	rate (Vmin	/ GPM)	15	4.32	15	3.97
Inside	Construction Re Open Hole OR Material	Wall	Depth	( <i>m/ft</i> )	Water Supply	Recommende	ed pump d	epth (m/ft)	20	4.33	20	3.96
Diameter (cm/in)	(Galvanized, Fibreglass, Concrete, Plastic, Steel)	Thickness (cm/in)	From	То	Replacement Well     Test Hole	18.			25	4.34	25	
15.86	Steel	.48	+.60	8.83	Recharge Well	Recommende (I/min / GPM)	ed pump r	ate	30	4.35	30	
				0.00	<ul> <li>Dewatering Well</li> <li>Observation and/or</li> </ul>	45. Well producti		GPM)	40	4.35	40	
					Monitoring Hole				50	4.36	50	
					(Construction)	Disinfected?	No		60	4.35	60	
220101010	Construction R	ecord - Scree	n	101101010	Insufficient Supply			Map of W	ell Loo			
Outside Diameter	Material	Slot No.	Depth	( <i>m/ft</i> )	Water Quality Abandoned, other.	Please provid	e a map be	elow following	instruct	tions on th	e back.	
(cm/in)	(Plastic, Galvanized, Steel)		From	То	specify		1					
And an extension of the second					Other, specify	/	V					1H 20
											F0.	1.
Water four	Water Det nd at Depth Kind of Wate	the state of the s	Unterted		Hole Diameter pth (m/ft) Diameter	123	~	HANON	1 Jac	156		
	n/ft) Gas Other, spe	48	Untested	From	To (cm/in)	21	C	1	1100	020	1	
Water four	nd at Depth Kind of Wate	r: 🗌 Fresh 🕅	Untested	0	8.83 15.86	5		1			1	
	n/ft) Gas Other, spe nd at Depth Kind of Wate		Untested	8.83	25.90 15.55	6		i i	ø		i	
	n/ft) Gas Other, spe					1		1	Γ		- 1	
D	Well Contracto	or and Well 1	echnicia		ation /ell Contractor's Licence No.			1	1		1	
	lame of Well Contractor 1 Water Supply	Itd		V	1 5 5 8			1				
Business A	ddress (Street Number/Na	ime)		N	lunicipality	Comments:						
Box 49	0 Postal Code	Rusinees	E-mail Add	1000	Stittsville							
Province Ontario Bus.Telepho		offi	ce 🖗 ca	pitalw	vater.ca e, First Name)	Well owner's information package		kage Deliver		Audit No		e Only
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Ministry of the Environment

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

Well Record

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Nell Ow irst Name	and the second second	Information	Last Name /	-				E-mail Addr					Constructed
		Street Number/Na	me)	Custom	_Homes	Municipality		Province	Postal Code	-	Telephone N		(ell Owner . area code)
5509 ( Vell Loc	ward the state of the second s	<u>ek Road, I</u>	<u>Jnit 1</u>			Ottawa	1 	Ontari	o <u>K1J 9</u> J8		613 747	30	93
ddress of	f Well Lo	ocation (Street Nu	mber/Name	)	-	Township			Lot		Concession		<u>WARNAROA HARAA COMMON</u>
Lot 1 County/Dis	7,Ch strict/Mu	anonhouse inicipality				<u>Goulbc</u> City/Town/Vill	burn lage			Provin		Posta	al Code
<u>)ttawa</u> JTM Coord	a Car Jinates 2	1eton Zone Easting		orthing	P	Richmo Municipal Pla		ot Number		Ont	ario		
NAD	83	1 8 43523	8	50044(	04	•							
Overburd General C	<u>{</u>	Bedrock Materi Most Comr	als/Abando non Materia	,		ord (see instru her Materials		3	General Description				pth ( <i>m/t</i> t)
Brown		Clay				nes						From 0	<u> </u>
Gray		Lime	stone								4	.87	29.86
Alternative South Alternative		101 101 101 101 101 101 101 101 101 101	-						······································		****		
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						, ,	nd Ad ha Thành I dhù an hainn an ann an dhann d					antikoan tan oo	
Donth S	et at ( <i>m/</i> i	e)	Annula Type of Se			A Makuma	Placed	After test of well	Results of We		d Testing aw Down		Recovery
From			(Material ar				//t³)	[X] Clear and s	and free	Time (min)	Water Level	Time	Water Level
.92	0	Grouted	l Benton	<u>nite Sl</u>	urry	.42	2m <sup>3</sup>	Other, spec	ntinued, give reason:	Static	(m/it) 4.08	( <i>min</i> )	(m/R)
		******	160 1170000 10100 000 000 00000000000000							Level 1	4.27	1	4.20
	1							Pump intake sel	. ,	2	4.31	2	4.07
Bact	hod of	Construction			Well Us			15 Pumping rate (//	•.23 min / GPM)	3	4.34	3	
] Cable Te	ool	Diamono	i 📋 Pu	blic	Comme	rcial	Not used	54 Duration of pum	•.6	4	4.35	4	1115 1116 1116 1116 1116 1116 1116 1116
Rotary (			🗌 Līv	omestic vestock	Municip     Test Ho	le 🗌	Dewatering Monitoring	<u>1</u> hrs +	mîn	5	4.37	5	an and a statement of a statement of a statement
] Boring		🗌 Digging	🗌 🗌 Inc	gation Justrial	- 0	& Air Conditio	oning		end of pumping $(m/\hbar)$	10	4.41	10	N 175 S N J 1 J 155 State
] Other, s		Construction R		her, specify _		Ctotuca	of Well	If flowing give ra		15	4.45	15	1 And Andrew Vicinity Constants
Inside Diameter	Open	Hole OR Material	Wall Thickness	3	n ( <i>m/ft</i> )	🕅 Water S	Supply	Recommended	pump depth (m/ħ)	20	4.45	20	
(cm/in)	Concr	rete, Plastic, Steel)	(cm/in)	From	То	Replace	le	15 Recommended	.23 pump rate	25	4.46	25	
5.86		Steel	.48	+.45	7,92	Recharg	<b>,</b>	(l/min / GPM)	.5	30	4.48	30	
					A 15.5 A 1100 A 1100 A 11 A 12 A 12 A 14 A 14 A 14 A 14 A 14	- Observa Monitorii	ng Hole	Well production	(l/min / GPM)	40 50	4.49	40 50	
ART 1 11/2						Alteratio	uction)	Disinfected?	nan an	50 60	4.50	50 60	
		Construction R	ecord - Scre	) Ann		30M	ent Supply	X Yes N	Map of W	[]	4,51		
Outside Diameter	(Blactic	Material , Galvanized, Steel)	Stot No.	Depth	1 ( <i>m/ft)</i>	Abandol 🗌 🗌 🖉	Quality	Please provide a	map below following		****	ack.	
(cm∕īn)	(1-18500)		NY YALING MAANAA AYYAA YAAYA IYAANA MAANAA	From	То	specify			LOT # 17	; !		i i	
						Other, s	pecify		# 17	i i	¢	i	r V
		Water De	tails		E E	lole Diamet	er			t 1		1	572656
		pth Kind of Wate	r: []Fresh ]	*****************************	·····	th ( <i>m/ft)</i>   To	Diameter (cm/in)		CHANON	1404	156		
		Bas Other, spe pth Kind of Wate		Untested	0	7.92	15.86						X
		Gas ☐ Other, <i>spe</i> pth Kind of Wate		Untested	7.92	29.86	15.23						N. C.
		Gas Other, spe											7
usiness N	ame of \	Well Contracto	or and Well	Technicia		tion Il Contractor's	Licence No.						
apital	l Wat	er Supply	Ltd.				5 8						
usiness A ox 49(	,	Street Number/Na	ime)			inicipality Stittsvi	110	Comments:					
rovince		Postal Code		s E-mail Add	ress			Well owner's D	ate Package Delivere	d 11	Minist	8*0.9 1 F	
	one No. (	K2S 1A6 (inc. area code) Na	ime of Well 1	ice'a/ca Technician (l	apitalw ast Name,	later,ca First Name)	L	information package	ate Package Delivere		Audit No.		<b>4</b>
613 8	336   1 ian's Lice	766 Ince No.  Signature	Miller, of Technicia	Stephe an and/or Co	ntractor Dat	le Submitted			ate Work Completed	<u></u>		13) 1 A	5262 Araa
0 0	)   9		<u> 4.1</u>	<u> </u>		0090		(m) mg	2 0 0 9 0 6	া স	AUG	1.0	ZUUS
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Measurements recorded in: 🕅 Metric 🗌 Imperial

Ministry of the Environment

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

A076822 A076822

Well Record tion 903 Ontario Water Resources Act

Page\_\_\_\_ of \_\_\_\_

Well Owner's	and where the state of the stat	ant N	Ora			13. 21. 56. 58. 58. 59. 50. 5 							
First Name		Last Name /	-			E-mail /	Address			I		Constructed	
Mailing Address (	Street Number/Na	<u>Talos (</u> <sup>me)</sup>	Justom	Homes	funicipality	Province	3	Postal Code	Ī	Telephone	by Well Owner ne No. (inc. area code)		
5509 Cano	tek Road, 1	Unit 1		0	Ottawa	Ontar	rio	K1J 9J8	ł	613 74			
Well Location		8 in 11 in 11	an Sanda air				G MADE AN						
	ocation (Street Nu	mber/Name)			ownship			Lot		Concessio	n		
Lot 12, C County/District/M	hanonhouse				Goulbourn Sity/Town/Village			25	Provir		3		
Ottawa Ca	· •				Richmond				Ont		Post	al Code	
UTM Coordinates	Zone Easting	I No	orthing		Aunicipal Plan and Subl	ot Number		ð. <b>1 </b>	Other				
NAD 83			500454										
	2				rd (see instructions on the	e back of this fo					Do	pth ( <i>m/it</i> )	
General Colour	l	non Material		****	er Materials		Genera	I Description			From		
Brown	Clay			Stor	les						0	6.09	
Gray	Limestor	ıe					Medi	um			6.09	42.97	
Gray & Wh	ite Sandsto	one				n a contra c				4	2.97	51.81	
-			and the second second										
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												1.4. 1.4 A	
1011 012 012001 001-00200-00-00-00-00-00-00-00-00-00-00-00-				ee		1							
Depth Set at (m	u/ft)	Annular Type of Sea			Volume Direct	After test of v		sults of We	····				
From To		Material an			Volume Placed (m³/ft³)		nd sand free		1	aw Down Water Leve		Recovery	
9.14 0	Grouted	Benton	ite Sl	urry	.63m <sup>3</sup>	🗌 Other, s	specify	//////////////////////////////////////	(mîn)	(nvft)	(min)	(m/it)	
						If pumping d	iscontinued,	give reason:	Static Level	4.32			
				//					1	6.03	1	13.08	
						Pump intake	e set at <i>(m/i</i>	t)	2	7.12	2	11.04	
							0.47		3		_		
	fConstruction			Well Us	100 00 00 00 00 00 00 00 00 00 00 00 00	Pumping rat	e (1/min / GF 4.6	<i>™)</i>		8.20	3	9.35	
Cable Tool	Diamond	I Dor		Commen		Duration of			4	8.83	4	7.70	
Rotary (Reverse	Air Driving			Test Hold		<u>1</u> hrs +		1	5	9.48	5	6.70	
Boring	Digging	🗌 Irrig		Cooling a	& Air Conditioning			umping (m/ti)	10	11.80	10	4.31	
Other, specify			er, <i>specify</i> _			I flowing giv	5.90	/ CPM	15		[	<del></del>	
	Construction R	ecord - Cas	ing		Status of Well	in nowing giv	e late (min	GENI		13.20		No. (1999) (1997) (1997) (1997)	
Inside Oper Diameter (Galv	n Hole OR Material /anized, Fibreglass,	Wall Thickness	Depth	( <i>m/ft</i> )	X Water Supply	Recomment	ded pump d	epth (m/ft)	20	14.19	20		
	zrete, Plastic, Steel)	(cm/in)	From	То	Replacement Well		2.85		25	14.87	25		
15.86	Steel	.48	+.45	9.14	Recharge Well	Recomment (I/min / GPM)		ate	30	15.23	30		
					Dewatering Well     Observation and/or		5.5	2.514	40	15.66	40		
		A.A.M.A.A		177111 V A17071 A11A-1 Akalon Anderson	Monitoring Hole	Well product	ion ( <i>Vmin</i> / )	GPM)	50		50		
			-		Alteration (Construction)	Disinfected?				15.83			
					Abandoned, Insufficient Supply	X Yes	] No		60	15.90	60		
Outside	Construction Re	ecord - Scree	Kosminini en el Korecti A Sassali Sas		Abandoned, Poor	Diseas and it		Map of We					
Diameter (Plasti	Material c, Galvanized, Steel)	Slot No.	Depth From	( <i>m/tt)</i> To	Water Quality Abandoned, other,	r Piease provic	ie a map be	low following i	nstructi	ons on the t	Dack.		
(cm/in)				10	specify	N N					10	7	
		······································			Other, specify	K					77	12 .	
							CHAN	Don Ho				n h	
	Water Det			Ho	ole Diameter				155-			20	
	epth Kind of Water		Untested	Depth From	n (m/ft) Diameter To (cm/in)	1						_ h	
	Gas Other, spe		1 Intested	0	9.14 15.86		ø			1			
	Gas Other, spe		_  Ontesteu	9.14	51.81 15.23	1	í		~~	1		- A	
TTTT TTTTT IN TAXABARA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	epth Kind of Water		Untested	9.14	51.01 15.25					i		and the second se	
(m/ft) 🗌 (	Gas Other, spe	cify					•			1		X	
	Well Contracto	r and Well 1	<u>rechnicia</u> :	5000 0 C 1000 50 00 00 225 1 225	STOR, THE REPORT OF PRESERVING THE STATE PROVIDED.	1 -		••• مىسىرد. مىسىرد.					
Business Name of		T +1			Contractor's Licence No.								
	ter Supply (Street Number/Nam			1 Mun	5 5 8 licipality	Comments:							
Box 490					ittsville								
rovince	Postal Code	Business	E-mail Add	ress	<u></u>								
Ontario	K2S 1A6				ater.ca	Well owner's information	Date Pack	kage Delivered		www.combine.combine.combine.combine.combine.com	try Us	e Only	
	(inc. area code) Nai				,	package delivered		906	8	Audit No.	ngr	5261	
613 836 17 Vell Technician's Lice	66	Mailler,	<u>Steph</u> 1 and/or Col	en ntractor Date	Submitted	X Yes		k Completed			er od Ne	1 paris Sal adar	
0 0 9	7 H	hann			090619	No	2 0 0	9061	7	Received	UG 1	U 2009	
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Ministry of the Environment

