

# **Lafarge Brantford West Pit**

# **Hydrogeological Investigation**

#### **Project Location:**

1044 Colborne Street West, Brantford ON

#### Prepared for:

Lafarge Canada Inc. 6509 Airport Road, Mississauga, ON

#### Prepared by:

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July 14, 2020

MTE File No.: 44021-100



## **Executive Summary**

Lafarge Canada Inc. (Lafarge) retained MTE Consultants Inc. (MTE) to conduct a Level 1 and Level 2 Hydrogeological Investigation to support a Category 1, Class 'A' pit below-water-table *Aggregate Resources Act (R.S.O., 1990)* (ARA) license application and County of Brant Official Plan and Zoning By-Law amendments for the property located on Part Lot 12, Concession 5 in the former geographic Township of Brantford, County of Brant (hereby referred to as the 'Site'). The civic address of the Site is 1044 Colborne Street West. The Site is located approximately 600 m east of the intersection of Colborne Street West and Rest Acres Road.

Lafarge also owns and operates an active Category 1, Class 'A' pit below-water-table (Brantford Pit, ARA license #5515) on Part Lot 13, Concession 5 in the geographic Township of Brantford which is adjacent to the eastern Site boundary.

This hydrogeological investigation considers the requirements of a Level 1 and Level 2 Hydrogeological Assessment in accordance with *the Aggregate Resources Provincial Standards* (1997) and County of Brant Official Plan policies.

The following summarizes the findings of the hydrogeological investigation:

- The water-table encountered at seven metres below grade at the Site is located in a sand and gravel formation that overlies a silt till. The sand and gravel formation represents the aggregate resource.
- The sand and gravel formation is an unconfined aquifer that supplies water to both private water supply wells and municipal wells (Airport Well) within the study area.
- The Site lies within the Well Head Protection Area (WHPA) for the Airport Well.
- There is one small surface water body (i.e. pond) on Site which is interpreted to be an expression of the water-table.
- No surface water courses cross the Site.
- No wetlands are mapped on-Site.
- Grand River Conservation Authority mapping shows there are four surface water sub watersheds within the Study Area:
  - Whitemans Creek;
  - Mt. Pleasant Creek;
  - Grand River Lower North (Airport Creek); and
  - Grand River Lower (D'Aubigny Creek).
- The Site lies within portions of the Whitemans Creek and Mt. Pleasant Creek subwatersheds.
- Groundwater elevations indicate groundwater flow within the Study Area falls within four groundwater capture areas that generally correspond to the surface water subwatersheds.
- Groundwater elevations at the Site indicate that local groundwater flow in the water-table aquifer is north-easterly across the Site towards Airport Creek and ultimately the Grand River. The horizontal hydraulic gradient across the Site is measured at 0.001 m/m.

- The estimated horizontal hydraulic conductivity for the saturated granular materials at the Site ranges from 3.2x10<sup>-4</sup> m/sec (MW3-18) to 9.2x10<sup>-4</sup> m/sec (MW1-18 and MW2-18) with a calculated geometric mean of 6.4x10<sup>-4</sup> m/sec which is consistent with published values for sand soils.
- The water balance calculations indicate that following extraction evapotranspiration (ET) is estimated to increase by 43,759 (m³/year). Both runoff and infiltration are estimated to decrease by 11,767 m³/year and 31,992 m³/year, respectively. The increase in ET and decreases in runoff and infiltration are directly related to the construction of the pit pond.
- Extraction at the Site will employ sub-aqueous methods. No dewatering will occur and as such a Permit to Take Water will not be required.
- The base of the below-water-table extraction will not extend below 223 metres above mean sea level (mAMSL) or ~ 22 metres below ground surface(mBGS).
- To address potential concerns related to cumulative impacts from below-water-table
  aggregate extraction on water quality and quantity within the Whiteman's Creek
  Subwatershed (a priority subwatershed), MTE completed a cumulative impact
  assessment as per Cumulative Effects Assessment (Water Quality and Quantity) Best
  Practices Paper for Below Water Sand and Gravel Extraction Operations in Priority
  Subwatersheds in the Grand River Watershed (GRCA, 2010).

Based on the hydrogeological investigation, MTE offers the following conclusions:

- Increases in evapotranspiration and decreases in runoff and infiltration are directly
  related to the construction of the pit pond. The increase in ET at the Site resulting from
  the construction of the pit pond will result in a relatively minor increase in ET occurring
  locally across the water-table aquifer and is not interpreted to adversely affect the ability
  of the water-table aquifer to supply water to private or municipal supply wells.
- The proposed on-Site pit pond will be an extension of the existing pit pond from the
  active Lafarge owned pit to the east which will create a large volume of stored water that
  will buffer the effects of on-Site extraction limiting any potential drawdown in the
  unconfined aquifer.
- The estimated drawdown (0.01m) caused by extraction at the Site will be indistinguishable from background climatic fluctuations in the water-table. The zone-ofinfluence created by below-water-table extraction utilizing sub-aqueous extraction methods (i.e. no dewatering) will not pose a quantity threat to private or municipal water supplies.
- As the pit pond is established, the water-table will flatten locally resulting in a reduction
  of the horizontal hydraulic gradient across the Site. The established horizontal hydraulic
  gradient is relatively flat; a further flattening of the water-table locally is not interpreted to
  adversely affect the ability of the aquifer to supply water to private or municipal water
  supply wells.
- Policies to protect drinking water quality are contained in the Grand River Source Protection Plan. The proposed pit meets all the requirements on the Plan. From a Source Protection Plan perspective, MTE predicts that the proposed extraction at the Site will not adversely affect Municipal Water Supply Wells.

- To mitigate any potential to impacts to groundwater quality (e.g. petroleum hydrocarbons and increasing groundwater temperatures) operational best management practices (e.g. prescribed spill plan) and rehabilitation plans (e.g. steep sided pit pond) will be incorporated into the plan for the proposed pit. Through the implementation of the contingency measures and the implementation of the monitoring program, MTE predicts that the proposed extraction at the Site will not adversely affect groundwater quality or quantity
- Other than the existing Brantford Pit, no cumulative effects with active pits within the Whiteman's Creek subwatershed are predicted.

#### MTE recommends:

- The data loggers installed in MW1-18, MW2-18, MW3-18, and PW1 remain in place to collect a water level every hour.
- Manual groundwater levels be collected from MW1-18, MW2-18, MW3-18, and PW1 on a seasonal basis (Spring Summer, and Fall) to calibrate the data logger data and ensure they are functioning as intended.
- An annual groundwater monitoring report be prepared by a Qualified Professional (Professional Geoscientist or exempted Professional Engineer) that at a minimum summarizes the groundwater monitoring data and assesses effects (if any) from the proposed below-water-table extraction.
- Groundwater monitoring continues for the first two years of below-water-table operations. If after this two-year period, below-water-table extraction is not causing any well interferences, then the monitoring frequency can be re-evaluated by a Qualified Professional (Professional Geoscientist or exempted Professional Engineer).
- Lafarge develop a Best Management Plan (BMP) for on-Site fuel handling in order to
  minimize the risk of contaminant release. Fuels, oils, and all potentially hazardous
  materials will be stored in approved above ground containment facilities in accordance
  with the BMP and current regulatory requirements. The quantity of stored materials will
  be kept to a minimum and on-Site personnel will be trained in the required actions in the
  event of accidental release.
- Monitoring wells that may be destroyed by below-water-table extraction activities shall be decommissioned according to O.Reg. 903.
- Monitoring wells that may be damaged by non-extraction activities should be replaced according to O.Reg.903.
- Prior to extraction, Lafarge completes a private well inventory within 500 m of the Site with results being included in the first annual monitoring report along with recommendations for monitoring.

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#### 1.0 Introduction

Lafarge Canada Inc. (Lafarge) retained MTE Consultants Inc. (MTE) to conduct a Level 1 and Level 2 Hydrogeological Investigation to support a Category 1, Class 'A' pit below-water-table *Aggregate Resources Act (R.S.O., 1990)* (ARA) license application and County of Brant Official Plan and Zoning By-Law amendments for the property located on Part Lot 12, Concession 5 in the former geographic Township of Brantford, County of Brant (hereby referred to as the 'Site'). The civic address of the Site is 1044 Colborne Street West. **Figure 1** illustrates the Site location. The Site is located approximately 600 m east of the intersection of Colborne Street West and Rest Acres Road.

Lafarge also owns and operates an active Category 1, Class 'A' pit below-water-table (Brantford Pit, ARA license #5515) on Part Lot 13, Concession 5 in the geographic Township of Brantford which is adjacent to the eastern Site boundary.

In addition to the Brantford Pit, there are two additional Class 'A' pits operated by Telephone City Aggregates Inc. (ARA license # 5521 and # 5739) approximately 1,100 m east of the Site (Figure 2).

#### 1.1 Objective and Scope of Work

Lafarge and MTE collaboratively developed a scope of work to present a characterization of existing hydrogeological and hydrologic conditions; an interpretation of field study results; an evaluation of potential effects on water resources, water uses and the natural environment; and provide a monitoring program framework that will enable transparency and an on-going assessment of compliance with the proposed conditions of the Site Plans.

This hydrogeological investigation considers the requirements of a Level 1 and Level 2 Hydrogeological Assessment in accordance with the ARA. As such, in accordance with the Aggregate Resources Provincial Standards (1997), this report provides information on and an evaluation of the following:

- a) Water wells;
- b) Springs;
- c) Groundwater aquifers:
- d) Surface watercourses and bodies;
- e) Discharge to surface water;
- f) Proposed water diversion, storage, and drainage facilities on Site;
- g) Methodology;
- Description of the physical setting including local geology, hydrogeology, and surface water systems;
- i) Water budget;
- Impact assessment;
- k) Spills contingency plan;
- Monitoring plan; and
- m) Technical support data in the form of tables, graphs, and figures, usually appended to the report.

In addition to the *Aggregate Resources Provincial Standards*, this hydrogeological investigation also addresses the following County of Brant Official Plan policies:

Policy 2.3.3.2 (f) The establishment of any new aggregate extraction pit within a Wellhead Protection Area (WHPA) shall require a site specific assessment of the potential impact on the WHPA, including water quality and stream flow impacts.

Policy 2.3.4.2 (f) Where extraction is proposed below the water table, the following criteria shall be satisfied:

i. A Permit To Take Water, in accordance with the Ontario Water Resources Act shall be required from the MOE where more than 50,000 litres a day of groundwater/surface water will be drawn. A hydrogeological study shall be conducted for aggregate operations that intend to use groundwater to wash aggregate and will use greater than 50,000 litres per day during this washing process.

The hydrogeological investigation principle objectives are to:

- Establish baseline groundwater and surface water conditions, and use at and in the vicinity of the Site;
- Establish a baseline water budget for the proposed licensed area;
- Provide input into a below-water-table pit and end use design, including water management, use, storage, and drainage;
- Identify potential effects of a below-water-table pit and end use operations on the quantity, quality, and function of groundwater and surface water resources; and
- Provide a monitoring program framework that will include an assessment process that will enable transparency and an on-going assessment of compliance with the Site Plan commitments.

With this understanding, the scope-of-work included:

- Reviewing available literature and publically available data sources to determine the hydrogeological, hydrologic, water use, and climatic characteristics of the Site and surrounding area;
- Investigating the geological setting and hydraulic characteristics of the proposed licensed area, through:
  - Site Reconnaissance;
  - Construction of three overburden groundwater monitoring wells; and
  - In-situ testing of the groundwater system.
- Undertaking a monitoring program to establish groundwater and surface water conditions and their interaction;
- Assessing potential impacts on:
  - Private/Municipal well owners;
  - Groundwater recharge/discharge zones from proposed operations at the Site;
     and
  - Source Water Protection Policies.

## 2.0 Site Description

The Study Area, including the Site boundary, neighbouring licensed pits, private water supply wells, and surface water features are illustrated on **Figure 2**. For the purposes of this investigation, the Study Area is defined as the Site and an area 2000 m from the Site boundary with an emphasis on features within 500 m of the Site Boundary.

The Site has a proposed licensed area of  $\sim$  19.9 hectares (ha) and a proposed extraction area of  $\sim$  16.8 ha. As per the proposed Site Plans, the below-water-table extraction will not extend below 223 metres above mean sea level (mAMSL).

The Site use is currently agriculture with a house and a number of small buildings/barns.

#### 2.1 Adjacent Land Use

Land use surrounding the Site is primarily agricultural and rural residential. Lafarge also owns and operates an active Category 1, Class 'A' pit below-water-table (Brantford Pit, ARA license #5515) on Part Lot 13, Concession 5 in the geographic Township of Brantford which is adjacent to the eastern Site boundary.

In addition to the Brantford Pit, there are two additional Class 'A' pits operated by Telephone City Aggregates Inc. (a division of James Dick Construction Ltd.) (ARA license # 5521 and # 5739) approximately 1,100 m east of the Site (**Figure 2**).

The Brantford Municipal Airport is located ~ 300 m northeast of the Site.

#### 2.2 Surface Water and Drainage

Generally, Site topography is flat with ground surface elevations at ~ 245 metres above mean sea level (mAMSL) and falling towards the middle of the Site. In the centre of the Site, there is a small closed depression where topography falls by ~4 m to ~241 mAMSL with a small pond located at the base, which is interpreted to be the surface expression of the water table. No surface water courses cross the Site.

The Site and Study Area lie within the Lower Middle Grand River Basin. Within the Study Area, there are four main Grand River subwatersheds (**Figure 2**):

- Whitemans Creek;
- Mt. Pleasant Creek;
- Grand River Lower North (Airport Creek); and
- Grand River Lower (D'Aubigny Creek).

#### Whitemans Creek

Whitemans Creek subwatershed drains an estimated 400 km² of land in southwestern Ontario. Whitemans Creek forms after the confluence of Horner and Kenny Creeks west of Burford, ON and generally flows eastwards before joining the Grand River upstream of Brantford. Surficial materials in the Whitemans Creek subwatershed are highly variable with Tavistock and Port Stanley Tills in the headwaters and outwash and glaciolacustrine shallow water deposits in the lower reaches where there is an extensive unconfined overburden aquifer (Lake Erie Region Source Protection Committee [LERSPC], 2019). A small portion of the Whitemans Creek subwatershed (~0.01 km²) is located in the northern portion of the Site.

#### Mt. Pleasant Creek

The Mt. Pleasant Creek subwatershed drains an estimated 44 km² of land in southwestern Ontario. Mt. Pleasant Creek forms in the Oakland Swamp Provincially Significant Wetland (PSW) and generally flows east to southeast before joining the Grand River downstream of Brantford. As with Whitemans Creek, surficial materials within the Mt. Pleasant Creek subwatershed are generally granular and are interpreted to form part of the extensive unconfined overburden aquifer described above (LERSPC, 2019). The majority of the Site is located within the Mt. Pleasant Creek subwatershed.

#### Lower Grand River

The Lower Grand River forms below the confluence with the Nith River to Lake Erie and is largely influenced by upstream conditions. The two portions of the Lower Grand River subwatershed (Airport Creek and D'Aubigny Creek) within the Study Area drain ~45 km<sup>2</sup> (LERSPC, 2019).

#### Wetlands

There are no mapped on-Site wetlands. The Oakland Swamp PSW and Life Science Area of Natural Significance (ANSI) lies approximately 1.4 kilometres southwest of the Site (Figure 2).

#### 2.3 Municipal Wells and Well Head Protection Areas

**Figure 3** shows the locations of municipal wells and Well Head Protection Areas (WHPA) near the Site. The nearest municipal well is the Airport Well which is approximately 1.2 kilometres from the Site. The Airport Well is completed in an unconfined sand and gravel aquifer to a depth of ~35 metres below ground surface (mBGS). Fine grained clay, silt, sand, and stones underlie the aquifer at the airport well and ranges in thickness from ~10 to 25 m (LERSPC, 2019).

MTE reviewed the Ontario Source Protection Information Atlas (MECP, 2020) and determined that the capture zone for the Airport Well extends to the southwest with the 25-year time-of-travel zone extending approximately five kilometers. **Figure 3** shows WHPA-C (2 to 5-year time of travel) and WHPA-D (5 to 25-year time of travel) for the Airport Well intersects the Site. The vulnerability score for the WHPA-C at the site is 8; the score for the WHPA-D is 4.

#### 2.4 Physiography

**Figure 4a** shows the Site lies in the Horseshoe Moraines physiographic region which is bordered by the Norfolk Sand Plain to the south and north east. Within the map area, the horseshoe moraines area forms a belt of moderately hilly relief that originates at the Niagara Escarpment before passing east of Acton and Guelph towards Cambridge and Paris. South of Paris the moraines tend to flatten out before disappearing under the Norfolk Sand Plain (Chapman and Putnam, 1984).

Associated with the above mentioned moraines, is a system of old glacial spillways (**Figure 4b**) with broad gravel and sand terraces and swampy floors (Chapman and Putnam, 1984). The Site is located within one of these glacial spillways between two moraines (**Figure 4b**) which are interpreted to be the Paris and Galt Moraines.

#### 2.5 Geology and Hydrogeology

Information on Quaternary Geology for the Brantford area has been reviewed from the following publications:

- Quaternary Geology of the Hamilton Cambridge Area (Karrow, 1987);
- Pleistocene Geology of the Brantford Area Southern Ontario (Cowan, 1972); and
- Surficial Geology of Southern Ontario, Miscellaneous Release 128 (Revised) (OGS, 2010).

As well, the Ontario Geological Survey (OGS) recently completed a three-dimensional (3-D) mapping project of the overburden deposits in the Brantford-Woodstock area (Bajc and Dodge, 2011).

For the purpose of understanding and recognizing geological and hydrogeological data, the reader is referred to Table 2 from Bajc and Dodge, 2011 which summarizes the different geological and hydrogeological units and respective naming conventions used in this report.

#### 2.5.1 Quaternary Geology

**Figure 5a** shows the Site is located on a coarse grained glaciolacustrine deposit comprised primarily of sand and gravel with minor silt and gravel (Map Unit 9). The glaciolacustrine deposit originates north of the Site south of the Grand River and east of Whiteman's Creek. The glaciolacustrine deposit then extends southward from the Site and is generally confined between two silt to silty-sand till ridges which correspond to the till moraines illustrated on **Figure 4b.** 

#### 2.5.2 Paleozoic Geology

**Figure 5b** shows bedrock beneath the Site belongs to the Upper Silurian aged Salina Formation. The Salina Formation (Group) is a succession of evaporites and evaporite-related sediments that lie between the overlying Bass Island and Bertie Formations and underlying Guelph Formation (Armstrong and Carter, 2010). The Salina Formation generally consists of argillaceous dolostone, shale, gypsum, and salt (at depth) (Armstrong and Dodge, 2007).

#### 2.5.3 Regional Hydrogeological Setting

Important hydrostratigraphic units from a groundwater recharge and flow perspective that underlie the Site are:

- Grand River and Equivalent Aquifer (AFA2) Outwash deposits: mainly Grand River valley outwash consisting of coarse textured sand and gravel;
- Wentworth Till Aquitard (ATA2) may contain stratified drift. Stony sandy till;
- Port Bruce Phase Aquitard (ATB1) includes Upper Maryhill Till, Port Stanley Till, Tavistock Till and Stratford Till. Silty to clayey till, locally sandy; and
- Upper/Main Catfish Creek Till (ATC1) Stony, silty to sandy till.

The Grand River and Equivalent Aquifer (AFA2) is generally unconfined and consists primarily of the coarse-textured sand and gravel of the Grand River Valley outwash deposits (Bajc and Dodge, 2011). According to the mapping from Bajc and Dodge, the thickness of AFA2 at the Site is approximately 30 m.

At the Site, the Port Bruce Phase Aquitard (ATB1) is buried beneath the younger Grand River outwash (AFA2) and is generally described as fine-grained glaciolacustrine deposits interbedded with fine-textured diamicton (silt to clayey tills) (Bajc and Dodge, 2011). The thickness of ATB1 at the Site is on the order of ~14m and generally overlies bedrock.

Two additional till units were identified in the Study Area. The Wentworth Till Aquitard (ATA2) is located south east of the Site and overlies the Grand River Outwash (AFA2). There are discontinuous lenses of Upper/Main Catfish Creek Till (ATC1) throughout the Study Area that underlies ATB1 and overlies bedrock.

#### 2.5.4 Geological Cross Sections

Hydrogeological data related to private water supply wells in the Study Area were obtained from water well records on-file with the Ministry of the Environment, Conservation, and Parks (MECP) and from boreholes/monitoring wells constructed on-Site (Section 1.1 and Section 3). Both these resources were used to construct geological cross-section A-A' (Figure 6a) and geological cross-section B-B' (Figure 6b). Borehole logs for the on-Site monitoring wells are provided in Appendix A. The location of geological cross-section A-A' and B-B' are presented in Figure 2.

The geological cross-sections illustrate well locations that reportedly lie within up to 2,000 m of each cross-section line. The well name or MECP water well number are presented above the cross-section followed by the off-set distance from the cross-section line and well location. Wells further from the cross-section line may, in places, be displayed as having the borehole above or below ground surface. Similarly, static water levels at individual wells may be situated above or below the interpreted water table surface presented on the individual cross-section. As such, elevation variability of overburden units may occur along the cross-section line at individual boreholes and may differ from the professional geological interpretation presented on the cross-section.

#### Geological Cross-Section A-A' (Figure 6a)

Geological cross-section A-A' runs approximately 4,875 m southwest to northeast through the Study Area showing the spatial distribution of the various geological units. Geological cross-section A-A' shows topography falls from northeast to southwest from ~247 mAMSL to ~245 mAMSL. Sand is interpreted at ground surface across the entire geological cross-section which is consistent with the Quaternary geological mapping presented in **Figure 5a.** The sand deposit is interpreted to be between ~ 17 to 35 m thick along geological cross-section A-A' and is interpreted to represent the Grand River Outwash and Equivalent Aguifer (AFA2).

Underlying the sand deposit, a clay to silty clay unit is interpreted which is between four and 25 metres thick and is interpreted to be either the Port Bruce Phase (ATB1) or Main Catfish Creek Till (ATC1). These fine grained materials are interpreted to overlie bedrock across the entire geological cross-section.

Geological cross-section A-A' shows an interpreted water-table surface that is located in the AFA2 sand deposit. At the Site, the interpreted water-table is generally located at ~238 mAMSL or approximately seven metres below ground surface (mBGS).

#### Geological Cross-Section B-B' (Figure 6b)

Geological cross-section B-B' runs approximately 4,665 m northwest to southeast through the Study Area showing the spatial distribution of the various geological units. Geological cross-section B-B' shows topography is gently undulating for the first ~3,400 m with ground surface elevations ranging from ~240 mAMSL to ~248 mAMSL. At ~3,400 metres from the start of geological cross-section B-B', ground surface elevations increase sharply from ~245 mAMSL to

~260 mAMSL before falling to ~229 mAMSL. This topographic high corresponds to the till moraine (**Figure 4b**) southeast of the Site.

As with geological cross-section A-A', sand is interpreted at ground surface along the majority of geological cross-section B-B' with a thickness up to ~ 55 m and is interpreted as the unconfined Grand River Outwash and Equivalent Aquifer (AFA2). The ground surface of the topographic high located at the southeastern portion of geological cross-section B-B' has been covered by a veneer of silty sand till interpreted to be Wentworth Till (ATA2).

A clay to silty clay unit is interpreted which is between four and 25 metres thick and is interpreted to be either the Port Bruce Phase (ATB1) or Main Catfish Creek Till (ATC1). These fine grained materials are interpreted to overlie bedrock across the entire geological cross-section.

Geological cross-section B-B' shows an interpreted water-table surface located within the surficial sand deposit. At the Site, the interpreted water-table is generally located at ~238 mAMSL or approximately seven mBGS.

## 3.0 Field Program

#### 3.1 Borehole, Monitoring Well and Mini Piezometer Installation

Borehole and monitoring well installation was carried out between August 1<sup>st</sup> and August 3<sup>rd</sup>, 2018. Boreholes were advanced by Altech Drilling and Investigative Services Limited of Cambridge, ON and their construction was observed by MTE staff. A total of three boreholes were advanced across the Site to a maximum depth 18.9 mBGS.

Monitoring wells were installed in each borehole (MW1-18 through MW3-18) to allow for the collection of stabilized groundwater levels and for the determination of shallow water-table overburden hydrogeological characteristics. Monitoring well locations are illustrated on **Figure 7**. Borehole logs are provided in **Appendix A**. Following installation, the monitoring wells were developed with the Waterra<sup>™</sup> inertial pump and surge block to purge any remaining sediment caused by drilling.

In addition to the monitoring wells, two mini-piezometers were installed into the on-Site pond (MP1-18) and pond on the neighbouring Brantford Pit (MP2-18). Mini-piezometers consist of a 0.3 m long stainless steel screen and riser pipe driven approximately 1 m into the sediments underlying each pond to allow for collection of groundwater levels beneath the pond base and to assess groundwater/surface water connections.

#### 3.2 Water Well Record Search

Hydrogeological data related to private water supply wells within 2,000m of the Site were obtained from water well records on-file with the MECP. Based on the data in the MECP water well information system (WWIS), a total of 196 wells were located within 2,000 m of the Site. Of the 196 records, the primary water use was identified as follows:

- Six commercial wells;
- 100 domestic wells;
- Six industrial wells;
- Eight irrigation wells;
- 10 livestock wells;

- 14 monitoring wells or test holes;
- Eight municipal wells;
- Three public supply wells; and
- 40 wells not used or with no use identified.

**Figure 2** illustrates the location of water well records obtained from the MECP WWIS. Available well records for wells identified as domestic water supply wells are provided in **Appendix B**. A total of 16 wells were identified as having casing diameters greater than 0.9 m (~3') which are interpreted as being representative of dug/bored wells and are completed into the shallow overburden sand (AFA2) aquifer to depths ranging from ~4.5 mBGS to >23 mBGS

85 wells have casing diameters less than 20 cm (8") and are interpreted as being representative of drilled wells and completed deeper into the overburden sand (AFA2) aquifer or bedrock at depths ranging from ~8.5 mBGS to > 80 mBGS.

One MECP well record (1305004) corresponds to an on-Site dug well. This well (PW1) has been included in the groundwater monitoring program discussed below **(Section 3.3)**. The location of PW1 is illustrated on **Figure 7**.

#### 3.3 Groundwater Levels and Relative Elevation Survey

An elevation survey of the top of the monitoring wells and on-Site private well (PW1) casing relative to mean sea level was completed by MTE utilizing a local benchmark. The relative elevation survey allows for groundwater levels collected from each monitoring well to be compared to each other and allow for the determination of the groundwater flow direction.

Manually measured groundwater levels were collected from all on-Site monitoring wells on seven occasions between August 20<sup>th</sup>, 2018 and June 11<sup>th</sup>, 2020. Manually measured groundwater levels, depth below existing ground surface and groundwater elevation are presented in **Table 1**. In addition to the manually collected groundwater levels, each on-Site monitoring well and PW1 was equipped (on August 31, 2018) with a dedicated pressure transducer programmed to collect a water level every hour in order to establish seasonal trends and to determine the average groundwater elevation at the Site.

The on-Site water table elevation has been interpreted from water levels measured in monitoring wells screened at a common elevation and stratigraphic unit. Based on the borehole logs, all on-Site monitoring wells are screened in a common stratigraphic unit (AFA2) at a common elevation and can be used to measure and interpret the water table elevation at the Site. Groundwater elevations as collected by the data loggers is presented on **Hydrograph 1**.

**Hydrograph 1** shows groundwater elevations at the Site between August 20<sup>th</sup>, 2018 and June11<sup>th</sup>, 2019 were relatively stable fluctuating between 239.1 mAMSL (MW2-18) and 237.6 (PW1). Groundwater elevations fluctuated vertically between ~0.8 and ~0.85 meters during the monitoring period.

#### 3.4 Hydraulic Conductivity Testing

On August 20, 2018, single well hydraulic response tests were carried out on MW1-18 through MW3-18. At each location, recovery tests were completed using a pneumatic initiation system whereby air pressure was applied to depress (lower) the water column in the well by a known amount. To initiate the test, the air pressure was released and the water level recovery was measured using a data logger programmed to collect a water level every second. The response

tests were carried out a minimum of three times using different initiation pressures to assess the viability of the assumptions underlying slug test analysis methods.

Prior to analysis recovery data was normalized by dividing the observed head change (H<sub>o</sub>) by the expected head change (H<sub>o</sub>\*) for the initiation pressure used during testing. Normalized data plots from repeat tests (at the same well) were compared to determine coincidence between tests. Coincidence between tests suggests assumptions underlying conventional analysis methods can be considered valid at that well (Butler et. al., 1996; Butler et. al., 2003).

At MW1-18 and MW2-18 the water level response for all tests was oscillatory in nature and coincided between tests. At MW3-18, the water level response shows a concave-downward curvature on a log normalized head versus linear time plot and coincided between tests. As such, a single test was analyzed using the Butler High K (Butler et. al., 2003) method in AquiferTest© Pro (Waterloo Hydrogeologic, 2015) to estimate the horizontal hydraulic conductivity of the saturated granular materials adjacent to each well screen. AquiferTest data sheets are presented in **Appendix C**. The estimated horizontal hydraulic conductivity for the saturated granular materials at the Site ranges from 3.2x10<sup>-4</sup> m/sec (MW3-18) to 9.2x10<sup>-4</sup> m/sec (MW1-18 and MW2-18) with a calculated geometric mean of 6.4x10<sup>-4</sup> m/sec (**Table 2**). The estimated horizontal hydraulic conductivity values are consistent with average published values for sand soils (Freeze and Cherry, 1979).

#### 3.5 Groundwater Flow

Groundwater flows from areas of higher pressure to areas of lower pressure. The slope of the water table as a result of these pressure differences is known as the hydraulic gradient. Groundwater flow mapping was conducted for the Site using the August 30th, 2018 groundwater elevation data. To supplement this Site specific information and develop a generalized groundwater flow pattern for the Study Area, groundwater elevations from the water well records in the MECP WWIS within the Study Area and interpreted to be screened in AFA2 were used in generating the groundwater flow map. **Figure 8** illustrates the conceptualized groundwater flow patterns for the Study Area.

**Figure 8** illustrates that groundwater flow patterns throughout the Study Area are interpreted to generally fall into four different groundwater capture areas:

- Airport Creek;
- D'Aubigny Creek;
- Mount Pleasant Creek; and
- Whitemans Creek.

These groundwater capture areas generally coincide with the surface water subwatershed boundaries illustrated on **Figure 2**. Groundwater at the Site generally flows to the north east towards Airport Creek and ultimately the Grand River. The horizontal hydraulic gradient at the Site is relatively flat and is calculated to be ~0.001 m/m.

Groundwater in a small portion of the northwestern corner of the Site (near PW1) is interpreted to be with in the Whitemans Creek groundwater capture area. Groundwater flow in this portion of the Site is interpreted to flow northerly towards Whitemans Creek.

#### 3.6 Groundwater Quality

On August 14, 2019, groundwater samples were collected from MW2-18 and MW3-18. Prior to sample collection, the monitoring wells were purged to remove stagnant water from the monitoring wells and surrounding filter pack to allow for a representative sample to be collected from the groundwater system. Monitoring wells were purged a minimum of three standing well volumes.

Samples were collected using dedicated Wattera™ inertial pumps; placed into laboratory supplied jars and transported in ice-packed coolers under chain-of-custody to ALS Laboratories-Environmental Division in Waterloo, ON. Samples were analyzed for select dissolved metals, anions, and general chemistry parameters. Unabbreviated laboratory certificates of analysis are presented in **Appendix D.** Analytical results are summarized in **Table 3** and compared to the Ontario Drinking Water Standards (ODWS).

**Table 3** shows measured concentration of colour, hardness, manganese, and sodium above the ODWS. Elevated colour, hardness, and manganese are typical of overburden aquifers within southern Ontario and are aesthetic/operational guidelines under the ODWS.

A sodium concentration (22.2 mg/L) marginally above the ODWS health standard (20 mg/L) was measured in the sample collected from MW2-18.

# 4.0 Proposed Pit Operations

#### 4.1 Proposed Pit Floor

As per the proposed Site plans, the base of the below-water-table extraction shall not extend below 223 mAMSL (water-table elevation ~238 mAMSL). The proposed pit is to be an extension of the existing Lafarge pit to the east with the proposed on-Site pond being an extension of the existing pond to the east.

#### 4.2 Proposed Water Diversion, Storage and Drainage Facilities on Site

Although the proposed pit is for a below-water-table extraction, there will be no pumping or diversion of groundwater as aggregate will be extracted using an excavator or drag line. This technique involves removing aggregate without the need to pump or divert groundwater. Aside from groundwater accumulating in the pit pond, there will be no water storage at the Site. Based on the above, a Permit to Take Water (PTTW) will not be required from the MECP

#### 4.3 Discharge to Surface Water

There will be no discharge to any existing surface water bodies or courses during or after extraction activities.

#### 4.4 Aggregate Washing Operations

Currently, MTE understands that Lafarge will not be conducting any aggregate washing at the Site. If future aggregate washing operations occur at the Site, a PTTW will be required from the MECP should the aggregate washing operation require more than 50,000 L/day of groundwater or surface water.

#### 4.5 Aggregate Recycling

Currently, MTE understands that Lafarge will not be conducting any aggregate recycling at the Site.

## 5.0 Impact Assessment

The following section identifies potential impacts that the proposed Brantford West Pit could have on existing private water users, natural features, surface water bodies, groundwater recharge, aquifer vulnerability, and groundwater quality. An assessment of each potential effect has been provided below.

#### 5.1 Water Budget

The natural cyclic process by which water moves from the atmosphere, on to and through the ground into streams/rivers before reaching the oceans and returning to the atmosphere is called the hydrologic or water cycle. The water cycle has no beginning or end and the amount of water moving through the water cycle is in constant change.

MTE completed a water budget for the Site to assess the impact a below-water-table extraction may have on the Site. Details on the water budget calculations can be found in **Appendix E.** 

The water balance calculations indicated that following extraction ET is estimated to increase by 43,759 m³/year. Both runoff and infiltration are estimated to decrease by 11,767 m³/year and 31,992 m³/year, respectively. The increase in ET and decreases in runoff and infiltration are directly related to the construction of the pit pond.

The increase in ET at the Site resulting from the construction of the pit pond will result in a relatively minor increase in ET occurring locally across the water-table aquifer and is not interpreted to adversely affect the ability of the water-table aquifer to supply water to private or municipal supply wells.

#### 5.2 Groundwater Drawdown and Zone of Influence

The effect of below-water-table extraction on the shallow groundwater system was estimated by completing a drawdown calculation (Appendix F). The excavation of a pit pond has the potential to affect water levels in nearby surface water features and private water supply wells. As the pond size increases and volume of stored water is greater, the drawdown effects from the excavation become increasingly subdued.

Drawdown initially results from the removal of aggregate which occupies approximately 65% of the volume of the extracted space. The void created by the removal of aggregate then gets replaced by groundwater. As the proposed pit pond will be an extension of the existing Brantford Pit pond, there will be a large amount of stored water that will serve to buffer the effects of on-Site aggregate extraction. Under conservative conditions, the maximum drawdown was estimated to be ~0.01 m at the pond edge. This drawdown will be indistinguishable from background (climatic) fluctuations.

As the pit pond is established, the water-table surrounding the pond is expected to flatten resulting in a reduction of the horizontal hydraulic gradient across the Site. As the measured horizontal hydraulic gradient (Section 3.5) is relatively flat at ~0.001 m/m, a further flattening of the water-table locally is not expected to adversely affect the ability of the aquifer to supply groundwater to either private or municipal water supply wells.

#### 5.3 Private Water Supplies

Homes within the study area are serviced by private water supply wells. Generally, dug wells are most susceptible to potential groundwater interferences caused by pit activities. However, as the estimated maximum drawdown at the edge of the pit pond is ~0.01 any effects of extraction on water levels in these wells will be indistinguishable from background climatic fluctuations which are on the order of 0.3 m for the Site (Section 3.3).

#### 5.4 Source Water Protection Policies

Chapter 14 of the Grand River Source Protection Plan (SPP) contains policies which apply to significant activities occurring in, or proposed for, WHPAs in the County of Brant. These policies protect the municipal aquifer from contamination related to activities occurring on properties within the WHPAs.

As indicated in Section 2.3, WHPA-C (2 to 5-year time of travel) and WHPA-D (5 to 25-year time of travel) for the Airport Well intersect the Site (**Figure 3**). The vulnerability score for the WHPA-C at the Site is 8; the score for the WHPA-D is 4.

Source Protection Policies exist for specific activities which could be proposed for the WHPA-C portion of the Site. These activities include:

- Operating a waste disposal site;
- Installation of sewage holding tanks; and,
- Handling/storage of certain industrial chemicals.

As none of the above activities are proposed for the Site, the proposed pit meets all the requirements of the Source Protection Plan. From a Source Protection Plan perspective, MTE predicts that the proposed extraction at the Site will not adversely affect Municipal Water Supply Wells.

A Section 59 Notice under Part IV of the Clean Water Act will likely be required to accompany any Planning Act or Building Permit application submitted to the County of Brant to confirm the above details.

#### 5.5 Groundwater Quality

Beyond the specific activities considered in the SPP, all human activity has the potential to impact groundwater quality. Potential groundwater quality impacts and remedial measures are discussed below. Through the implementation of the contingency measures (described below) and the implementation of the monitoring program (Section 6.0), MTE predicts that the proposed extraction at the Site will not adversely affect groundwater quality or quantity.

#### 5.5.1 Chemical Storage and Handling

Aggregate extraction activities are likely to require the use of heavy equipment on ground that is in direct contact with the exposed aquifer. As such there is some potential for petroleum hydrocarbons (e.g. fuel or lubricants) to impact shallow groundwater.

In accordance with the Prescribed Conditions developed to support the Aggregate Resources Act, a spills contingency plan will be developed prior to Site preparation. The plan will address:

Secondary containment and traffic control for chemical storage and handling;

- Chemical storage security such as locks and controlled Site access;
- Required contents of spill response kits such as containment booms, drain covers, etc.;
- Spill response procedures;
- Spill reporting protocols;
- Staff training; and
- Documentation.

#### **5.5.2 Thermal Impacts**

In the rehabilitated condition a pit pond will be created which has the potential to increase the temperature of the groundwater it interacts with. To minimize these thermal impacts, the pit pond will be designed to have steep sides that reduces shallow areas which may have elevated water temperature.

The long-term monitoring program (Section 6.0) will include continuous groundwater temperature monitoring using data loggers.

#### 5.6 Cumulative Effects

Approximately 1.6 ha of the northern portion of the Site is located within the Whitemans Creek Subwatershed. The portion of the Site that falls within the Whitemans Creek covers <0.5% of the ~40,000 ha watershed. The Whitemans Creek subwatershed is designated by the GRCA as an Aggregate Resource Priority Subwatershed. Given this designation, an assessment of cumulative effects was undertaken following the outline provided in the Cumulative Effects Assessment (Water Quality and Quantity) Best Practices Paper for Below Water Sand and Gravel Extraction Operations in Priority Subwatersheds in the Grand River Watershed (GRCA, 2010) hereby referred to as the 'Best Practices Paper'.

The GRCA defines cumulative effects as "the combined environmental impacts or potential environmental impact of one or more development activities, including natural resource utilization or extraction, in a defined area over a particular time period" (GRCA, 2010). The Best Practices Paper outlines the approach to assess cumulative effects assessment on a local and subwatershed scale taking into account potential cumulative effects on groundwater and surface water quantity and quality (including potential temperature effects) from the proposed extraction.

MTE's cumulative impact assessment considered the effects from the proposed expansion and the existing Brantford Pit. Cumulative drawdown effects from these two operations will be indistinguishable from climatic fluctuations. Potential groundwater quality impacts will be managed through best management practices (e.g. a comprehensive and proven spills contingency plan) and rehabilitation plans (e.g. steep sided pit pond to mitigate thermal impacts). No cumulative effects with other active pits within the Whiteman's Creek subwatershed are predicted.

A detailed cumulative effects assessment is presented in **Appendix G**.

# 6.0 Monitoring Program

Groundwater monitoring wells (MW1-18, MW2-18, and MW3-18) and private wells (PW1) will continue to be instrumented with data loggers that will record a water level and temperature every hour. Additionally, manual water levels from all on-Site monitoring wells and the on-Site private well should be collected seasonally (Spring, Summer, and Fall) in order to calibrate the data logger data and to ensure they are functioning as intended.

MTE recommends the monitoring program continue to record water levels as described above to ensure shallow groundwater conditions are not adversely affected for a period of no less than two years following commencement of below-water-table extraction. If after this two-year period, below-water-table extraction is not causing any well interferences then the monitoring frequency can be re-evaluated.

#### 7.0 Conclusions

Based on the above hydrogeological investigation, MTE offers the following conclusions:

- Increases in evapotranspiration and decreases in runoff and infiltration are directly
  related to the construction of the pit pond. The increase in ET at the Site resulting from
  the construction of the pit pond will result in a relatively minor increase in ET occurring
  locally across the water-table aquifer and is not interpreted to adversely affect the ability
  of the water-table aquifer to supply water to private or municipal supply wells.
- The proposed on-Site pit pond will be an extension of the existing pit pond from the
  active Lafarge owned pit to the east which will create a large volume of stored water that
  will buffer the effects of on-Site extraction limiting any potential drawdown in the
  unconfined aquifer.
- The estimated drawdown (0.01m) caused by extraction at the Site will be indistinguishable from background climatic fluctuations in the water-table. The zone-ofinfluence created by below-water-table extraction utilizing sub-aqueous extraction methods (i.e. no dewatering) will not pose a quantity threat to private or municipal water supplies.
- As the pit pond is established, the water-table will flatten locally resulting in a reduction
  of the horizontal hydraulic gradient across the Site. The established horizontal hydraulic
  gradient is relatively flat; a further flattening of the water-table locally is not interpreted to
  adversely affect the ability of the aquifer to supply water to private or municipal water
  supply wells.
- Policies to protect drinking water quality are contained in the Grand River Source Protection Plan. The proposed pit meets all the requirements on the Plan. From a Source Protection Plan perspective, MTE predicts that the proposed extraction at the Site will not adversely affect Municipal Water Supply Wells.
  - To mitigate any potential to impacts to groundwater quality (e.g. petroleum hydrocarbons and increasing groundwater temperatures) operational best management practices (e.g. prescribed spill plan) and rehabilitation plans (e.g. steep sided pit pond) will be incorporated into the plan for the proposed pit. Through the implementation of the contingency measures and the implementation of the monitoring program, MTE predicts that the proposed extraction at the Site will not adversely affect groundwater quality or quantity.

 Other than the existing Brantford Pit, no cumulative effects with active pits within the Whiteman's Creek subwatershed are predicted.

#### 8.0 Recommendations

- The data loggers installed in MW1-18, MW2-18, MW3-18, and PW1 remain in place to collect a water level every hour.
- Manual groundwater levels be collected from MW1-18, MW2-18, MW3-18, and PW1 on a seasonal basis (Spring Summer, and Fall) to calibrate the data logger data and ensure they are functioning as intended.
- An annual groundwater monitoring report be prepared by a Qualified Professional (Professional Geoscientist or exempted Professional Engineer) that at a minimum summarizes the groundwater monitoring data and assesses effects (if any) from the proposed below-water-table extraction.
- Groundwater monitoring continues for the first two years of below-water-table operations. If after this two-year period, below-water-table extraction is not causing any well interferences, then the monitoring frequency can be re-evaluated by a Qualified Professional (Professional Geoscientist or exempted Professional Engineer).
- Lafarge develop a Best Management Plan (BMP) for on-Site fuel handling in order to minimize the risk of contaminant release. Fuels, oils, and all potentially hazardous materials will be stored in approved above ground containment facilities in accordance with the BMP and current regulatory requirements. The quantity of stored materials will be kept to a minimum and on-Site personnel will be trained in the required actions in the event of accidental release.
- Monitoring wells that may be destroyed by below-water-table extraction activities shall be decommissioned according to O.Reg. 903.
- Monitoring wells that may be damaged by non-extraction activities should be replaced according to O.Reg.903.
- Prior to extraction, Lafarge completes a private well inventory within 500 m of the Site with results being included in the first annual monitoring report along with recommendations for monitoring.

#### 9.0 Limitations

Services performed by **MTE Consultants Inc.** (MTE) were conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the Environmental Engineering & Consulting profession. No other warranty or representation expressed or implied as to the accuracy of the information, conclusions or recommendations is included or intended in this report.

Any use which a third party makes of this report, or any reliance on, or decisions to be made based upon it, are the responsibility of such third parties. MTE accepts no responsibility for liabilities incurred by or damages, if any, suffered by any third party as a result of decisions made or actions taken, based upon this report. Others with interest in the Site should undertake their own investigations and studies to determine how or if the condition affects them or their plans.

It should be recognized that the passage of time may affect the views, conclusions and recommendations (if any) provided in this report because environmental conditions of a property can change. Should additional or new information become available, MTE recommends that it be brought to our attention in order that we may re-assess the contents of this report.

All of which is respectfully submitted,

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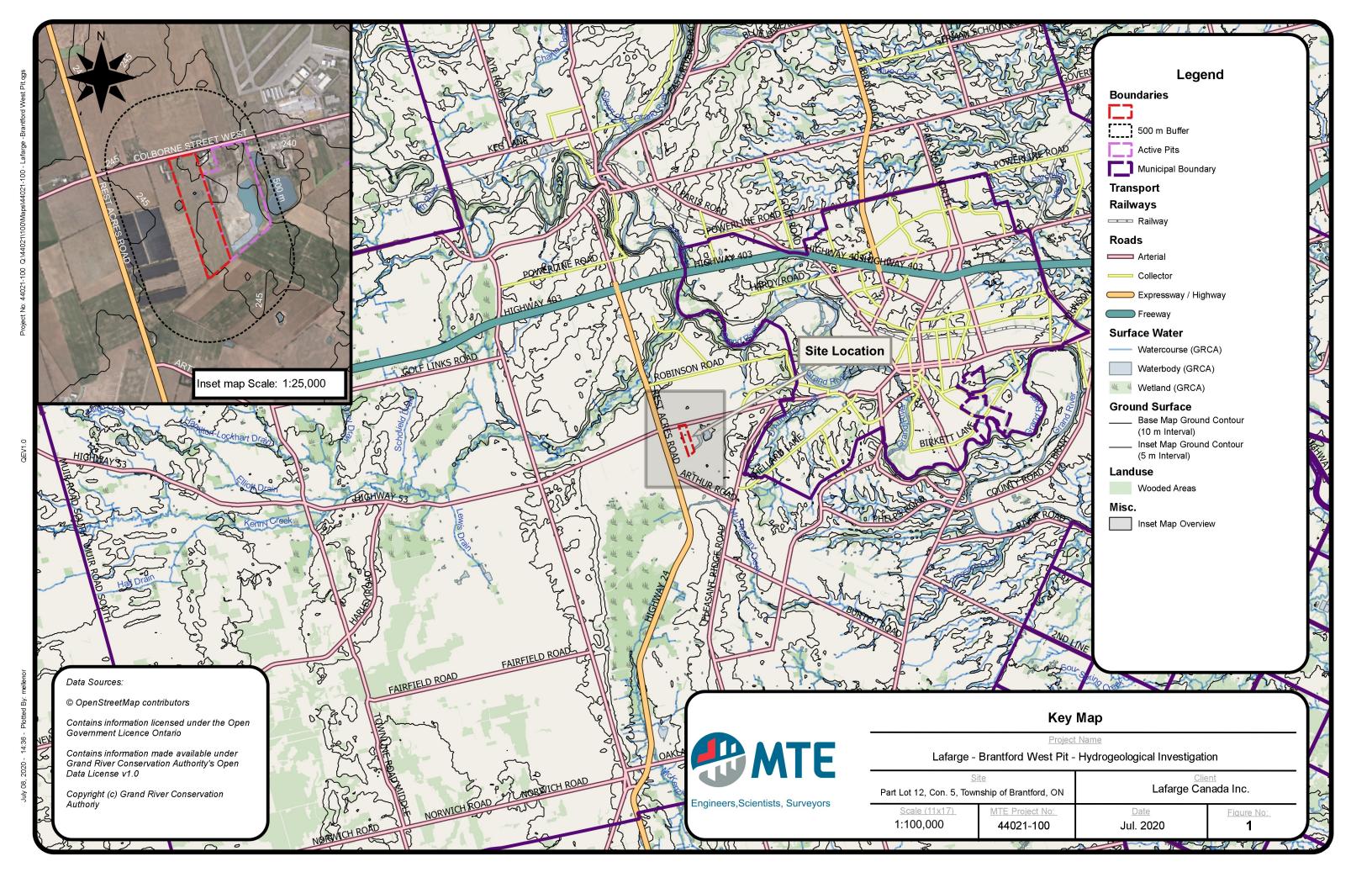
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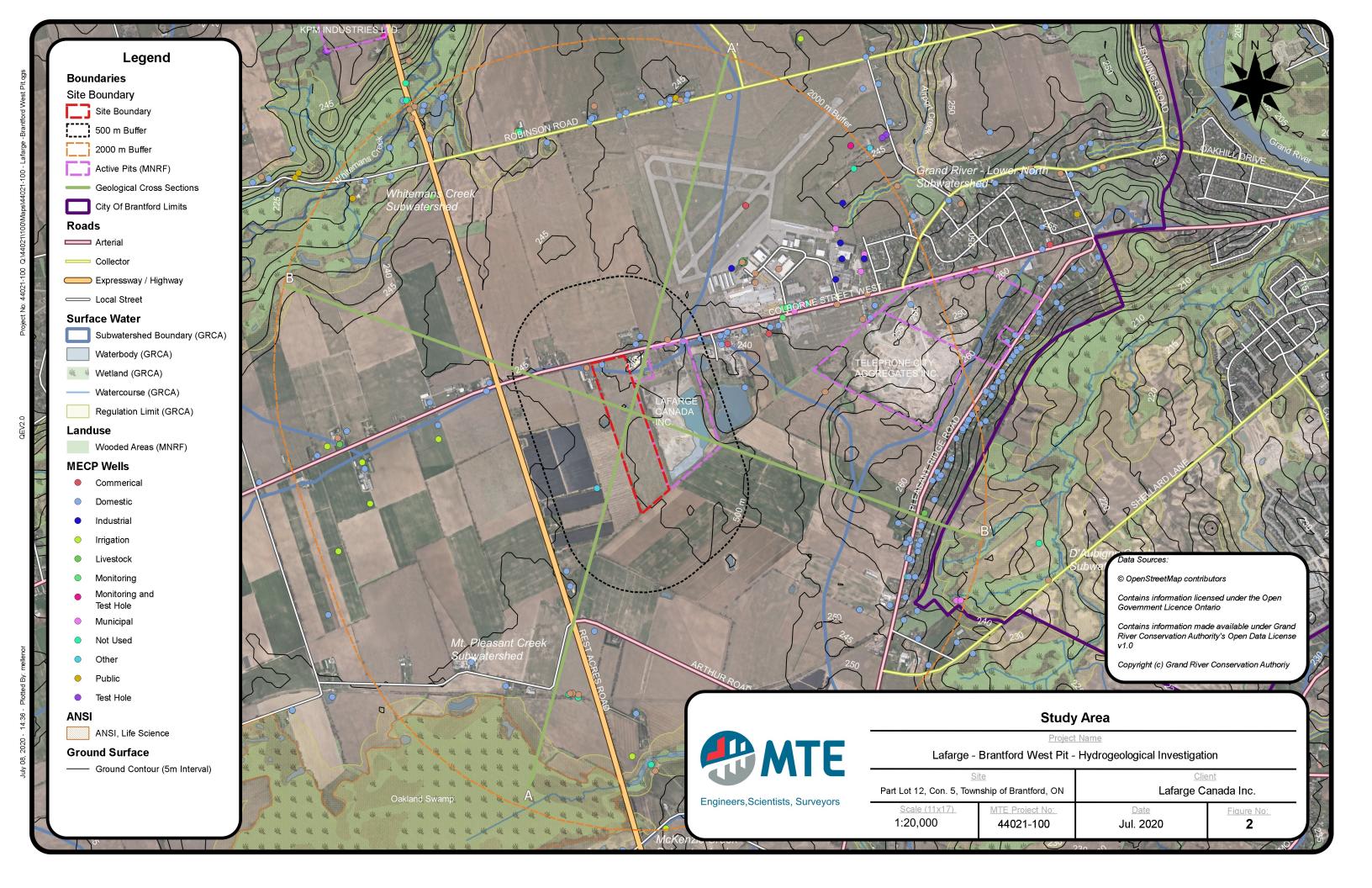
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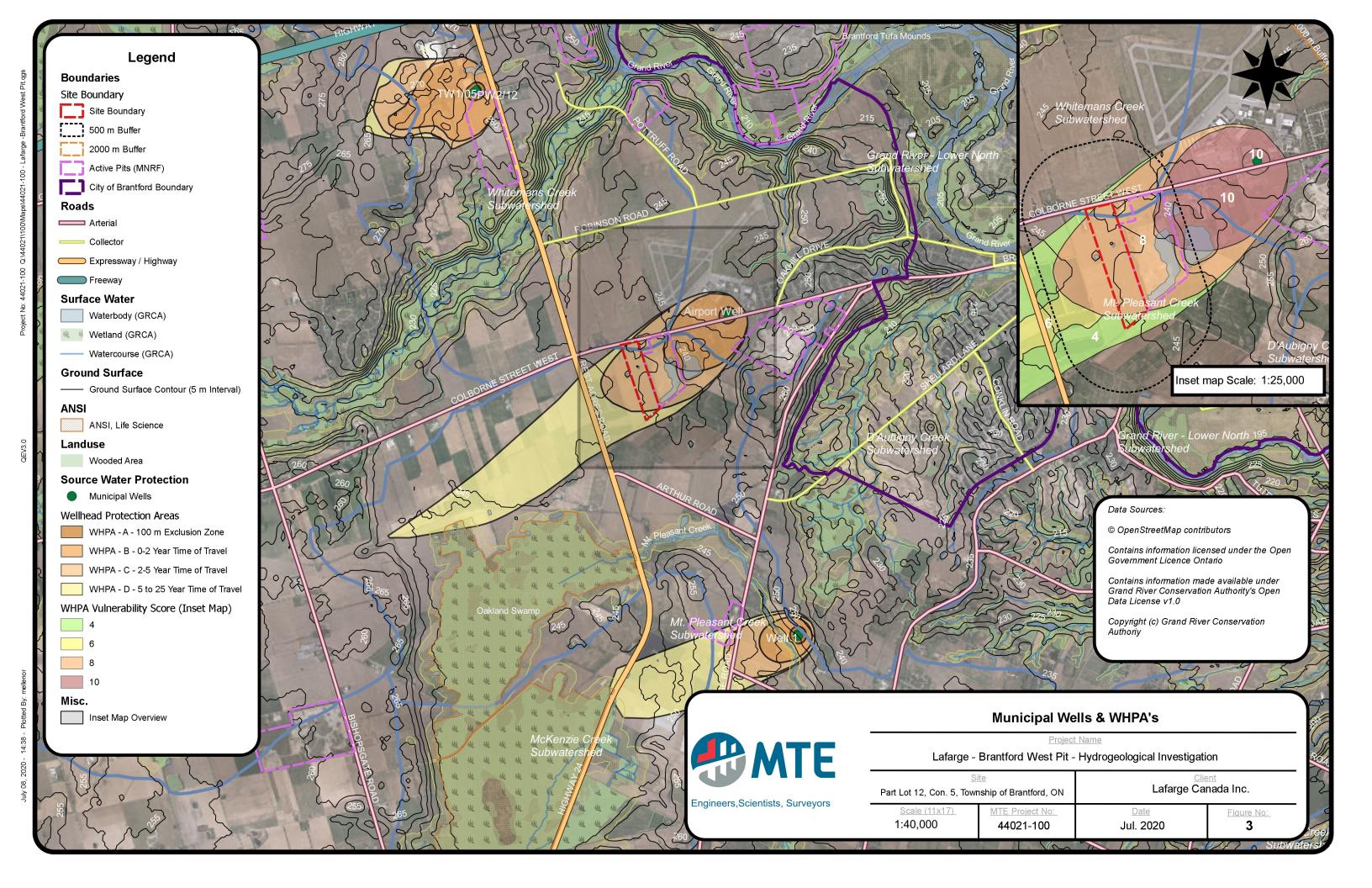
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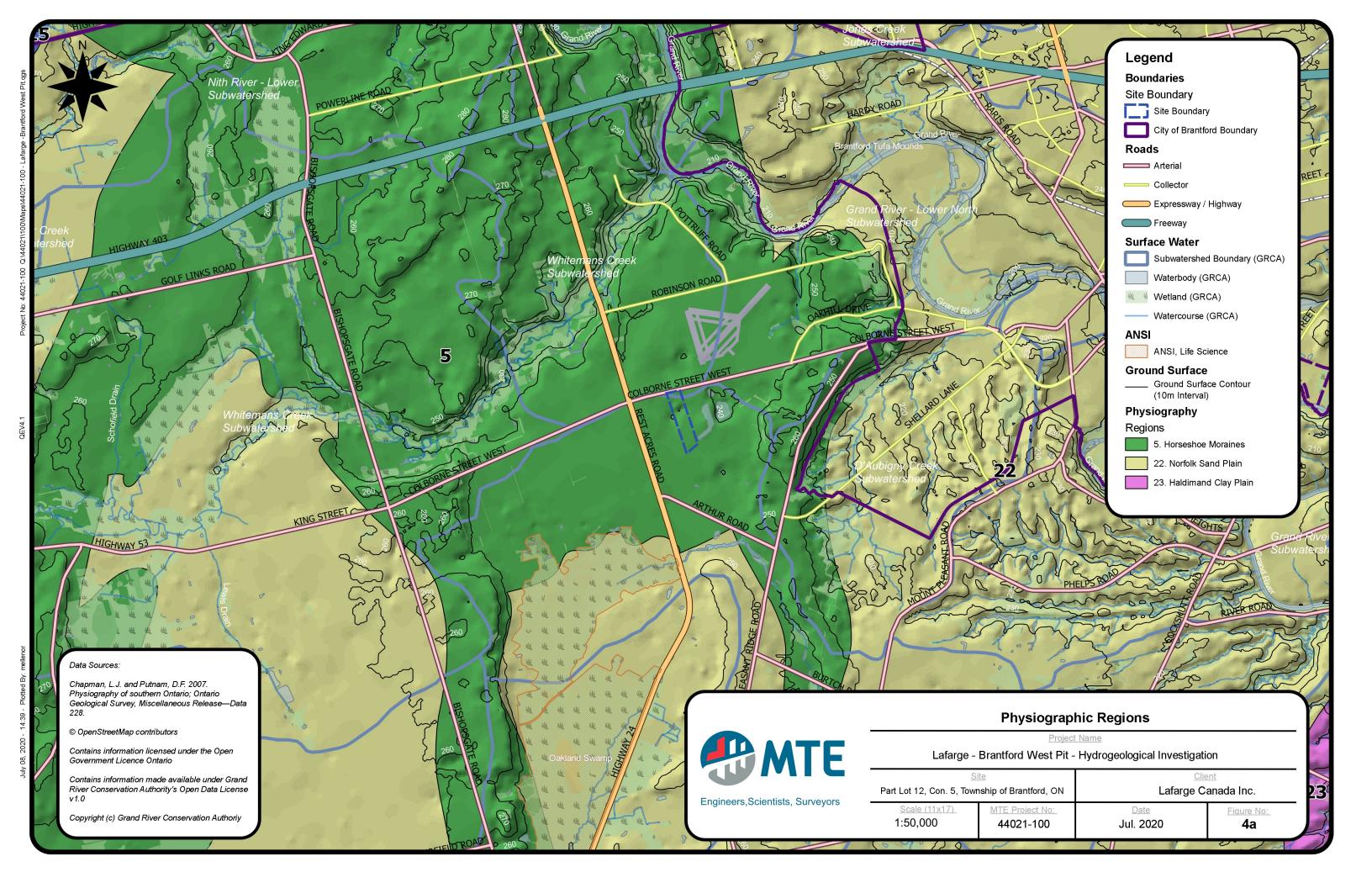
# **Figures**