Measurements recorded in: 🕅 Metric 🗌 Imperial

Well Tag No. (Place Sticker and Content of C

Well Owner's	Information									
First Name	· · · · · · · · · · · · · · · · · · ·	Last Name / Orga			E-mail Address			.  C	] Well	Constructed
Mailing Address (	Street Number/Na	Talos Cus	stom Homes	Municipality	Province	Postal Code	1	Telephone N		ell Owner
	tek Road, U		verver, remaind	Ottawa	Ontario	K1J 9J8	1	613 74		
Well Location				Occana	Oncario	ATO SOC		013 74	<u>/ 59</u>	93
	ocation (Street Nu	,		Township		Lot		Concession		
	ichmond For	est		Goulbourn		25		3	¢	·
County/District/M			and the second se	City/Town/Village Richmond			Provin Ont:		Posta	I Code
Ottawa Car UTM Coordinates		Northir	۱g	Municipal Plan and Subl	ot Number		Other			
NAD 83	1 8 43534	8 500	04486							
Overburden an	d Bedrock Mater	ials/Abandonm	ent Sealing Rec	ord (see instructions on the	e back of this form)					
General Colour	Most Com	mon Material	Ot	ner Materials	Genera	al Description			Dep From	oth ( <i>m∕īt)</i> ⊥ To
Brown	Soil		Stone	s	Packed				0	6.09
Gray	Limesto	ne			Layered &	Broken			6.09	7.61
Gray	Limesto									
			v. Automatica		Medium				7.61	25.90
Gray	Limesto	ne			Broken Lay	ers	****	2	5.90	29.86
				· · · · · · · · · · · · · · · · · · ·						
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				and a second second second second second second second second second second second second second second second	· · · · · · · · · · · · · · · · · · ·					-
		AnnularSpa			5			n a chanair a than a' a bha in bacha		
Depth Set at (m	v/ft)	Type of Sealant	so good in the second standard in the second second	Volume Placed	After test of well yield, w	esults of We ater was		a iesung aw Down	R	ecovery
From To	0	(Material and Ty	pe)	(m³/ft³)	Clear and sand fre	e		Water Level	Time	Water Level
9.14 0	) Groute	d Bentonit	e Slurry	.52m <sup>3</sup>	Other, specify	·····	(min) Static	(m/ît)	(min)	(ग/ग)
					If pumping discontinued	, give reason:	Level	4.09		
							1	5.33	1	5.06
					Pump intake set at (m/	n)	2	5.80	2	4.53
					22.85		3			
which which have a second s	f Construction		Well Us		Pumping rate (I/min / G	PM)		5.93	1 1	4.34
Cable Tool		f Domesti	Comme		54.6 Duration of pumping		4	6.19	4	4.25
	Air Driving	Livestoc			<u>1</u> hrs + mi	n 📗	5	6.27	5	4.19
Boring	Digging	Irrigation	Cooling	& Air Conditioning	Final water level end of	pumping (m/it)	10			
Air percussion		Dindustria			6.60			6.47		4.10
	Construction R			Status of Well	If flowing give rate (I/mil	n / GPM)	15	6.52	15	1999 1999 1997 1997 1988 1997 - Sanat Alf
Inside Oper	n Hole OR Material	Wall	Depth (m/ft)	Water Supply	Recommended pump of	depth (m/n)	20	6.54	20	
Diameter (Galv (cm/in) Cond	/anized, Fibreglass, crete, Plastic, Steel)	Thickness (cm/in) F	rom To	Replacement Well	22.85		25	6.55	25	
15.86	Steel		.45 9.14	Test Hole     Recharge Well	Recommended pump r (Vmin / GPM)	rate	30		30	
			•45 5.14	Dewatering Well	45.5			6.57		
				Observation and/or     Monitoring Hole	Well production (I/min /	GPM)	40	6.59	40	19919-040-010-000
				Alteration	Disinfected?		50	6.60	50	
	**************************************			<ul> <li>(Construction)</li> <li>Abandoned,</li> </ul>	X Yes No		60	6.60	60	
I	Construction R	ecord - Screen		Insufficient Supply		Map of We	II Loc			
Outside	Material		Depth ( <i>m/ft</i> )	Water Quality	Please provide a map be				nck.	1
Diameter (cm/in) (Plastic	c, Galvanized, Steel)	Slot No. F	rom To	Abandoned, other, specify	11		-			
					L'	1		11014		,
				Other, specify	I trans.			1 401 #		
					1 1	)		1		N.
Vater found at De	Water Det epth Kind of Water			ole Diameter		ø		1		Ľ.
	Gas Other, spe		From	To (cm/in)	l			1		5
	epth Kind of Water		tested 0	9.14 15.86	I					3
( <i>m/ft</i> ) [] (	Gas Other, spe	cify	9.14	29.86 15.23	J	HANON	inter s	1		Ì
	epth Kind of Water					707 10000	<u> </u>			ľ×
(m/ft) [](	Gas Other, spe		<u> </u>							
usiness Name of		r and Well Tech	nnician Informat							
	ter Supply	T + đ	1	Il Contractor's Licence No.						
usiness Address	(Street Number/Na	me)		558 nicipality	Comments					
30x 490			i i	tittsville						
rovince	Postal Code	Business E-m	ail Address							
)ntario	K2S 1A6	office(	capitalwa	ater.ca	Well owner's Date Pac information	kage Delivered		Minist	y Use	Only
us.Telephone No. 13 836 176	(inc. area code) Na			rirst Name)		9 0 6 1	2	Audit No.	05	268
ィュコーロクローエア /ell Technician's Lice	DD	Miller, St of/Technjøfan and	epnen //or/Contractor Dat	e Submitted	X Yes Date Wo	rk Completed		AUGI		tare VV
0   0   9	7 401	1. than		0 0 9 0 6 1 2		9061		AUG 1 Received	12 🕅	109
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Ministry of the Environment

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

Well Record

Ontario		107(010	1076010				
leasurements recorded in	n: 🖾 Metric 🗌 Imperial	A076819	A0768	10			
Nell Owner's Informa	tion			<u> </u>			
irst Name	Last Name / Organization	***************************************	E-mail Addre	SS			
	Talos Custom Ho	mes					
failing Address (Street Nur	nber/Name)	Municipality	Province	Postal Code			
5509 Canotek Ro	ad, Unit 1	Ottawa	Ontari	o <u>K1J 9J8</u>			
Vell Location				18 8 8 8 8 8 B			
ddress of Well Location (S	treet Number/Name)	Township		Lot			
Lot 23, Richmon	d Forest	Goulbourn		25			

ation 903 Ontario Water Resources Act Page\_\_\_\_\_ of \_\_\_\_

Nell Owner's										0.000.00200	
irst Name		Last Name / Or	-			E-mail Address					Constructed
failing Address	(Street Number/Na	Talos Cu.	stom H		unicipality	Province	Postal Code		Telephone N		area coda)
	tek Road, U	•			Ottawa	Ontario	K1J 9J8		613 74		
Vell Location					Jelawa	Offcario	<u>K10 700</u>		013 74		2-2
ddress of Well I	Location (Street Nu	umber/Name)		T	ownship		Lot		Concession	a	
	ichmond For	rest			Goulbourn		25	Provin		3 Postal	Co.do
County/District/M	, ,			ļ	ity/Town/Village Richmond			Onta		Postar	Code :
ITM Coordinates		I Nort	hing		unicipal Plan and Suble	ot Number		Other			
NAD 8 3	1 8 43534	44   5	004478								
			ment Sea		rd (see instructions on the	1			BROWNEL BEINS	Den	th ( <i>m/it</i> )
General Colour		mon Material			er Materials		al Description			From	To
Brown	Soil			Stones		Packed				0	6.40
Gray	Limestor	ıe			**********	Layered &	& Broken			6.40	7.90
Gray	Limeston	ne		****		Medium				7.90	45.10
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1.Amining and an and an an an an an an an an an an an an an						· · · · · · · · · · · · · · · · · · ·			- Pr		
1000 Cold Barris Discourse Character		100 / 100 / August 1000 - 11 - 11 - 11 - 11 - 1				Stylesting-haves	The party of the state of the s	lis site 1			1
Depth Set at (n	n/ft)	Annular S			Volume Placed	After test of well yield, v	esults of We		d Testing aw Down	p.	ecovery
	Го	(Material and			(m³/ft³)	Clear and sand fr		Time	Water Level	Tîme	Water Level
Э.44 О	Grouted	l Bentoni	te Slu	rry	.63m <sup>3</sup>	Other, specify		(min) Static	(m/ît)	(min)	(m/R)
		<u></u>				If pumping discontinue	d, give reason:	Level	4,08	ļ	
								1	5.93	1	18.15
		59.99.99.99.99.99.99.99.99.99.99.99.99.9				Pump intake set at (m	v/ft)	2	7.38	2	16.05
						30.47 Pumping rate (I/min / 0	2014	3		3	
Dates were in the organization of the streep of	of Construction			Well Us		54.6		4	8.68	4	14.34
Cable Tool	Diamon Diamon (Diamon) Titional)	id 🛛 🖸 Publi		Commer		Duration of pumping			9.77		12.59
Rotary (Revers	e)Air Driving	🗋 Lives	tock	Test Hol	e 🗌 Monitoring		າ່ກ	5	10.50	5	11.07
Boring	Digging	I Irriga		Cooling a	& Air Conditioning	Final water level end of	pumping (m/il)	10	14.17	10	6.07
Other, specify			r, specify _			20.91 If flowing give rate (//m	iin / GPM)	15	16.24	15	4.31
	Construction F	Record - Casir	ıg		Status of Well		,	20		20	
	en Hole OR Material Ivanized, Fibreglass,	Wall Thickness	Depth		Water Supply	Recommended pump	depth (m/ft)		17.47		4.07
(cm/in) Con	crete, Plastic, Steel)	(cm/in)	From	То	Test Hole	30.47 Recommended pump	rato	25	18.53	25	
15.86	Steel	.48	+.45	9.44	Recharge Well	(l/min / GPM)	late	30	19.27	30	
		11998 (11998)			Dewatering Well     Observation and/or	455 Well production (1/min	/ GPM)	40	20.25	40	
Adam (A.S. Marindo, M.M. Sandada M.M. Sandari (M. S. Marid (M. S. Sandari (M. S. Sandari (M. Sandari (M. Sanda	1.///www.h11.111111111111111111111111111				Monitoring Hole	Then production (white		50	20.55	50	
					(Construction)	Disinfected?		60		60	
Televisioni and and a state of the second	5775577-175-0005479577777777777777777777777				Abandoned, Insufficient Supply				20.91		
Outside	Construction F	Record - Screel	n Depth	( <i>m/i</i> t)	Abandoned, Poor Water Quality	Please provide a map l	Map of W			ack.	
m: /	Material tic, Galvanized, Steel)	) Slot No.	From	То	Abandoned, other,	11 1		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	anna anna anna J		
					. specify		C		l		
					Other, specify	1	L	7	(		1
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Vator found at C					ole Diameter	LOT			1		2
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	]Gas Other, sp			9.44	45.10 15.23	<u></u>	HANON	1700	<u> 26.  </u>	and the second second second second second second second second second second second second second second secon	
	Pepth Kind of Wate		Untested			-					Ľ,
(m/n)	]Gas [ ] Other, <i>sp</i>										Ý
usiness Name o	Well Contract f Well Contractor	or and Well T	ecnnicial	and the second second second	I Contractor's Licence No.						n <sub>d</sub> a ja kato konse
	ater Supply			1	5 5 8						
	s (Street Number/N	ame)		)	nicipality	Comments:					W
3ox 490	Postal Code	Business E	Smail Add		tittsville						
Intario	K2S 1A6		-		ater ca	Well owner's Date Pa	ackage Delivere	d	Minist	ry Use	Only
	. (inc. area code) N					information	0 9 0 6		Audit No.		
513 886 1	766	Miller,	Stephe	n		Date 14	ork Completed		<u>لا</u> م	194	266
	cence No. Signatur	ergt Technician	and/or Co			X Yes	0 ,9 ,0 ,6	المرزان	AU	01	9 2000
0 0 0	<u>9 7 All</u>	13 france	$\rightarrow$	-	0090615 Ministry's Copy			<u>~                                    </u>		Printer fo	r Ontario, 2007
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Well Own	er's Inf	2011/2011/2011/2012/2012/2012/2012/2012															
First Name		1	ast Name / Talos (	-	ation m Homes	2				E-mail A	ddress					ell Construct Well Owner	
•	•	et Number/Na		04000	in Home		lunicipality			Province		Postal Code			e No. (i	nc. area code	
5509 Ca		c Road				1	Ottawa		1840045507	Onta	rio	<u>  </u> <b>k</b> 1 J  9J	8	613	<u>747  </u>	<u>3998  </u>	0.026000
Well Locat Address of V	5 63 63 63 66 63 63 63 63 63 63 63 63 63	ion (Street Nu	mber/Name	) )		T	ownship		12/1/2993		in division for	Lot		Concess	on		89899
Lot 34	Rich	nond Fore		· 			Goulbou					25			3		
County/Distr Ottawa							ity/Town/Vill Richmor	-					Provin Onta		Pos	stal Code	,
UTM Coordin	ates Zor	e Easting		orthing			lunicipal Pla		ot Nu	mber			Other				
NAD   {				5004		vite, or ever			og Niséni				10010303554003		Namy Sama		2002/201
General Col	1	drock Materi Most Comr	non Materia				r <b>a</b> (see instru er Materials		e back	or this for	*******	ral Description		A (GLASSICOS)	E Fron	Depth ( <i>m/ft</i> )	2.19353
Brown		Sandy Cla	v							T.	oose				0	2.4	43
Brown	1	lay				St	ones			ابيلا .	0036				2.4		
Gray		imestone	•				0		<u> </u>	M	edium				6.4		
									1	11	caram						.•
· · · · · · · · · · · · · · · · · · ·																	
			Annula							A. 49.49.49		Results of We	***		9		
Depth Set From	at ( <i>m/ft)</i> To		Type of Se (Material a)					Placed		er test of w ] Clear an		water was: 'ee		aw Down Water Le	vel Tirr	Recovery	vel
9.44	0	Grouted					1.15	<sup>3</sup>	11	Other, s			<i>(min)</i> Static	(m/ft)	(mi		
									i If pi	umping di	scontinue	d, give reason:	Level	4.0			
													1	4.4	7   1	4.15	5
									Pur	mp intake	set at <i>(n</i> 30 <b>.</b> 47	1/ft)	2	4.5	2	4.13	3
Metho	od of Co	nstruction			Well	Use	1 a		l Pur	mping rate	e (Vmin /	GPM)	3	4.5	2 3	4.12	<u>}</u>
Cable Too		Diamono			Com	mer	cial 🗌	Not used		ration of p	54.6		4	4.54	4 4	4.11	L
Rotary (Co				omestic /estock	🗌 Muni	,		Dewatering Monitoring		1 hrs +		าก	5	4.5	5 5	4.10	)
Boring		Digging		igation dustrial	Cool	ling 8	& Air Conditio	oning	Fina	al water le		f pumping <i>(m/ft)</i>	10	4.58	3 10	4.09	)
Other, spe				her, spe	cify				-	owing give	4.60 e rate (1/n	nin / GPM)	15	4.60	) 1	5 4.07	7
		nstruction R	, , , , , , , , , , , , , , , , , , ,					of Well	<b>.</b>				20	4.6	) 2(	2	
Inside Diameter	(Galvaniz	e OR Material ed, Fibreglass,	Wall Thickness	Fror	epth ( <i>m/ft)</i>		🔀 Water S		Red		led pump 22.85	depth (m/ft)	25	4.5		5	
(cm/in)		Plastic, Šteel)	(cm/in)			,	Test Ho Recharg		Red	commend	ed pump	rate	30	4.5		)	
15.86	St	eel	.48	+.4	45 9.44	4	Dewate	ring Well		in / GPM)	45.5		40	4.6			
							Dbserva	ng Hole	We	Il product	ion <i>(l/min</i>	/ GPM)	50			-	
							Alteration (Constru			infected?	<b>.</b>			4.60			
THE PROPERTY OF THE PROPERTY O	85 Juli 1967 6 (1011)	2001201007/10/0819/111220200202				060017242	Abando	ned, ent Supply		Yes [			60	4.6	) 60		3326624
Outside		onstruction R			epth ( <i>m/ft</i> )		Abando Water C		Ple	ase provic	le a map	Map of W	******		back.		1795993
Diameter (cm/in)		Ivanized, Steel)	Slot No.	From	n To		Abando Specify	ned, other,			1	) 1			107	#34	
											ł			1	155.	# 4 Le	
							Other, s	specify				۵		1			
		Water De					ole Diamet	er				CHANON	11011	58			
		Kind of Wate		X Unte	sted D From		n ( <i>m/ft)</i> To	Diameter (cm/in)				CIANON	1104	<i></i>			
		Other, spe		Unte	sted 0		9.44	15.86								\	
		Other, spe			9.4	4	45.10	15.23	$\ _{\kappa}$	1							
	-	Kind of Wate		Unte	sted				Πr.	t .	RICHI	YOND					
		ell Contracto		Techn	ician Inform	nati	lon	1 Additellindensi Standar ungelan Additellindensi Standar ungelan	il		RICHI FOR	557					
Business Nar			т			Wei 1	Contractor's		]			Kin	k s	TREE	7		
		r Supply set Number/Na				_	icipality	5   8	Cor	nments:	·						
Box 490			······································			St	ittsvi	11e									
Province Ontario		ostal Code KI2S 11A6	Busines		Address capital	1	ter co			ll owner's	Date P	ackage Delivere	d	Min	strv I	lse Only	
Bus.Telephon	e No. (inc.	area code) Na	me of Well	Technici	an (Last Nam				infor	rmation kage			IF	Audit No.		u navo veros analas	1
613 886 Well Technician	1 I F	No. Signature	Miller,			Dot:	Submitted			vered Yes		ork Completed				1620	
	9	7	la la la la la la la la la la la la la l	an anu/u			3  0  9  1	130		No	2 0	0 9 1 1	2 5	Received	FEB	1620	IU