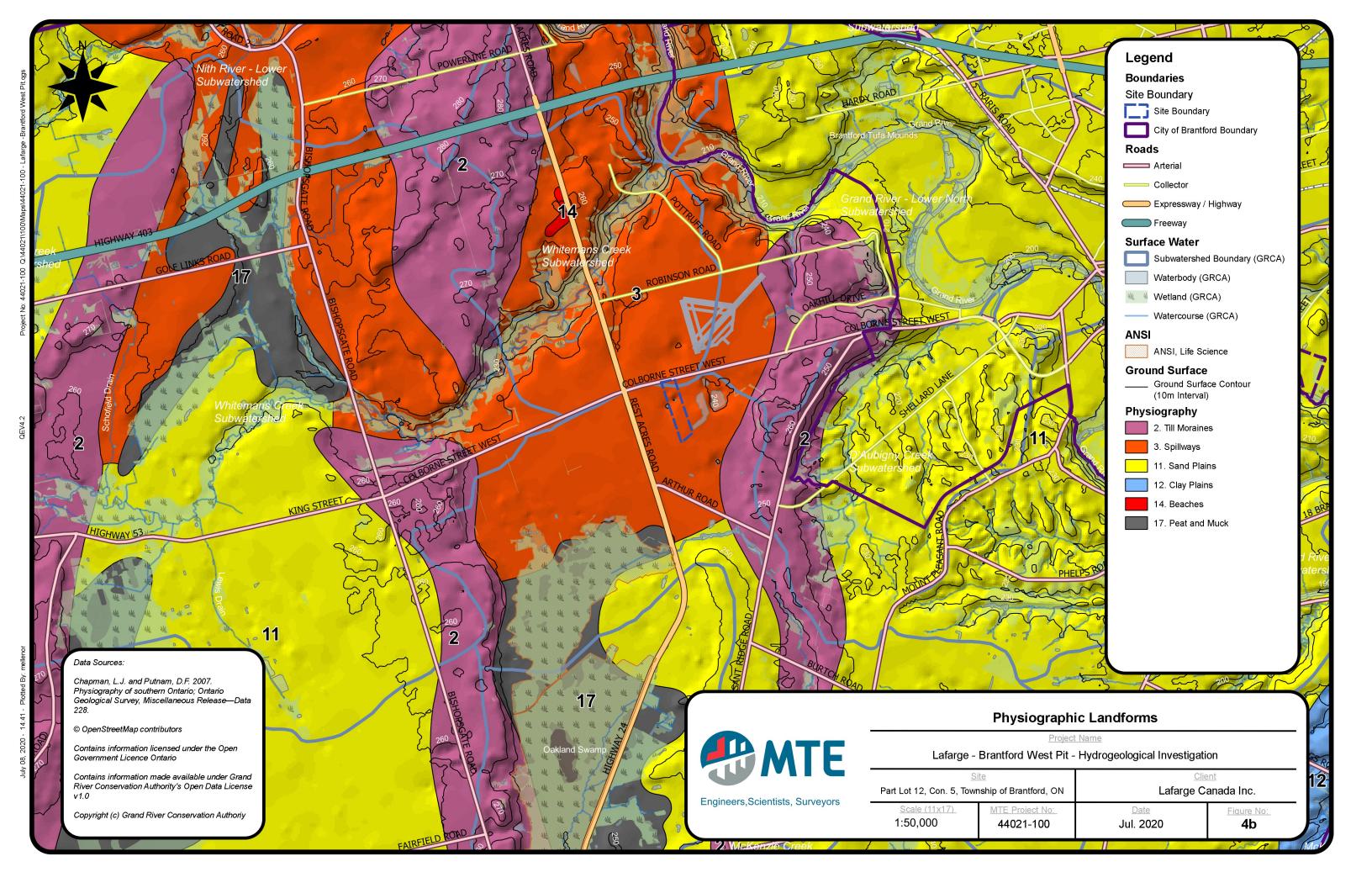


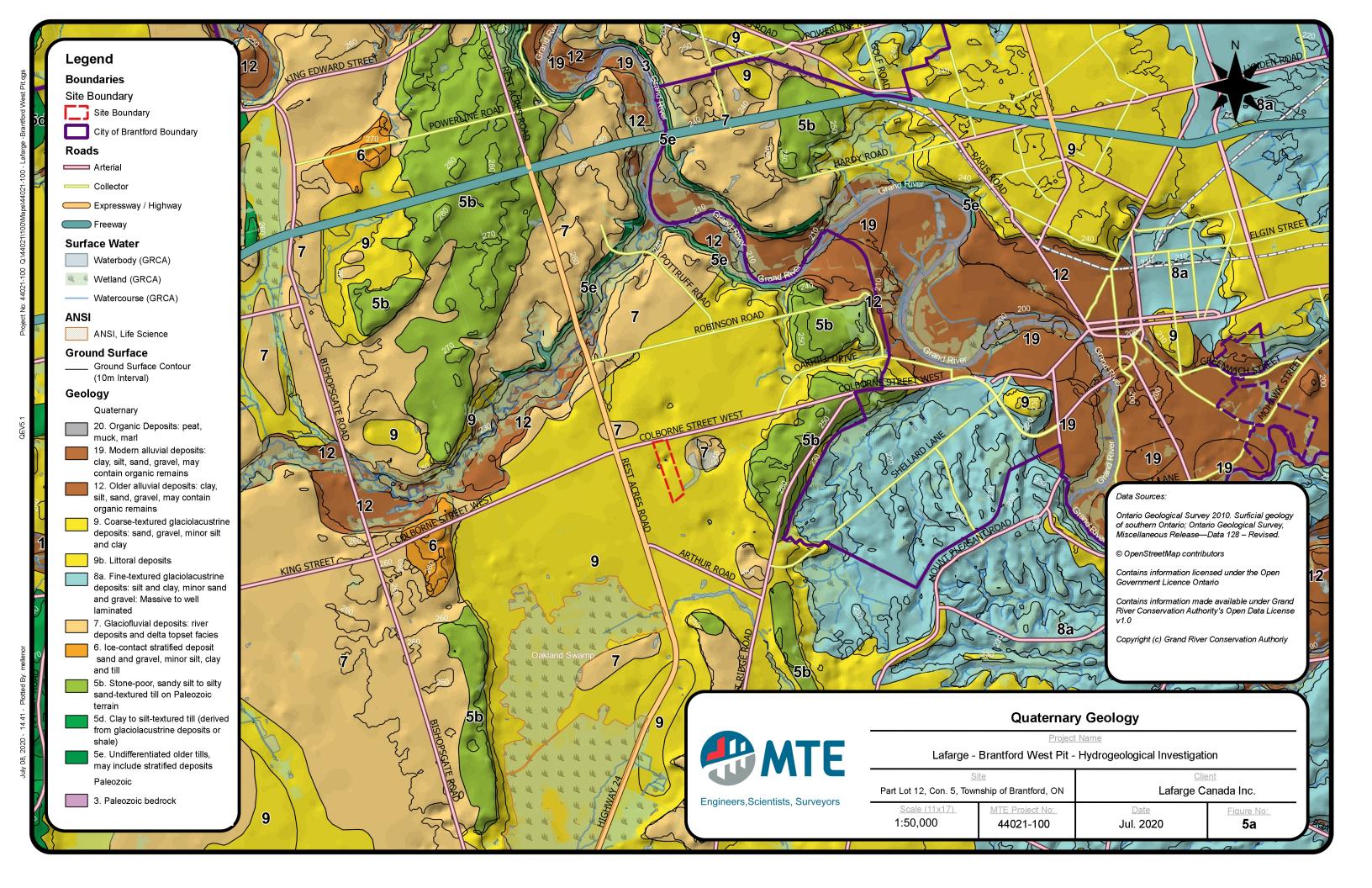


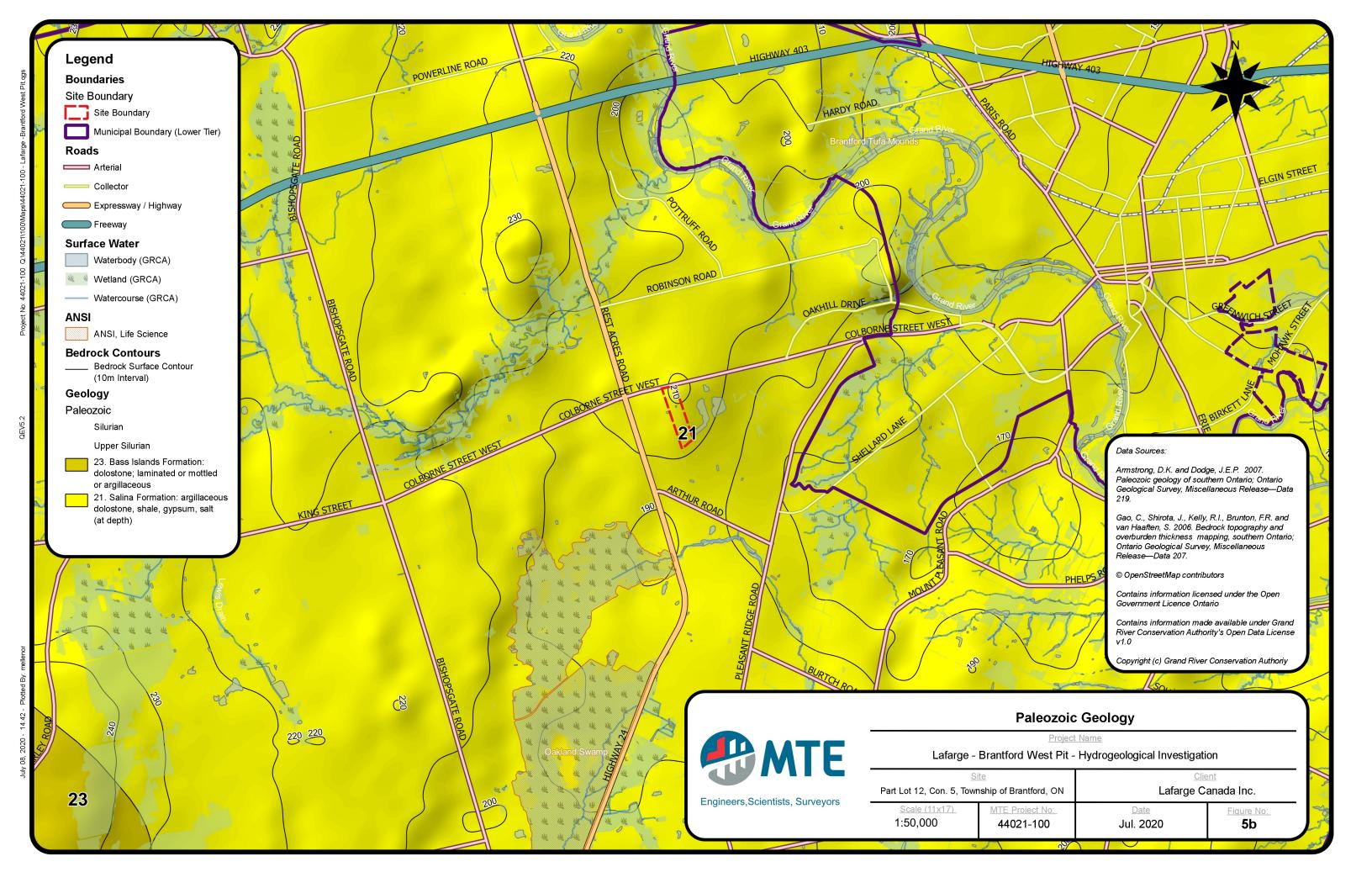




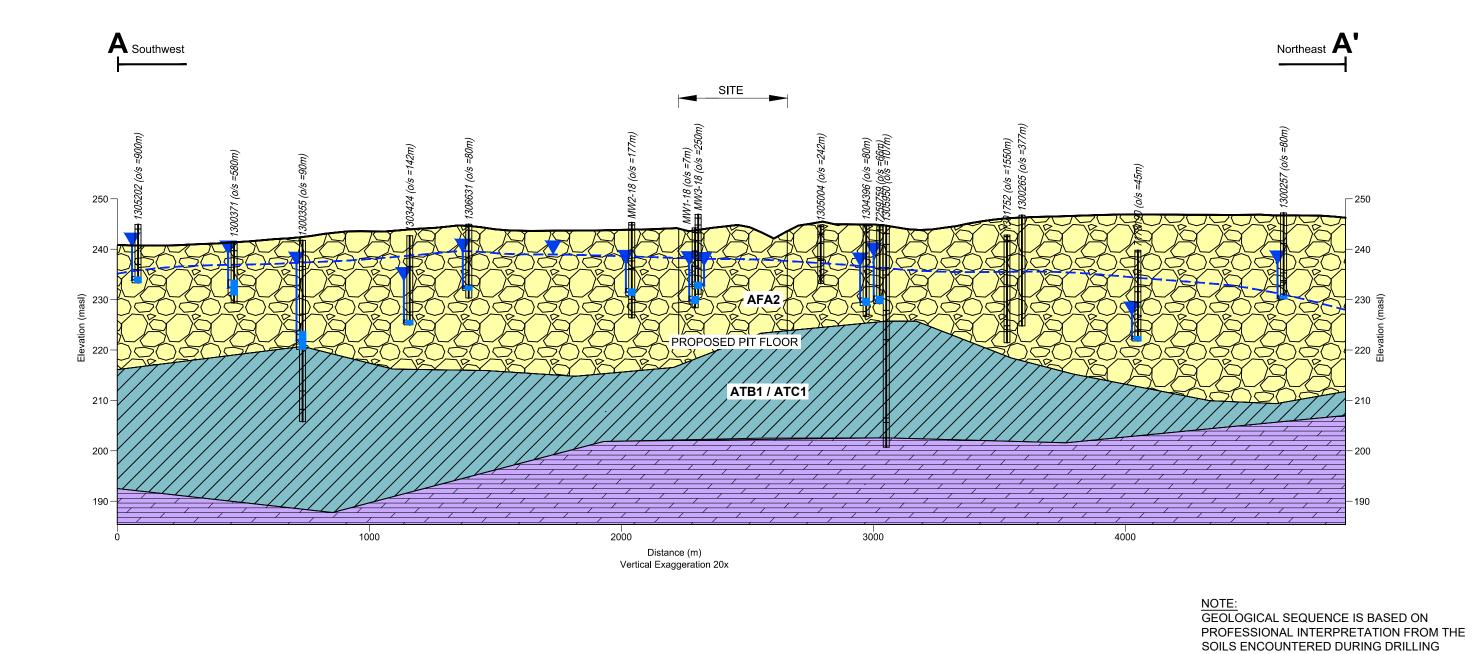




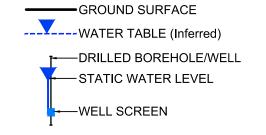








#### LEGEND



SILTY SAND TILL SAND

CLAY

SHALE

AFA2 = GRAND RIVER AND EQUIVALENT AQUIFER

ATB1 = PORT BRUCE PHASE AQUITARD

ATC1 = MAIN CATFISH CREEK TILE

# Figure 6a CROSS-SECTION A-A'

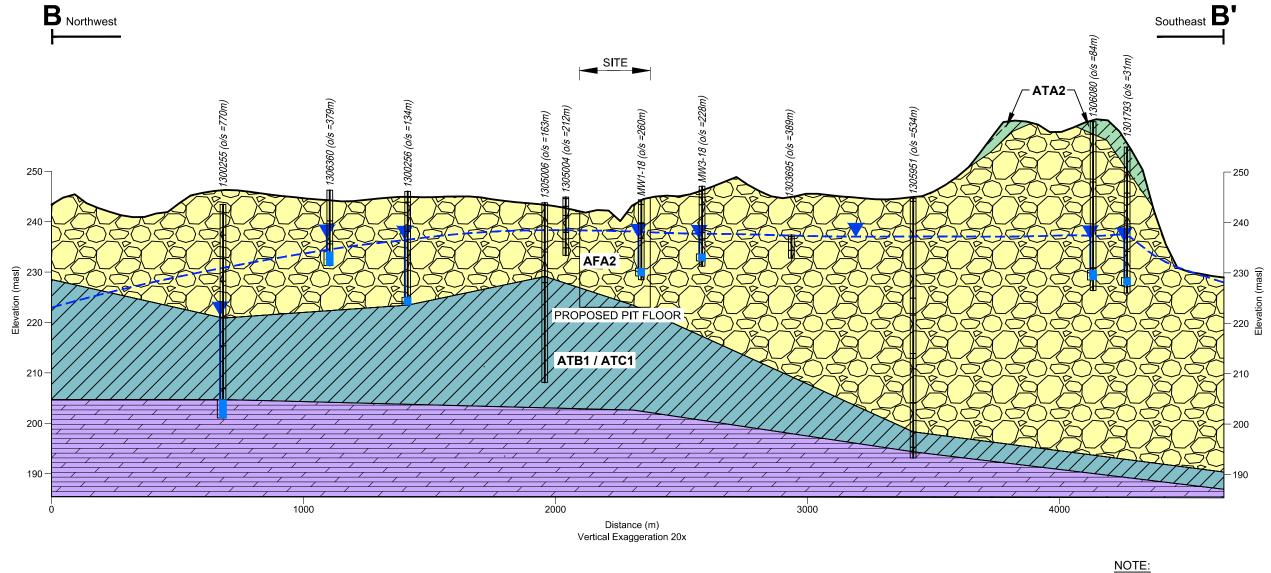
BETWEEN LOCATIONS.

AND/OR REPORTED IN MECP WELL LOGS. ACTUAL GEOLOGICAL CONDITIONS CAN VARY



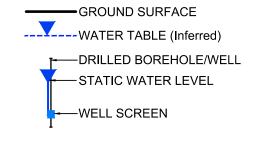
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Part Lot 12, Con. 5, Township of Brantford, ON		Client Lafarge Canada Inc.		
<u>Scale.</u>	MTE Project No.	<u>Date</u>	<u>Layout No.</u>	
As Noted	44021-100	July 2020	EV1.1	



# GEOLOGICAL SEQUENCE IS BASED ON PROFESSIONAL INTERPRETATION FROM THE SOILS ENCOUNTERED DURING DRILLING AND/OR REPORTED IN MECP WELL LOGS. ACTUAL GEOLOGICAL CONDITIONS CAN VARY BETWEEN LOCATIONS.







ATA2 = WENTWORTH TILL AQUITARD

AFA2 = GRAND RIVER AND EQUIVALENT AQUIFER

ATB1 = PORT BRUCE PHASE AQUITARD

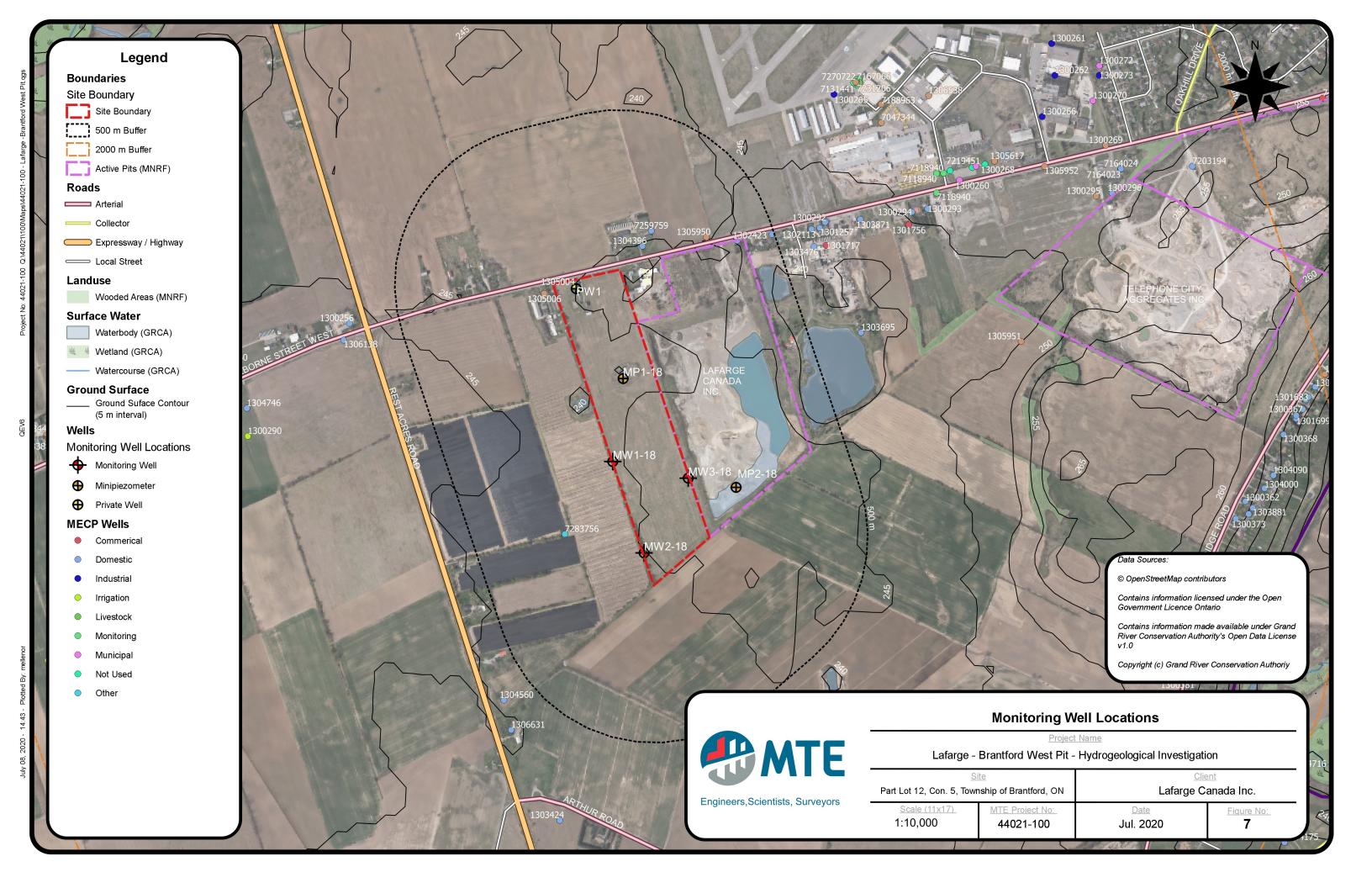
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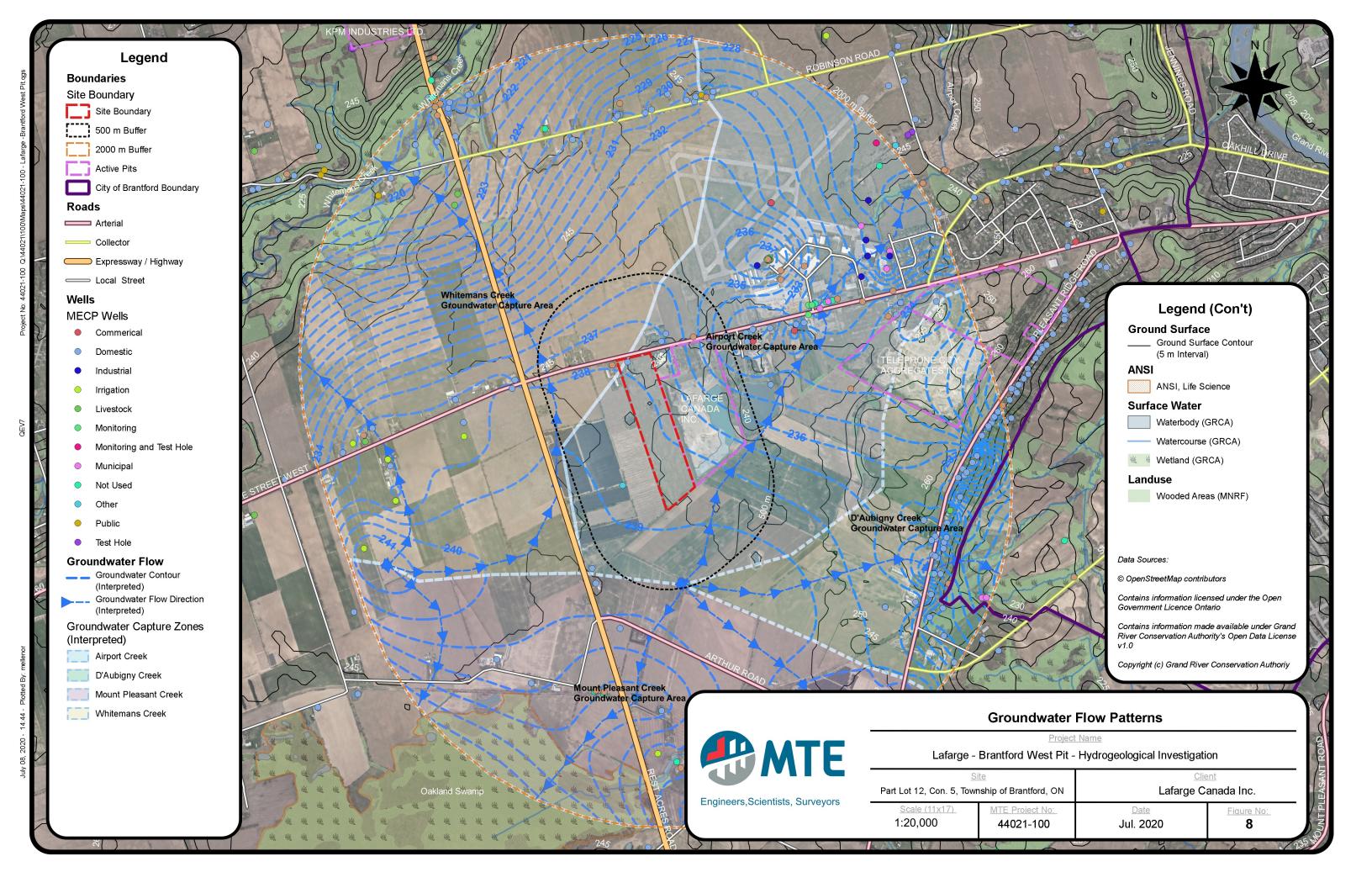
# Engineers, Scientists, Surveyors

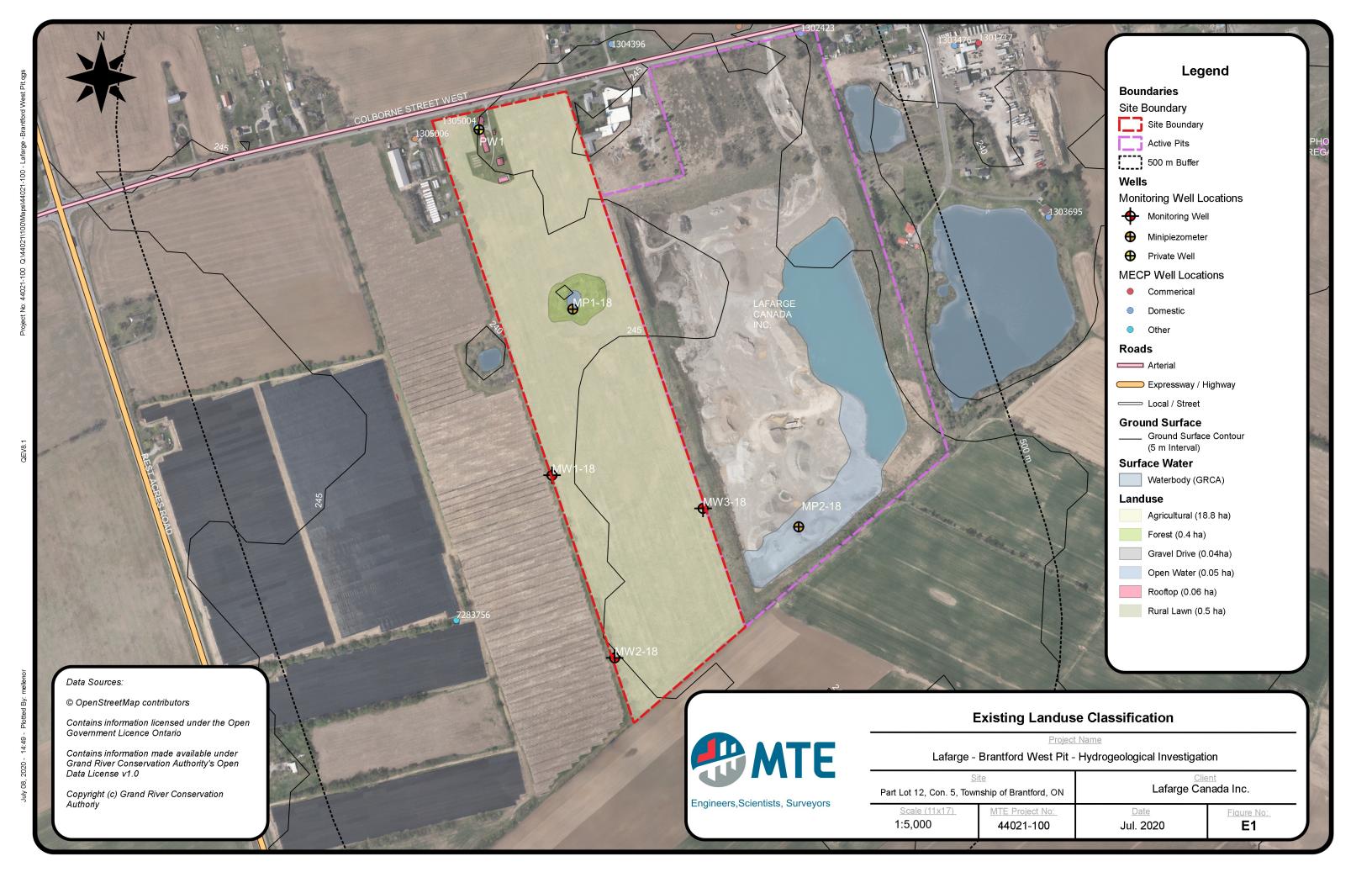
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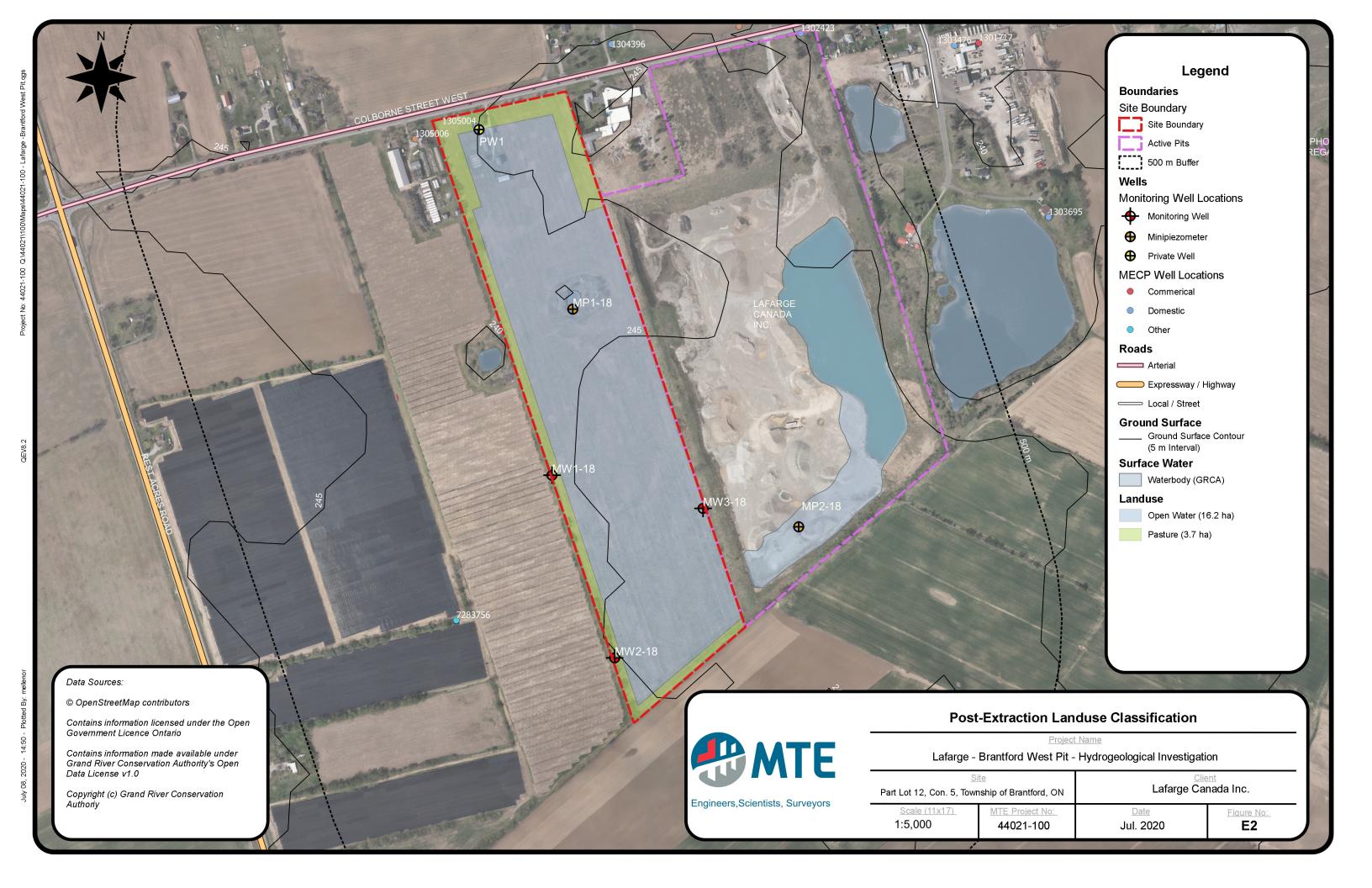
Lafarge -	<b>Brantford</b>	West Pit -	Hydroge	eological	Investigati	ion

Site Part Lot 12, Con. 5, Township of Brantford, ON		<u>Client</u> Lafarge Canada Inc.		
Scale.	MTE Project No.	<u>Date</u>	<u>Layout No.</u>	
As Noted	44021-100	July 2020	EV1.2	









#### **Tables**



#### **Table 1a: Groundwater Level (mBTOC)**



Date	MW1-18	MW2-18	MW3-18	MP1-18	MP2-18	PW1
8/20/2018	7.07	7.72	9.93	1.43	0.63	-
8/31/2018	7.11	7.74	9.98	0.55	0.65	8.2
10/17/2018	7.28	7.88	10.18	0.72	0.81	8.35
5/24/2019	6.61	7.2	9.51	0.1	*	7.71
8/14/2019	6.83	7.45	9.74	0.26	*	7.88
11/14/2019	7.05	7.7	9.92	**	*	8.16
6/11/2020	6.9	7.51	9.77	0.36	*	8.01

Table 1b: Groundwater Elevations (mAMSL)

Date	MW1-18	MW2-18	MW3-18	MP1-18	MP2-18	PW1
8/20/2018	238.26	238.51	238.21	237.19	238.07	
8/31/2018	238.22	238.49	238.16	238.08	238.05	237.81
10/17/2018	238.05	238.35	237.96	237.91	237.89	237.66
5/24/2019	238.72	239.03	238.63	238.53	*	238.3
8/14/2019	238.5	238.78	238.4	238.37	*	238.13
11/14/2019	238.28	238.53	238.22	**	*	237.87
6/11/2020	238.43	238.72	238.37	238.26	*	237.99

Table 1c: Groundwater Level (mBGS)

Date	MW1-18	MW2-18	MW3-18	MP1-18	MP2-18	PW1
8/20/2018	6.07	6.86	8.79	na	na	
8/31/2018	6.10	6.88	8.84	na	na	7.71
10/17/2018	6.28	7.02	9.04	na	na	7.86
5/24/2019	5.60	6.33	8.37	na	*	7.22
8/14/2019	5.83	6.59	8.6	na	*	7.39
11/14/2019	6.05	6.84	8.78	na	*	7.68
6/11/2020	5.89	6.65	8.63	na	*	7.52

Notes: mBTOC = metres below top of casing

mAMSL = metres above mean sea level mBGS = metres below groundsurface

- = not measured

\* = not measured, minipiezometer destroyed

\*\* = mini-piezometer frozen

na = not applicable.

#### Table 2: Hydraulic Conductivity Summary (m/Sec)



Well	Hydraulic Conductivity (m/Sec)
MW1-18	9.16E-04
MW2-18	9.21E-04
MW3-18	3.17E-04
Geomean	6.44E-04

## Table 3: Groundwater Quality Summary - August 14, 2019



Analyte	Units	Lower Limit	ODWS/(ODWS ao)	RDL	MW2-18	MW3-18
		Phy	sical Tests			
Alkalinity	mg/L	30	(500)	10	252	236
Colour	CU	-	(5)	2	41	90.4
Conductivity	umhos/cm	-	-	3	694	671
Hardness	mg/L	80	(100)	0.5	312	304
pH Total Dissolved Solids	pH units	6.5	(8.5) (500)	0.1 20	7.89	7.9 464
Turbidity	mg/L NTU	-	(500)	0.1	455 97.9	244
Tarbiaity	NIO	Δnions	and Nutrients	0.1	37.3	244
Ammonia-Total	mg/L	-	-	0.01	0.016	<0.01
Chloride	mg/L	-	(250)	0.5	35.3	28.4
Fluoride	mg/L	-	1.5	0.02	0.097	0.073
Nitrate	mg/L	-	10	0.02	1.4	10
Nitrite	mg/L	-	1	0.01	0.126	0.013
Orthophosphate	mg/L	-	-	0.003	<0.003	<0.003
Sulfate	mg/L	-	(500)	0.3	74.2	53.3
Al	/1		s - Dissolved	0.005	0.005	0.007
Aluminum	mg/L	-	(0.1) 0.006	0.005 0.0001	<0.005 0.00033	0.007 0.00037
Antimony Arsenic	mg/L mg/L	-	0.006	0.0001	0.00033	0.00037
Barium	mg/L	-	1	0.0001	0.00002	0.00017
Benzene	ug/L	-	1	0.5	<0.5	<0.5
Beryllium	mg/L	-	-	0.0001	<0.0001	<0.0001
Bismuth	mg/L	1	-	5e-005	<5e-005	<5e-005
Boron	mg/L	1	5	0.01	0.014	0.013
Cadmium	mg/L	-	0.005	5e-006	<5e-006	6.4e-006
Calcium	mg/L	-	-	0.05	83.9	83.6
Chromium	mg/L	-	0.05	0.0005	<0.0005	<0.0005
Cobalt	mg/L mg/L	-	(1)	0.0001 0.0002	0.0006 0.00025	0.00032 0.00196
Copper Iron	mg/L		(0.3)	0.0002	0.00025	<0.00196
Lead	mg/L	_	0.01	5e-005	<5e-005	0.000171
Magnesium	mg/L	-	-	0.005	24.9	23.1
Manganese	mg/L	-	(0.05)	0.0005	0.163	0.127
Molybdenum	mg/L	-	-	5e-005	0.00151	0.000507
Nickel	mg/L	-	-	0.0005	0.00265	0.001
Phosphorus	mg/L	-	-	0.05	<0.05	< 0.05
Potassium Selenium	mg/L mg/L	-	0.05	0.05 5e-005	1.63 0.000195	1.51 0.00452
Silicon	mg/L	-	-	0.05	4.7	4.13
Silver	mg/L	_	-	5e-005	<5e-005	<5e-005
Sodium	mg/L	-	20/(200)	0.05	22.2	15.2
Strontium	mg/L	-	-	0.001	0.55	0.304
Thallium	mg/L	-	-	1e-005	4e-005	1.9e-005
Tin	mg/L	-	-	0.0001	<0.0001	<0.0001
Titanium	mg/L	-	-	0.0003	<0.0003	<0.0003
Tungsten Uranium	mg/L mg/l	-	0.02	0.0001 1e-005	<0.0001 0.000715	<0.0001 0.000504
Vanadium	mg/L mg/L	-	U.UZ -	0.0005	<0.000715	< 0.000504
Zinc	mg/L		(5)	0.0003	0.0014	0.0482
Zirconium	mg/L	-	-	0.0003	<0.0003	<0.0003
		Petroleu	m Hydrocarbons			
Chrom. to baseline at nC50	-	-	-		yes	yes
F1 (C6-C10)	ug/L	-	-	25	<25	<25
F1-BTEX	ug/L	-	-	25	<25	<25
F2 (C10-C16)	ug/L	-	-	100 250	<100	<100
F3 (C16-C34) F4 (C34-C50)	ug/L ug/L	-	-	250 250	<250 <250	<250 <250
Total Hydrocarbons (C6-C50)	ug/L ug/L	-	-	370	<370	<370
Total Hydrodalbons (00-000)	ug/∟		VOC	070	\01U	\U10
Ethylbenzene	ug/L	-	140/(2.4)	0.5	<0.5	<0.5
m,p-Xylenes	ug/L	-	-	0.4	<0.4	<0.4
o-Xylene	ug/L	-		0.3	<0.3	<0.3
Toluene	ug/L	-	60/(24)	0.5	<0.5	<0.5
Total Xylenes	ug/L	-	90/(300)	0.5	<0.5	< 0.5

Notes: ODWS = Ontario Drinking Water Quality Standards

(ODWS ao) = Ontario Drinking Water Quality Standards - aesthetic or operational guideline

VOC = Volatile Organic Carbon

Result exceeds ODWS Health Standard

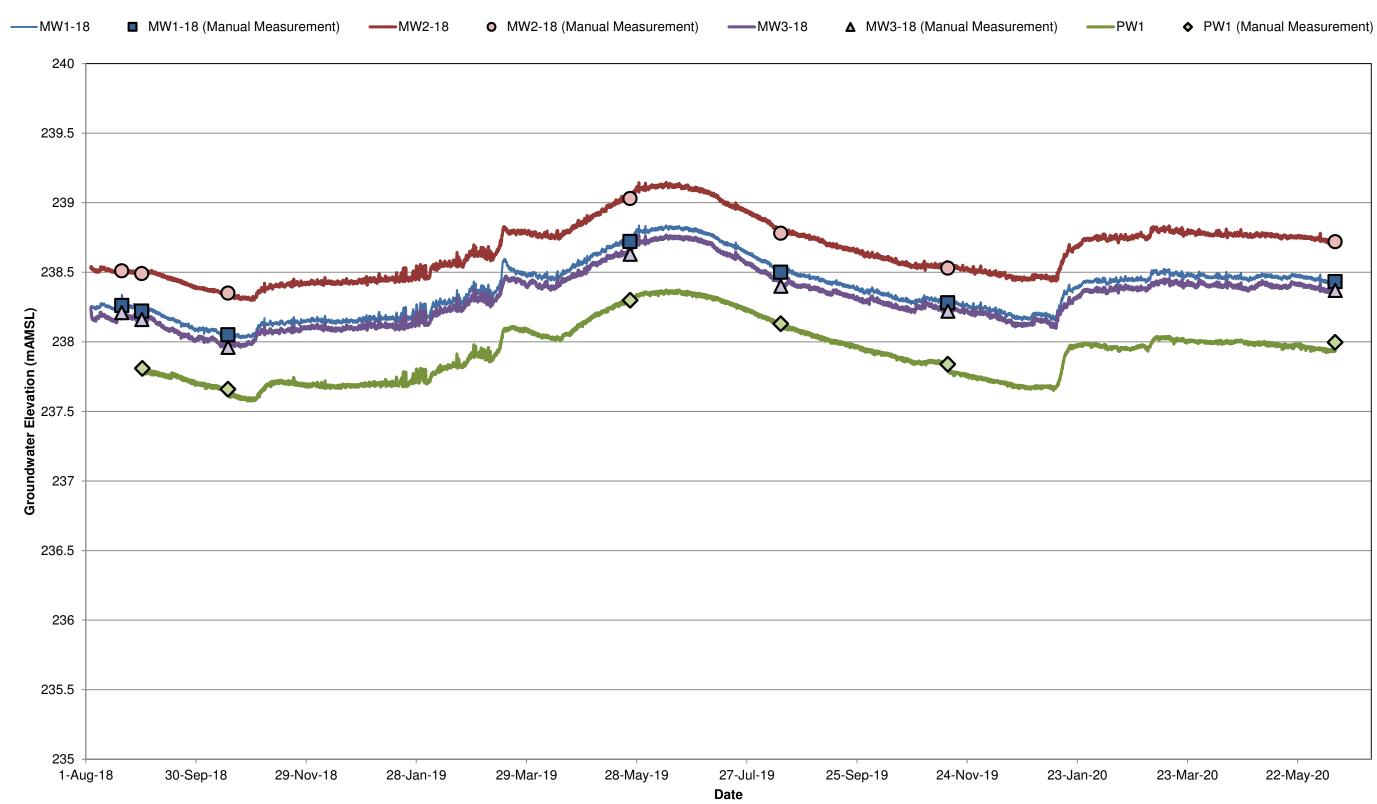
Result exceeds ODWS Aesthetic/Operation Guideline

# Hydrographs





Hydrograph 1: Groundwater Elevations (mAMSL) - Brantford West Pit



## **Appendix A**

## **Borehole Logs**



ID Number: MW1-18

Project Name: Brantford West Pit - Hydrogeological Investigation

Project No: 44021-100
Client: Lafarge Canada

Site Location: 1044 Colbourne St. West

Date Completed: 8/2/2018

**Drilling Contractor:** Altech

Drill Rig: Diedrich 120
Drill Method: HSA

Protective Cover: Monument

Subsurface Profile		Sample				SPT	Moisture			
Depth Scale	Symbol	Soil Description	Elevation (masl) Depth (m)	Number	Туре	Recovery (%)	N-Value • Blows/305mm • 20 40 60 80	Moisture Content % 10 20 30	Well Com	pletion Details
0 2 4 6 8 10 12 14 16 18 20 24 44 16 16 18 20 33 34 44 46 48 50 52 55 56 56 56 56 60 64 64 66 66		Ground Surface  TOPSOIL Dark brown silty TOPSOIL, damp  SAND Light brown fine SAND some silt, trace gravel, damp  SAND and GRAVEL Light brown to brown medium SAND and GRAVEL trace silt and clay, moist to very moist  Pushed stone at 6.7 mBGS  SAND Brown medium to coarse SAND some gravel, trace silt and clay, saturated  Drilling Terminated	244.3 0.0 243.4 0.9 239.7 4.6 236.7 7.6	1 2 3 4 5 6 7 8 9			10 22 30 100 100 24 29 61 37		Sand Pack Bentonite Native Cave Bentonite	50 mm Diameter Screen 200 mm Diameter Borehole

Field Technician: MDE

**Drafted by: MDE** 

Reviewed by: PAG



SWL collected Oct. 17, 2018

Sheet: 1 of 1

ID Number: MW2-18

Project Name: Brantford West Pit - Hydrogeological Investigation

Project No: 44021-100
Client: Lafarge Canada

Site Location: 1044 Colbourne St. West

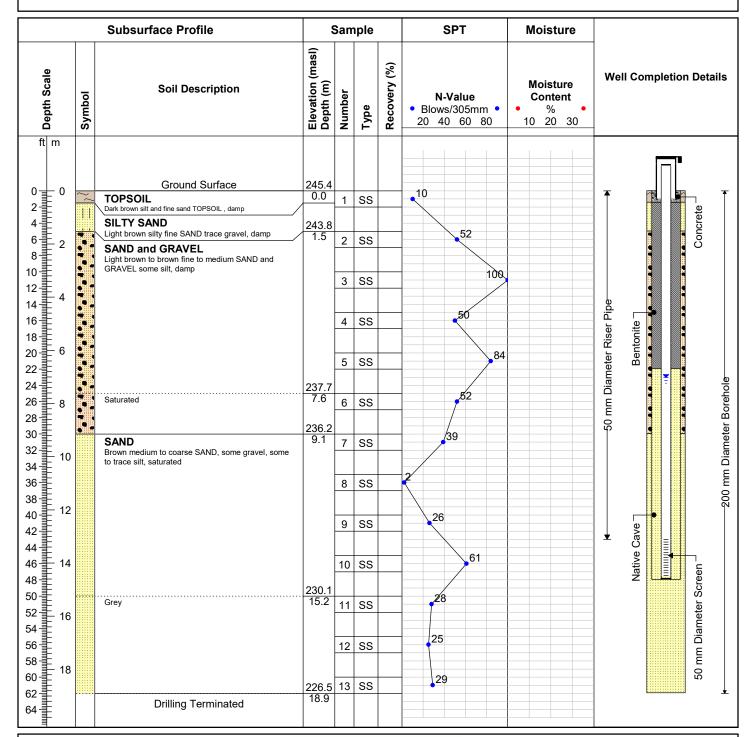
Date Completed: 8/1/2018

**Drilling Contractor:** Altech

Drill Rig: Diedrich 120

Drill Method: HSA

**Protective Cover: Monument** 



Field Technician: MDE

Drafted by: MDE

Reviewed by: PAG



SWL - collected Oct. 17, 2018

Sheet: 1 of 1

ID Number: MW3-18

Project Name: Brantford West Pit - Hydrogeological Investigation

Project No: 44021-100
Client: Lafarge Canada

Site Location: 1044 Colbourne St. West

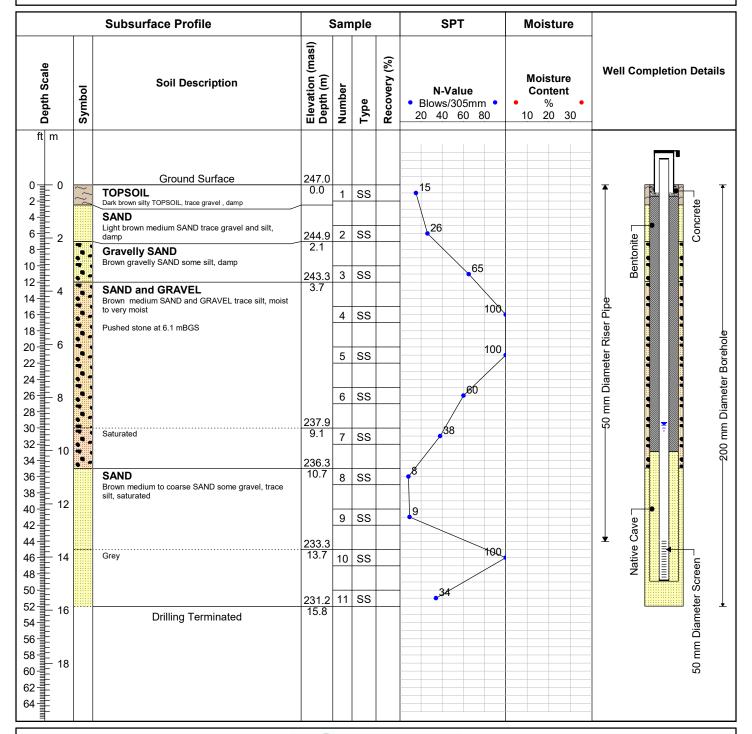
Date Completed: 8/3/2018

**Drilling Contractor:** Altech

Drill Rig: Diedrich 120

Drill Method: HSA

**Protective Cover:** Monument



Field Technician: MDE

Drafted by: MDE

Reviewed by: PAG



SWL - Collected Oct. 17, 2018

Sheet: 1 of 1

## **Appendix B**

#### **MECP Well Records**



JTM/ 1/12 515131/1310 E
19R 4171716101816 N
Elev. $9$ R $0$ B $1$



No 13 RECEIVED 207

JUL 17 1952

GEOLOGICAL BRANCH DEPARTMENT of MINES

Basin 2131 11

The Well Drillers Act Department of Mines, Province of Ontario

Water	Well	Record
-------	------	--------

Water We						
	`own (	or City).		1 110	4NT1-0. NT1-0.R	<b>VD</b>
Date Completed	ll (excludi	ng pump	). F.Z.;	7.65.93	? 	
Pipe and Casing Record			Pumpin			
Type of screen. No. Co. Pur Length of screen . Z. F. Pur Distance from top of screen to ground level. F. Du Is well a gravel-wall type? No. Dis	mping leven mping rate ration of the stance from	el 4.4. e 2. 3. rest 3	O. STA	is. Pi	E. K H. K.	· · · · · · · · · · · · · · · · · · ·
Water	Record					1
Kind (fresh or mineral)/	/ H ≈ 5.7!	ARD	Do to Ho	epth(s) Water rizon(s)	Kind of Water	No. of Feet Water Rise
How far is well from possible source of contamination?  What is the source of contamination?  Enclose a copy of any mineral analysis that has been made of well Log						
Overburden and Bedrock Record	From	То	VIII		tion of Well	i,
FINE (+RAUF)	0 ft.	<b>ℓ.</b> ft.	In	diagram be	elow show dist	ances of
COARSE SAND	471	501	13	cate north	by arrow,	con
				,	6 23	HIGHWA
				7.	BRA	TINK S
Situation: Is well on upland, in valley, or on hillside?  Drilling Firm  Address  Name of Driller  Date  FORM 5		Addre	ce Number	Signature o	Licensee	7 Po

UTM 1/17 515131/1810 E 9R 4717601810 N



JUN 2 0 1955 GEOLOGICAL BRANCH DEPARTMENT of LINES 208

Elev. 91R 081/12 Basin 23

The Water-well Drillers Act, 1954 Department of Mines

_			record		TroRD
County or Territorial District	2. FJ. AT. N	Townsh	ip, Vi <del>llage, Town or C</del> Village, Town or C ddress	branti-0	AS
Date completed(day)	(month)	(year)			
Pipe and Casing	Record			Pumping Test	
Casing diameter(s)	AUGE	S	Static level	GALS PL	R HR
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)
DOV SHAD	0 '	47'	47'	5-1	FRESH
DRY SAND MEBUIM WATER SAND	47'	3-01			
For what purpose(s) is the water  DOMESTIC  Is water clear or cloudy?	hillside? L.F.  ONT  STREET  ANT  foregoing  are true.	0.	In diagram below road and lot lin	ocation of Well w show distance a confidence note	h by arrow.

UTM P17 | 2 | 5 | 5 | 3 | / | 3 | 0 | E | 9 | R | 4 | 7 | 7 | 6 | 0 | 8 | 0 | N



408/14

Elev. | 9 | R | 0 | 8 | 1 | 0 |

Basin | 2 | 3 | | | | |

The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

RECEIVED	$\frac{20}{1}$
JUN 2 0 1955	Х
GEOLOGICAL BRANCH DEPARTMENT of MINES	

Country on Francisco Indicate ict	RANT	Town	ship.	V <del>illage, Town or C</del>	ity BRANT	TFORD
County or Territorial District	gopon jot por proces		Vi .ddi	llage, Town or Cit	BRANTIO	B
(day)	(month)	(year)				
Pipe and Casing	Record			]	Pumping Test	
2 1 2 1 1 1 1 1 1 1			Stat	ic level42	<i>i</i> ,	
Casing diameter (s) .1./2.''  Length (s)			Pum	ping rate 3.0 6	GALS F	ER. HR.
Type of screen N.O L.O Cy.	AU Gota		Pum	aping level	NRC.	***************************************
Length of screen3.c.''			Dur	ation of test		•••••
Well Log				,	Water Record	
Overburden and Bedrock Record	From ft.	To ft.		Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
NEV CAND	0'	47'	,	47'	5-1	FRESH
MEDUM WATER SAND	47'	50				
		_		1000		
				at		`A.
For what purpose(s) is the water	to be used?	-	NOR	Loc	cation of Well	$\rho$
Is water clear or cloudy?C.L.	<u> </u> AÅ		N	In diagram below road and lot line		<i>F</i>
Is well on upland, in valley, or on	hillside?. <b>.t</b> 2. <i>f2.</i>	LANA	7	LOT	CRE	
Drilling firm J. STEF				13	LOT	
Address PRINCE TON	ONT	/	• • •	MANS	14   10	A Company
Name of Driller C	STREE	7	W.D.	N III	1. 1. m. 1.	3'\\
Address M.T. PLFA6	ANT	00.		6 ON THE		
7. 7. 1 27K			Marie de la companya de la colonia de la col			
Licence Number 2.2.	foregoing					
statements of fact				CON IV		
Date June 9/5.3 -	Stefa	<u> </u>				⟨⟨
Si	gnature of Licen	see	•	10 5~3 H	IFHWAY	
_				Ale	· /	

GROUND WATER BRANCH ONTARIO WATER RESOURCES COMMISSION ELL RECORD Township, Village, Town or City Date completed 37 Munic month Address. Owner. **Pumping Test** Casing and Screen Record Static level Inside diameter of casing. Test-pumping rate Total length of casing. Pumping level. Type of screen ... Duration of test pumping. Water clear or cloudy at end of test Clear Length of screen Depth to top of screen... G.P.M. Recommended pumping rate .... Diameter of finished hole with pump setting of 55 feet below ground surface Water Record Well Log Kind of water Depth(s) at To ft. (fresh, salty, From which water(s) Overburden and Bedrock Record sulphur) ft. found 48 59 Location of Well For what purpose(s) is the water to be used? For what purpose(s) is the water to be used:

Somethic

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

White

A to be used: In diagram below show distances of well from road and lot line. Indicate north by arrow. Drilling or Boring Firm Harland Partierna Rel-Address. Licence Number Name of Driller or Borer (Signature of Licensed Drilling or Boring Contractor) Form 7 15M Sets 60-5930 OWRC COPY

UTM 1/17, 2, 5151217161 9E ONTARIO WATER  $7.5.9.8.0^{
m N}_{
m The}$  Ontario Water Resources Commission Act RESOURCES COMMISSION .....Township, Village, Town or City.... Date completed day iress 358 NELSON ST. **Pumping Test** Casing and Screen Record Static level Inside diameter of casing... Test-pumping rate Total length of casing. Type of screen Duration of test pumping.... Length of screen. Water clear or cloudy at end of test Clear -Depth to top of screen Recommended pumping rate Diameter of finished hole feet below ground surface with pump setting of... **Water Record** Well Log Kind of water Depth(s) at To ft. From (fresh, salty, which water(s) found Overburden and Bedrock Record sulphur) 0 10 Location of Well For what purpose(s) is the water to be used? In diagram below show distances of well from road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? Drilling or Boring Firm Licence Number (Signature of Licensed Drilling or Boring Contractor) CSS.S8 Form 7 15M Sets 60-5930 OWRC COPY

GROUND WATER BRANCH

	WATER RESOURCES
JTM 17-12 51512191010 E	40P// 212 130 1935 212 1
18   4   7   7   6   1   0   Q  N Ontario Water Res	ources Commission Act
Elev. 4R 98/10 WATER WE	LL RECORDRESOURCES COLLEGES ON ARTOR OF THE PROPERTY OF THE PR
	Township, Village, Town or City BRAHTFORD
a 3	Date completed /9 JULY /15
	Address RHH BRAHTFORD
s)	Pumping Test
Casing and Screen Record	Static level
Inside diameter of casing.	Test-numping rate
Total length of casing 125	Pumping level 114
Type of screen	Duration of test numping 2 HAS
Length of screen	Water clear or cloudy at end of test CLEA
Depth to top of screen  Diameter of finished hole #"	Recommended numping rate G.P.M.
Diameter of finished hole	with pump setting of 124 feet below ground surface
	Water Record
Well Log  Overburden and Bedrock Record	From To which water(s) (fresh, salty, ft. found sulphur)
NRILLEN PREVIOUSLY	0' 70' 128' 1-RESH
DAILED FILENCES	70' 90'
SOFT SANXY CLAY	90 98
HARD STONEY CLAY	125' 128'
BLUISH ROCK	
For what purpose(s) is the water to be used?	Location of Well
NAMESTIC	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?	TON III 14 LOT
Drilling or Boring Firm J. STETAN	1 1 2000 - 1 1 6
19 1ROUVOIS 51	
RRANTHORD ON!	
Licence Number 15-93  Name of Driller or Borer $5ELF$	
Name of Driller or Borer SELF	CONTE
Addross	
Date JULY 19-19-55	
Oseph Laton	A A S A T OF T S
(Signature of Licensed Drilling or Boring Contractor)	
Form 7 15M-60-4138	css.s8
OWRC COPY	

UTM 177 2 551/320E 9R 47715600N

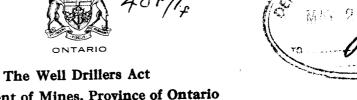
Elev. 9 R 0171318

Basin [23]

FORM 5



The Well Drillers Act



Owner G. J.	o, Vi <del>llage, Town</del> own or City)	City. BANT	FORD	
		Pumping Test		
Pipe and Casing Record		<i>/</i> -		
Casing diameter(s). #  Length(s) of casing(s). Z. 7  Type of screen.  Length of screen.  Distance from top of screen to ground level.  Is well a gravel-wall type?	Static level	IT. GAL PL	A. HR.	
is wen a graver wan eyport top	Water Record			
Kind (fresh or mineral). FBESH.  Quality (hard, soft, contains iron, sulphur, etc.). H		Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Appearance (clear, cloudy, coloured)	(1	211-7.	FRESH	1217
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				
Well Log		Loc	ation of Well	•
	From To	#K `		
Overburden and Bedrock Record  COARSE GRAVEL  FINE SALL  FINE SARK SAND  COARSE DARK SAND	From To 0 ft. 6. ft.  6 7 25 7 27 2 27 2 27 2 27 2 27 2 2 6 1		pelow show districted and lot line by arrow.	
Overburden and Bedrock Record	0 ft. 6. ft. 6 ' 9' 25' 25' 27' 27' 27'	well from re	oad and lot lis	
Overburden and Bedrock Record	0 ft. 6. ft. 6 ' 9' 25' 25' 27' 27' 27'	well from redicate north	oad and lot line by arrow.	