Do	ntar	Minist IO the E	try of nvironment		Well Ta	ag No. (Plac				\┨ <b>つ</b> "	1 903 C	V Intario W		Reco	
Measurem	ents rec	corded in: 👗	Metric 🔲 I	mperial		80A	2913	A 08	523	<b>11</b> 0 "		Pag		_ of	
Well Own			.ast Name / C Talos Ci	-				E-mail A	Address					Construc ell Owne	
-	•	treet Number/Na ek Road, u	me)			Municipality Ottawa		Province		Postal Code		Telephone	No. (inc	area cod	
Well Loca		en noud, a			<u> </u>			1			<u> </u>	<u> </u>		<u> </u>	
		cation (Street Nu				Township	~~			Lot 25		Concessi	on 3		
Lot 10 County/Dis		hmond Fore	st			Goulbou City/Town/Vill					Provin	се		l Code	
Ottawa	a Carl	leton				Richmon	d				Onta	ario			
		Zone Easting		rthing		Municipal Pla	in and Sublo	t Number			Other				
NAD Overburde	8 3  en and	1 8 43523 Bedrock Materi		<u>500437</u>		ord (see instru	uctions on the	back of this fo	nm)				131661 541		
General Co			non Material			her Materials				ral Description			De From	oth ( <i>m/ft</i> ) To	010000
Brown		Sand			Ston	es							0	1.2	21
Brown		Clay			Ston	es			Pack	ed			1.21	4.8	87
Gray		Limest	one						Laye	red			4.87	7.6	
Gray		Limest	one										7.61	45.3	10
															and the second of
	1	nen dis schreiten som en er	Annular	Space					F	Results of We	ell Yiel	d Testin	g		
Depth Se From	et at ( <i>m/f</i>	1)	Type of Sea	lant Used			Placed	After test of	well yield,	water was:	Dr	aw Down	٩	Recovery	
8.83	0	Grouted	(Material and Benton:			.42m	.3	Clear and Clear		ree	(min)	Water Le (m/ft)	/el Time (min)	vvater Le (m/ft)	
0.05		. GIOULEG	Denton:	tte sit	1FF9	.42m	.~	If pumping d	liscontinue	d, give reason:	Static Level	3.99			
											1	4.37	1	4.12	
								Pump intake	e set at (n	n/ft)	2	4.41	2	4.10	
									30.47		3		3		
Meth	iod of	Construction			Well U	se		Pumping ra	te (1/min / - 54 <b>.</b> 6	GPM}		4.43		4.10	
Cable To		Diamono ( Diamono) (Diamono) (Di	3 🗌 Pub X Dor		Commo	_	Not used Dewatering	Duration of			4	4.46	4	4.10	
🖄 Rotary (F		Air Driving	🗌 Live	estock	🔲 Test H	ole 🗌	Monitoring	1 hrs		nin	5	4.47	5	4.08	
Boring	ission	🗌 Digging	Irrig		Cooling	g & Air Conditio	ning	Final water lo	evelendo 4.54	f pumping <i>(m/ft)</i>	10	4.51	10	4.05	
Other, sp				er, specify _				If flowing give		nin / GPM)	15	4.52	15	4.03	
		Construction R	1 1		( (ft))		of Well				20	4.54	20	4.01	
Inside Diameter	(Gaiva	Hole OR Material nized, Fibreglass,	Wall Thickness	From	і ( <i>m/ft)</i>   То	K Water S			ded pump 22.85	o depth <i>(m/ft)</i>	25	4.56	25	3.99	
(cm/in)	Concre	ete, Plastic, Steel)	(cm/in)			Test Ho     Recharg		Recommen	ded pump	) rate	30	4.52	30	5.99	
15,86		Stee1	.48	+.45	8.83	- Dewater		(I/min / GPM)	, 5.5		·				
						Observa Monitori		Well produc		/ GPM)	40	4.53	40		
						Alteratio	on l	Disinfected?			50	4.56	50		
						Abando	ned,	X Yes [	] No		60	4.54	60		
		Construction R	ecord - Scre			💹 🔲 Abando				Map of W				04(3433)(i	191003
Outside Diameter	(Plastic	Material Galvanized, Steet)	Slot No.	Depth From	n ( <i>m/ft)</i>   To	Water C		Please provi		below following			e Dack.		
(cm/in)		, ,		11011	10	specify				INE ST.	REET			·····	
						Other, s	pecify							1-	
									101.10		<u> </u>	ua		-14 /	
Water four	d at Da	Water De pth Kind of Wate				Hole Diamet oth ( <i>m/ft</i> )	er Diameter		101,10						
		Bas Other, spe		Untested	From		(cm/in)			· ·	'	0	2013		
Water foun	d at De	pth Kind of Wate	r: 🗌 Fresh 🛛	Untested	0	8.83	15.86			i i			HC		
	• ••••••	eas Other, special of Wate			8.83	45.10	15.07			I			- Inn		
		Bas Other, spe							1	<u>م</u>			101		
Nép métri kak napri		Well Contracto		Technicia		*******		0	ICH MON FORE	.<1			Ø		
		Vell Contractor	Ted			ell Contractor's	1	μ	Fole						
-		er Supply Street Number/Na				1 5	5   8	Comments:	1					$\geq$	
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613 836	6 176	6	Miller,	Steph	en			package delivered		0900	30	Z	10	175	2
	ian's Lice	nce No. Signatore					10000	yoorYes □ No		,	الم الم	٣	co 1	6 201	<b>n</b>
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000		rio		nvironme			Well Ta	<b>g No.</b> (Plac A08			08 <sup>t</sup>		14 ""	n 903 C	Ontario V	/ater F	Reso	ecord
Measurem				vietric _	] Imperia								<b>.</b> .		Pag	e		of
Well Ow	./:	Infor		ast Name	/ Organiz	ation					E-mail Ad	dress					<u></u>	onstructed
				Talos	-											by	We	l Owner
+	,		Number/Nai				٩	Municipality			Province		Postal Code					irea code)
A OF LOAD LOAD AND A DOWNLOAD AND A	VICEN DECEMBER	:ek	Road, l	Jnit l		Sidstein:		Ottawa			Ontai	rio	K1J  9J8	Kassinaisiana	613	<u>747  </u>	39	9β
Well Loca Address of		ocatio	n (Street Nu	mber/Name	e)	46300S	<u>1998</u> 19	Fownship		1999-189	0.00.030.000.02		Lot	<u>100886008800</u> 1	Concessi	on		
			mond Fo		-,			Goulbo	urn				25			3		
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Ottawa					Northing			Richmon Municipal Pla			umber			Ont Other	ario			
	83		_		5004	607		манюратта		ot ne	amber			Olifei				
			rock Materi		. , ,			ord (see instr	uctions on th	e bacl	k of this for	n)						10.026.02103
General C	olour		Most Comr	non Materi	al		Oth	ner Materials	;			Gener	al Description	I		l Fror	Dept n	h ( <i>m/ft)</i> To
Brown			Clay				Stone	€S								0		4.26
Gray			Limes	stone								ayere	-			4.2	6	6.09
Gray			Limes									edium	-			••••		
Gray			LTHES	stone							Pie	eurum				6.0	9	45.10
										<u> </u>								
				Annula	ar Space							R	esults of W	ell Yiel	d Testin	g		
Depth Se				Type of Se	ealant Us				Placed		er test of w				aw Down			covery
From 7.31	To		C	(Material a				.63	<sup>3</sup> /ft <sup>3</sup> )		Clear and Other, <i>sp</i>		ee	(min)	Water Le (m/ft)	vel Tin (m		Vater Level (m/ft)
7.51			Grouted	Dento	nite	SLU	rry	.03		11			l, give reason:	Static Level	3.80	)		*********
	ļ													1	4.14		1	3.86
											mp intake	set at (m	/ft)					
											-	.47		2	4.18	<u>}</u> 2	2	3.82
Meth	hod of	Con	struction			100010	Well Us	 ;e		Pu	mping rate		GPM)	3	4.19	) 3	3	
Cable To	047073060367	/10-20-	Diamono	I DP	ublic		Comme		Not used			.6		4	4.20	ງ   ∠	1	
Rotary (C			Jetting		omestic ivestock		Municip Test Ho		Dewatering Monitoring	11	ration of p $1$ hrs +		in	5	4.21	ŧ	5	
Boring	(everse		Digging		rigation			& Air Conditi	•	Fin	al water lev	el end of	pumping (m/ft)	10	4.24		0	
Air percu					ndustrial )ther, <i>spec</i>	16.						.25					-	
			struction R			///y			of Well	l lif fi	owing give	rate (l/m	in / GPM)	15	4.24	F 1	5	
Inside	7		OR Material	Wall		epth	( <i>m/ft</i> )	X Water s		-   Re	commende	ed pump	depth (m/ft)	20	4.24	. 2	0	
Diameter (cm/in)	(Galv	anized	, Fibreglass, lastic, Steel)	Thickness (cm/in)	From	n	То		ement Well			.85		25	4.23	3 2	5	
15 06		C.L.o				-	7 01	- Contract Ho			commende	ed pump	rate	30	4.24	3	0	
15.86		Ste	er	.48	+.4	2	7.31	Dewate	ring Well	`"	45	.5		40				
									ation and/or ing Hole	We	ell production	on (I/min	/ GPM)		4.24			
								Alteration (Constr	on ruction)	Dis	infected?			50	4.23	3 5	0	
								Abando	oned,	X	]Yes 🗌	No		60	4.24	6	0	
		Col	nstruction R	ecord - Sci	reen			Insuffic	ient Supply oned, Poor				Map of W				\$(683);	
Outside Diameter	(Diantia	Mat	erial anized, Steel)	Slot No.		i	(m/ft)	Water (	Quality med, other,	Ple	ease provid	e a map l	below following	instruct	ions on the	: back.		KI
(cm/in)	(Plasu	, Gaiv	anized, Steet)		Fror	n	То	specify	. ,			CHAI	UNON H	ause.				· W-
								 - □ Other, :			I			1				
									<i>ыреску</i>		1		٥	1		1	١.	
		1.00100	Water Det	ails			H	lole Diame	ter	1	7		1	t			1K	OREST
			Kind of Wate		X]Untes	sted	Dept From	th ( <i>m/ft</i> )   To	Diameter (cm/in)		1			I			F	OREST
			Other, spe		<u></u>		0	7.31	15.86		1		1	ł			Ĩ	
			Kind of Wate			stea		_			ł			1				
			Cind of Wate		Untes	sted -	7.31	45.10	15.07		·		<u> </u>		¥ 15			
(m	1/ft) 🗌 (	Gas	Other, <i>spe</i>	cify									L	077	4			
	030039289		II Contracto	or and We	ll Techn	ician				]								
Business Na Canita			Contractor Supply	[.+.J			We 1	Contractor's	Licence No.									
			Supping t Number/Na					D Inicipality	σ	Co	mments:			•••			-	
Box 49		-					S	tittsvi	.11e									
Province		-	stal Code	Busines								1		<u> </u>	NALIZAROA -	A set of the set of the		and the second second
Ontari Bus Telepho			2S 1A6 rea code) Na		tice@		pitalw	ater.ca	L	info	ell owner's	Date Pa	ckage Delivere		Audit No.	istry l		150000000000
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			lo. Signature				ntractor Dat		. 1		Yes		ork Completed		ſ	:۲9	1	6 2010
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Measurement	tario		nvironmer	nt Imperial	Well Ta		6840	nd/or Print Be		_	n 903 C	ntario Wa	ter Res	ecord
Well Owner				Impera			<b>/</b>	\076	584	U	cause of	Page		of
First Name			_ast Name /	' Organizati	on			E-mail A	ddress	1//2009	W160.027/63	C		Constructed
Mailing Addres	s (Street N	lumber/Na	<u>Talos</u> me)	Cust	om Hon	1es Municipality		Province	F	ostal Code		Telephone i	•	area code)
5509 Ca			•	t 1		Ottawa	ì	Onta		hj bj		613 74	•	
Well Location	To 5-70200000000000000000000000000000000000	/Street Nu	mbor/Nome	•1		Township				ot		Concession	1.000 (0.000) 1.000 (0.000) 2	
Lot 13 County/Distric	- Cha t/Municipal	anonho ity		,		Goulbc City/Town/Vi				25	Provin	3	Postal	Code
Ottawa UTM Coordinat	Carle es Zone .	eton Easting	. N	lorthing		Richmo Municipal Pla	ond an and Suble	ot Number			Onta Other	ario		
NAD 8	3 1 8	43542	27	500459	0 0									
Overburden General Colou	1		als/Aband	1		ord <i>(see instr</i> her Materials		back of this for		Description			Dep	th ( <i>m/ft</i> )
	1 : 1		non watena	10			>		General	Description			From	To
Brown_		Clay_			Stc	nes							0	4.26
Gray		Limes						Laye Medi	red &	Broke	<u>n</u>			5.48
Gray		Limes	stone					neur	um				.48	37.48
<u> </u>													-, .	
								-						
				r Space						ults of We				
Depth Set at From	t ( <i>m/ft)</i> To		Type of Se (Material a	alant Used nd Type)			e Placed <sup>3</sup> /ft <sup>3</sup> )	After test of w	id sand free	er was:	Time	aw Down Water Leve		ecovery Water Level
7.31	0 G	route	d Ben	tonite	e Slur	ry.	84m3	Other, s			<i>(min)</i> Static	(m/ft)	(min)	(m/ft)
								i i pumping ai	sconunuea, g	live reason:	Levei	3.17		0.00
								Pump intake	set at (m/ft)		1	3.91	1	3.93
								· ·	8.28		2	4.17	2	3.66
Method	of Const	truction			Well U	se		Pumping rate	e (l/min / GPI	M)	3	4.31	3	3.51
Cable Tool		Diamono	Partners .	ublic omestic	Comme Municip	Access of the second	Not used Dewatering	Duration of p	4.6 pumping		4	4,41	4	3.47
X Rotary (Reve	erse) Air	Driving	🗋 Li	vestock	🔲 Test H	ole 🗌	Monitoring	<u>1</u> hrs +			5	4.45	5	3.41
Boring	on	🗌 Digging		rigation dustrial		y & Air Conditi	oning	Final water le	vel end of pu 4.72	mping (m/it)	10	4.59	10	3.30
Other, speci		·····		ther, specify				If flowing give		(GPM)	15	4.64	15	3.27
	Open Hole Ol	R Material	ecord - Ca Wall		th ( <i>m/ft</i> )	The Status	of Well	Recommend	led pump de	pth (m/ft)	20	4.66	20	3.24
Diameter (( <i>(cm/in)</i> C	Galvanized, F Concrete, Pla	Fibreglass, stic, Steel)	Thickness (cm/in)	From	То	Replace	ement Well		8.28		25	4.68	25	3.21
15.86	Stee	1	.48	+.45	7.3	1 Rechar	ge Well	Recommend (I/min / GPM)		e	30	4.69	30	3.19
							ation and/or	44 Well product	5 . 5 ion <i>(Vmin /</i> G	PM)	40	4.73	40	3.17
						Monitori Alteration	ing Hole on				50	4.73	50	and a second second second second second second second second second second second second second second second
						– (Constr	· · ·	Disinfected?	] No		60	4.72	60	
	Cons	truction R	ecord - Scr	een		Insuffic	ient Supply oned, Poor			Map of W		ation		
Outside Diameter (P	Mater lastic, Galvar		Slot No.	Dep From	lh ( <i>m/ft)</i> To	Water (	Quality oned, other,	Please provid	le a map belo	ow following	instructi	ons on the t	ack.	
(cm/in)				FIQIN	10	specify								
						Other, a	specify	C	HANON	Heuse	- D	R		
	en de USA de la Constante de la Constante de la Constante de la Constante de la Constante de la Constante de la			di nandi mata manana ma					HANDON 1			•		
Water found a		Water Det nd of Wate		Unteste	d Der	Hole Diame oth ( <i>m/ft</i> )	Diameter		1		L			
34.4 <b>(</b> <i>m/ft</i> )	Gas	Other, spe	ecify		From	То	(cm/in)		1	LOT	13	1		
Water found at	t Depth Kir			Untestee			15.86		1 -	·	·			
Water found a	t Depth Kir	nd of Wate	r: Fresh	Untester	7.31	37.48	15.23							
(m/ft)	Gas	•	-		www.com/andersection.com	·····	socializador insel e filiador a constru-	RICHM FORE.	OND					
Business Name			or and Wel	i i echnici		ition ell Contractor's	Licence No.	FORE.	57					
Capital Business Addre	Wate	r Sup	ply Lt	d.			5 8	Commenter						
Business Addre Box 490	•	Number/Na	nne)			unicipality Stitts	ville	Comments:						
Province	Post		Busines		dress			14/5/1						
Ontario Bus.Telephone I		S IA6 a code) Na	1	iceØ Technician	<u>capita</u> (Last Name	alwate: First Name)	r.ca	Well owner's information		age Delivere		Audit No.	try Use	() () () () () () () () () () () () () (
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Well Technician's	Licence No.	Signature		an and/or C	ontractor Da	te Submitted	08/010	Yes		Y 08M		<sub>Reco</sub> CFr	a 1. (	2010
	7	gy	upm 1					L	12009	<u>· 10:0141 (</u>	<u>نع ۲</u> ۱۲		<u>9000</u>	ALU MAT