UTM 177 5511160 E	40P//	Act	13 N FEB 4	9 <sup>N</sup> <b>234</b> 1963
Con. Lot Mater WEL		Comm or City.	,	
Casing and Screen Record		Pumping	g Test	
Inside diameter of casing  Total length of casing  Type of screen  Length of screen  Depth to top of screen  Diameter of finished hole	Pumping level  Duration of test  Water clear or cl	pumping /	le lest eles	G.P.M.
Diameter of Mission note	Į.			ow ground surface
Well Log		· · · · · · · · · · · · · · · · · · ·		er Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Grown sand & gravel Gray clay wath sand Gravel in bottom	3 24	3 2 2 7	28	Fruit
For what purpose(s) is the water to be used? Rouseld Is well on upland, in valley, or on hillside? If the Drilling or Boring Firm Is ward Is was I believed.  Address Is a factor of Licensed Drilling or Boring Contractor)  Form 7 15M-60-4138	road and	Location am below show I lot line. It	of Well distances of w	ell from Arrow.

OWRC COPY

UMA 177 2 51511191410 E	urces			13	Nº 256
Basinty or District BRANT  Con. 4. Lot 10 D	ownshi	p, Vil <del>lage, Te</del>	own or Gity &	month	FORD 1965 BRANTFORT
Casing and Screen Record  Inside diameter of casing 4"  Total length of casing 69"  Type of screen NO 8 GAUGIS  Length of screen 5"  Depth to top of screen 69"  Diameter of finished hole 4"  Well Log  Overburden and Bedrock Record  BROWN SAND  FINIS GRAVIS SAND  FINIS WATISB SAND	Stat Test Pun Dur Wa	ic level	Pumping te  3.6  bumping budy at end of	g Test  HR.  test  feet b	3 G.P.M.  CLEAR  3 G.P.M.  Delow ground surface  at   Kind of water
For what purpose(s) is the water to be used?  DOMISTIC  Is well on upland, in valley, or on hillside? UPLAND  Drilling or Boring Firm J. STISFAN  Address 19 1 RO QUOIS ST.  BRANTIFORD  Licence Number 1593  Name of Driller or Borer SISLE  Address  Date 20 0 CT 1915  (Signature of Livensed Drilling or Boring Contractor)  Form 7 15M-60-4138  OWRC COPY	7 100 7	road and	Location m below show lot fline. In	adicate north	well from by arrow.  OT  ON  ON  CON  CSS.S8

UTM 1/17/2 51513121710 E 191R 471714151810 N GROUND WATER BRANCH Elev 09 1 018 03 The Water-well Drillers Act, 1954 APR 3 0 1957 Department of Mines Basin 1213/4 11 ONTARIO WATER Water-Well Record RESOURCES COMMISSION BRANT Township, Village, Town or City BRANTI-ORD County or Territorial District... Village, Town or City)..... ddress AR # 4 BRANTFORD (month) (year) **Pumping Test** Pipe and Casing Record Static level .....40 Pumping rate 300 GALS PERSHR Length(s) Pumping level .....#/0. Type of screen NO. LO. GAUGE Length of screen ....24 ........ Water Record Well Log Depth(s) at which Kind of water No. of feet (fresh, salty, or sulphur) From Overburden and Bedrock Record water(s) found water rises DUG WELL \* FRESH 25-1 FINE SAND DIRTY 48' COARSE WATER SAND For what purpose(s) is the water to be used? Location of Well DOMESTIC In diagram below show distances of well from Is water clear or cloudy?....C.LEAS. road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside?... LAND Drilling firm J. STEFAN Address IRINCETON ONT CON Address ..... Licence Number 224 I certify that the foregoing 軍を応げ statements of fact are true Date APK 3. 1957 Signature of Licensee

32 C C S

orm 5

UTMP 1/17   2   5   5   3   4   4   0   E		40 2/1	GROUN	WATER BRANK	292
5   R   4   7   7   4   5   2   0   N   Ontario Water Reserved   2   R   10   0   WATER WEI	ources C	ommission	Act ONTAR	7 1564 10 WATER CONSISSON 1	
Basin 23 County or District Brant	Township	o, V <del>illage, T</del>	own or City	Brant	ford 1914
Con Lot 14	Date com	pleted	(day	month	year)
Casing and Screen Record			Pumping		
Inside diameter of casing 36  Total length of casing  Type of screen  Length of screen  Depth to top of screen  Diameter of finished hole	Test-Pump Dura Wate	pumping raping level tion of test per clear or c	pumping oudy at end of	lh test clea	G.P.M.
-	with	pump setti	ng of گھ	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)
Brown Sand fine			14		
course sand,		18	23	24	Final
fine sand		23	27		
med line same & shalo	?	27	40		
mus. June server 2					
For what purpose(s) is the water to be used? Rousehold	N		Location	of Well	•
For what purpose(s) is the water to be used.	A	In diagra	ım below show	distances of we	ell from
111112 4 /2 6	1	road and	l lot line. In	dicate north by	arrow.
Is well on upland, in valley, or on hillside?					. 11
Drilling or Boring Firm Howard Johnson			11-14	5	!
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Address			a Cine	ent	
Brantford	}	· 5mi	4 7 7	2	# mile-8
Licence Number 2 7	- 12 P			T. July	
Name of Driller or Borer Same	~ M	10	7	30	d
Address	$\mathcal{B}$	Lo	13 775	0-10-	
Date Date	7				
Date Control of the C					
(Signature of Licensed Drilling or Boring Contractor)			ı		
Form 7 15M-60-4138 Plan 622		# <sub>1</sub>			CSS.S8
OWRC COPY LOT 8					

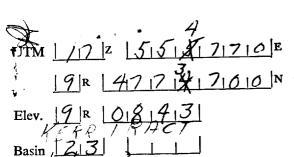
UTM 1/17 2 35-13171610 1E 19 R 4171714161610 N Elev. 9 R 081/10 The Well Drillers Act Basin 231 11 Department of Mines, Province of Ontal Water Well Record BRANT Township, Village, Town or City. BRANT FOR Fown or City)..... cluding pump) 4 00.00 (year) (month) Pipe and Casing Record **Pumping Test** Casing diameter (s) . . 6. Length(s) of casing(s). Static level... Pumping level. Pumping rate. 300 GALS PER A Distance from top of screen to ground level. 6.3./5.77 Duration of test. 4.19.85..... Distance from cylinder or bowls to ground level. 4.6.1-7.... Is well a gravel-wall type?...... Water Record Kind (fresh or mineral) . FRESH Depth(s) to Water Horizon(s) No. of Feet Water Rises Kind of Quality (hard, soft, contains iron, sulphur, etc.). HHA. Appearance (clear, cloudy, coloured)... C. L. F. A.R... 2017 For what purpose(s) is the water to be used?...DOMES.T.1.C.... How far is well from possible source of contamination?. What is the source of contamination?..... Enclose a copy of any mineral analysis that has been made of water Well Log Location of Well Overburden and Bedrock Record From To 0 ft. **€**..ft. In diagram below show distances of COARSE SHNX well from road and lot line. In-LIGHT- COLOURED SANDI dicate north by ar SAND SAND Situation: Is well on upland, in valley, or on hillside?... U.P.A.A.N.A. Drilling Firm. S. T. = F.A.N... Address PRINCETTON ONT. Name of Driller. C. LONG S.T.R.E.E.T. Address. M. T. Phi=ASANT. .....Licence Number.... Z. 3 FORM 5

294 UTM 1/17 2 553 710 E 19R 141717 14 1 61 570 N Elev. 9 R 0181/10 The Well Drillers Act Basin 231 11 Department of Mines, Province of Ontario Water Well Record Town of City. BRANT FOR D B.R.ANTIFORD

(month) (ver) Cost of Well (excluding pump) 3.25.00. Date Completed.. Pumping Test Pipe and Casing Record Date. No. V. 13 .. 1957. Casing diameter(s)... Static level. 570'.... Length(s) of casing(s)...7.8... Pumping level . 30. Type of screen. NO. 90. GAVER. Pumping rate. 300 GALS PIER HR Length of screen . . 2 4. Duration of test. 3. HRS..... Distance from top of screen to ground level. 7.8... Distance from cylinder or bowls to ground level. 4.0....... Is well a gravel-wall type?.. N.O..... Water Record No. of Feet Water Rises Depth(s) to Water Horizon(s) Kind (fresh or mineral). J-RESH. Quality (hard, soft, contains iron, sulphur, etc.) FAIRLY SOF Appearance (clear, cloudy, coloured)....CLEAR. For what purpose(s) is the water to be used?... Pomes Tie... How far is well from possible source of contamination?..... What is the source of contamination?..... Enclose a copy of any mineral analysis that has been made of water. Well Log Location of Well From Overburden and Bedrock Record In diagram below show distances of DUG WELL well from road and lot line. In-QUICH SAND dicate north by arrow. MEDUM WATER SAND Situation: Is well on upland, in valley, or on hillside?... U. P.LAND Drilling Firm. J. S.T.E.FAN... Address PRINCETON ONT Name of Driller. C. LONGSTREET. Address. M.T. PLEASANT P.O. Date. No.V. 13. 1954. Licence Number. 2.29 Signature of License

FORM 5

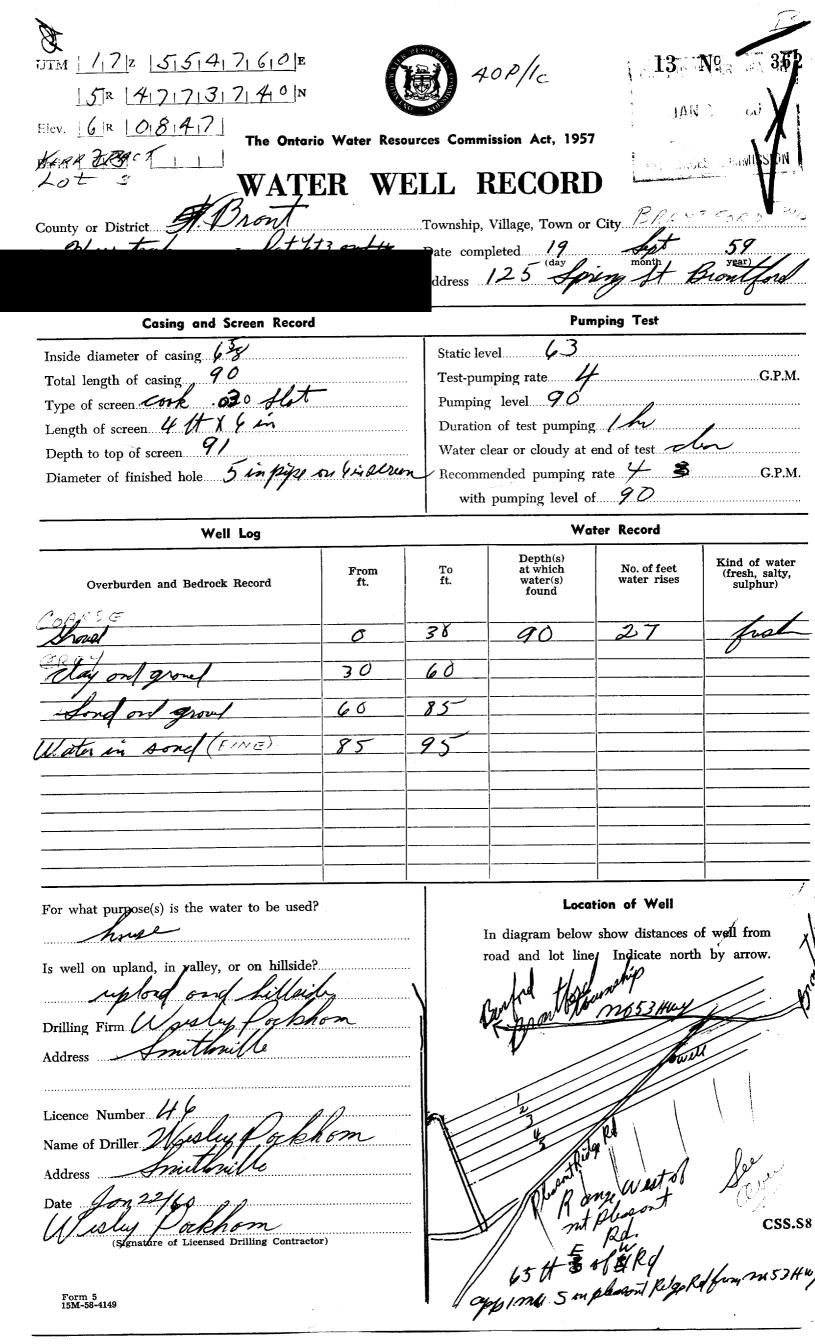
GROUND WATER BRANCH A13 6 N962 ONTARIO WATER Ontario Water Resources Commission Act RESOURCES COMMISSION Elev. | 5 R | 0 8 20 Township, Village, Town or City / Yran Date completed /5 **Pumping Test** Casing and Screen Record Inside diameter of casing. # G.P.M. Test-pumping rate Total length of casing 90 ff Type of screen 5 long Johnson Slot # 8 Pumping level Pump down Duration of test pumping 3 hurs Length of screen.... Water clear or cloudy at end of test Clear Depth to top of screen 5 ft. Recommended pumping rate \_\_\_\_\_\_ G.P.M. Diameter of finished hole with pump setting of \_\_\_\_\_\_\_ feet below ground surface **Water Record** Well Log Kind of water Depth(s) at (fresh, salty, sulphur) From Overburden and Bedrock Record found Fresh **Location of Well** For what purpose(s) is the water to be used? In diagram below show distances of well from Domestic road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? Upland Drilling or Boring Firm Douglas Thompson Address /6/ Gardiner Ave. Dunnville Licence Number 5/5 Name of Driller or Borer Douglas Thompson
Address / Gardiner Are Dunnville. Dong las Thompson
(Bignature of Licensed Drilling or Boring Contractor) Form 7 15M Sets 60-5930 OWRC COPY





The Water-well Drillers Act, 1954

Basili 177	]	Department	of Mi	ines		MISSION /
•	Water	-We	11	Record	d .BRAG	(TEC 20)
•			him Y	Villago Town or (	ity Hun	
			in Vi	llage, Town or Ci	ty) <i></i>	·····/
Owner	<del>710</del> •••••••		Addr	ess 40 c	ty) brison	It Bentford
Date completed(day)	(month)	(year)				
Pipe and Casi	ng Record				Pumping Test	
Casing diameter(s)			Stati	c level	68/t	4
Length(s)	••••••••••••		Pum	ping rate	09/ Km tr	
Type of screen				ping levelZ		OSRECTION
Length of screen			Dura	tion of test/	hour	***************************************
. Well Lo	98				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)
May suit & grove!	<i>y</i> -			85to 91	-3/	fish
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Is water clear or cloudy?	Car				show distances of	
Is well on upland, in valley, or	on hillside?	l/lip)	1	road and lot line	. Indicate north	by arrow.
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Licence Number					JUL -	M
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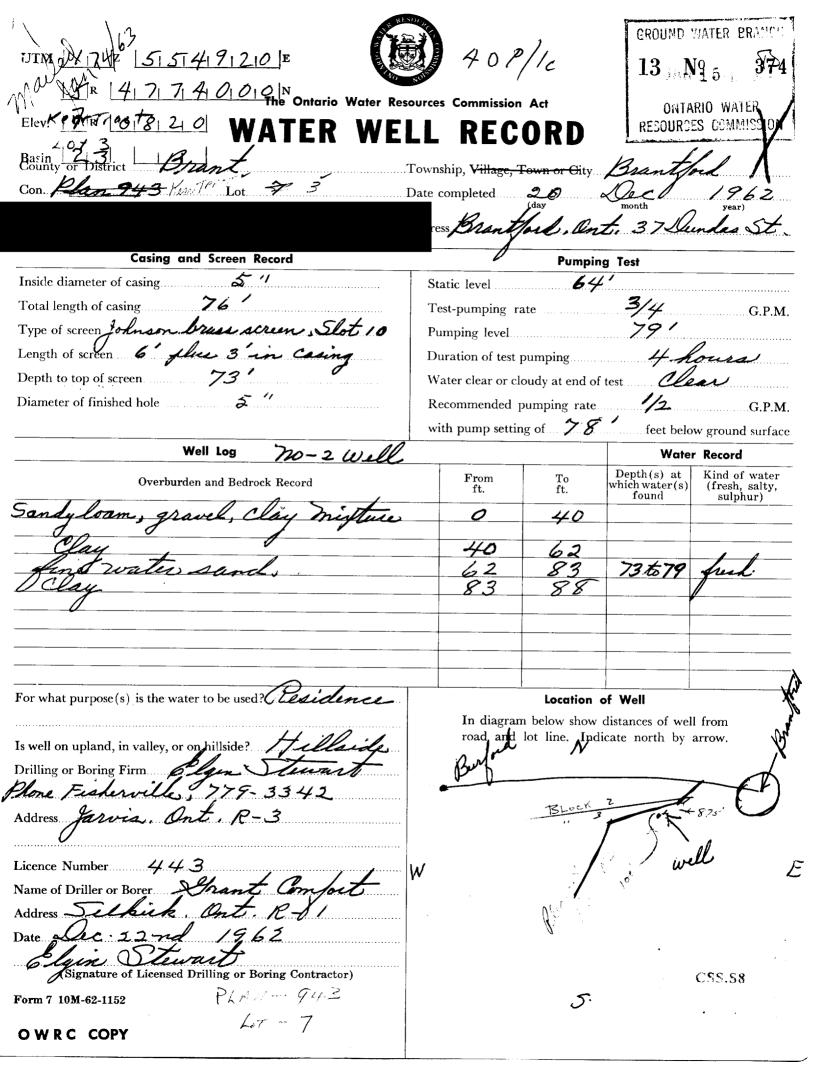
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					3/13/21/21
WATI	ER W		RECORI		$\mathcal{L}$
County or District Unont		Township,	Village, Town or pleted 23	City Dra	alford
		te com	oleted 23	Fele	60
		dress 🖊	PK2 B	2000 month	year)
(print in block letters)		a1000 %.			
Casing and Screen Record			Pun	nping Test	
Inside diameter of casing 678		1	vel 68	_	
Total length of casing 188  Type of screen Bran Will no 6 62		Test-pun	nping rate	10	G.P.M.
Type of screen Brat Will No 6 5	18	Pumping	g level	16	
Length of screen $3416 - 3418$	Mar GI	Duration	of test pumping	; pro	- J
Depth to top of screen 164	4	Water c	lear or cloudy at	end of test	/O G.P.M.
Diameter of finished hole			pumping level o		
		With			
Well Log	1	}	Wa	ter Record	
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
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For what purpose(s) is the water to be used?	Jan 1	<u>,</u>			e 11 c
		i	n diagram below oad and lot line		
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uflered )	<b></b>				1
Drilling Firm Wally Togetho	<b>74</b>				
Address Amillmille				رهرا.	
		/		1 min	
Licence Number 5	J <i>j</i> J	/			
Name of Driller ( ) estuff och	lom		7		•
Address Friellande			11		
Date Moy4/GA					CSS.S8
Alma Inhan		¨   //	XX	τ	~ · · · · · · · · · · · · · · · · · · ·
(Signature of Licensed Drilling Contractor	;)		(A)	1 / 1000 5	Jene tox 10 > 3
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5R 4 7 7 4 0 3 0 N Ontario Water Rese			1	JUN 19 19	1 🚜
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Basin 23 Bront	Townsh	nip, Village, T	own or City	Dealf	most
		ompleted		may	year)
	dres	RA2	Bar	etford	
			Pumpir	ua Test	
Casing and Screen Record	Sta	tic level	18		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Inside diameter of casing 4 in 80 A play 51st seeen	l	st-pumping r		10	G.P.M.
Total length of casing 80 A plas 5 let steen  Type of screen Brus wir wound 5 in x5 lt	1	mping level	/ (-		
Type of screen		ration of test		h	
Length of screen 5 17	W	ater clear or c	oudy at end o	f test clar	<u>/</u>
Depth to top of screen  Diameter of finished hole  Diameter of finished hole		ecommended			G.P.M.
Diameter of finished hole	wi	th pump setti	ng of	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)
Dali male pit		0	3-	804.85	fresh
Rendy Mars Jos			1,,,		<i>C</i>
ford on grows in clay		5	65	·	
Lord one clay with water.		65	80		
		80	85-		
clear Soud		00			
			Locatio	n of Well	12 /
For what purpose(s) is the water to be used?		In diagr	am below sho	w distances of we	ell from /
<i>V.11.</i> :1.	B	road an	d lot line. I >	ndicate north by	arrow.
Is well on upland, in valley, or on hillside?		N. M.		•	
Drilling or Boring Firm				7	\
Smithuille			· .	Pros 3/4W	<b>,</b>
Address J Julian Lu			•		
Licence Number 3.20			.er <sup>or o</sup>		
Name of Driller or Borer Wf gehhom	س	man and the second seco		43	
Address Smilliville		Control of the State of the Sta		que	
Date 30 may 6/		- Company of the Comp	Tel 1	1	1
(Signature of Licensed Drilling or Boring Contractor)		1	Wy /		800 / m. To
(Signature of Licensed Driffing of Boring Constactor) Form 7 15M Sets 60-5930		Jagon 10			
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Elev. 1911 0181270 WATER WEL	.L	REC(	ORD	ONTARIO RESOURCES O	WATER SAMISSION
County or District	Date con	pleted	own or City A 31 Brown	my thous	year)
Casing and Screen Record			Pumpin	g Test	
	Statio	c level	MA		
Total length of casing 83 plus 3 ft screen  Type of screen Brus unin tuound  Length of screen 3 ft	Test- Pum Dura	pumping raping level	75	lo h	G.P.M.
Depth to top of screen			oudy at end o	,	
Diameter of finished hole 54			pumping rate		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)
Pit		<u>_Q</u> _	30	Will Gorf	has to
clay ond grown			00	85488	
alay one sord with some grown		30	80		
Dord with water		80	88		
				of Well	
Is well on upland, in valley, or on hillside?  Drilling or Boring Firm A for Brown  Address  Licence Number  Name of Driller or Borer A for Brown  Address  Date  (Signature of Licensed Drilling or Boring Contractor)  Form 7 15M Sets 60-5930  OWRC COPY			ım below shov	w distances of we dicate north by	
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DTM 1/17 2 51514171310 E	40P/1	GRO	OUND ABER A	RAINCH 7 873
15 R 487 7 3 6 8 5 N The Ontario Water Rese	ources Commission	l		
WATER WEI	LL REC		OCT 22 1962 Ontario water	1 A
Basin 213 County or District Brant		RESC	URGES COMMIS	TOU !
Lot 7 3	Date completed	11	October	1962
	tress Brantfo	(day	12.	year)
	iness & June 194		- J Voluna	us us
Casing and Screen Record	6	Pumpin	<del>-</del>	
Inside diameter of casing	Static level			
Total length of casing 258 fut	Test-pumping ra			
Type of screen				
Length of screen	Duration of test p			
Depth to top of screen	Water clear or clo	oudy at end of	test CU	ar
Diameter of finished hole	Recommended p	umping rate.	10	G.P.M.
	with pump settin	g of	<b>9</b> feet belo	w ground surface
Well Log			Water	Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Sandy loan and egg size stones	0	40		
of Clay	40_	75"		
Clay and gravel mixture.	190	190		
Iquick sand	195	245		
hard dark gray clay or hard pan				
0. 04 d Saatkyun	245	258	4151	
light grey lime stone	238	265	265'	fresh.
For what purpose(s) is the water to be used? Nouseholds		Location		
0.10.1	_		distances of wel icate north by	
Is well on upland, in valley, or on hillside?		N	,,	. \
Drilling or Boring Firm Slyin Viewal				1/6
Phone-Fisherville 779-3342	ر الم			$\mathcal{M}$
Address Jawis Ont. R-3	سنته البدر			Ozbr.
	La la la	Hwy.	523	. , 🗸
Licence Number 444 3			7	
Name of Driller or Borer Street Compet	M		1.100	* ( ) E
Address Jelkish, Ont.		/	70	
Date Oct 15th 1962		_/	(Weller.	•
(Signature of Licensed Drilling or Boring Contractor)	Plant Ridge	-11	N.	CSS.S8
Form 7 10M-62-1152  Form 7 10M-62-1752  Form 7 10M-62-1752	Road Road		100	
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The Ontario Water Resort WATER WEL	rces Commission	DN)	ARIOTAL - 2	Sel X
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DA VERR	ate completed	•	File	19/11
	Arisent	Z(day	month	year)
	ress 130 F	AR- A	and Br	inthely
Casing and Screen Record			ng Test	The state of the s
Inside diameter of casing	Static level	72	······································	
Total length of casing 90	Zest-pumping r	ate	14	G.P.M.
Type of screen Johnson no 4 shit Stainles Ste	Pumping level	unk	known	
Length of screen 3 3	Duration of test	pumping	1 hou	2
Depth to top of screen	Water clear or cl	oudy at end o	f test <i>Olo</i>	udy
Diameter of finished hole 5			14	
	with pump setting	ng of	feet belo	ow 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)
yellow loum and hard heads	. 0	25	Tound	surphur)
Blackford		7 7		
Bene Clay & gravel	23	65-		
Blue Clay	65	70		6
fine spind	70	90	80-90	frish
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E di				
For what purpose(s) is the water to be used? Therate Home	T., J.,	Location		u. c
Hillpidy			distances of wellicate north by	
Drilling or Boring Firm Shure Shures			N i	the
Phone - Fishervelle 779-3342	<b>A</b>			Brunt
Address Jarne 12.3	الملما	ma Henry	1	CX
Address	But	33/14	4200	
Licence Number 950	1		65	
	•	is f	we	æ   E
Name of Driller or Borer Gen Visual  Address Research R-3	Ridge	1d 7		<b>人</b>
	<b>J</b>	,	:	$\downarrow$
Date 10-64	V- 12-01	. PIDGE	RU:	
(Signature of Licensed Drilling or Boring Contractor)	677 100	Turkot.	LINE).	<b>\</b>
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Basinty or District Brond			Bront	Ind!
Con. Ren tract Lot 3	Date completed	3	Oct	64
	ress 209	mt	Glesson 1	1- X
	1035.	- Je Vi	Bron	Mord
Inside diameter of casing 6/4			oing Test	0
Total length of action 94	Static level	7	10	
Type of screen Red Bress (Win Wound)	Test-pumping		•	G.P.M.
Type of screen Red Bress (Win Wound)  Length of screen 6 ft = 2 thru ft arctins	Pumping level.	•	! <i>!</i> //	
Depth to top of screen 94	Duration of test			······
Diameter of finished hole	Water clear or o	•		-
Statistics of finished field	Recommended with pump sett	• • •	`^ `	G.P.M.
Well Log	with pump sett	ing oi		w ground surface
	From	То	Depth(s) at	Kind of water
Overburden and Bedrock Record	ft.	ft.	which water(s) found	(fresh, salty, sulphur)
flony clay	0	30	906/00	fush
clay with sond on grown	30	70	ation	
Tond	70	100		
For what purposes) is the water to be used?		Location	of Well	
house			w distances of well	
Is well on upland, in valley, or on hillside?	road and	lot line. Ir	ndicate north by a	arrow. Brenden
Drilling or Boring Firm / forblim		53H W		->1
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Licence Number /353	hav		3	
Name of Driller or Boyer	2100		1 10	
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Date 164		X	<i>y</i> /	~
(Signature of Licensed Drilling or Boring Contractor)		1 200/		V
Form 7 15M-60-4138		() \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	C	18.91.0.8
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700 FRAM LINE BETWEEN 7	we that he	pru.		× ·
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J.F			GROUND WATE	R BRANC!
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Basin Lounty or District The Tourist Tourist The Tourist Tourist The Tourist T	ownship, Village, T	own or City.	mar	62
Day Troot Lot 4	ate completed		month	year)
	ess RH	202 Z	simpora	
Casing and Screen Record		Pumpin	g Test	
Lil limeter of enging 6/4	Static level	63	<i>6</i> 1	
Total length of casing 92 Less 4 Harry -88  Type of screen Buss Wine Gunny	Test-pumping ra	ate	- 1.	G.P.M.
Type of screen Briss Wind Curry	Pumping level	/3	la St 2 da	40 benei
Length of screen $\mathcal{U}$	Duration of test	pumping رسكة	1.	- program
Depth to top of screen	Water clear or cl			G.P.M.
Diameter of finished hole 544	Recommended	pumping rate	~/)	
	with pump setti	ng of	feet below	Record
Well Log		<del></del>	Depth(s) at	Kind of water
Overburden and Bedrock Record	From ft.	To ft.	which water(s) found	(fresh, salty, sulphur)
Stome clay and strong	0	5-0	92	freh
	50	75-	-	
Soul ord way				
Soul	75	85		
	85	92,		
Mater Dona				
		Location	n of Well	
For what purpose(s) is the water to boused?	In diagr	am below sho	w distances of we	ell from
1: 1: 1: Lillida Upland	road an	d lot line. I	ndicate north by	arrow.
Is well on upland, in valley, or on hillside?	4	M 5	340/	119
Drilling or Boring Firm			No.	
Smilbrille				1
Address Address				
Licence Number 420		5		<i>/</i> .
Name of Driller or Borer			VIV.	• .
Address Amllhuille		tt.//		CSS.S8
Date GMY 7/62		1	•	
Washing Prophon		3		
(Signature of Licensed Drilling or Boring Contractor)	////	300' /L X	of Raile	way
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		-		

			GROUND WAT	ER BRANCH
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SR 42721 The Ontario Water Reson	urces Commission	Act	ONTARIO	
New York	L REC		RESOURCES C	
23 8 3	ownship, Village, T		Brontfo	
County of District	ate completed	6	mi	62
	951	Lall.	one I	year)
	ess	B	a mitford	
Casing and Screen Record		Pumpin	g Test*	
Inside diameter of casing	Static level		34	G.P.M.
Total length of casing # 2	Test-pumping ra	21	. <i>G</i>	
Type of screen	Pumping level  Duration of test		ho	
Length of screen	Duration of test  Water clear or c	loudy at end of	test elo	
Depth to top of screen	Recommended			G.P.M.
Diameter of finished hole	with nump setti	$\frac{3}{100}$	feet below	w ground surface
	With passip			Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Landy Loan	0	6	11.5	
- De l		214	42	- for the same
Stoney eddy				
Sondy alar	24	35		
- P - Phone	3 7	40		
Sort on front				
Coase grown	40	42		
- / / · · · · · · · · · · · · · · · · ·		Location	of Well	
For what purpose(s) is the water to be used?	In diagr	am below sho	w distances of we	ell from
Is well on upland, in valley, or on hillside?	road an	d lot line. If	ndicate north by	->Bra
Drilling or Boring Firm				
Dinning of Borning 1				1
Address fruit house				C. M.
				,n) .
Licence Number 420		<i>""</i>	// YN S	y I
Name of Driller or Borer W			X	W
Address Annahul		1	24	
Date July 4/6		11		
(Signature of Licensed Drilling or Boring Contractor)	7	N.	,	
Form 7 10M-62-1152 900 th North East Bokcilson	7	5		C88.58
(Signature of Licensed Drilling or Boring Contractor)  Form 7 10M-62-1152  OWRC COPY 50 It S 11 N Rd.				
	L			

1 P		,		GROUND WA	TER BRADE
UTM 17 2 55 4 3 4 10 E	114	20 P/10	<u>`</u>	$13_{MAY}^{No}_{N}$	3 1932
5 R 4 7 7 2 2 / 10 N The Ontario Water Resou	urces (	Commission	Act	•	) WATER
Elev. 5 R O181216 WATER WEL	_L	REC	DRD		CO.AMISSION
			own or City	Pi, - 5	3/2
County or District			<i>,</i>	may	Q. C.
		wn	iday B	month /	
	ress.	11/11/11		regard	
Casing and Screen Record			Pumping	g Test	
Inside diameter of casing	Stat	ic level	42	16	
	Test	-pumping ra	ite	_ 10	G.P.M.
Total length of casing  Type of screen Winit Would Bross	ļ.	nping level			
Length of screen 3 /	L	ation of test 1		m 1	
Depth to top of screen 69	1		oudy at end of	7	
Diameter of finished hole 5 m	1		pumping rate	2	G.P.M.
	with	h pump settii	ng of		w ground surface
Well Log					Record
Overburden and Bedrock Record		From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
1) . //				72	fush
Sondy loom		_0	20		
- I have been		20	65		
Horsey Many		, ,			
Soul ord fine grown		45	12		
	1		Location	of Well	<u> </u>
For what purpose(s) is the water to be used?		In diagra		v distances of we	ell from
now	•	road and	d lot line. In	dicate north by	ampwy.
Is well on upland, in valley, or on hillside?			no 5	3 - Bio	myno
Drilling or Boring Firm A Party	-	-			// /
			ilway ind		
Address Smulle Ce	10	16 1Kg			
ma D	1300	4WME	مريد	//n/P	
Licence Number 420	70	WOWH	1	1 <i>11</i>	
Name of Driller or Borer	at	N. B.	$\mathcal{U}$		
Address Address Address			A/V		
Date May 1			/ \\/	10:30	El STA
(Signature of Licensed Drilling or Boring Contractor)			5 11/2	1 10	•
Form 7 5M-61-3852		/x/	W/	p. Lao K	d css.58
~	-	X/	A Land	m King	( 0,0,0,0
OWRC COPY		/	A please	nt kidge K	

1 JTM 1/17/2 15/5/4/6.	1410 E
19R 47171216	90 N
6lev, 19 R +018 4 0	
Bho 243 5 11	Dej



The Well Drillers Act Department of Mines, Province of Ontario



newsand Budge DDANT	vn or C	itv)	BRI		
	R.I.	9. 2.	BRANT	1. O.T. D	
ate Completed 12 Dic (gear) (year)	excluding 1	oump). 🚬	), ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
			nping Test	·	
Pipe and Casing Record	DEC	12/5	1		
Casing diameter (s). Static	ند level	5. <b>3</b> /			
asing diameter(s). Static Static Pump	ing level.	537	GALS PI	OR HA	
'ype of screen	ing rate.	2.20.	U.M.A. 2. 1. 1.	illi	
Distance from top of screen to ground level Dura	tion of test	5.17		lovel 5 3	r T
Sistance from top of screen to ground Distance from the ground	nce from o	ylinder or	powls to ground	level. D. Co	
well a graver-wan type					
CORCH			Depth(s) to Water	Kind of Water	No. of Feet Water Rise
Kind (fresh or mineral). FRESH.  Quality (hard, soft, contains iron, sulphur, etc.). FARA  Appearance (clear, cloudy, coloured) ChEAR	SOF	<i>T</i>	Horizon(s)	CONCH!	1-2 1-
Quality (hard, soft, contains iron, surpline, etc.).  Appearance (clear, cloudy, coloured)			5311	FRESH	121
Appearance (clear, cloudy, coloured)	TIC.	• • • • • • • • •	63-65		
For what purpose(s) is the water of					
How far is well from possible source of contamination?					
What is the source of contamination:  Enclose a copy of any mineral analysis that has been made of	water		•		
Well Log			Loc	cation of Well	l
Overburden and Bedrock Record	From	To	diagram	below show dis	tances of
121.2. 0141	0 ft.	\$ft.	1 well from	road and lot li	ine. In-
LICELAND OF AVI MIXAU WILLIAM	81.	631-1			
FIRE STUNES	4317	6)1/	N Cat Pl	h by arrow.	F)
(COAA) 1- 311143			1		
	_	-	1		IGHWAY
		-		HUJS	NTFIND)
		1 1		11/	
			500 E. County K. 40: N. 9 5. R.	Not in	1
		-	500 E. Guntack 40: N. 0 5. RD	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	
			500'E. Counted 40' N. A S. R.D.	MILE	
			500'E, County N. 07 5. RD	A MILE	
			300'E', County K 40' N' N 5. RD	The Milks	
				The Miles	
			300'E, County N. 17 5. RD	The Miles	
				S. S	
				The Miles	
Situation: Is well on upland, in valley, or on hillside?,	M.IAL	I.B.F.		The Miles	
Situation: Is well on upland, in valley, or on hillside?	Pt. IA. L.S	IDA	3 3	TO THE THE PARTY OF THE PARTY O	
Drilling Firm.			3 3	TO THE THE PARTY OF THE PARTY O	Pa
Address PRINCE TON ONT!			3 sou	LISP SAN	Po
Address PRINCE TON ONT!			s. MT.	LIZASAN	Po
Drilling Firm.			s. MT.	LISP SAN	CSS.S

17 553 420 Con 5  Lot 14  5 47 74 600 CODED  The Ontario Water Re  WATER WE  County or District BRANT	Townshi	RECO	RD n or City	BRANTA	FORD 19/4
Con Lot 14		npleted 2 (da	9 4 R	Inonth BANT F	year)
Casing and Screen Record	<u> </u>		Pumping	Test	
Inside diameter of casing 58  Total length of casing 58  Type of screen 3  Length of screen 58  Depth to top of screen 59  Diameter of finished hole 54	Tes Pun Dur Wa	t-pumping rate apping level apping level artion of test putter clear or cloud commended put	mping dy at end of mping rate	12 hs. test Cha	G.P.M.  G.P.M.  G.P.M.  w ground surface
	wit	h pump setting	of of		Record
Overburden and Bedrock Record		From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Sand (COARSE)		14 40	68	40-68	FRESH
For what purpose(s) is the water to be used? Houseks.	40	In diagram	Location  below show lot line. Inc	of Well distances of wedicate north by	ll from artow.
Is well on upland, in valley, or on hillside?  Drilling or Boring Firm  REEKT DENNE  Address  RR 2— BRANTFORD	<i>S</i>		453 A	110HWA)	į.

OWRC COPY

JTM 1772 5T 5T 4 5T 7101 2 tario Water Resources Commission Act Township, Village, Town or City BRANT FORD `asin Date completed 21 MAY 19/29
ress BR # 2 BRANTIORD **Pumping Test** Casing and Screen Recayburces COMMISCION Static level 62 Inside diameter of casing 4" Total length of casing 129 Test-pumping rate Pumping level 82 Type of screen No.8 GAUGE Duration of test pumping 3 HRS. Water clear or cloudy at end of test CLEAR Length of screen..... Depth to top of screen 129' Recommended pumping rate G.P.M. with pump setting of 90' feet below ground surface Diameter of finished hole 3/2**Water Record** Well Log Kind of water Depth(s) at (fresh, salty, sulphur) From ft. which water(s)Overburden and Bedrock Record found 12 HARD COARSE GRAVEL FINE BROWN SAND FINE TO MEDUIM WATER SAND Location of Well For what purpose(s) is the water to be used?..... In diagram below show distances of well from FARM (TOBACCO) road and lot line. Indicate north by arrow. Is well on upland, in valley, or on hillside? UPLAND HIGHWA Drilling or Boring Firm JoS 1= PH STI=FAIN Address 34 MAPLE AVE S. BURFORD ONT. Licence Number 3208 Name of Driller or Berer S/3 1/-Address. CSS.S8 Form 7 OWRC COPY



# The Ontario Water Resources Commission Act WATER WELL RECORD

Water management in Ontario 1. PRINT ONLY IN SPA	CES PROVIDED 11;	1301541 MANICIP. 001	CON. 2 23 24
2. CHECK X CORRECT	BOX WHERE APPLICABLE 1 2 TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURV	EY, ETC. LOT 25-27
	Pront ford	and the second	DATE COMPLETED 48-53
	# 4 Brantford	ELEVATION RC. BASIN CODE	DAY 30 MO 06 YR 70
M 10 12	775970	26 30 31 31	47
LOC	G OF OVERBURDEN AND BEDROC	K MATERIALS (SEE INSTRUCTIONS)	DEPTH — FEET
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	FROM TO
	Open well 50 feet		0 50
	Send & Stone		50 65
31   0050   23   1   004	5 109/21 111111111111		
32 10 14 15 21	32	43	65 75 80 31-33 DIAMETER 34-38 LENGTH 39-40
41 WATER RECORD	51 CASING & OPEN HOLE	RECORD PTH - FEET  SIZE(S) OF OPENING (SLOT NO.)	02.000ches 05 FEE
WATER FOUND AT - FEET KIND OF WATER 10-13	DIAM. MATERIAL THICKNESS FRO	MATERIAL AND TYPE	DEPTH TO TOP 41-44 80
50 SALTY 4 MINERAL	10-11 1 STEEL 12 2 GALVANIZED 3 CONCRETE 15-4	0060	& SEALING RECORD
15-18 1 FRESH 3 SULPHUR 19 2 SALTY 4 MINERAL	3 CONCRETE ./3 7 4 □ OPEN HOLE 17-18 1 □ STEEL 19	20-23 DEPTH SET AT - FEET	& SEALING RECORD  MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
20-23 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	2 GALVANIZED 3 CONCRETE	FROM TO 10-13 14-17	LEAD FACKER, EIC.)
25-28 1   FRESH 3   SULPHUR 2   SALTY 4   MINERAL	4 OPEN HOLE  24-25 1 STEEL  26	27-30 18-21 22-25	
30-33 1 ☐ FRESH 3 ☐ SULPHUR 34 E	2 ☐ GALVANIZED 3 ☐ CONCRETE	26-29 30-33	0
2 SALTY 4 MINERAL  PUMPING TEST METHOD  10 PUMPING RAT	4 OPEN HOLE	LOCATION	OF WELL
PUMP 2 BAILER OO4	15-16	IN DIAGRAM BELOW SHOW DISTANCE	ES OF WELL FROM ROAD AND
STATIC WATER LEVEL 25 LEVEL PUMPING 25 WATER LEVEL 25	R LEVELS DURING	LOT LINE. INDICATE NORTH BY AF	ROW.
05 19-21 22-24 15 MINUTE 26	-28 29-31 32-34 35-3/	2 8 5	EPANT FORD
TEET FEET FEET FEET FEET FEET FEET FEET		18	BRANT FORD
GPM.  RECOMMENDED PUMP TYPE RECOMMENDED	P 43-45 RECOMMENDED 46-49	WEXL	AIR TOKT
SHALLOW DEEP SETTING	FEET PUMPING RATE 000 \$ GPM.	300	k
50-53 GPM./FT. SPEC		to 7	7 3
FINAL 2 OBSERVATION W	5 ABANDONED, INSUFFICIENT SUPPLY 6 ABANDONED, POOR QUALITY	to   2	
STATUS  OF WELL  3 □ TEST HOLE  4 □ RECHARGE WELL	7 UNFINISHED	25 - 7	PARIS 9
55-56 1 DOMESTIC	5 COMMERCIAL 6 MUNICIPAL	=   =	VI 12
WATER  3   IRRIGATION  4   INDUSTRIAL	7 D PUBLIC SUPPLY  8 COOLING OR AIR CONDITIONING		35
OTHER	9 NOT USED		1 10
METHOD  TO CABLE TOOL:  ROTARY (CONVE	6 ☐ BORING  NTIONAL) 7 ☐ DIAMOND  SF) 8 ☐ JETTING		
OF DRILLING    3   ROTARY (REVER   4   ROTARY (AIR)   5   AIR PERCUSSION	9 DRIVING	DRILLERS REMARKS:	
NAME OF WELL CONTRACTOR	LICENCE NUMBER	59 CONTRACTOR	9-62 DATE RECEIVED 9 7 0 63-68
O PVK & Sons Drill	ing LTD 4302	DATA SOURCE / 4302  DATE OF INSPECTION INSPECT	
R.R. # 4 Brantford.	ONT.	<b>3</b> 2, 9, 7/	+ /P 7
NAME OF DRILLER OR BORER	LICENCE NUMBER	TEMARKS:	
O SIGNATURE OF CONTRACTOR	SUBMISSION DATE	OFFICE	<u>C88.88</u> 3
- Jan. Krus	DAY 24 MO. 8 YR. 70		

# The Ontario Water Resources Commission Act 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK CORRECT BOX WHERE APPLICABLE TOWNSHIP, BORGUEH, RANTFORD DATE COMPLETED

	R # 4/ B	ELEVATION RC. BASIN CODE	MO YR
	76/00 4	26 60 31	47
1 2 M 10 12	OG OF OVERBURDEN AND BEDROCK	( MATERIALS (SEE INSTRUCTIONS)	DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	FROM TO
COON CRAVEL		COARSE GRAVEL S SOFT SANDY CLA	0' 20'
COXI CIAV	SAND STREAKS	S SOFT SANDY CLA	
DONIAL SHAVE		SOFT SHALE	551561
DROWN STIME			
	·		
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	1551205109   120514117		75 80
32 10 14 15 21	5P CASING & OPEN HOLE	RECORD Z (SLOT NO.)	5 75 80 IAMETER 34-38 LENGTH 39-40
WATER RECORD WATER FOUND KIND OF WATER	INSIDE WALL DE	PTH - FEET W MATERIAL AND TYPE	INCHES   FEET
10-13 1 FRESH 3 SULPHUR	4 INCHES INCHES FROM	13-16	FEET
2 salty 4 mineral	19 3 CONCRETE 203	61 PLUGGING & SI	
2 SALTY 4 MINERAL	17-18 1 STEEL 19	COSG FROM TO	AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	2 ☐ GALVANIZED 3 ☐ CONCRETE 4 SOPEN HOLE		
1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	24-25 1 STEEL 26	27-30 18-21 22-25 26-29 30-33 80	
1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	3 ☐ CONCRETE 4 ☐ OPEN HOLE	2013	
71 PUMPING TEST METHOD 10 PUMPING		LOCATION OF V	
PUMP 2 BAILER  WATER LEVEL 25	GPM. HOURS WINS.	IN DIAGRAM BELOW SHOW DISTANCES OF WELLOT LINE. INDICATE NORTH BY ARROW.	LL FROM ROAD AND
LEVEL PUMPING	ATER LEVELS DURING   2   RECOVERY	TO. 3	T LOT
0 32 FEET 040 FEE 040	FEET 040 FEET 040 FEET 40 FEET	2 -10 1 -0	1 12
Z IF FLOWING, GIVE RATE	WATER AT END OF TEST 42  FEET 1 CLEAR 2 CLOUDY	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ا ا
RECOMMENDED PUMP TYPE RECOMM PUMP	ENDED 43-45 RECOMMENDED 46-49 PUMPING	CONTIL	Will Hard
SHALLOW DEEP SETTING	PECIFIC CAPACITY	1 / 6	23 M.
FINAL ST OCCUPATION			WELL . 23 M.
STATUS 3 TEST HOLE	7 UNFINISHED	MANS	
OF WELL 4 RECHARGE V	5 COMMERCIAL	1111	
WATER  2 STOCK 3 IRRIGATION	6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING	WALL !	
USE O/ 4 - INDUSTRIAL - OTHER	9 ON NOT USED		
METHOD CABLE TOOL		CONTIL	1
OF 3 □ ROTARY (RE	VERSE) 8 🗍 JETTING		
5 AIR PERCUS	SION	DRILLERS REMARKS:  DATA 58 CONTRACTOR 59-62 DATE	RECEIVED 63-68 8
NAME OF WELL CONTRACTOR	THEAN HEOL	<b>Z</b>	RECEIVED 63-68 8
O D S F P J D ADDRESS	in a Division		1p h
MAME OF DRILLER OR BORER	LICENCE NUMBER	REMARKS:	CSS.S8
SIGNATURE OF CONTRACTOR	SUBMISSION DATE	OFFICE	S - c
10 mech XT	10m DAY 20 MO. 8 YR.71	0	

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Water management in Ontario 1. PRINT ONLY IN SPA 2. CHECK ☑ CORRECT	BOX WHERE APPLICABLE 1 2	1301614 - 7 300 1 Con., BLOCK TRACT, SURVEY, ETC.	22 23 24  LOT 25-27
COUNTY OR BUTTHET	RAINTI-ORS	DATE COL	011
	RHY	BRANTIORD DAY 2	1 MO. TOALYETT
	76010	ECEVATION R. BASIN CODE !!  D 750 4 23	47
1 2 M 10 12	G OF OVERBURDEN AND BEDROCI	K MATERIALS (SEE INSTRUCTIONS)	DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	FROM TO
GREV GRAVEL	BOULDERD	COARSE GRAVE	0' 18'
GREY CLAY	SAND	SOFT SAMOY CLAY	18 32
GREY CLAY	STONES	HARD STONEY CLIP	13233
BROWN SHALP		GLARD ROCK	5-8 84'
BLACK K 6 C/1		7/ // // // // // // // // // // // // /	3007
		,	
31 00/82///3 1 003	2229509     0055529512	9958917 1 9084829 1	
32	220397	54	
10 14 15 21 WATER RECORD	51 CASING & OPEN HOLE	RECORD Z (SLOT NO.)	AMETER 34-38 LENGTH 39-40 INCHES FEET
MATER FOUND AT - FEET  COCO10-13  TERESH 3 SULPHUR  14	DIAM MATERIAL THICKNESS INCHES FROM	MATERIAL AND TYPE	DEPTH TO TOP 41-44 80 OF SCREEN
2 SALTY 4 MINERAL	10-11 1 STEEL 12 2 GALVANIZED 3 CONCRETE 203	0058 61 PLUGGING & SE	ALING RECORD
15-18 1   FRESH 3   SULPHUR 2   SALTY 4   MINERAL 20-23   24	7 4 OPEN HOLE 0	DEPTH SET AT - FEET MATERIAL	CEMENT GROUT.
1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL	2 ☐ GALVANIZED 3 ☐ CONCRETE 4 DOPEN HOLE	8 10-13 14-17	
2 SALTY 4 MINERAL	24-25 I STEEL 26	27-30 18-21 22-25 26-29 30-33 80	
30-33 1   FRESH 3   SULPHUR 34   2   SALTY 4   MINERAL	3 CONCRETE 4 OPEN HOLE		
71 PUMPING TEST METHOD 10 PUMPING RAT	11-14 DURATION OF PUMPING  15-16  17-18  17-18  17-18  MINS.	LOCATION OF W	
STATIC WATER LEVEL 25	ER LEVELS DURING 2 RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF WELLOT LINE. INDICATE NORTH BY ARROW.	FROM ROPE AND
19-21 22-24 15 MINUTE	30 MINUTES 29-31 45 MINUTES 32-34 60 MINUTES 35-37	2 10 16	T / L.2-
Z IF FLOWING. GIVE RATE  O 2 S FEET 6	EET WATER AF END OF TEST 42	No lumb	
GPM.  RECOMMENDED PUMP TYPE RECOMMENDED	FEET 1 CLEAR 2 CLOUDY  FEET 43-45 RECOMMENDED 46-49	( ON ) 175	CAPIEX
SHALLOW DEEP SETTING	78 FEET RATE 0004 GPM.	1 1 6 2	ا سر
54 1 GPM./FT. SPEC	5 ABANDONED, INSUFFICIENT SUPPLY	WANG TO THE WAY	2 111
STATUS  26 OBSERVATION W	FELL 6 ABANDONED, POOR QUALITY 7 UNFINISHED		
OF WELL 4 RECHARGE WELL	5 COMMERCIAL	W. T.	
WATER  3 1 RIGATION  USE // 4 INDUSTRIAL	6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING	CONI	
□ OTHER	9 NOT USED		
METHOD 2 CABLE TOOL 2 ROTARY (CONVE			
OF DRHLING  3 □ ROTARY (REVER	, 9 □ DRIVING	DRILLERS REMARKS:	
	LICENCE NUMBER	DATA 58 CONTRACTOR 59-62 DATE R	160771 63-68 80
O JOSEPH S	TI: FAN 4801 AND. S. BURFORD	DATE OF INSPECTION INSPECTOR	3
NAME OF PRILLER OR BORER	AUP. S. BURLORD	S REMARKS:	CSS.S8
Z SAME	SUBMISSION DATE	OFFICE	C22.22
SIGNATURE OF CONTRACTOR	Jan DAY 20 MO. 8 YR.74	Ö	



Water management in Ontario 1. PRINT ONLY IN SPA	CES PROVIDED T BOX WHERE APPLICABLE	1301657 - 73 001 14 15 150 150 150 150 150 150 150 150 150	22 23 24 LOT 25-27
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	3	COMPLETED 258-53 7
	CAUTH BEN	DE HAMILTON DAY	15 MO ST. 77 YR 147
	7.5.800 4	ELEVATION RC. BASIN CODE III	47
1 2 M 10 12 LO	G OF OVERBURDEN AND BEDROCI	K MATERIALS (SEE INSTRUCTIONS)	DEPTH — FEET
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	FROM TO
Commen	11: LL		0' 13'
GREY SAYS		COAKSE SAND	13 20
BROWN CLAY		SOFT CRAIN	44 45-1
BROWN GRAVEL		MI DUM CANADA	77
(31) Na/5 23 1 1 006	 	aa45411	
31 00/5 23 00%		L	65 75 80 DIAMETER 34-38 LENGTH 39-40
41 WATER RECORD	51 CASING & OPEN HOLE		INCHES FEET
WATER FOUND KIND OF WATER	INSIDE MATERIAL THICKNESS FRO	MATERIAL AND TYPE	DEPTH TO TOP 41-44 80 OF SCREEN
10-13 1 RESH 3 SULPHUR  A MINERAL	10-11   STEEL 12 20 SALVANIZED 3   CONCRETE , 203	00111	SEALING RECORD
1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	3 □ CONCRETE , 203 0	DEPTH SET AT - FEET MATER	IAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
20-23  1   FRESH 3   SULPHUR  2   SALTY 4   MINERAL	2 GALVANIZED 3 CONCRETE	FROM TO 10-13 14-17	
25-28 1 FRESH 3 SULPHUR 25 2 SALTY 4 MINERAL	24-25 1  STEEL 26	27-30 18-21 22-25 26-29 30-33 80	
30-33 1 FRESH 3 SULPHUR 34 2 SALTY 4 MINERAL	3 CONCRETE 4 OPEN HOLE		- Lik
71 PUMPING TEST METHOD 10 PUMPING R	TATE 11-14 DURATION OF PUMPING  11-14 DURATION OF PUMPING  17-18  HOURS OM MINS.	LOCATION OF	
STATIC WATER LEVEL 25 STATIC FRO OF WA	HOURS HOURS  1 FUMPING  ATER LEVELS DURING  2 RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF LOT LINE. INDICATE TOTH BY ARROW.	WELL FROM ROAD
LEVEL PUMPING 19-21 22-24 15 MINU		100	LOT
IF FLOWING. 38-41 PUMP INTA	FEET OF FEET WATER AT END OF TEST 42	1 10	11 12
GIVE RATE  GPM.  RECOMMENDED PUMP TYPE  RECOMMEN	FEET 1 CLEAR 2 CLOUDY  NDED 43-45 RECOMMENDED 46-49	11/01 # 1	
SHALLOW DEEP SETTING	120 FEET PUMPING 1005 GPM.	10	a art of
54 1 WATER SUPPL	PECIFIC CAPACITY  5 ABANDONED, INSUFFICIENT SUPPLY	M	ON III
STATUS 2 Deservation 3 Test Hole		3.1	
OF WELL 4 ☐ RECHARGE WE	5 COMMERCIAL	450 5	
WATER 2 STOCK 3 ☐ IRRIGATION	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING	- Control of the cont	
USE 4 INDUSTRIAL OTHER	9 NOT USED		1,1
METHOD CABLE TOOL	6 ☐ BORING 7 ☐ DIAMOND	II I C	OW JI
OF  ORILLING  3   ROTARY (REV 4   ROTARY (AIR 5   AIR PERCUSS	/ERSE) 8 ∐ JETTING ) 9 ☐ DRIVING	DRILLERS REMARKS:	
AIR PERCUSS	LICENCE NUMBER	DATA 58 CONTRACTOR 59-62 D	ATE RECEIVED 69-68
DADDRESS SEPH ST	1. 5. BURFORD	SOURCE \$ 4801  DATE OF INSPECTION INSPECTOR	240971
NAME OF DRILLER OR BORER	A.S. BURFORD	25, 4c 7 2 REMARKS:	P 7
Z SAMI	SUBMISSION DATE	O FFICE	css.s8 WI 3
SIGNATURE OF CONTRACTOR	DAY 13 MO 12 YR 24	Ö	W1 //
OWRC COPY			