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Measurements	record	led in: 🛛 🕅 N	vietric 🗌	Imperial		A(		٩U	7686			Pag	e	_ of
Well Owner' First Name	s Info	g here and show and show a start a start of the start of the start of the start of the start of the start of the	.ast Name / Talos	Organization Custom		<u></u>			E-mail Address					Constructed ell Owner
Mailing Address	•		ne)	Ouscom		Municipali			Province	Postal Code			e No. (inc.	area code)
5509 Can Well Location		Road, U	<u>Jnit 1</u>			Ottav	va		Ontario	KIJ 9J8	Villeninisteri	613 7	47 39	93
Address of Well		on (Street Nu	mber/Name)		in dia 2019 amin'ny fi	Township		0.000-000		Lot		Concess	on	
Lot 21, County/District/	Chan	onhouse	Drive			Gou11				3			25	
		•				City/Town Richr	+				Provin Onta		Posta	I Code
Ottawa C UTM Coordinates				orthing		Municipal	Plan and Sub	olot Ni	umber		Other			
NAD 8	nd Beo	drock Materi			ling Rec	<b>ord</b> <i>(see ir</i> her Mater		he bac		al Description			Der From	oth ( <i>m/ft)</i> ∫ To
Brown		Soil			Ston	es	*********		Packed				0	4.87
Gray	-	Limesto	ne						Medium				4.87	45.10
		JIIICOLO	110						nearum				4.07	45.10
									·····					
			Annular	Space					R	esults of We	ell Yiel	d Testin	g	
Depth Set at ( From	<i>m/ft)</i> To		Type of Sea (Material an			Volu	ume Placed (m³/ft³)		ter test of well yield, w Clear and sand fre		1	aw Down Water Le		ecovery Water Level
7.92	0	Grouted			irrv	6	3m <sup>3</sup>		Other, specify		(min)	(m/ft)	(min)	(m/ft)
			2011001			•••	,	- If p	oumping discontinued	, give reason:	Static Level	3.90	)	
											1	5.23	1	5.55
								_ Pu	imp intake set at (m/	(ft)	2	6.	2	4.60
harmstannouver 12 observations	0000-201200000	ala ndel na dali kara ina con solo di ese	associates Distances	000000000000000000000000000000000000000			5/4 x 6 x 6 x 6 x 6 x 6 x 6 x 6 x 6 x 6 x		24.38 Imping rate (1/min / G	PM)	3	6.38	3	4.16
Method	of Cor	nstruction	I Pu	blic	Well U		Not used		54,6		4	6.68		4.11
Rotary (Conve		) 🗌 Jetting	💢 Do	mestic	Munici	pal	Dewatering	<u>,   </u>	rration of pumping 1 hrs + mi	in	5			
🕅 Rotary ( <del>Rever</del>	serAi	r Driving			Test H     Cooling	ole g & Air Con	ditioning		al water level end of		10	6.90	, 	4.05
Air percussion			Ind	ustrial ner, <i>specify</i>					7,66		15	7.33	2	3.96
<u></u>		struction R		., .		Stat	us of Well		lowing give rate (I/m	in / GPM)		7.46	/	3.93
Inside Op Diameter (Ga	oen Hole	OR Material d, Fibreglass,	Wall Thickness	Depth	( <i>m/ft</i> )		er Supply	Re	commended pump	depth (m/ft)	20	7.53		3.91
(cm/in) Co	ncrete, l	Plastic, Steel)	(cm/in)	From	То	C Rep	lacement Well t Hole	Re	24.38 ecommended pump	rate	25	7.55	25	
15.86	Ste	eel	.48	+.45	7.92		harge Well /atering Well	(1/1)	nin / GPM)		30	7.57	30	,
						🗌 Obs	ervation and/or	W	45_5 ell production ( <i>l/min /</i>	' GPM)	40	7.60	40	
						🗌 Alte			sinfected?		50	7.64	50	
						🗌 Aba	nstruction) ndoned,	11	XYes 🗌 No		60	7.66	60	
	Co	Instruction R	ecord - Scre	l i i i i i i i i i i i i i i i i i i i		💹 🗋 Aba	fficient Supply ndoned, Poor			Map of W				
Outside Diameter (cm/in) (Plas		aterial vanized, Steel)	Slot No.	Depth From	( <i>m/ft</i> ) To		er Quality ndoned, other,		ease provide a map b	elow tollowing	Instruct	ons on the	e dack.	
				-		spec	cify		LOT ! -		•			١
							ər, specify		LOT ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	]			i	
	weide weide mede		·		distancia cueltari				1	ø			1	N
Water found at	Depth	Water Det Kind of Water		X]Untested	Dej	Hole Diar oth ( <i>m/ft)</i>	Diameter		( 				1	250
27.43(m/ft)					From		(cm/in)		ł				1	5120
Water found at 43, 27(m/ft)				X Untested	0	7.9			10	HANON	11005	E N.	1	Sh I
Water found at				Untested	7.92	45.1	0 15.23							
(m/ft) [		Other, spe			Maria Santas Anto Arabita				lich	HOND				X
Business Name		Il Contracto Contractor	r and Well	Techniciar			or's Licence No.	<u> </u>	pice.	HOND OREST				1
Capital W						1   5	5 8						*****	
Business Addres					1	unicipality Stitts		Co	mments:					
<u>Box 490</u> Province	P	ostal Code	Business	E-mail Addr		JULUUS	ATTTG							
Ontario		25 146	off	ice@ca	pitalv	vater.	ca		rmation	ckage Delivere	~		istry Us	e Only
Bus.Telephone No 613 886 1		1						pad	ckage 2, 0, 0		818	Audit No.	095	5270
613 886 1 Well Technician's L	Licence	No. Signature	offechnica	n and/or Cor					Yes	ork Completed	0. 0	CC	R 16	
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POntario	Ministry of the Environment	Well Tag No. (Place Sticker and/or Print Below) A108946
Measurements recorded	in: Metric 🗌 Imperial	A100340

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3617 MCBEAN ST	GOULBOUR	N			Start Inter
OTTAWA CARLETON	City/Town/Village RICHMC		Province Ontario	KO/	Code
UTM Coordinates Zone Easting Northing NAD 8 3 18 4 3 4 7 4 3 5 0 0 4 1 8 0	Municipal Plan and Suble	ot Number	Other		
Overburden and Bedrock Materials/Abandonment Sealing Red	the second second second second second second second second second second second second second second second se	back of this form)			
	Other Materials	General Description		From	n (m/ft) To
GREY CLAY S	STONES	PACKED		0	1.5
Depth Set at (m/it) Type of Sealant Used	Volume Placed	After test of well yield, water was:	Draw Down		covery
From To (Material and Type)	(m³/ft³)	Clear and sand free Other, specify	Time Water Let (min) (m/ft)	vel Time V (min)	Vater Level (m/ft)
.05 1.45 BENTONITE	.36m3	If pumping discontinued, give reason:	Static Level		No. og
			1	1	
		Pump intake set at (m/ft)	2	2	
Method of Construction Well	Use	Pumping rate (I/min / GPM)	3	3	
Cable Tool Diamond Public Comr Rotary (Conventional) Jetting Munic		Duration of pumping	4	4	
Rotary (Reverse)     Driving     Livestock     Test I	Hole Monitoring	hrs + min	5	5	
Air percussion	ng & Air Conditioning	Final water level end of pumping (m/ft)	10	10	
Construction Record - Casing	Status of Well	If flowing give rate (Vmin / GPM)	15	15	
Inside Open Hole OR Material Wall Depth (m/ft) Diameter (Galvanized, Fibreglass, Thickness	Water Supply	Recommended pump depth (m/ft)	20	20	
(cm/in) Concrete, Plastic, Steel) (cm/in) From To	Replacement Well     Test Hole	Recommended pump rate	25	25	
15.86 STEEL .48 1.3 1.4	Recharge Well     Diewatering Well	(Umin / GPM)	30	30	
10.0 STEEL .48 1.4 UNKN	Monitoring Hole	Well production (Vmin / GPM)	50	50	
	(Construction)	Disigfected?	60	60	
Construction Record - Screen	Abandoned, Insufficient Supply	7	ell Location		
Outside Material Diameter (Plastic, Galvanized, Steel) Slot No. Depth (m/ft)	Water Quality	Please provide a map below following	instructions on the	e back.	
(crivin) (Plastic, Galvanized, Steel) From To	specify	3617		N N	
	Other, specify	30"	1	) t	
Water Details	Hole Diameter	8	1	Phopenut	
Water found at Depth Kind of Water: Fresh Untested Di (m/ft) Gas Other, specify	epth ( <i>m/ft</i> ) Diameter To ( <i>cm/in</i> )	N .7m	AI AI	1201	
Water found at Depth Kind of Water: Fresh Untested		FRONT MY	121	0	
(m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested		SOUPPERE	31		
(m/ft) Gas Other, specify					
Well Contractor and Well Technician Inform Business Name of Well Contractor	Well Contractor's Licence No.	MCBEAN	CTREET		
N.O. WRIGHT + SONS LTD Business Address (Street Number/Name)	6357 Municipality	Comments: WELL EXT	1	OT	
2383 CHURCH ST NORTH	Gauter	ABOVE	GRADE	10	
Province Postal Code Business E-mail Address		Well owner's Date Package Delivere		istry Use	Only
Bus. Telephone No. (inc. area code) Name of Well Technician (Last Nam 6134893372 WILSON, Sc		delivered Y Y Y M M		1231	02
Wei Technician's Licence No. Signature of Technician and/or Contractor [	Date Submitted	Yes Date Work Completed	29 DEC	n 8 2	
0506E (2007/12) © Queen's Printer for Ontario, 2007	AUTON 21 Ministry's Copy		Received	002	

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Ontario Ministry of	Well Tag No. (Place Sticker and/or Print Below)	Well Record
Officatio the Environment	A108947	Regulation 903 Ontario Water Resources Act
Measurements recorded in: Metric Dimperial	A100347	Page of