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er management in O	ontario 1. PRINT ONLY IN SPA	ACES PROVIDED T BOX WHERE APPLICABLE	11	1301683 -	MUNICIP. 1,3,0,0	14 15	LOT	22 23 24 25-27
TY OR DISTRICT	2. CHECK & CONNEC	TOWNSHIP, BOROUGH, CIT	TY, TOWN, VILLAGE	,	CON., BLOCK, TRACT, S	DATE COMPL	00.	3.
		PR	42 1	BRANTA	FORD	DAY	- 1	_yr. <b>7</b> /
		74	1068 HA	ELEVATION ORZO	RC. BASIN CODE	<u>"</u>		47
2	M 10 / 12	G OF OVERBURDEN	N AND BEDRO	CK MATERIALS	(SEE INSTRUCTIONS)			
COLOUR	MOST	OTHER MA			GENERAL DESCRIPTION		DEPTH -	TO
NERAL COLOUR	BOUITERS	GRAVE	E L				0	10
ROWN	GRAVEL	CLAX		CEN	PRITE	2	10	65
REY	GRAVEL						65	12
BROWN	SAND (	COARSE	<u> </u>				5	0 4
RE)	SANO	CLAY				J	7	0 1
						1		
<del></del>					1 1 1 1 1	1 1 1 1		1.1
1 1000	06/3/11 1 006	657211/05 1 laa	73411	CV882419				
32	14 15	1	0.521 11.011	E DECODD	SIZE(S) OF OPENING (SLOT NO.)	0/2 <sup>31-33</sup> DIAM	4.730	75 ENGTH
WAT	ER RECORD	51 CASING &	WALL	DEPTH - FEET	MATERIAL AND TYPE	<u> </u>	INCHES DEPTH TO TOP OF SCREEN	2 <b>3</b>
AT - FEET 10-13	KIND OF WATER  TERESH 3 SULPHUR	DIAM MATERIAL INCHES	INCHES	ROM TO	S STEEL	ABONS	OF SCREEN	OO 7
0072.	SALTY 4 MINERAL  FRESH 3 SULPHUR	2 GANVANIZE 3 □ CONCRETE 4 □ OPEN HOL	ED .	0077	61 PLUGGE			COR
20-23	SALTY 4 MINERAL  PRESH 3 SULPHUR	4 OPEN HOL  17-18 I ☐ STEEL  2 ☐ GALVANIZI	19	20-23	DEPTH SET AT – FEET FROM TO 10-13 14	MATERIAL AND		MENT GROU PACKER, ET
25.28	SALTY 4 MINERAL	3 ☐ CONCRETE	E DLE	27-30	, , , ,	-25		
20.33	☐ FRESH 3 ☐ SULPHUR ☐ SALTY 4 ☐ MINERAL 34	24-25 1 STEEL 2 GALVANIZ		2,130		-33 80		
1 '	☐ FRESH 3 ☐ SULPHUR ☐ SALTY 4 ☐ MINERAL	3 □ CONCRETE 4 □ OPEN HO	DLE	1				
71 PUMPING TEST N	a arr		15-16 00 17-18 HOURS 00 MINS	3	LOCATIO	STANCES OF WELL		
STATIC	WATER LEVEL 25	ATER LEVELS DURING	1 PUMPING	LOT	LINE. INDICATE NORTH	BY ARROW.		
S LEVEL	PUMPING  -21 22-24 15 MINU		INUTES GO MINUTES 35-3	7				
	38-41 PUMP INTA	FEET FEET WATER AT	T END OF TEST 4	7 )	22.4	· 13	3	6
Z IF FLOWING, GIVE RATE  RECOMMENDED	GPM. PUMP TYPE RECOMMEN	NDED 43-45 RECOMME		_	- WM - 9			
□ SHALL	OW DEEP PUMP	75 FEET RATE		4   V° \\	35	•		
50-53	54	PECIFIC CAPACITY	, INSUFFICIENT SUPPLY	d				****
FINAL STATUS	WATER SUPPLY 2 OBSERVATION 3 □ TEST HOLE		, POOR QUALITY		3	CON	1	to the contract of the contrac
OF WEL	L 4 RECHARGE WE				to	~		
WATER	2 DOMESTIC	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY		- 10 m		RIDE	ERP	
USE	4 INDUSTRIAL OTHER	8 COOLING OR AIF	R CONDITIONING  NOT USED		PLEAGAN	, ,,,,,,,	~ ·	
.,	57 CABLE-TOOL	6 □ BOF		$ \cdot $	CON	3 /	low	M
METHO! OF	3 ROTARY (REV	/ERSE) 8 ☐ JET	TING		CON	IL .	•	
DRILLIN	5 ☐ AIR PERCUSS		LICENCE NUMBER	DRILLERS REMAI	RKS: 58 CONTRACTOR	59-62 DATE REC	91171	6
1~ /	ERT D	ENNIS	1702	SOURCE DATE OF INSI	1 170	72 INSPECTOR	7111	
U		BRANTFOR	RD	W 25	4,72	·		•
NAME OF DE	RILLER OR BORER	M. FIFTH F. C.	LICENCE NUMBER		SEAL -FRAN	SEE MENU	77 088.58	P 7
17 Man	OF CONTRACTOR	SUBMISSION		OFFICE		4	CONT.	WI
	ut Dens	*2 #4	MO 9 YR 3	r/    O				<u> </u>

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ter management in Omtario 1. PRINT ONLY IN S	PACES PROVIDED 11	130 1030	22 23 24
2. CHECK X CORRI	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	3 , CON., BLOCK, TRACT, SURVEY, ETC.	MPLETED 48-53
	20 44 2-	BRANTFORD 17	# 11 YR 7/
	7/4/01/ 0 KG	ELEVATION RC. BASIN CODE !!	1111 112
M 10 12	OG OF OVERBURDEN AND BEDROCI	26 30 5	
MOST	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH FEET FROM TO
COMMON MATERIAL		CEMENTED	0 40
BROWN GRAVEL	CLAY		65 93
RED SAND	CLAX		93 106
GREY SAND			
The second secon	a65611651   laag37aga51   l	0/06/209	
31 00406// 1 04	MODIAN POLITICATION POLITICATION OF THE	54	65 75
41 WATER RECORD	51 CASING & OPEN HOLE	RECORD Z SIZE(S) OF COLOR	OH ORDER OH
WATER FOUND KIND OF WATER	INSIDE WALL DE THICKNESS FRO INCHES FRO		DEPTH TO TOP OF SCREEN 0/02
75 10-13 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	5 TI STEEL 12 231 O	0/02 61 PEGGING & S	EALING RECORD
15-18 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL	19 05 3 CONCRETE 4 OPEN HOLE 17-18 1 STEEL 19	20-23 DEPTH SET AT - FEET MATERIA	L AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.
20-23	2 GALVANIZED 3 CONCRETE	FROM TO 10-13 14-17	
1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL	Z4-23 1 STEEL	27-30 18-21 22-25 26-29 30-33 80	
30-33 1 FRESH 3 SULPHUE 2 SALTY 4 MINERAL	3 CONCRETE	26-29 30-33 60	
71 PUMPING TEST METHOD 10 PUMPING	RATE 11-14 DURATION OF PUMPING  15-16 0 17-18  HOURS 0 MINS.	LOCATION OF	
1 PUMP 2 BAILER UU	GPM. C HOURS COMINS.  I D SUMPING  WATER LEVELS DURING  2 □ RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF W LOT LINE. INDICATE NORTH BY ARROW.	ELL FROM ROAD AND
LEVEL DUMBING	NUTES 26-28 30 MINUTES 29-31 45 MINUTES 32-34 32-34	4 13	5
62 FEET 94 FEET 99	TFEET 94 FEET 94 FEET 74 FEET	Vo	L'Y
IF FLOWING, 38-41 PUMP II  GPM. GPM.  RECOMMENDED PUMP TYPE RECOMMENDED PUMP TYPE	1   CLEAR   2   CLOUDY	100	
SHALLOW DEEP SETTING	100 FEET RATE O 3 GPM.		
S4 TWATER SUP	SPECIFIC CAPACITY  5 ABANDONED, INSUFFICIENT SUPPLY	50	11.00
STATUS 3 TEST HOLE	on WELL 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED	1	
OF WELL 4 ☐, RECHARGE  55-56 1 DOMESTIC	5 COMMERCIAL	RI RI	DEE RD
WATER 2 □ STOCK 3 □ IRRIGATION		PLEASANI RIL	
USE O/ 4 □ INDUSTRIAI	9 □ NOT USED	1/2	
METHOD 57  CABLE TOO POTARY (C	ONVENTIONAL) 7 🗌 DIAMOND		
OF DRILLING  3 □ ROTARY (F 4 □ ROTARY (A 5 □ AIR PERCU	IR) 9 ☐ DRIVING	DRILLERS REMARKS:	
NAME OF WELL CONTRACTOR	LICENCE NUMBER	DATA 58 CONTRACTOR 59-62 DAT	2 N 1 2 7 1
O KOBERT	BRANTPARD	DATE OF INSPECTION INSPECTOR	- OU I W I X
OF RRIF 2	BRANT/SAP	3 7 4,72 REMARKS: NO WELL SEAL	CSS.S8 P
= dane	SUBMISSION DATE	DIT IN BASEMENT.	WI 1
O SIGNATURE OF CONTRACTOR	Jen - DAY 25 MO 11 VR 71	0	

NUTTY OR DISTRICT	BOX WHERE APPLICABLE 12  TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE  AND	COM BLOCK, TRACT, SURVEY, ETC  BASIN CODE  ILEVATION  SC. BASIN CODE  ILEVATION  30  31	MPLETED 48-	)4 53 
GENERAL COLOUR COMMON MATERIAL	G OF OVERBURDEN AND BEDROCK	GENERAL DESCRIPTION	DEPTH FROM	10
BROWN HARD PAN BROWN GRAVEL	+ ROCKS	CEMENTED VERY FINE	20	20 66 95
REO SAND	CLAX	VERY FINE	95	102
31) \[ \alpha \a	51 CASING & OPEN HOLE	RECORD Z SIZE(S) OF OPENING 31-33 E	5 5)IAMETER 34-38	75 e length 39-4
WATER OUND   KIND OF WATER	MATERIAL THICKNESS INCHES  INCHES  MATERIAL THICKNESS INCHES  10 40-11   STEEL 12 2.31    ALVANIZED 3 CONCRETE 4 OPEN HOLE  17-18   STEEL 19    GALVANIZED 3 CONCRETE 4 OPEN HOLE  24-25   STEEL 26    GALVANIZED 26    GALVANIZED 26    GALVANIZED 26    GALVANIZED 26    GALVANIZED 26    GALVANIZED 27   GALVANIZED 27    GALVANIZED 27    GALVANIZED 27   GALVANIZED 27	0094 61 PLUGGING & S	((	FEET  RECORD  LEMENT GROUT, D PACKER, ETC. 1
2 SALTY 4 MINERAL  71 PUMPING TEST METHOD 10 PUMPING R 11 PUMP 2 STATIC LEVEL WATER LEVEL END OF PUMPING 19-21 22-24 15 MINU 25-4 FEET BO FEET	TER LEVELS DURING  TES 30 MINUTES 29-31  FEET WATER AT END OF TEST 42  FEET 1 CLEAR 2 CLOUDY  TO PUMPING 2 RECOVERY  45 MINUTES 32-34  FEET 47  WATER AT END OF TEST 42  FEET 1 CLEAR 2 CLOUDY	LOCATION OF VI		» ←
FINAL STATUS OF WELL  54  I WATER SUPPLY C OBSERVATION C OF WELL  55-56  I POMESTIC C OSTOCK C OBSERVATION C OBSER	WELL 6 ABANDONED, POOR QUALITY 7 UNFINISHED	PLEAGANT RIOBERP	. 18M.	
METHOD OF DRILLING  J IRRIGATION  A INDUSTRIAL  OTHER  TO OTHER  TO OTHER  A CABLE TOOL  2 ROTARY (CON  3 ROTARY (REV  4 ROTARY (AIR)  5 AIR PERCUSS	8 COOLING OR AIR CONDITIONING  9 NOT USED  6 BORING  VENTIONAL) 7 DIAMOND  ERSE) 8 JETTING  9 DRIVING	DRILLERS REMARKS:		
NAME OF WELL CONTRACTOR  ADDRESS  NAME OF DRILLER OR BORER  SIGNATURE OF CONTRACTOR	DENNS 1702  BRANTFORD  LICENCE NUMBER	DATA SOURCE   58 CONTRACTOR 59-62 DATE   1702 DATE   1	19067	2 · /



ONTARIO	1. PRINT ONLY IN SF	ACES PROVIDED	11   13	01851	MUNICIP. 13.0	$0_10_1$ $C_1$	1 <u>M</u>	22 23 24 27 27 23
COUNTY OR BISTANET	2. CHECK 🗵 CORRE	TOWNSHIP, BOROUGH, CITY	TOWN, VILLAGE 3	,	CON BEOCK, TRAC	SURVEY, ETC.		OT 25-27
		,	XRR# Ot	4 (7. 1.	RANTIF	RD DATE COM	PLETED // 4	18-55 72 L valle
		6	21111 14	ELEVATION OIS A	RC. BASIN CODE	<u> </u>	'''	IV A7
21	M 10 12	G OF OVERBURDEN	LAND BEDRO	26	30 31	is)		
$\overline{}$	LO	OTHER MA			GENERAL DESCRIP		DEPTH FROM	- FEET
GENERAL COLOUR	COMMON MATERIAL	CILT		30F	T SILTY	SAND	0'	10'
BROWN	SAND	DIKTY	/	HARN	GRAV	1FL	10'	60'
TRE!	CANN	SILTV		SOFT	SILTY	SAND	60'	67'
COEV	CAND			FINE	WATE	R SAND	67	12
41-1								
							4.	
31 001	062806 1 000	02/1/11/1006	6762806	0072208				
32	14 15	32		43	SIZE(S) OF OPENI	NG 31-33 DI.	63.500	75 80 LENGTH 39-40
41 WATER FOUND	TER RECORD	INSIDE	WALL THICKNESS	DEPTH - FEET	S (SLOT NO.)	) ×RE	3/2 INCHES	05 FEET
AT - FEET	KIND OF WATER  FRESH 3   SULPHUR   14	DIAM MATERIAL	INCHES F	0067	SOHNSO	57A144125 45_57E/E	2 00 6	FEET
067	SALTY 4 MINERAL  FRESH 3 SULPHUR 19	3 CONCRETE	1200	1 12	[61] PL	UGGING & SE	ALING REC	CORD
1 1	SALTY 4 MINERAL  FRESH 3 SULPHUR 24	4 ☐ OPEN HOL 17-18 1 ☐ STEEL 2 ☐ GALVANIZI	19	20.23	DEPTH SET AT - FE	o MATERIAL	AND TYPE (CE	EMENT GROUF D PACKER, ETC
2	SALTY 4 MINERAL  FRESH 3 SULPHUR 29	3 CONCRETE 4 OPEN HOL	.E	27-30	10-13	22-25		
2	SALTY 4 MINERAL  FRESH 3 SULPHUR 34	24-25 1 STEEL 2 GALVANIZ 3 CONCRETE	1 11	1	26-29	30-33 80		<u> </u>
2	SALTY 4 MINERAL	4 OPEN HOL	.E					
71 PUMPING EST		0004 GPM 01	05 PUMPING 15-16 00 17-18 HOURS 0 MINS	2	LOCAT	ION OF W		n and
STATIC LEVEL	WATER LEVEL 25	R LEVELS DURING 2	PUMPING  RECOVERY	IN DIA		ORTH BY ARROW.	The work	
LES 19	-21 22-24 15 MINUT	6-28 29-31 45 MIN	UTES 60 MINUTES 32-34 35-3					
E IF FLOWING.	38-41 PUMP INTA	KE SET AT WATER AT	END OF TEST 42		1001	(1)		
IF FLOWING. GIVE RATE  RECOMMENDED		FEET 1 CI		-	1	1.07	-	W
SHALL	OU DEEP PUMP SETTING	OGO FEET RATE	0004 GPM	<u> </u>	10,	1 4	10	_\{\)
	54 1 WATER SUPPLY	5 🗆 ABANDONED,	INSUFFICIENT SUPPLY	<b>511</b>	13	1 1		<b>^</b>
FINAL	2 OBSERVATION 3 TEST HOLE	WELL 6 ABANDONED, 7 UNFINISHED	POOR QUALITY			170' = 1		{
OF WEL	55-56 1 DOMESTIC	5 COMMERCIAL		K-4/5	WALE ->	20 30		
WATER		5 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR	CONDITIONING			2		
USE	O/   1 INDUSTRIAL OTHER		NOT USED					
метно			MOND		00	YIV		
OF DRILLIN	IG 3 ☐ ROTARY (REVI	9 DRIV		DR LLERS REMAR		,		
NAME OF W			LICENCE NUMBER	DATA	58 CONTRACT	OR 59-62 DATE R	04127	72
T- 1	ELL CONTRACTOR  SEPH ST  MAPLE A	FAN	14801	DATE OF INS	PECTION	SO/ INSPECTOR	V #1# (	
34	MAPLE A	is.s. Bu	Rrok-D LICENCE NUMBER	S REMARKS:	12,72			P 2
IN SA	MICA	SUBMISSION E		FICE		,	CSS.S8	//
SIGNATURE	OF CONTRACTOR		_ MO. <u>/ 2</u> _ YR 2	2 0			<u> </u>	W I FORM 7 07-
MINISTRY	OF THE ENVIRO							, ORM 7 OF

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

	1. PRINT ONLY IN SPACES PROV 2. CHECK X CORRECT BOX WH		11	1302	125	13001	MT,	22 23 24
COUNTY OR DISTRICT		HIP, BOROUGH, CITY,			C <b>₫</b> N., BL	OCK TRACT SURVEY,		CO 5
BORM		DDRESS	PANTFOR	7 0	NT		DAY 12 ONT	VR. 73
ZONE	EASTING .	NORTHING	RC.	TEELVATION	• 23	AUG	09, 1977	328
1302125 17	554706	4772524	AND BEDROCK	1 74		·		EPTH - FEET
GENERAL COLOUR COMM	MOST MON MATERIAL	OTHER MATE	ERIALS			DESCRIPTION	FROM	1 70
BROWN				FINE	5/11	JIJ & CA	SAND 55	5 65
				ONTO		OF COTTLE	7/100	
			<u> </u>		· · · · · · · · · · · · · · · · · · ·	<u>-</u>		
						<u></u>		
		<u></u>						
						····	<u>.                                    </u>	
		<u> </u>				<u>.</u>		
31 00556080	051, INDAS 11.11	78Pall						
32		32		3	54		65	75 6
41 WATER RE		CASING &	OPEN HOLE RE	CORD PTH - FEET	SIZE(S) USLOT	of opening	04.00 04.00	HES LENGTH 39-40
TOESH FRESH	SULPHUR 14	MATERIAL  11 1 STEEL 12	THICKNESS FROM	70 005596	10 7	AND TYPE	DEPTH TO	0 TOP 41-44 8 762 FEET
15-18 1 FRESH	3 D SULPHUR 19	2 GALVANIZED 3 CONCRETE			61	PLUGGINO	& SEALING F	RECORD
20-23 1 _ FRESH	SULPHUR 24	4 OPEN HOLE  18 1 STEEL  2 GALVANIZED	205 46	0062523	DEPTH SI	70	IATERIAL AND TYPE	(CEMENT GROUT)
25.28 1  FRESH	4   MINERAL  3   SULPHUR  24-3	3 CONCRETE 4 OPEN HOLE 25 1 STEEL	6	27-30	18-2			
30-33 1	3 SULPHUR 34 BO	2 GALVANIZED 3 CONCRETE			26-2	9 30-33 80		
PUMPING TEST METHOD	10 PUMPING RATE	11-14 DURATION OF P				OCATION O	F WELL	472
STATIC WATER I	LEVEL 25	1 🔽	16 30 17-18 MINS	IN DIA	-1	W SHOW DISTANCE	S OF WELL FROM R	OAD AND
LEVEL PUMP			60 MINUTES			NEIL		
FEET OF FEET O	SE-41 PUMP INTAKE SET AT	WATER AT END	OF TEST 42		Colt the	W X		
RECOMMENDED PUMP TYPE	GPM.  RECOMMENDED	FEET 1 CLEAR  43-45 RECOMMENDED	2 CLOUDY		3 7%	100		
SHALLOW DE	PUMP SETTING 06 X	PACITY	00 дрм.	•	3	5		
I FINAL I		ABANDONED, INSU	1 1	į Į	X // /// /			
STATUS ,		☐ ABANDONED, POO!	R QUALITY	•	3 6		יוני.	AN M
2		COMMERCIAL			3/5		W. EU.	<b>*</b> *
USE ()		PUBLIC SUPPLY COOLING OR AIR CONI 9	1 1		1/1		K	
• 1	CABLE TOOL	6 D BORING	:		H			
OF 3	☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR)	7 DIAMONE 8 JETTING 9 DRIVING	1		'}			
	AIR PERCUSSION		ICENCE NUMBER	DRILLERS REMAR		ONTELCTOR 59 62	DATE RECEIVED	63-64
ADDRESS	MITCHEL		3604	SOURCE  DATE OF INSP	ECTION	3604 INSPECTOR	291	174
JARU	) 1 <b>5</b>		LICENCE NUMBER	USE	, , , , , , , , , , , , , , , , , , , ,			5.S8 <sub>D</sub>
NAME OF DRILLER OR BO	MITCHI	SUBMISSION DATE	3653	FICE			CSS	
SIGNATURE OF CONTRAC	Jethell	DAY 29 MC	00 T YR. 74	OF				FORM 7 07-0
MINISTRY OF	F THE ENVIRON	MENT COP	Υ					· · · · · · · · · · · · · · · · ·

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act WELL RECOR 1.3.001 1302184-2. CHECK 🖾 CORRECT BOX WHERE AP BRANTFORD DATE COMPLETED SCOTLAND DAY 28 MO1 328 AUG 09, 1977 74618 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST COMMON MATERIAL GENERAL COLOUR DEPTH - FEET GENERAL DESCRIPTION BROWN SANO 22 0 3ROWN SAND COARSE ATERS a 2 37*4* 0022628 1 003861074 31 41 WATER RECORD 51 **CASING & OPEN HOLE RECORD** DEPTH DEPTH TO TOP 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL SAND GALVANIZED CONCRETE FRESH 3 SULPHUR
SALTY 4 MINERAL 61 **PLUGGING & SEALING RECORD** 4 🗌 OPEN HOLE 1 🗌 STEEL - FEET FRESH 3 SULPHUR 24
2 SALTY 4 MINERAL MATERIAL AND TYPE (CÈMENT GROUT, LEAD PACKER, ETC.) Z I GALVANIZED FROM то 3 CONCRETE 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 4 DOPEN HOLE 1 🗆 STEEL 27-3 2 GALVANIZED
3 GONCRETE I FRESH 3 SULPHUR
Z SALTY 4 MINERAL 4 - OPEN HOLE LOCATION OF WELL 2 🗆 BAILER WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. STATIC PUMPING WATER LEVELS DURING PUMPING TEST 02 BRANTFORD 26-28 29-31 32-34 AIR PORTE Z CLOUDY PUMP 034 Con TV BLUEBIRD FEET 0006 ☐ SHALLOW COACH GPM. / FT. SPECIFIC CAPACITY WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY FINAL 6 ABANDONED POOR QUALITY 2 OBSERVATION WELL
3 TEST HOLE
4 RECHARGE WELL STATUS OF WELL HWY 53 1 DOMESTIC 5 COMMERCIAL 2 STOCK
3 IRRIGATION WATER PUBLIC SUPPLY USE O ☐ INDUSTRIAL HOUSE PLANSUIEU ☐ OTHER 9 | NOT USED TRAILER lot 6 D BORING CABLE TOOL **METHOD** 2 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) 7 DIAMONE
8 DETTING 3 | ROTARY (NE...
4 | ROTARY (AIR)
5 | AIR PERCUSSIC DRILLING ( 15 9 DRIVING AIR PERCUSSIO 3030 290775 OFFICE USE ONLY 3030 CSS.S8 WΙ FORM 7 + 07-091 MINISTRY OF THE ENVIRONMENT **COPY** 

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THE ENVIRONMENT COPY

MINISTRY OF THE ENVIRONMENT 40 1/10 The Ontario Water Resources Act ER WELL RECOR 1,3,0,01 MT 1302421-1 2. CHECK S CORRECT BOX WHERE APPLICABLE CON., BLOCK, TRACT, SURVEY, ETC. OGH, CITY, TOWN, VILLAGE 3 COUNTY OR DISTRICT RRANT DATE COMPLETED 20 mO5 BRANTFORD LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET GENERAL DESCRIPTION OTHER MATERIALS GENERAL COLOUR COMMON MATERIAL FROM τo 1 ě 0 SPN T1C-N1 50 SBNIA 10 14 15 21 32 43 54 54 65 75 34-38 LENGTH SIZE(S) OF OPEN CASING & OPEN HOLE RECORD SCREEN 41) WATER RECORD 51 DEPIN WATER FOUND KIND OF WATER DEPTH TO TO FRESH 3 SULPHUR
2 SALTY 4 MINERAL 003510 1 STEEL 0056 2 | GALVANIZED O, 54 CONCRETE 0 **PLUGGING & SEALING RECORD** 1 TRESH 3 SULPHUR 61 D OPEN HOLE 2 SALTY 4 MINERAL DEPTH SET AT - FEET (CEMENT GROUT, 20.2 1 STEEL 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL FROM 2 GALVANIZED 3 CONCRETE 3 SULPHUR 4 OPEN HOLE 25-28 1 | FRESH 27-3 18-21 22-25 4 MINERAL 1 STEEL 2 SALTY 2 GALVANIZED 26-29 30-33 1 | FRESH 3 | SULPHUR 3 CONCRETE 4 MINERAL Z SALTY DOPEN HOLE LOCATION OF WELL UMPING TEST METHOD 1 D PUMP 2 | BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER LEVEL END OF PUMPING 1 DUMPING WATER LEVELS DURING z 🗌 RECOVERY 70 70 PLFARAPIT TEST 60 MINUTES INTES 30 MINUTES MINUTES 29-3 26-2 FEET FEET 43-45 RECOMMENDO 6
PEET RATE 2 CLOUDY PUMP
SETTING 045
FEET

GPM./FT. SPECIFIC CAPACITY 70 HUY 5 ABANDONED, INSUFFICIENT SUPPLY WATER SUPPLY **FINAL** 2 OBSERVATION WELL 6 ABANDONED POOR QUALITY STATUS ☐ TEST HOLE , UNFINISHED A | RECHARGE WELL OF WELL 1 DOMESTIC S COMMERCIAL 2 STOCK
3 RRIGATION 6 MUNICIPAL WATER PUBLIC SUPPLY COOLING OR AIR CONDITIONING PLEPAPE USE D . INDUSTRIAL 9 | NOT USED OTHER ROH 6 7 BORING CABLE TOOL METHOD 2 T ROTARY (CONVENTIONAL) DIAMOND 6 70 8 D JETTING OF 3 ROTARY (REVERSE) ROTARY (AIR) □ DRIVING 4 🗆 DRILLING S AIR PERCUSSION DATE SECENT OF LICENCE NUMBER OFFICE USE ONLY 3030 3036 LICENCE NUMBER P. **C**\$\$.58 SUBMISSION DATE ŴΙ FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

## WELL RECOR

1302423-1 Z. CHECK 🗵 CORRECT BOX WHERE APPLICABLE COUNTY OR DISTRICT TOWNSHIP, BOROUGH, CITY, TOWN BOOKE JIVY FOR LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET MOST COMMON MATERIAL OTHER MATERIALS GENERAL DESCRIPTION GENERAL COLOUR BROWN FINE 0 SAWD 20 BROWN COARSER SAND TIGHT 28 BROWN 332 CASING & OPEN HOLE RECORD 41 **WATER RECORD** KIND OF WATER TER FOUND ERESH 3 SULPHUR 0025 GRAUFI 0043 GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 36 3 CONCRETE
4 OPEN HOLE 0 PLUGGING & SEALING RECORD 61 1 STEEL MATERIAL AND TYPE 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 20-23 FROM Z [] GALVANIZED CONCRETE 25-28 1 | FRESH 3 | SULPHUR 4 OPEN HOLE 27-30 2 SALTY 1 STEEL 4 D MINERAL 2 🗆 GALVANIZED 30-33 1 | FRESH 3 | SULPHUR 3 CONCRETE 4 | MINERAL , SALTY 4 DPEN HOLE LOCATION OF WELL 15-16 HOURS 2 🗆 BAILER 1 D PUMP IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER LEVEL END OF PUMPING 1 DUMPING WATER LEVELS DURING 2 - RECOVERY 15 MINUTES 30 MINUTES 32-34 22-2 45 MINUTES 26-28 35-3 FEET ERAWY FORD IF FLOWING 2 CLOUDY 1 CLEAR FEET RECOMMENDED PUMP RECOMMENDED PUMP SETTING 40 FEET GPM./FT. SPECIFIC CAPACITY SHALLOW DEEP FEET 50-53 MATER SUPPLY B ABANDONED, INSUFFICIENT SUPPLY FINAL ABANDONED, POOR QUALITY

UNFINISHED 2 OBSERVATION WELL
3 TEST HOLE **STATUS** OF WELL A | RECHARGE WELL DOMESTIC 5 COMMERCIAL 6 MUNICIPAL 2 STOCK 3 | IRRIGATION WATER 7 T PUBLIC SUPPLY 01 4 | INDUSTRIAL USE OTHER 9 NOT USED 6 BORING
7 DIAMOND METHOD 6 1 CABLE TOOL 2 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) 8 D JETTING SIMCOR 4 | ROTARY (AIR)
5 | AIR PERCUSSION 9 DRIVING **DRILLING** 300677 3030 ONLY 3030 CONTRACTOR USE ( OFFICE

THE ENVIRONMENT COPY MINISTRY

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The Ontario Water Resources Act 407/ TER WELL RECO Ministry of the Environment 1302658 13001 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE ON., BLOCK, TRACT, SUR 004 KenTract LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET GENERAL DESCRIPTION FROM OTHER MATERIALS GENERAL COLOUR COMMON MATERIAL 23 0 CASING & OPEN HOLE RECORD MATERIAL OF 51 WATER RECORD 0098 FRESH 3 SULPHUR
SALTY 4 MINERAL GALVAN IZED PLUGGING & SEALING RECORD 61 CONCRETE FRESH 3 SULPHUR 4 MINERAL FEET MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) Z SALTY STEEL GALVANIZED FRESH 3 SULPHUR 2 SALTY 4 MINERAL CONCRETE 4 [] OPEN HOLE 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL CONCRETE OPEN HOL LOCATION OF WELL 0002 I Bristler 1 🗆 PUMP IN DIAGRAM BELO PUMPING PUMPING TEST IF FLOWING RECOMMENDE WATER SUPPLY
OBSERVATION WELL
TEST HOLF 5 ABANDONED. INSUFFICIENT SUPPLY 6 ABANDONED, POOR QUALITY FINAL STATUS 7 UNFINISHED OF WELL 4 | RECHARGE WELL DOMESTIC
STOCK
IRRIGATION
INDUSTRIAL COMMERCIAL 6 MUNICIPAL PUBLIC SUPPLY WATER POBLIC SUFFE.