3619		C BEAN	Carlo and the Contract of An South Contract		GOULBOURN	EUL	0010003	on.		
and the second second	strict/Munici	pality			RICHMON		Province Ontario	and the second second	Postal Code	
UTM Coord	linates Zon	ARLETO	Northing		Aunicipal Plan and Subl		Other	NOF	1220	
	the second second second second second second second second second second second second second second second se	the second second second second second second second second second second second second second second second se	145500	the second second second second second second second second second second second second second second second se						
Overburd General C		drock Materia Most Comm			ord (see instructions on the ner Materials	beck of this form) General Description		Dept	h ( <i>m/ft</i> )	
		1. 27 (1993) (1974) (1974)						From	To	
GRE	4	CLA	Y	21	ONES	PACKED		0	1.3	
		1.57								
-										
			Annular Spac	8	Careful Careful Control of Contro	Paculte of W	ell Yield Testin	0		
	et at (m/ft)		Type of Sealant U	sed	Volume Placed	After test of well yield, water was:	Draw Down	Re	covery	
From	To 10	Pro	(Material and Type	e)	(m <sup>s</sup> /ft <sup>s</sup> )	Clear and sand free	Time Water Le (min) (m/ft)	vel Time ( (min)	Water Level (m/稅)	
.05	1.3	DENT	TONITE		.25m3	If pumping discontinued, give reason:	Static			
							1	1		
	-					Pump intake set at (m/ft)	2	2		
						Pumping rate (Vmin / GPM)	3	3		
Meti		Diamond	Public	Well Us		r uniping rate (minir or my	4	4		
Rotary (	Conventiona	I) 🗍 Jetting	Domestic	Municip	al Dewatering	Duration of pumping hrs + min	5	5		
Boring	Reverse)	Driving	Livestock	and the second se	Air Conditioning	Final water level end of pumping (m/ft		10		
Air percu			Industrial	enifi:						
		nstruction Re	ecord - Casing		Status of Well	If flowing give rate (I/min / GPM)	15	15		
Inside Diameter	Open Hol	e OR Material	Wall	Depth (m/ft)	Water Supply	Recommended pump depth (m/ft)	20	20		
(cm/in)		ed, Fibreglass, Plastic, Steel)	Thickness (amvin) Fro	om To	Replacement Well     Test Hole	Recommended pump rate	25	25		
15.86	STI	EEL	,48 +4	5 1.3	Recharge Well     Dewatering Well	(I/min / GPM)	30	30		
12.7	STE	EL	.48 1.	3 UNKNO	Observation and/or	Well production (I/min / GPM)	40	40		
					Monitoring Hole	Disinfected?	50	50		
	1.4.4.4				(Construction)	Yes No	60	60		
No.	С	onstruction Re	ecord - Screen		Abandoned, Poor		lell Location			
Outside Diameter	the second second second second second second second second second second second second second second second se	laterial alvanized, Steel)	Slot No.	Depth (m/ft)	Water Quality Abandoned, other,	Please provide a map below following	g instructions on th	e back.		
(cm/in)					specify	, RN				
					Other, specify	1 41		-		
		Water Det	alla		Inte Dismotor	21 7361	9	1		
Water four	nd at Depth	Water Det Kind of Water	: Fresh Unt	ested Dep	tole Diameter th ( <i>m/ft</i> ) Diameter					
And in case of the local division of the loc		Other, spe	and the second se	From	To (cm/in)					
		Other, spe	: Fresh Unt	ested		200 5.7 m - +				
Water four	nd at Depth	Kind of Water	: Fresh Unt	ested		Rei II	13.5M			
(1		Other, spe								
Business N		Il Contractor	r and Well Tech		ell Contractor's Licence No.					
H.O.	WRIG	HT + Sc	INS LT	0	6357	MC BEA	NST	TREE	Г	
		HURCH .			Grower	Comments: WELL CAS	-		ION	
Province	F	ostal Code	Business E-ma			TO ABOVE	second se			
Bus Teleph	one No. (inc	ACA 21	Me of Well Technic	cian (Last Name	First Name)	Well owner's Date Package Deliver	Audit No	histry Use	Only	
6113	4891	331712	PRATT	GEOR	GE	delivered Y Y Y M M Date Work Completed	4	1231	And the second second second second second second second second second second second second second second second	
Well Technic	cian's Licence	No. Signature	of Technician and	or Contractor Da		No ZOLONA	I DE	C 0 8 3	2010	
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Well '	Δ	094191	Below)
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Ontario

Ministry of the Environment

Measurements recorded in: Metric Imperial

Address of Well Location (Street Number/Name)	Township	Lot	Concession				
Sb Cockburn St County/District/Municipality		Province	Postal Code				
OTTAWA	RICHMON		Ontario	KOARZO			
UTM Coordinates Zone Easting Northing NAD 8 3 18 4349955004334	Municipal Plan and Suble	ot Number	Other				
Overburden and Bedrock Materials/Abandonment Sealing Re	cord (see instructions on the	a back of this form)		anna chana			
	Other Materials	General Description	1	Depth (m/ft) From To			
* RAISE WELL CASING ABOVE (	SEOUND . A	SPER CODEREQU	REMENT	S. WHILE			
# RAISE WELL CASING ABOVE ( DOING PUMP WORK AND INST	FALL VERM	N PROOF WELL	CAP.				
		* PUMP TEST NO	- PERFOR	LMED			
		DURING REPAIR					
		ORIGINAL WE					
		THIS INFORMA		and hole			
		THIS mooscone	11100				
		Decello - Chi	- U.ML.J.T Alexa				
Depth Set at (m/ft) Type of Sealant Used	Volume Placed	After test of well yield, water was:	Draw Down	Recovery			
From To (Material and Type)	(m³/ft³)	Clear and sand free	Time Water Leve (min) (m/ft)	el Time Water Level (min) (m/ft)			
	P. N. LEWIS	If pumping discontinued, give reason:	Static	(unit) (unit)			
			Level 1	1			
NIT		Pump intake set at (m/ft)	-				
			2	2			
Method of Construction Well	Use	Pumping rate (I/min / GPM)	3	3			
Cable Tool / Diamond Dublic Com		Duration of pumping	4	4			
Rotary (Conventional Jetting Detting Detriving Livestock Test		hrs +min	5	5			
Boring	ing & Air Conditioning	Final water level and of pumping (m/)	10/1	10			
Air percussion     Industrial     Other, specify     Other, specify		If flowing give rate (min/ GPM)	- 16	15			
Construction Record - Casing	Status of Well	If flowing give rate (NminV GPM)	20	20			
Inside Open Hole OR Material Wall Depth (m/ft) Diameter (Galvanized, Fibreglass, Thickness	Water Supply	Recommended pump depth (mft)					
(cm/in) Concrete, Plastic, Steely (cm/in) From To	Test Hole	Recommended pump rate	25	25			
	Recharge Well     Dewatering Well	(Vmin / GPM)	30	30			
	Observation and/or	Well production (I/min / GPM)	40	40			
1 / let	Monitoring Hole	Disinfected(2)	50	50			
	(Construction)	Disinfected? Yes No	60	60			
Construction Record - Screen	Insufficient Supply	Map of W	Vell Location				
Outside Material Diameter (Diameter Cohemical Shot No. Depth (m/ft)	Water Quality	Please provide a map below following	instructions on the	back.			
(Crrvin) (Plastic, Galvanized, Sfeel) Sidt NO. From To	Abandoned, other, specify						
	Other, specify		-	1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 -			
		a 12	,,	N			
Water Details	Hole Diameter			1			
Water found at Depth Kind of Water: Fresh Untested D (m/ft) Gas Other, specify	Pepth (m/ft) Diameter	more 110 *	. 4				
Water found at Depth Kind of Water: VFresh Untested	1 1/2	UNE 1497 16	'				
(m/ft) Gas Other, specify	ATA						
Water found at Depth Kind of Water:	10//						
Well Contractor and Well Technician Inform	nation						
	Well Contractor's Licence No.			1.00			
Business Address (Street Number/Name)	6567 Municipality	Comments:					
5640 MANOTICK MAIN ST.	OTAWA	Commente.					
Province Postal Code Business E-mail Address	0 11 11 001						
Bus, Telephone No. (inc. area code) Name of Well Technician (Last Nam	in First Name)	Well owner's Date Package Deliver	ed Minis Audit No.	stry Use Only			
6 ( 3 6 9 2 3 2 8 4 Forrest Less		delivered Y Y Y M M	D D Z	109048			
Well Technician's Licence No. Signature of Sechnician and/or Contractor		Yes Date Work Completed	-	ED 0 7 2011			
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Ministry of the Environment

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

Tag#: A133691

Well Record Regulation 903 Ontario Water Resources Act

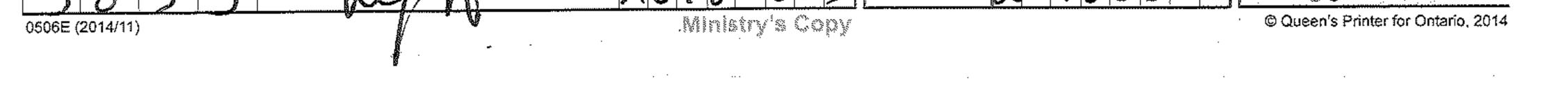
Page of

Concession Lot Address of Well Location (Street Number/Name) Township QI King St County/District/Municipality City/Town/Village Province Postal Code Richmond Municipal Plan and Sublot Number Ontario Ottawa carlton UTM Coordinates Zone Easting Other Northing NAD 83184351325004547 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft, General Description Most Common Material Other Materials From General Colour ground, as per code requirements Raise well 淅 Casing above installing work and doina Vermon While pump Proof well **Results of Well Yield Testing** Annular Space Draw Down Recovery After test of well yield, water was: Depth Set at (m/ft) Type of Sealant Used Volume Placed Time Water Level Time Water Level Clear and sand free  $(m^{3}/ft^{3})$ From To (Material and Type) (m/ft) Other, specify (min) (min) (m/ft)Static If pumping discontinued, give reason: Level 1 1 Pump intake set at (m/ft) 2 2 3 3 Pumping rate (I/min / GPM) Method of Construction Well Use 4 4 Cable Tool Diamond Public Commercial Not used Duration of pum ing Rotary (Conventional) Z Jetting Domestic Municipal Dewatering 5 hrs + m Test Hole Monitoring Livestock Rotary (Reyerse) Final water leve Boring Irrigation Cooling & Air Conditioning le da pumping (m 10 10 Air percussion Industrial Other, specify Other, specify 15 GPM If flowing give rate ₩/min Status of Well Construction Record - Casing 20 20 Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Depth (m/ft) Water Supply Recommended pump depth (m/ft) Inside Wall Diameter (cm/in) Thickness (cph/in) Replacement Well 25 25 From То Test Hole Recommended pump rate 30 30 Recharge Well (I/min / GPM) Dewatering Well 40 40 Observation and/or Well production (I/min / GPM) Monitoring Hole 50 50 Alteration Disinfected? (Construction) Yes No 60 60 Abandoned, Insufficient Supply Map of Well Location **Construction Record - Screen** Abandoned, Poor Please provide a map below following instructions on the back. Outside Diamete Water Quality Depth (m/ft) Material Slot No Abandoned, other, Galvanized, Steel) (Plastic From То porke house (cm/in) specify J394 Other, specify Hole Diameter Water Details U T Depth (m/ft) Diamete Water found at Depth Kind of Water: Fresh Intested From То (cm/in) (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Juntested (m/ft) Gas Other, specify Well Contractor and Well Technician Information **Business Name of Well Contracto** Well Contractor's Licence No king st Ľ 26 Business Address (Street Number/Name) 5640 Manotick Province Postal Code [1 Municipality Comments: Ottawa Main st Business E-mail Address Date Package Delivered K4M1B3 Well owner's **Ministry Use Only** Ont Audit No. 2109063 information Name of Well Technician (Last Name, First Name) Bus.Telephone No. (inc. area code) package 6136923284 Sadler delivered Ron Date Work Completed nd/or Contractor Date Submitted Yes JAN 0 4 2013 ian.and/oi **N**No 637 20121213 © Queen's Printer for Ontario, 2007 Ministry's Copy

Contario and Climate Change	Sticker and/or Print Below) A 2 3 6 1 2 4 Regulation 903 Ontario Water Resources Act Page of
Address of Well Location (Street Number/Name)       Township         102       XWG-STREET       City/Town/Villag         County/District/Municipality       City/Town/Villag	Lot Concession Province Postal Code Ontario KOA220
UTM Coordinates Zone Easting Northing Municipal Plan a NAD 8 3 180435235004323 Overburden and Bedrock Materials/Abandonment Sealing Record (see instruct	nd Sublot Number Other ons on the back of this form)
General Colour Most Common Material Other Materials	WG AG
Depth Set at (m/ft)       Type of Sealant Used (Material and Type)       Volume P (m³/ft)         Image: Comparison of the sealant comparison of the se	Clear and sand free       Time       Water Level       Time       Water Level         Other, specify       Other, specify       (min)       (min)       (min)       (min)         If pumping discontinued, give reason:       Static       1       1       1
Rotary (Conventional)       Sting       Domestic       Municipal       D         Rotary (Reverse)       Driving       Livestock       Test Hole       N         Boring       Digging       Irrigation       Cooling & Air Conditionin	Pump intake set at (m/ft)       2       2         Image: Set used ewatering onitoring g       Pumping rate (V/min / GPM)       3       3         Image: Set used ewatering onitoring g       Image: hrs + min       4       4         Image: Set used evaluation of pumping from the set at (m/ft)       5       5         Image: Set used evaluation of pumping from the set at (m/ft)       10       10
Air percussion       Industrial         Other, specify       Other, specify         Inside       Open Hole OR Material       Wall       Depth (m/fit)         Diameter       (Galvanized, Fibreglass, Concrete, Plastic, Steel)       Thickness       From       To         6/44       STCEL       3/64       +       Dewatering	ply     Recommended pump depth (m/fi)     20       ent Well     25     25       Well     Recommended pump rate (l/min / GPM)     30
	n and/or Well production (I/min / GPM) 40 40

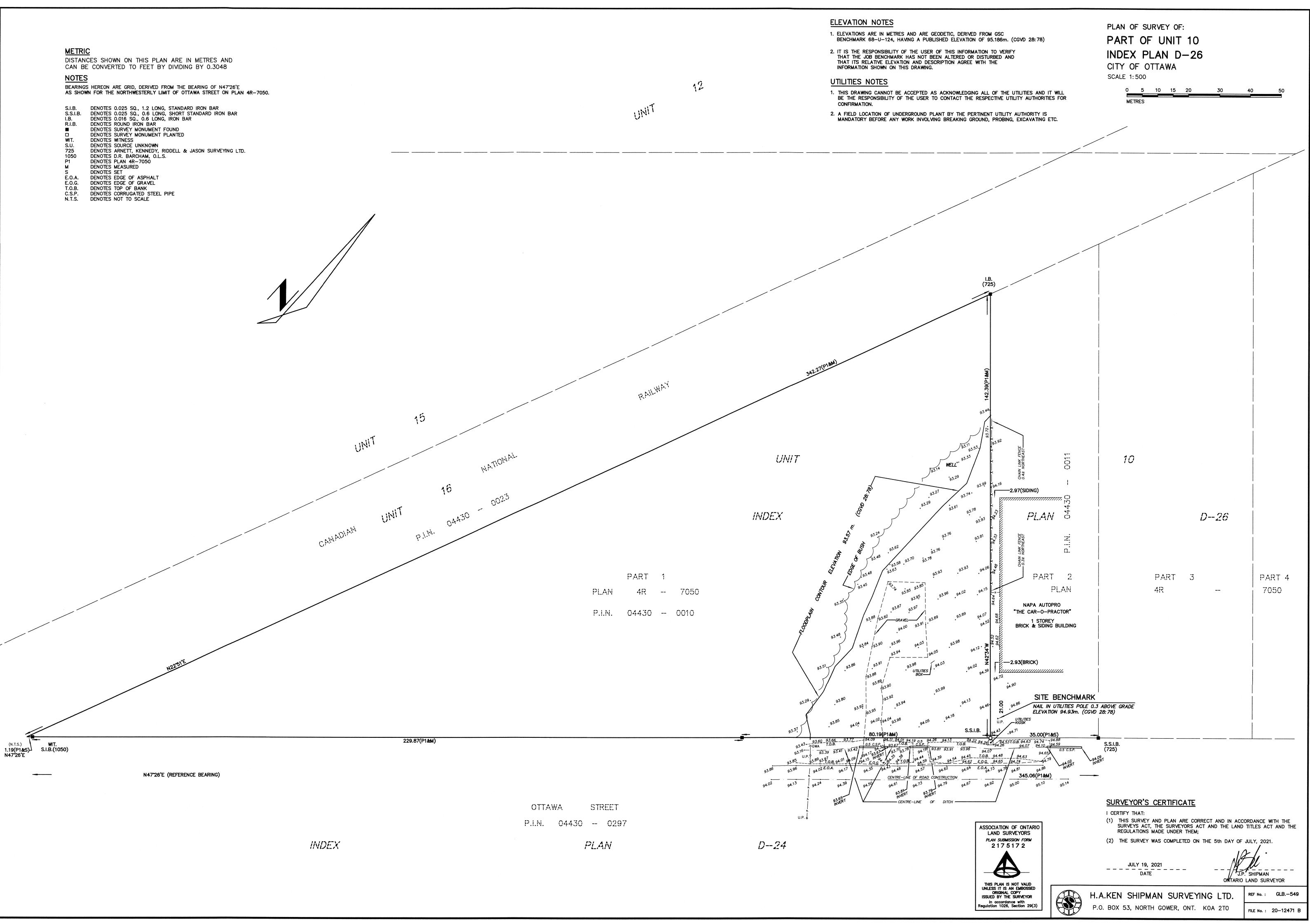
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50 MODIFICITING SIDIE 50 Alteration **Disinfected?** (Construction) Pres 60 60 No No Abandoned, Insufficient Supply Map of Well Location **Construction Record - Screen** Abandoned, Poor Please provide a map below following instructions on the back. Water Quality Outside Depth (m/ft) Material Slot No. Diameter Abandoned, other, (Plastic, Galvanized, Steel) To From (cm/in) specify CHAN ON HOUSE Other, specify 10 **Hole Diameter** Water Details Depth (*m/ft*) Diameter Water found at Depth Kind of Water: Fresh Untested (cm/in) Τo From A Long (*m/ft*) Gas Other, *specify* Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, spenty S. Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Well Contractor's Licence No. Business Name of Well Contractor 8 PUMP HOUSE 6 THE Business Address (Street Number/Name) Municipality Comments: 38 105' Toc CLYDE AVENUE OTTAWA CPTM Business E-mail Address Postal Code Province 125AR INFOCTHERMPHOUSE.CI Ministry Use Only ONT Well owner's Date Package Delivered K information Audit No. 😿 📿 Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) 20180605 package MEZNTYRE delivered 224226 6 Date Work Completed Xes Well Technician's Licence No. Signature of Technician and/or Contractor Date Submitted 20180605 Received UN 14 2018 20180605 38 No No  $\leq$ w



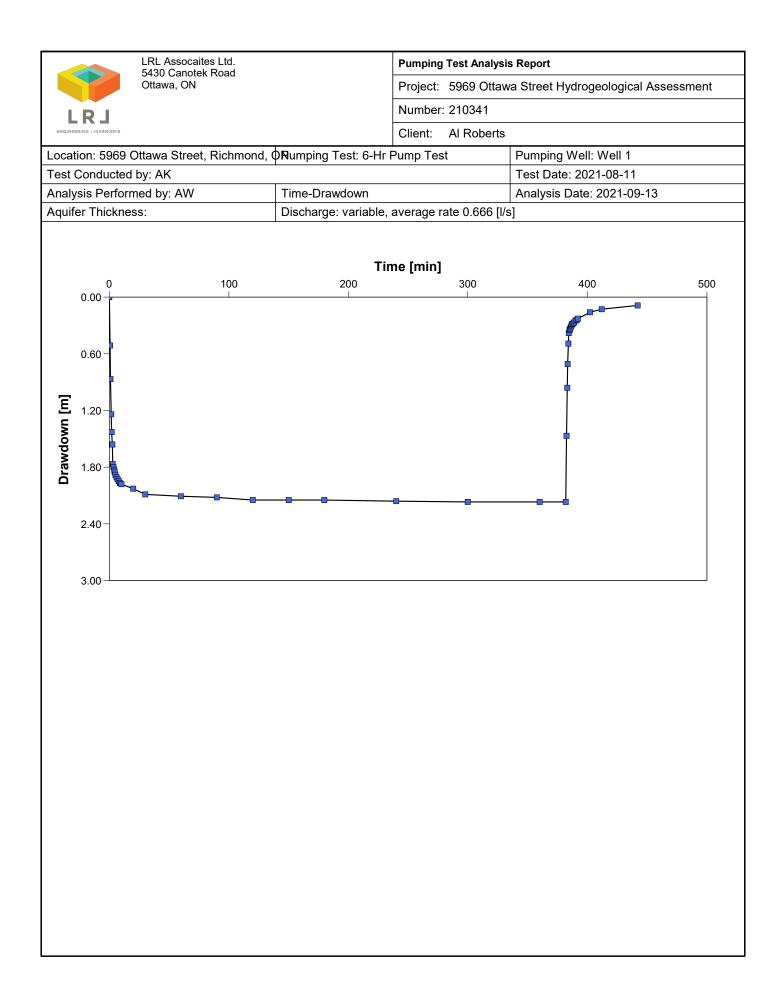
ATTACHMENT VI Survey Plan

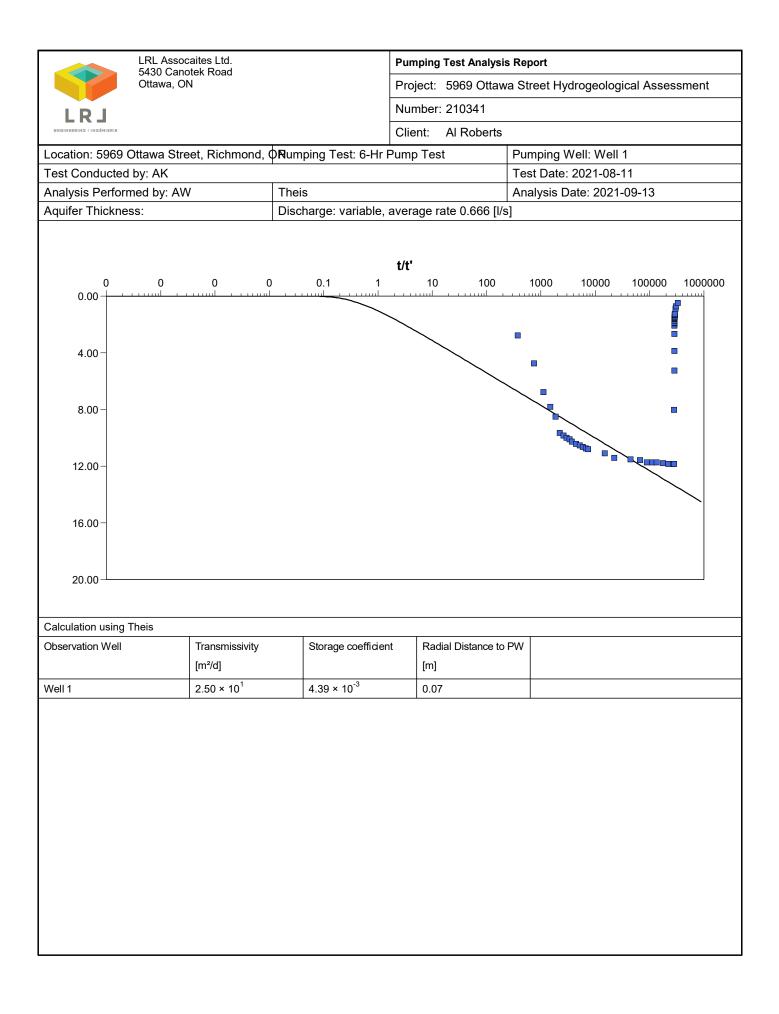
S.I.B. S.S.I.B.	DENOTES 0.025 SQ., 1.2 LONG, STANDARD IRON BAR DENOTES 0.025 SQ., 0.6 LONG, SHORT STANDARD IRON BAR
I.B.	DENOTES 0.016 SQ., 0.6 LONG, IRON BAR
R.I.B.	DENOTES ROUND IRON BAR
	DENOTES SURVEY MONUMENT FOUND
	DENOTES SURVEY MONUMENT PLANTED
WIT.	DENOTES WITNESS
S.U.	DENOTES SOURCE UNKNOWN
725	DENOTES ARNETT, KENNEDY, RIDDELL & JASON SURVEYING LTD.
1050	DENOTES D.R. BARCHAM, O.L.S.
P1	DENOTES PLAN 4R-7050
М	DENOTES MEASURED
S	DENOTES SET
E.O.A.	DENOTES EDGE OF ASPHALT
E.O.G.	DENOTES EDGE OF GRAVEL
T.O.B.	DENOTES TOP OF BANK
000	DENOTES CODDUCATED STEEL DIDE

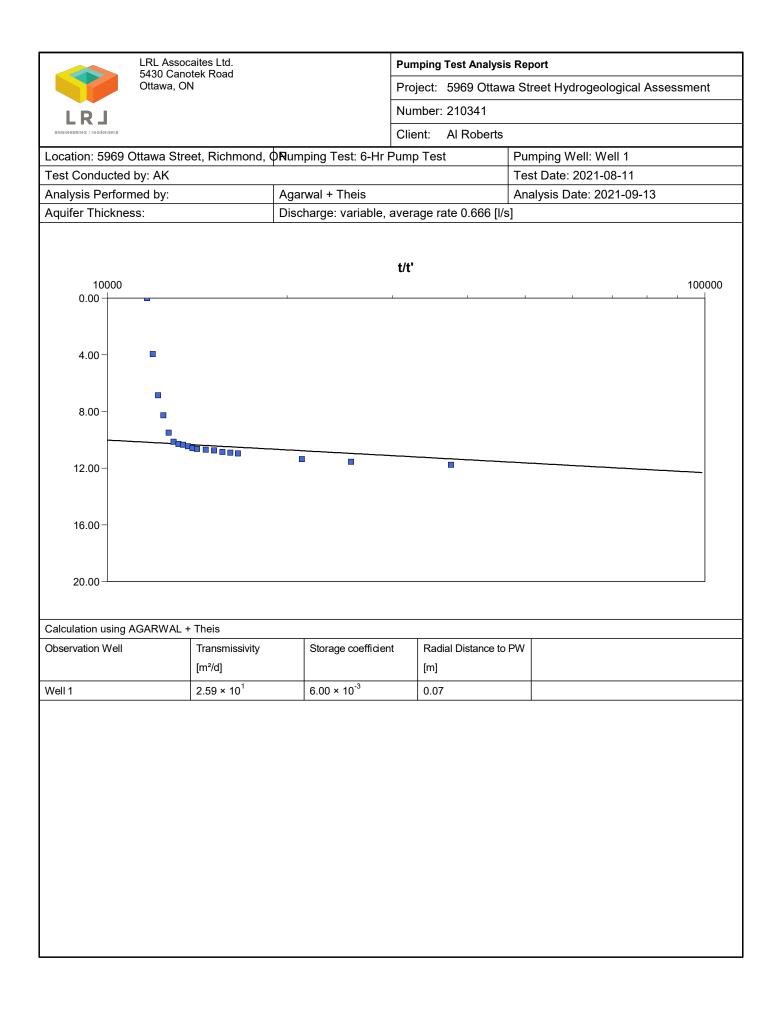


ATTACHMENT VIII Aquifer Test Analysis – Printout

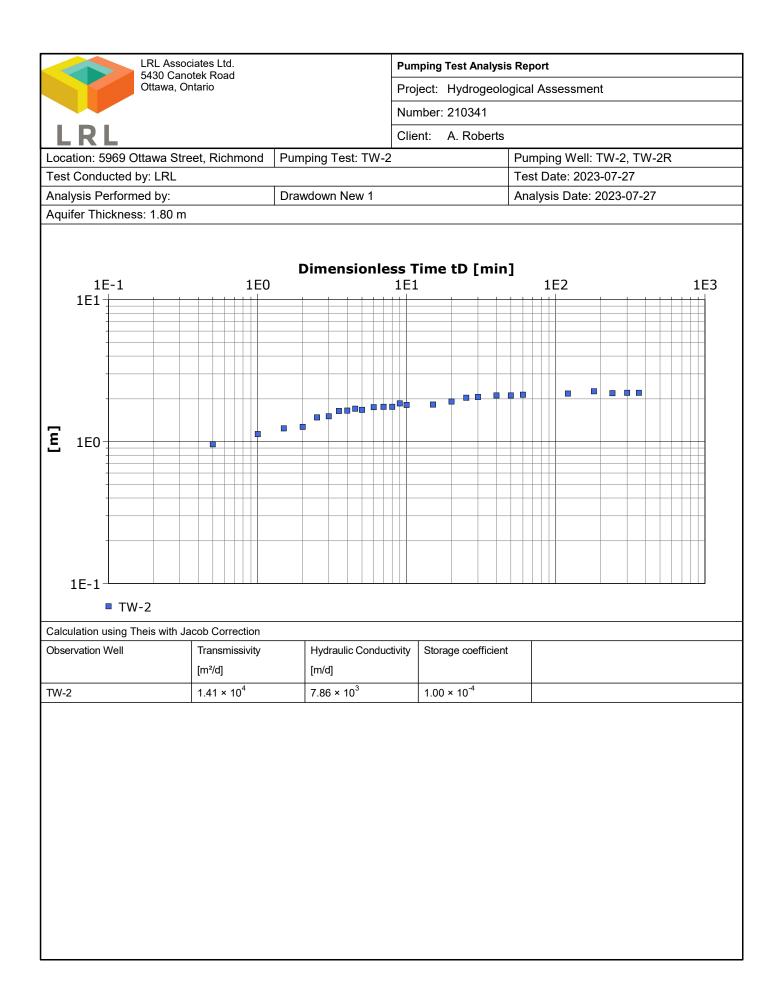
	LRL Assoca 5430 Canot	tek Road		Pumping Test - W		Page 1 of 1
	Ottawa, ON	I		Project: 5969 O	ottawa Street Hydrogeo	ogical Assessment
	R I			Number: 210341		
ENGINEERI	NG I INGÉNIERIE			Client: Al Robe	erts	
Locatio	on: 5969 Ottawa Stree	et, Richmond, ØP	umping Test: 6-Hr	Pump Test	Pumping Well: W	ell 1
Test C	onducted by: AK	T	est Date: 2021-08-	11	Discharge: variab	le, average rate 0.666 [l
Observ	vation Well: Well 1	S	tatic Water Level [r	-	Radial Distance to	o PW [m]: -
	Time [min]	Water Level [m]	Drawdown [m]			
1	0	2.96	0.00			
2	0.5	3.47	0.51			
3	1	3.83	0.87			
4	1.5	4.20	1.24			
5	2	4.39	1.43			
6	2.5	4.52	1.56			
7	3	4.73	1.77			
8	3.5	4.76	1.80			
9	4	4.79	1.83			
10	4.5	4.81	1.85			
11	5	4.84	1.88			
12	6	4.87	1.91			
13	7	4.89	1.93			
14 15	8	4.91	1.95			
15	9 10	4.93 4.94	1.97			
10	20	4.94	2.03			
18	30	5.05	2.03			
19	60	5.07	2.11			
20	90	5.08	2.12			
21	120	5.11	2.15			
22	150	5.11	2.15			
23	180	5.11	2.15			
24	240	5.12	2.16			
25	300	5.13	2.17			
26	360	5.13	2.17			
27	382	5.13	2.17			
28	382.5	4.43	1.47			
29	383	3.92	0.96			
30	383.5	3.67	0.71			
31	384	3.45	0.49			
32 33	384.5 385	3.34 3.31	0.38			
33	385	3.31	0.35			
35	386	3.28	0.34			
36	386.5	3.26	0.30			
37	387	3.25	0.29			
38	388	3.24	0.28			
39	389	3.23	0.27			
40	390	3.21	0.25			
41	391	3.20	0.24			
42	392	3.19	0.23			
43	402	3.12	0.16			
44	412	3.09	0.13			
44	442	3.05	0.09			

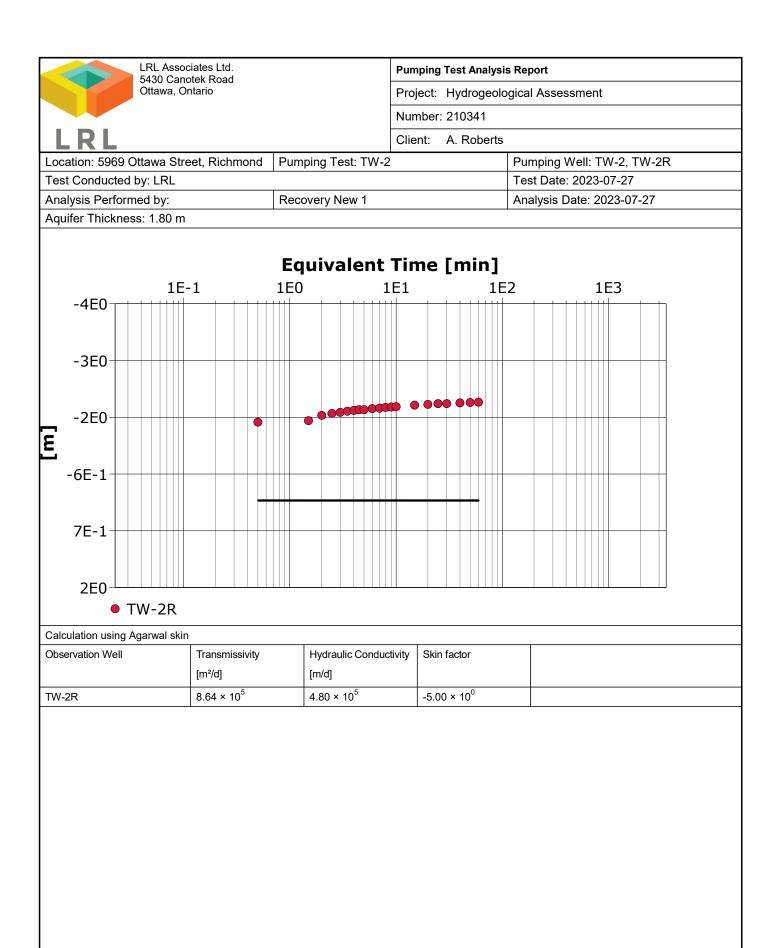






		- Assocaites Ltd. 0 Canotek Road			Pumping Test Analy	Pumping Test Analysis Report						
		awa, ON			Project: 5969 Otta	Project: 5969 Ottawa Street Hydrogeological Assessment						
					Number: 210341							
ENG					Client: Al Rober	ts						
Loc	ation: 5969 Ottaw	/a Street, Richmond, (	nping Test: 6-H	Ir Pump Test	Pump Test Pumping Well: Well 1							
Tes	t Conducted by: /	AK				-	Test Date: 2021-0	8-11				
Αqι	uifer Thickness:		Disc	charge: variabl	e, average rate 0.666	[l/s]						
	Analysis Name	Analysis Performe	ed by	Analysis Date	Method name	lethod name Well		T [m²/d]	S			
1	Theis	AW		2021-09-13	Theis	Well 1		2.50 × 10 <sup>1</sup>	4.39 × 10 <sup>-3</sup>			
2	Agarwal + Theis		2021-09-13	AGARWAL + Theis	We	ell 1	2.59 × 10 <sup>1</sup>	6.00 × 10 <sup>-3</sup>				
	•							•				





#### ATTACHMENT IX

Moisture Surplus – Ottawa

Ottawa_50mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC2										DC20492	
	45.32 G 75.67	TER HC WER ZC	ILDING NE	CAPACI	TY	50 MM 30 MM	HE/ A.	AT IND		36.41 1.075	
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 10. 6 - 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1 1. 3 - 7. 0 5. 9 TTL	64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 52 79 97 94 83 66 35 10 1 503	0 0 - 1 - 19 - 41 - 34 - 9 - 1 0 0 - 105	27 29 107 104 13 4 3 1 7 24 50 38 407	83 110 64 0 0 0 0 0 9 47	50 50 50 32 14 5 9 20 37 49 50	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	2N	STAN	DARD D	EVI ATI	ONS F	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 11 26 30 30 14 7 4	0 0 5 26 31 32 13 3 0 0	31 37 53 84 21 17 12 5 20 27 30 29	43 59 83 0 0 0 0 0 13 34	0 0 2 19 19 14 16 21 19 6 0	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa	Airport, C	N	C WATE	ttawa_ RBUDO	75mm_\ ET_MEA	MBNRMS ANS FO	D.txt RTHEP	eri od	1950-2	010	DC20492
	45.32 G 75.67	WA LC	TER HO WER ZO	ILDING NE	CAPACI	TY	75 MM 45 MM	HE/ A.	AT IND		36.41 1.075
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 10. 6 - 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1 1. 3 - 7. 0 5. 9 TTL	64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 107 104 85 66 35 10 1 526	0 0 0 - 10 - 32 - 32 - 9 - 1 0 0 - 84	27 29 107 104 13 4 2 1 4 15 42 36 384	83 110 64 0 0 0 0 0 9 47	75 75 75 28 10 12 26 52 71 75	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	2N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 12 19 28 29 14 7 4 1	0 0 0 19 30 31 14 2 0 0	30 37 53 84 21 17 11 5 17 23 33 30	43 59 83 0 0 0 0 0 13 34	0 0 2 22 28 22 23 29 28 11 3	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_100mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC2										DC20492	
LAT. LONG	45.32 G 75.67	WA LC	TER HC WER ZC	NE	CAPACI	TY 1	00 MM 60 MM	HE/ A	AT IND		36. 41 1. 075
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12		64 57 66 72 89 87 89 87 84 77 80 78 911		15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 112 115 88 66 35 10 1 545	0 0 0 - 4 - 21 - 29 - 8 - 1 0 0 - 63	25 28 106 104 13 4 2 1 3 10 34 33 363	83 110 64 0 0 0 0 0 9 47	99 99 100 81 47 19 18 32 63 91 97	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	2N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 25 29 14 6 4 1	0 0 0 11 26 30 13 2 0 0	30 37 53 84 21 17 11 5 21 34 30	43 59 83 0 0 0 0 0 13 34	5 3 2 22 34 30 35 36 19 8	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_125mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC										DC20492	
LAT. LONG	45.32 G 75.67	WA LC	TER HC WER ZC	NE	CAPACI	TY 1	25 MM 75 MM		AT IND		36. 41 1. 075
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12		64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 115 122 92 67 35 10 1 560	0	24 28 105 104 13 4 2 1 3 9 27 29 349	83 110 64 0 0 0 0 0 9 47	122 123 125 125 106 69 33 28 41 74 108 119	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 38 37 37 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 21 26 13 6 4 1	0 0 0 4 23 28 11 2 0 0	31 37 54 84 21 17 11 5 14 20 32 30	43 59 83 0 0 0 0 0 13 34	10 8 0 22 39 37 38 42 42 25 14	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_150mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC											DC20492
LAT. LONO	WA LC	TER HC Wer ZC	ILDING NE	CAPACI	TY 1	50 MM 90 MM	HE/ A	AT IND		36.41 1.075	
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1	64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 82 89 87 84 76 63 26 705	$     \begin{array}{r}       15 \\       18 \\       80 \\       69 \\       0 \\       0 \\       0 \\       0 \\       0 \\       0 \\       15 \\       205 \\     \end{array} $	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 127 97 68 36 10 1 573	0 0 0 - 8 - 19 - 6 - 1 0 0 - 34	23 26 103 104 13 4 2 1 3 8 23 26 336	83 110 64 0 0 0 0 0 9 47	144 146 150 150 131 93 52 41 54 88 126 140	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 8 18 22 12 6 4 1	0 0 0 1 18 23 10 2 0 0	31 37 54 21 17 11 5 14 19 30 29	43 59 83 0 0 0 0 0 13 34	15 12 0 22 41 42 44 49 47 31 20	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_200mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010											DC20492
	45.32 G 75.67	WA LC	TER HC WER ZC	ILDING NE	CAPACI TY 200 MM			HEAT INDEX A			36.41 1.075
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1	64 57 66 72 89 87 84 77 80 78 911	13 12 32 67 74 82 89 87 84 76 63 26 705	$     \begin{array}{r}       15 \\       18 \\       80 \\       69 \\       0 \\       0 \\       0 \\       0 \\       0 \\       0 \\       15 \\       205 \\     \end{array} $	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 132 106 70 36 10 1 589	0 0 0 - 3 - 11 - 4 0 0 0 - 18	21 24 99 103 13 4 2 1 3 7 19 22 318	83 110 64 0 0 0 0 0 9 47	187 191 199 200 181 143 97 78 89 123 164 182	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 11 16 10 6 4 1	0 0 0 10 16 8 1 0 0	30 36 55 21 17 11 5 14 19 29 28	43 59 83 0 0 0 0 0 13 34	24 20 4 22 41 48 54 59 55 41 29	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_225mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010										DC20492	
LAT. LONG	TER HC WER ZC	LDING NE	CAPACI TY 225 MM 			HEAT INDEX A			36.41 1.075		
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1	64 57 66 72 89 87 84 77 80 78 911		15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 133 109 71 36 10 1 594	0 - 2 - 8 - 4 0	21 24 97 103 13 4 2 1 3 7 18 21 314	83 110 64 0 0 0 0 0 9 47	209 214 224 225 206 168 121 99 109 143 185 204	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 10 14 10 6 4 1	0 0 0 0 7 13 7 1 0 0	30 36 82 21 17 11 5 14 19 29 28	43 59 83 0 0 0 0 0 13 34	28 24 7 22 41 49 58 63 58 44 33	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_250mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010											DC20492
LAT. LONG	TER HC WER ZC	ILDING NE	CAPACI TY 250 MM			HEAT INDEX A			36.41 1.075		
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1	64 57 66 72 89 87 89 87 80 78 911	13 12 32 67 74 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 134 111 72 36 10 1 598	0 0 0 0 - 1 - 6 - 3 0 0 0 0 - 10	20 23 96 102 13 4 2 1 3 7 18 20 309	83 110 64 0 0 0 0 0 9 47	232 238 248 250 231 193 145 121 130 164 207 226	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	N	STAN	DARD D	EVI ATI	ONS FO	OR THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 9 12 9 7 4 1	0 0 0 0 5 11 6 1 0 0	29 36 82 17 11 5 14 19 29 28	43 59 83 0 0 0 0 0 13 34	32 27 9 22 41 50 61 66 61 47 36	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_265mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010										DC20492	
LAT. LONG	TER HC WER ZC	NE	CAPACI	TY 2 1	265 MM 59 MM	HEAT I NDEX A			36.41 1.075		
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 10. 6 - 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1 1. 3 - 7. 0 5. 9 TTL	64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 89 87 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 134 112 72 36 10 1 599	0 0 0 0 - 1 - 5 - 3 0 0 0 - 9	20 23 96 102 13 4 2 1 3 7 18 20 309	83 110 64 0 0 0 0 0 0 9 47	246 252 263 265 246 208 160 135 144 177 221 240	299 356 422 494 568 651 740 827 912 77 157 236
Ottawa	Airport, C	2N	STAN	DARD D	EVI ATI	ONS FO	R THE	PERI OD	1950-	2010	DC20492
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 39 38 37 27 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 8 11 9 7 4 1	0 0 0 0 4 10 5 1 0 0	29 366 82 17 11 5 14 19 29 28	43 59 83 0 0 0 0 0 13 34	34 29 10 22 41 51 68 62 49 38	55 59 65 74 85 93 93 107 110 37 45 56

Ottawa_275mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010										DC20492	
LAT. LONG	TER HC WER ZC	NE	CAPACI TY 275 MM 			HEAT INDEX A			36. 41 1. 075		
DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	- 10. 6 - 8. 8 - 2. 7 5. 9 13. 0 18. 3 20. 8 19. 5 14. 6 8. 1 1. 3 - 7. 0 5. 9 TTL	64 57 66 72 89 87 89 87 84 77 80 78 911	13 12 32 67 74 89 87 84 76 63 26 705	15 18 80 69 0 0 0 0 0 8 15 205	0 1 5 32 80 116 135 117 75 36 10 1 608	0 1 5 32 80 116 135 113 72 36 10 1 601	0 0 0 0 0 - 1 - 4 - 2 0 0 0 0 - 7	19 23 96 101 13 4 2 1 3 7 18 20 307	83 110 64 0 0 0 0 0 9 47	255 261 272 275 256 218 170 144 153 186 230 249	299 356 422 494 568 651 740 827 912 77 157 236
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Ottawa_400mm_WBNRMSD.txt Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010										DC20492	
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DATE	TEMP (C)	PCPN	rai n	MELT	PE	AE	DEF	SURP	SNOW	SOI L	ACC P
31- 1 28- 2 31- 3 30- 4 31- 5 30- 6 31- 7 31- 8 30- 9 31- 10 30- 11 31- 12	3.0 2.6 2.3 1.7 1.9 1.2 1.2 1.3 1.5 1.4 1.7 3.0	26 29 31 32 38 42 38 37 37 30	16 15 22 31 32 38 42 39 38 37 28 22	18 27 47 84 0 0 0 0 2 9 14	1 4 8 12 9 8 8 8 7 4 1	1 4 8 12 9 8 8 8 7 4 1	0 0 0 0 0 0 0 4 2 0 0 0	29 36 57 80 21 17 11 5 14 19 29 28	43 59 83 0 0 0 0 0 13 34	44 39 22 41 53 69 57 46	55 59 65 74 85 93 93 107 110 37 45 56

#### ATTACHMENT X

Septic System Specifications

**norwec**)<sup>®</sup>

#### HYDRO-KINETIC<sup>I</sup> GREEN WASTEWATER TREATMENT SYSTEM

### WITH SERVICE PRO<sup>®</sup> CONTROL CENTER

#### **GENERAL SPECIFICATIONS**

The contractor shall furnish and install one complete Hydro-Kinetic Green wastewater treatment system with all necessary parts and equipment as described in the following specifications. Treatment of the domestic wastewater shall be accomplished by the extended aeration process with non-mechanical flow equalization, pretreatment of the influent and filtration of the final effluent. The treatment system shall provide primary, secondary and tertiary treatment of the wastewater flow, denitrification, and if required, chlorination/dechlorination or ultraviolet disinfection of the effluent prior to discharge. All treatment processes shall be contained within tankage which shall be manufactured using high density polyethylene resin. The wastewater treatment system shall be a Hydro-Kinetic Green as manufactured by Norweco, Inc., Norwalk, Ohio, USA.



The wastewater treatment system shall include high density polyethylene tankage providing separate pretreatment, anoxic, aeration, clarification and final filtration chambers. The tankage shall be furnished with a Schedule 40 PVC inlet hub, submerged transfer ports, access risers with removable covers, molded plastic vent assembly, molded receiving flange and Schedule 40 PVC outlet hub. Principal items of electro-mechanical equipment supplied with the Hydro-Kinetic Green system shall be an air pump, recirculation pump, UL Listed Service Pro Model 801P electrical control center with MCD technology, flow equalization device and Hydro-Kinetic Bio-Film Reactor for final filtration of system effluent.

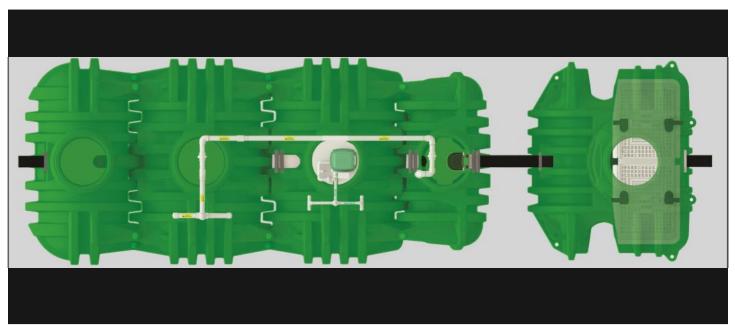
# HYDRO-KINETIC®

#### **OPERATING CONDITIONS**

Total holding capacity of the system shall provide a minimum of 85 hour retention of the daily flow. The pretreatment chamber shall provide at least 18 hour retention, the anoxic chamber shall provide at least 24 hour retention, the extended aeration chamber shall provide at least 24 hour retention, the extended aeration chamber shall provide at least 24 hour retention and the Hydro-Kinetic Bio-Film Reactor shall provide at least 12 hour retention of the daily flow. The non-mechanical flow equalization device shall increase individual chamber and total system retention time in direct proportion to loading. Design of the system shall include a compartmented tank and non-mechanical flow equalization device to insure successful treatment performance without upset even when the significant runoff period is six hours. Hydraulic design considerations of the system and flow equalization device shall be such that intermittent peak flow factors as high as four shall not upset hydraulic reliability within the system. Capability of the system to perform as outlined, when built by an approved manufacturer, shall be certified by an independent testing laboratory and approved for use by the local governing regulatory agency.

#### PRETREATMENT CHAMBER

The pretreatment chamber shall be an integral part of the wastewater treatment system. All domestic wastewater shall be preconditioned and flow equalized while passing through the pretreatment chamber prior to being introduced to the anoxic chamber. The outlet of the pretreatment chamber shall be equipped with a discharge tee that extends vertically into the liquid so that only the preconditioned flow from the center area of the chamber is displaced to the anoxic chamber. The discharge tee and transfer port shall be of adequate size to handle a peak flow factor of four without restricting the outlet and disturbing hydraulic displacement to the anoxic chamber. A removable inspection cover shall be incorporated into the top of the pretreatment chamber to allow tank and transfer tee inspection.



#### **ANOXIC CHAMBER**

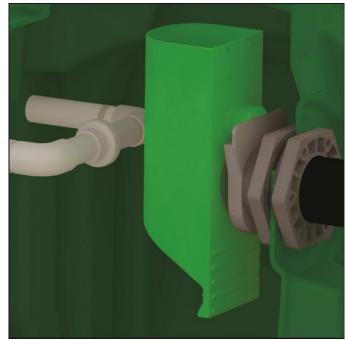
The anoxic chamber shall provide in excess of 24 hour retention of the equalized daily flow. In the anoxic chamber, low oxygen levels shall compel facultative heterotrophic bacteria to use nitrate-bound oxygen in their respiratory process. Nitrified liquid from the clarifier shall enter the chamber in measured doses and nitrogen compounds shall be converted to harmless nitrogen gas which shall escape into the atmosphere. Overall design of the chamber shall insure that effective mixing and suspension of the biomass is maintained in an anoxic condition to insure consistent biological denitrification. Systems that have not been performance certified to reduce Total Nitrogen (TN) more than 50% shall not be considered for this application.

#### **AERATION CHAMBER**

The extended aeration chamber shall provide in excess of 24 hour retention of the equalized daily flow. The chamber shall be of sufficient size to provide a minimum of 80 cubic feet of tank capacity per pound of applied BOD. The aeration chamber shall be an integral part of the system flow path and configured to insure effective mixing of microorganisms, wastewater and fresh air. No area of the chamber shall be isolated from process mixing, thereby eliminating dead or quiescent areas of the treatment chamber which are detrimental to the treatment process. Influent into the aeration chamber shall be preconditioned, equalized flow from the anoxic chamber.

#### FINAL CLARIFICATION CHAMBER

The final clarification chamber shall consist of 5 functionally independent zones operating together to provide satisfactory settling and clarification of the equalized flow. An inlet zone shall be provided and shall dissipate transfer turbulence at the flow inlet of the clarification chamber. Liquid is then displaced into the hopper zone of the clarifier. In this zone, settling by gravity takes place. Three of the four sidewalls are slanted to form a hopper which directs all settled material back to the settled sludge zone. A recirculation pump in the settled sludge zone shall transfer a portion of the wastewater back to the anoxic chamber. Clarified liquid from the hopper zone shall be displaced into the final settling zone to provide additional clarification of the liquid. The liquid is finally displaced to the outlet zone where the treated effluent shall pass through the flow equalization device and be discharged from the final clarification chamber.



#### FLOW EQUALIZATION DEVICE

The system shall include a non-mechanical, demand use, flow equalization device. The device shall be installed with the design flow equalization port located below the normal liquid level of the clarifier. If intermittent flow rates exceed the capacity of the design flow port, flow shall be held upstream until the intermittent flow dissipates. If the intermittent flow continues to increase, the liquid level may reach a sustained flow equalization port. With both ports in use, flow through the system increases while continuing to provide flow equalization to upstream and downstream processes. A peak flow equalization port is supplied but should not be required in a properly sized system. The device shall control normal residential flow rates



and reduce typical residential flow surges. The flow equalization rate shall be dependent upon the specific loading pattern and the duration of flow surges. At the 600 GPD (gallons per day) NSF Standard 40/245 design loading schedule, minimum performance of the device shall equalize daily flow an average of 50%.

#### HYDRO-KINETIC BIO-FILM REACTOR<sup>⊪</sup>

Significant reduction of organic matter shall occur in the treatment system prior to the Hydro-Kinetic Bio-Film Reactor. The Bio-Film Reactor shall provide final treatment of the effluent to a near pristine state. Flow equalized liquid from the clarifier shall enter the influent chamber, travel down and be evenly distributed beneath the Reactor Elements. The effects of gravity shall cause solids to settle to the bottom of the tank. As liquid travels up through the proprietary attached growth media, further reduction of organic matter shall take place. Additional settling and consolidation of solids shall take place downstream of the filter media. After passing through the filtration media for final polishing, the highly treated liquid shall flow into the final effluent zone before exiting the Bio-Film Reactor through the outlet tee.

# GREEN

#### SERVICE PRO® MODEL 801P ELECTRICAL CONTROL CENTER

The Model 801P control center with MCD technology shall provide Monitoring, Compliance and Diagnostic functions for the treatment system. The pre-wired controls shall be mounted in a lockable NEMA rated enclosure designed specifically for outdoor use. The control center shall be a UL Listed assembly and shall include a time clock, alarm light, reset button, power switch, power light, phone/network light, recirculation pump light, air pump light, high water light and auxiliary alarm light. A pre-programmed time clock shall control the recirculation pump to insure that approximately 400% of the average daily flow is returned to the anoxic chamber. The control center shall monitor recirculation pump current, air pump operation, high water and auxiliary alarm circuitry. In the event of an alarm from the air pump or auxiliary input, the audible and visual alarms shall activate and the optional telemetry system shall report the condition. If abnormal operation of the recirculation pump is detected, a diagnostic sequence shall



begin and the visual alarm shall activate. After a factory programmed recovery interval, an automatic restart attempt shall be initiated. If normal pump operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate and the optional telemetry system shall report the condition to the Service Pro monitoring center.



#### SERVICE PRO<sup>||</sup> MONITORING CENTER

The Service Pro monitoring center shall include a 256 bit encrypted password protected website for interface with the monitoring center database. Access to the secure website shall be obtained through a unique user name and password that provides tiered access to data from monitored treatment systems. Access level tiers shall include dealers, service providers, regulatory agencies and individual system owners. Dealers and service providers shall be able to create accounts, enter serial numbers for system equipment, maintain service records and grant regulatory agencies access to the information. The monitoring center shall have the capability to schedule future service inspections and provide notification. Individual system owners shall be able to view information regarding their own systems, as well as download instructional information. Integrity of stored data shall be maintained through the use of multiple servers operating in geographically isolated locations.

#### **MODEL AT 1500 ULTRAVIOLET DISINFECTION SYSTEM (Optional)**

The Hydro-Kinetic Green system shall be furnished complete with a Model AT 1500 ultraviolet disinfection system. The AT 1500 system shall incorporate a turbulence inducer and dual-pass design to insure bacteria receive maximum exposure to the ultraviolet light source. The ultraviolet disinfection system shall be UL Listed under Standard 979 as a residential treatment device and shall include a disinfection chamber, turbulence inducer, extension riser, quartz tube with Teflon cover, ultraviolet bulb and controls. An interlock switch shall be furnished to automatically disable the ultraviolet light source when the disinfection chamber is accessed. Ultraviolet disinfection systems without a residential UL Listing have not demonstrated compliance with international electrical standards for safety and reliability and shall not be considered for this application.

### SPECIFICATIONS

#### **CERTIFIED PERFORMANCE**

The wastewater treatment system shall be certified to operate for 12 consecutive months at the rated daily capacity without routine service. This performance shall be demonstrated by a continuous 12 month evaluation performed by an independent ANSI accredited, third-party testing facility. The evaluation shall consist of 2 consecutive ANSI/NSF Standard 40 and 245 evaluations, including the stress sequences, with no maintenance allowed in between. The system shall also be certified by a SCC accredited, third-party testing facility to BNQ Standards CAN/BNQ 3680-600 and NQ 3680-910. For the entire certification protocol, the system shall achieve a total test average of less than 5 mg/L Biochemical Oxygen Demand (CBOD), less than 5 mg/L Total Suspended Solids (TSS), and greater than 50% reduction of Total Nitrogen (TN) in the effluent. Systems unable to meet these effluent quality parameters for at least 12 months of continuous testing by independent ANSI and SCC accredited, third-party testing facilities without service do not provide the desired level of effluent quality or service frequency, and shall not be considered for this application.



#### AIR PUMP

The air pump shall be configured to allow remote mounting or installation within the mounting riser above the aeration chamber. When installed in the access riser, fresh air shall be supplied through a vented, injection molded, heavy duty, glass-filled polypropylene access cover above the air pump. Fresh air shall enter the air pump through a filter located under the housing cover and be introduced below the liquid surface through a prefabricated diffuser assembly. Only the plastic diffuser assembly and the air piping shall be installed in contact with the liquid. The air pump shall be wired for 115 volt, single phase, 60 cycle operation. The air pump shall include impact-resistant rubber diaphragms and valves which prolong operational life. The



unique design and construction shall provide easy maintenance, excellent cooling and quiet operation. The air pump shall continue aerating and mixing the aeration chamber even during high water conditions. Treatment systems that interrupt air delivery during high water conditions disrupt biological activity and shall not be considered for this application.

#### **RECIRCULATION PUMP**

The submersible recirculation pump shall be wired for 115 volt, single phase, 60 cycle operation and shall be installed in the clarification chamber. Operation of the submersible recirculation pump shall be controlled by the Service Pro control center. The pump shall periodically recirculate nitrified liquid from the clarification chamber to the anoxic chamber. The pump shall be designed to be non-overloading throughout the entire pump curve and shall draw less than 8 full load amps. The pump motor shall contain moisture resistant windings and shall be securely mounted inside an oil-filled, watertight housing for maximum pump life. The stator housing and casing shall be of high grade cast iron, stainless steel or thermoplastic construction.

#### **BLUE CRYSTAL<sup>↓</sup> CHLORINATION SYSTEM (Optional)**

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Blue Crystal disinfecting tablets. Blue Crystal tablets shall be specifically formulated for consistent chlorine dosage and effluent disinfection to the sustained, variable and intermittent flows that are typical of domestic wastewater treatment systems. The tablets shall be manufactured from pure calcium hypochlorite and contain a minimum of 70% available chlorine. Each tablet shall be 25%" diameter, compressed to a 1" thickness, weigh approximately 5 ounces and be white in color with blue crystals for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chlorine.

#### **BIO-MAX<sup>↓</sup> DECHLORINATION SYSTEM (Optional)**

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Bio-Max dechlorination tablets. The dechlorination tablets shall contain 92% sodium sulfite as the active ingredient and shall be specially formulated to chemically neutralize both free and combined chlorine. Each tablet shall be 25% diameter, compressed to a <sup>13</sup>/<sub>16</sub>" thickness, weigh approximately 5 ounces and be green in color for easy identification. The tablets shall dissolve slowly, releasing controlled amounts of chemical for the instantaneous removal of residual chlorine from the system effluent.

#### LIMITED WARRANTY

The wastewater treatment system shall be covered by a two year limited warranty. The air pump, recirculation pump, Service Pro Model 801P control center and any other Hydro-Kinetic components purchased from the manufacturer shall be warranted to be free from defects in material and workmanship, under normal use and service, for a period of two years from the date of purchase. A warranty registration card shall be attached to the system before shipment from the factory. A means to register the wastewater treatment system for warranty protection via the internet shall be provided by the manufacturer for the convenience of the dealer, customer and regulatory agency. The dealer shall provide details of the limited warranty to the regulatory agency, contractor and customer as required.

#### EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of prefabricated wastewater treatment equipment and systems. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

### **PROGRESS THROUGH SERVICE SINCE 1906**

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