S ☐ COOLING OR AIR CONDITIONING

NOT USED USE 0 OTHER CABLE TOOL
ROTARY (CONVENTIONAL) 6 D BORING
7 DIAMOND **METHOD** ROTARY (REVERSE) 8 / JETTING OF ☐ DRIVING ROTARY (AIR) DRILLING AIR PERCUSSION 090179 OFFICE USE ONLY 4208 4208 CONTRACTOR ICENCE NUMBER CSS.S8 MO MULAR FORM NO. 0506-

MINISTRY OF THE ENVIRONMENT COPY

The Ontario Water Resources Act

Ontario , a	7 1. PRINT ONLY IN	SPACES PROVIDED		02676	WELL	con .	
COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, CITY,		BRAN.		DAY 30	
		OG OF OVERBURDEN	AND BEDROC	K MATERIAL	S (SEE INSTRUCTIONS)		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MAT	ERIALS		GENERAL DESCRIPTIO	N	DEPTH - FEET FROM TO
BROWN	SAND						0 20
BRAWKI	SANDY	CLAY					20 48
GREY	SAND						48 59
WATER FOUND AT - FEET 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FRESH 3 SULPHUR SALTY 4 MINERAL  FRESH 3 SULPHUR SALTY 4 MINERAL  FRESH 3 SULPHUR 24  FRESH 3 SULPHUR 25  FRESH 3 SULPHUR 29  SALTY 4 MINERAL  FRESH 3 SULPHUR 34  SALTY 4 MINERAL	INSIDE MATERIAL INCHES	OPEN HOLE R WALL THICKNESS 18CHES 19 19	EPTH - FEET	DEPTH SET AT - FEET FROM TO 10-12 14-1 18-21 22-2	GING & SEAL	CEMENT GROUT
STATIC LEVEL  19-21  0 40 FEET  FECOMMENDED PUI STATUS OF WELL	BAILER  WATER LEVEL END OF PUMPING  22-24 IS MINUTE  22-24 IS MINUTE  36-41 PUMP INTAN  APTYPE PUMP SETTING  STOCK  1 WATER SUPPLY 2 OBSERVATION W 3 OTEST HOLE 4 RECHARGE WELL  5-5-6 IDOMESTIC 2 OSSERVATION 4 INDUSTRIAL OTHER  STOCK  3 OTHER  STOCK 3 OTHER  STOCK 4 RECHARGE WELL	LEVELS DURING  LEVELS DURING  S	PUMPING PUMPING PUMPING PUMPING RECOVERY S 60 MINUTES 12-34 FEET D OF TEST 42 R 2 CLOUDY D 46-49 PM	IN DIA	GRAM BELOW SHOW DIS	BY ARROW.	FROM ROAD AND
NAME OF WELL	S AIR PERCUSSIO		LICENCE NUMBER  // 02  LICENCE NUMBER	DATA SOURCE  DATE OF INSP REMARKS:	1702	59-62 DATE RECEIVE	CSS.S8

ADDRESS

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DATA SOURCE 3030 DATE OF INSPECTION INSPECTOR CSS.S8 COALE COSS.S8 COALE COSS.S8 COALE COSS.S8 COALE COSS.S8 COALE COSS.S8 COALE COSS.S8 COALE C

FORM NO. 8506-4-77 FORM 7

The Ontario Water Resources Act 40P//C VATER WELL RECORD Ministry of the Environment 1302962 1,3,00,1 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CIT RANTFORD COUNTY OR DISTRICT BRANTFURD 0.800 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL DESCRIPTION FROM TO MOST COMMON MATERIAL OTHER MATERIALS GENERAL COLOUR 0 SAND SAND 20 32 CASING & OPEN HOLE RECORD SCREEN WATER RECORD 51 41 WALL THICKNESS INCHES MATERIAL AND TYPE 0028 19.13 SAND 3 D SUEPHUR 1 FRESH 1 STEEL Z SALTY 4 MINERAL Z [] GALVANIZED 0 120 PLUGGING & SEALING RECORD 56 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 61. 4 OPEN HOLE MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) DEPTH SET AT . FEET 2 🗍 SALTY 20-2 I STEEL FROM 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 2 GALVANIZED 3 CONCRETE
4 OPEN HOLE 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 22-25 25 1 STEEL 2 🔲 GALVANIZED 30-33 26-29 I FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE OPEN HOLE TO BILANTFORD 1 | PUMP 2 💥 BAILER 1 PUMPING STATIC LEVEL WATER LEVELS DURING 30 MINUTES 45 MINUTES 32-34 35-37 PLENSANI FEET RICIO JUA 2 CLOUDY 1 CLEAR RD. RECOMMENDED PUMPING RATE 46-49 43-45 RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING SHALLOW DEEP GPM 5 . ABANDONED, INSUFFICIENT SUPPLY WATER SUPPLY FINAL , | OBSERVATION WELL **STATUS** 7 UNFINISHED OF WELL 4 | RECHARGE WELL 5 COMMERCIAL 1 DOMESTIC STOCK RRIGATION . MUNICIPAL WATER " PUBLIC SUPPLY ■ □ COOLING OR AIR CONDITIONING INDUSTRIAL USE 9 | NOT USED OTHER . BORING 2 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) DIAMOND METHOD . D JETTING DRILLING 4 ROTARY Law. ROTARY (AIR) ■ DRIVING -100AKLAND ONLY DATE OF INSPECTION USE REMARKS OFFICE C\$8.88 FORM NO. 0506-4-77 FORM 7

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	Ministry
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W	Environment

Ontario Env		SPACES PROVIDED	11 /	130304		cor.	1 1 1 1 1 1
COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, CI	TY, TOWN, VILLAGE	<b>&gt;</b>	CON. BLOCK TRACT. SURV		5"
		2 0	211	Do		DATE COMPLETED	0 48.53 0 48.81
		ing .	ET Z	ELEVATION	RC. BASIN CODE	111	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	M 10 12	17 18 11	1 1 24 25	26	S ISSE INCURRECTIONS		42
	MOST	OG OF OVERBURDE		K WATERIAL	GENERAL DESCRIPTION	DEP1 FROM	TH - FEET
GENERAL COLOUR	COMMON MATERIAL	OTALK #	ATEMIAES			6	27
BROWN	CANIE	CLAN				27	33
Cont	GRAVEL	Quick SA	WO			50	54
GREY	CLAY	2016 11 371					
					1 11		
31   1	<u> </u>	<u> </u>	<u> </u>		111111111111111111111111111111111111111	MENDE	P RAZE
1 2 10	ATER RECORD	51 CASING	& OPEN HOLE P	RECORD	Z SIZE (S) OF OPENING	31-33 DIAMETER 374	
WATER FOUND AT - FEET	KIND OF WATER	INSIDE MATERIAL INCHES		DEPTH - FEET	SLOT NO )  # 25  MAYERIAL AND TYPE  STANLE	DEPTH TO TO	
40 2	FRESH 3 [] SULPHUR N	GLING I STEEL	" 188 0	2 4 13-16	& STAINLE	55 5, 4	3 FEET
15-18 1	FRESH 3 [] SULPHUR " SALTY 4 [] MINERAL				61 PLUGGI	NG & SEALING REG	
20-23 1	FRESH 3 [] SULPHUR 2			20-23	FROM TO		EMENT GROUT D PACKER ETC )
25-28 1	SALTY 4 MINERAL  FRESH 3 SULPHUR 2	3		27-30	10-13 14-17		
	SALTY 4 MINERAL  FRESH 3 SULPHUR 3	. ☐ GALVANIZI	ED		26-29 30-33 8	0	
2	SALTY 4 MINERAL	4 OPEN HOL			L COATION	O.F. IMELI	
71 PUMPING TEST		20 GPM 2	, 15-13 17-18 HOURS MINS		LOCATION		DAND! M
STATIC LEVEL	WATER LEVE: 25 END OF WATE	R LEVELS DURING	PUMPING  RECOVERY	LOT L		ARROW.	1
	120 20	26-28 29-31	32-34 35-37		//	1.01	-
IF FLOWING GIVE RATE	SEET C FEET COMP INTO		FEET FEET END OF TEST 42		//	5	
IF FLOWING GIVE RATE	GPM PUMP TYPE RECOMMEN	FEET 1 CL			//		
SHALL	LOW DEEP SETTING	25 FEET RATE	20 GPM		.3//		
	54 WATER SUPPLY	ABANDONED. I	NSUFFICIENT SUPPLY		W-1M-	9	1,05
FINAL STATUS	2 DBSERVATION 3 TEST HOLE	WELL 6 ABANDONED, P 7 UNFINISHED			3	1	4
OF WEL	RECHARGE WE	S COMMERCIAL			<del>}</del> //	/ <sub>4</sub> 0	
WATER	2 ☐ STOCK 3 ☐ IRRIGATION	6 MUNICIPAL 7 D PUBLIC SUPPLY	_	3	<i>(</i> /	1	i interpretation
USE	4   INDUSTRIAL   OTHER	a COOLING OR AIR C	NOT USED	\$\\			
METHO	D 2 GABLE TOOL	6 BORIF		1			
OF DRILLIN	3   ROTARY (REVI	ERSE) 8 🛄 JETTI	NG				
	S AIR PERCUSSI	ON	LICENCE NUMBER	DRILLERS REMAR		-62 DATE RECEIVED	63-68 80
	est Dens	, , , , , , , , , , , , , , , , , , ,	1702	SOURCE		12201	321
NAME OF DE	8. H B.	n. As	***	O DATE OF INST	PECTION INSPECTO	*	
NAME OF DE	RILLER OR BORER		LICENCE NUMBER	REMARKS:			
SIGNATURE	OF CONTRACTOR	SUBMISSION DA		OFFICE		CSS	S.ES
Krke	Nonn	DAY 3	MO. 10 YR81		<del> </del>		0506477 FORM

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STATUS OF STATUS		Ontario	1. PRINT ONLY IN S 2. CHECK 🗵 CORR	SPACES PROVIDED  ECT BOX WHERE APPLICABLE  1 2	1303	066	NUNICIP.	con.	1.1.1	22 23 24
LOG OF OVERBURDEN AND BEDROCK MATERIALS SEE WEST COLORS SEED TO THE MATERIALS SEED TO THE MATERIALS SEED WEST COLORS SEED TO THE MATERIALS SEED TO THE MATERIALS SEED WEST COLORS SEED TO THE MATERIAL SEED TO THE MA			rant	, m	~/	CON., I		EY, ETC.		/.3
LOG OF OVERBURDEN AND BEDROCK MATERIALS 1921 METEROLOGISM  GENERAL COLOUR COMMON ALTERIAL  VIELDOUS TOP SOIL  DO WITH 100 TO 100				S	· ·	lord		1 5	MO /	2 ,8/
GENERAL COLOUR COMPANISMENT GONES MATERIAL GONES MATERIAL COLOUR COMPANISMENT GONES MATERIAL GON				THING RC	ELEVATION	RC.	BASIN CODE	"	<u> </u>	IV
SCHEMAL COOMS ANTHAL COMMERCENT CONSTRUCTION OF THE MATERIALS OF MELL OF SCHEMAL SECRIFICATION FROM TO THE MATERIAL SOCIETY OF			LC	DG OF OVERBURDEN AND BEDRO	OCK MATER	RIALS ISEE IN	STRUCTIONS)			47
Drawn Pil gravel  brown gravel boulders  grey clay Stones  grey putly sand wood  grey clay Stones  grey putly sand wood  grey shale  gravel Unity sand  gravel unit		GENERAL COLOUR		OTHER MATERIALS		GENERA	L DESCRIPTION			
Drown gravel boulders  Grey clay Stones  Grey cl		yellow	top soil						0	2
Grey Clay Stones  Grey Clay Clay Clay Stones  Grey Clay Stones  Gr			• • • • • • • • • • • • • • • • • • • •	l .					2	5/
GIEV CLAY SOMES  GIEV C		,	gravel						31	60
GIEV CLAY SOMES  GROWN STREET			outly san	_					24	71
STATUS  STATUS  GENERAL STATUS		arey	clay						71	130
WATER RECORD   SILVENUS   SULPRUS		grey	shale		(	Joler.	bearin	9	130	
A   WATER RECORD   SIND OF WATER   SIND OF WATER RECORD   SIND OF WATER   SIND OF WATER   SIND OF WATER RECORD		7 /		U				· ·		
A   WATER RECORD   SIND OF WATER   SALE										
A   WATER RECORD   SIND OF WATER   SIND OF WATER RECORD   SIND OF WATER   SIND OF WATER   SIND OF WATER RECORD			ALL FOR THE MANAGEMENT AS A PERSON OF	·						
A   WATER RECORD   SIND OF WATER   SIND OF WATER RECORD   SIND OF WATER   SIND OF WATER   SIND OF WATER RECORD										
MATER FOUND  MATER AND OF WATER  MATERIAL  MATE						البلبا		سا لبل		
WATER COUND  NAME FOR STATIC	1	1 2 10	TER RECORD	SASING & OPEN HOLE	43 PECORD		4 OF OPENING	31-33 PIAME	TER 34-38 I	
13		WATER FOUND		INSIDE WALL THICKNESS	DEPTH - FEET	MATER				
Converge		130 2		10-11   STEEL 12	13	S-16 0				
CONCRETE   FROM TO   MATERIAL AND TYPE   LAO PACKER ETC.)		1.0		3 CONCRETE 299 -		61		G & SEAL		
2   SALTY 4   MINERAL  30-33     FRESH 3   SULPHUR 14    20   GALVANIZED  2   SALTY 4   MINERAL  30-33     FRESH 3   SULPHUR 14    20   GALVANIZED  30-33   1   FRESH 3   SULPHUR 14    20   GALVANIZED  30-33   1   FRESH 3   SULPHUR 14    30   GONCRETE  4   OPEN MOLE  5   SALTY 4   MINERAL  4   OPEN MOLE  5   SALTY 4   MINERAL  5   SPH		' ⊔		2 GALVANIZED	20	FROM	то	MATERIAL AND		
30-33   GREAT   GREAT		טין 📗		24-25 1 STEEL 26	27	-30 18-2	21 22-25			
1   PUMP   2   BAILER   5   6FM   15-16   30   17-18   HOURS   1   PUMPING   2   RECOVERY   19-21   22-24   15 MINUTES   30 MINUTES   45 MINUTES   45 MINUTES   25-28   29-31   33-34   PUMPING   25-38   25-3		'		3 CONCRETE		26-2	9 30-33 80			
STATIC LEVEL PAD OF LEVEL PAD OF PUMPING 2 RECOVERY  19-21 22-24 IS NINUTES 30 MINUTES 45 MINUTES 45 MINUTES 45 MINUTES 30 MINUTES 30 MINUTES 30 MINUTES 30 MINUTES 45 MINUTES 42 MATER AT END OF TEST 42 GIVE RATE GIVE RATE GOMENDED 43-45 JECOMMENDED 43-45 JECOMMENDED 43-45 JECOMMENDED 43-45 JECOMMENDED 43-45 JECOMMENDED 43-45 JECOMMENDED 45-45 MINUTES 50-53 GPM./FT. SPECIFIC CAPACITY  FINAL STATUS OF WATER SUPPLY 5 ABANDONED. INSUFFICIENT SUPPLY 10 OBSERVATION WELL 6 ABANDONED. POOR QUALITY 7 UNFINISHED 55-54 I MOMESTIC 5 COMMERCIAL		71		5 3 15-16 3 17-18					1	
THE STATUS  OF WELL  STATUS  OF WATER SUPPLY  STATUS  OF WATER SU		STATIC LEVEL	WATER LEVE 25 END OF WATER LE	EVELS DIREING		DIAGRAM BELOV	WISHOW DISTANCE CATE NORTH BY A	ES OF WELL	FROM ROADA	ND
FINAL STATUS OF WELL  STATUS O		110 110 19-21	22-24 15 MINUTES 25-2	29.31 32.34 //57		110				<u>.</u>
FINAL STATUS OF WELL  55.56  Description of the rate o		F FLOWING. GIVE RATE		SET AT WATER AT END OF TEST 42		So G			) Km to	(th)
FINAL STATUS OF WELL  55.56  Description of the rate o		RECOMMENDED PUM	RECOMMENDED PUMP	43-45 DECOMMENDED 46-49	Į.	IZ Di	nelord	-	, , , , , , , , , , , , , , , , , , , ,	
FINAL STATUS OF WELL  55-56  DOMESTIC  S ABANDONED, INSUFFICIENT SUPPLY A ABANDONED, POOR QUALITY T UNFINISHED OF WELL  55-56  DOMESTIC  S COMMERCIAL		☐ SHALLOW	<u> </u>	<b>5 0 7 1</b>			Pork			
OF WELL 4   RECHARGE WELL  55-56   DOMESTIC 5   COMMERCIAL			WATER SUPPLY	·	-					
1 to DOMESTIC 5 COMMERCIAL		OF WELL	↑ □ RECHARGE WELL	7 🗌 UNFINISHED						
WATER 3   IRRIGATION 7   PUBLIC SUPPLY			2 STOCK	6 MUNICIPAL						
USE 4 INDUSTRIAL • COOLING OR AIR CONDITIONING OTHER • NOT USED		USE	4 🗌 INDUSTRIAL	8 🔲 COOLING OR AIR CONDITIONING		1 1	,			
METHOD 20 ROTARY (CONVENTIONAL) 7 DIAMOND		METHOD	CABLE TOOL							
OF 5 ROTARY (REVERSE) B JETTING DRILLING / DRIVENSE P DRIVING		OF	3  ROTARY (REVERSE 4  ROTARY (AIR)	) B 🖺 JETTING			•			
NAME OF WELL CONTRACTOR  DRILLERS REMARKS.  DATA		NAME OF WELL C	CONTRACTOR		DATA	MARKS:			,	
By Janen Waler Wells 5413		E JOI	ien Walei	Wells 5413	SOURCE O DATE OF I	NSPECTION	οV		03	
WE NAME OF DRILLER OR BORER LICENCE NUMBER S REMARKS:		NAME OF DRILLE	27 T//	Sonburg.	O REMARKS		. في	4	十	
SIGNATURE OF CONTRACTOR SUBMISSION DATE  SUBMISSION DATE  SUBMISSION DATE  SUBMISSION DATE		SIGNATURE OF C					, 0	3 (	to	
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DATA SOURCE

DATE OF INSPECTION

DATE OF INSPECTION

INSPECTOR

REMARKS:

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FORM NO. 0506-4-77 FORM

Ontario	TONMENT  1. PRINT ONLY IN  2. CHECK ⊠ CORR	TOWNSHIP, BOROUGH, CITY, TOWN		3034	24 CON BLOC	K, TRACT, SUR	14 15 VEY, ETC		22 23 2 LOT 25-27
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		NOV		ELEVATION	RC BASI	CODE	DAY	Т мо <u>г</u>	YR.Q
, ,	* 10 12 <b>L</b> C	OG OF OVERBURDEN AND	D BEDROCK	MATERIAI	LS (SEE INSTRI	JCTIONS)	<u> </u>		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIAL	s -	, h	GENERAL DE	SCRIPTION		DEPTH FROM	- FEET
BROWN	SAND							0	20
GREY	SAND & G	RXVEL					· Maring series	20	38
-	,	·		.*					
		engine (			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			
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31		<u> </u>				,     ,   ,	1.11		
32	14 15	32	1 1 1 43			117	x5/1/	EADE	1 P
WATER FOUND	ER RECORD	51 CASING & OPEN		ORD H - FEET	SIZE(S) OF C	10	31-33 DIAME	INCHES	J FEE
10-13 1 D	FRESH 3 SULPHUR 14	DIAM MATERIAL THICK	HES FROM	10	SCH MATERIAL A	WLES	5 S.	DEPTH TO TOP OF SCREEN	41-44 3
15-11 1 [	FRESH 3 SULPHUR 19	2 GALVANIZED 1 CONCRETE 4 OPEN HOLE	88 0	20	61	PLUGGI	NG & SEAL	ING RECO	
20-23 1	FRESH 3 SULPHUR 24	17-18   STEEL 19 2		20-23	DEPTH SET AT	то	MATERIAL AND		NT GROUT.
25-28 t	FRESH 3 SULPHUR 29 SALTY 4 MINERAL	4 ☐ OPEN HOLE  24-25 1 ☐ STEEL 26	·	27.30	10-13	22-25			
30-33 1 🖸 2 📋	FRESH 3 SULPHUR 34 10 SALTY 4 MINERAL	2 □ GALVANIZED 3 □ CONCRETE 4 □ OPEN HOLE			26-29	10-33 40			1,000
71 PUMPING TEST METH		7 15-16	17-18		LOC	ATION	OF WEL	L	
STATIC LEVEL	WATER LEVEL 25	GPM HOURS  1 JUMPI EVELS DURING 2 RECOV		IN DIA	GRAM BELOW SE	OW DISTANCE NORTH BY		FROM ROAD A	ND
78 78	22-24 IS MINUTES 3 4 25-21	30 MINUTES 45 MINUTES 66	0 MINUTES						
FEET FLOWING GIVE RATE	38-41 PUMP INTAKE	FEET FEET FEET FEET SET AT WATER AT END OF TEST	. 11	٨/					ı
RECOMMENDED PUM	e lauun	43-45 RECOMMENDED PUMPING	46-49	1					
\$0-53	UP DEEP SETTING	O FEET RATE	GPM	V	, 1	7		. vo5	
FINAL STATUS	WATER SUPPLY Description well Test hole	<ul> <li>S ABANDONED INSUFFICIEN</li> <li>L 6 ABANDONED POOR QUALITY</li> <li>7 UNFINISHED</li> </ul>			LOT. KERI TRACT		<u></u>	00 /	17
OF WELL	4   RECHARGE WELL	5 COMMERCIAL		LOTU	KERI	P	,		44
WATER USE	2 STOCK 3 RREGATION 4 NODUSTRIAL	6   MUNICIPAL 7   PUBLIC SUPPLY 8   COOLING OR AIR CONDITIONIN	16		rosol	111	0		1
	OTHER	9 NOT USED			7///				11
METHOD OF DRILLING	CABLE TOOL						and a	11-4	
NAME OF WELL C		ENNIS LICENCE N		DATA SOURCE	S: 58 CONTRAC		DATE CELVED	078	36"
ADDRESS A C	AV BR	ANTFORD	SE OF	1	TION	INSPECTOR		• • •	
NAME OF DRIELE	ONTRACTOR	LICENCE N		REMARKS					
I CO   SIGNADORE OF C		A 2	G/   #		+ +4			CSS.E	2



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COUNTY OR DISTRICT	Z, CHECK E'S CONKE	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE BRANTFOR	<sup>E</sup> D	CON . BLOCK. TRACT, SURVEY	, ETC LO	14"
		RR#4	BRANT	FORD	DAY 15 NO 12	`` <sub>v8</sub> &
		NG	RC ELEVATION	RC BASIN CODE	n (n	iv 47
	10 12 LO	G OF OVERBURDEN AND BED	ROCK MATERIALS	(SEE INSTRUCTIONS)		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	DEPTH -	TO
BROWN	GRAVEL	- SAND				10
BROWN	SAND &	GRAVEL	COP	RSE	10	15
31				11 111111		
32	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	51 CASING & OPEN HO	LE RECORD	SIZE(S) OF OPENING	65 31/33 DIAMETER 34-38 LI	75 60 ENGTH 39-40
WATER FOUND	KIND OF WATER	INSIDE WALL THICKNESS	DEPTH - FEET FRUM TO	MATERIAL AND TYPE	DEPTH TO TOP	FEET
10-13	FRESH 3 [] SULPHUR 14	INCHES	"~  L	GRAVEL	OF SCREEN	FEET
	☐ FRESH 3 [] SULPHUR 19 ☐ SALTY 4 [] MINERAL	36 CONCRETE 5	0 15	DEDTH SET AT . SEET	G & SEALING RECO	RD
	FRESH 3 [] SULPHUR 24	17-18	20-23	FROM TO 14-17		CKER, ETC)
25 28 1	FRESH 3 SULPHUR 29 SALTY 4 MINERAL	4  OPEN HOLE  24-25 : STEEL 26	27-30	18-21 22-25		
30-33 1	FRESH 3   SULPHUR 34	CONCRETE  4 OPEN HOLE		26-29 30-33 80		
71 PUMPING TEST N		1	17-18	LOCATION	OF WELL	
STATIC	2 BAILER  WATER LEVEL 25 END OF WATER	GPMHOURS	MINS IN DIAGI	RAM BELOW SHOW DISTANC E. INDICATE NORTH BY A	ES OF WELL FROM ROAD A	ND HOUSE
TEST 10	PUMPING	30 MINUTES 45 MINUTES 60 MINU	TES 7533		WEA	17
	FEET F	EET FEET FEET SET AT WATER AT END OF TEST	FEET 42	100		<b>1</b> 1
IF FLOWING. GIVE RATE  RECOMMENDED	GPM PUMP TYPE RECOMMEND		16-49		BAKN	.   ,
SHALL	OW DEEP PUMP SETTING	14 FEET RATE 4	GPM HWY			200
FINAL	SZ	abandoned, insufficient sup	53	mcGREGOR	AUE,	
STATUS OF WELL		7 UNFINISHED		W. GKEOK		*
	55-56 DOMESTIC	5 COMMERCIAL 6 MUNICIPAL				
WATER USE	3   IRRIGATION .   INDUSTRIAL	DOUBLIC SUPPLY COOLING OR AIR CONDITIONING		$\leftarrow N$		
	CABLE TOOL	↑ □ NOT USED				
METHOI OF	ROTARY (CONVE	NTIONAL) / DIAMOND SE) ± DETTING	TO		0.0	0.2.4
DRILLIN	G ROTARY (AIR)	9 DRIVING	DRILLERS REMARKS			234
	LL CONTRACTOR USON & BAE	TZ LICENCE NUMBE	>   [출] seurce	59-6	DATE RECEIT 4018	65 5 1 8
ADDRESS ADDRESS		2EASANT	l l w l	TION INSPECTION		
NAME OF DR		AETZ V-033				
SIGNATURE	OF CONTRACTOR	SUBMISSION DATE	OFF!		CSS.1	ES
	Jaco-	DAY MO Y	R			6-4-77 FORM

MINISTRY OF THE ENVIRONMENT COPY

### The Ontario Water Resources Act

FORM NO 0506-4-77 FORM 7

## ATER WELL

Environment BRANTFORD 1303532 1 PRINT ONLY IN SPACES PROVIDED 11 2. CHECK S CORRECT BOX WHERE APPLICABLE TRACT SURVEY ETC TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE COUNTY OR DISTRICT 111 Mo Mar BASTH CODE 1,11 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH - FEET MOST COMMON MATERIAL GENERAL DESCRIPTION OTHER MATERIALS GENERAL COLOUR FROM 6 0 52 Brown lele 31 32 41 WATER RECORD **CASING & OPEN HOLE RECORD** SCREEN 1 DEPTH WATER FOUND AT - FEET KIND OF WATER MATERIAL 7- /- 10-13 FROM то 1 🙀 FRESH 3 🗆 SULPHUR
2 🗀 SALTY 4 🗀 MINERAL SULPHUR 13.16 Stoniters STEEL 1 GALVANIZED
CONCRETE 5 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 0 (£4 **PLUGGING & SEALING RECORD** 4 DOPEN HOLE DEPTH SET AT - FEET 17 10 20-2 ¹ ∰ STEEL MATERIAL AND TYPE FRESH 3 SULPHUR
SALTY 4 MINERAL t GALVANIZED 61 50 54 CONCRETE 4 D OPEN HOLE 25-28 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 2/125 1 STEEL 27.30 GALVANIZED

GALVANIZED

CONCRETE

OPEN HOLE 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL PUMPING TEST METHOD LOCATION OF WELL 71 1 X PUMP 2 D BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH IN ARROW. WATER LEVEL END OF PUMPING 22-24 1 D PUMPING WATER LEVELS DURING RECOVERY 30 MINUTES 43 29-31 FEET 45 MINUTES 43 32-34 43 FEET 60 MINUTES 55 4335-37 43 45 FEET FEET IV 1 X CLEAR RECOMMENDED PUMP TYPE 55 PUMP SETTING ☐ SHALLOW X DEEP 5 ABANDONED, INSUFFICIENT SUPPLY
6 ABANDONED POOR QUALITY WATER SUPPLY **FINAL** 24153 OBSERVATION WELL **STATUS** 3 TEST HOLE
4 RECHARGE WELL 7 UNFINISHED OF WELL I X DOMEST DOMESTIC COMMERCIAL 6 MUNICIPAL WATER RRIGATION D PUBLIC SUPPLY COOLING OR AIR CONDITIONING

9 NOT USED USF NDUSTRIAL OTHER Small older Ł 6 BORING
7 DIAMOND X CABLE TOOL house behind METHOD ROTARY (CONVENTIONAL) N ☐ JETTING OF ROTARY (REVERSE) air port 9 DRIVING **DRILLING** AIR PERCUSSION DRILLERS REMARKS 59-62 DATE RECEIVE 280487 CONTRACTOR ONLY 4207 DATE OF INSPECTION OFFICE USE REMARKS 50 SUBMISSION DATE CSS.ES



Ontario	ONMICHE  1. PRINT ONLY IN SPACES PROVIDED  2. CHECK OCORRECT BOX WHERE APPLICABLE	11 1	303623	3 MUNICIP	CON.	22 71 74
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH. C	ITY, TOWN, VILLAGE		CON., BLOCK, TRACT, SURVEY, ET	RACI	LOT 25-27
		121 84	0 2 55 1	. 00	ATE COMPLETED	2 97
	NG NG	<u> </u>	ELEVATION	RC BASIN CODE	MO	
1 2	M 10 12 17 18	24 25	26	30 31		47
CENEDAL COLOUR	LOG OF OVERBURDI	AND BEDRUCE		GENERAL DESCRIPTION	DEPTH FROM	TO
GENERAL COLOUR	COMMON MATERIAL				FROM	20
RIACE	MICK PREVIOUS	19			20	#36
BINCH	6 AMD				36	45
GREV	SAND				45	65
/						
						-
			***			
31					J Lai L. L.	
32					السلسان	1 75 63
1		& OPEN HOLE RE	CORD Z	SIZE(S): OF OPENING 31:	33 DIAMETER 34-38	LENGTH 39 40
WATER FOUND AT - FEET	KIND OF WATER  INSIDE DIAM INCHES  FRESH 3 SULPHUR 14	THICKNESS INCHES FROM	1 10	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	\$ 10 B
50 0	SALTY *   MINERAL   7   GALVANIZ	E 11	581	DIMINERSO	& SEALING REC	OPD
2 🗆	SALTY 4 [] MINERAL 4 OPEN HOL		20-23	DEPTH SET AT FEET MAT	(CE)	MENT GROUT.
2 🗋	FRESH 2   SULPHUR 14   1   GALVANIZ  SALTY 4   MINERAL 3   CONCRETI  4   OPEN HOL	E ',		FROM TO 14-37		
	FRESH 3 SULPHUR TO 4 OPEN HOLD SALTY 4 MINERAL 2 GALVANIZ	26	27:30	18-21 22-25	· · · · · · · · · · · · · · · · · · ·	·
	FRESH 3 SULPHUR 34 00 2 CONCRETE SALTY 4 MINERAL 4 OPEN HO	E .	1.3	26-29 30-33 80		
71		OF PUMPING 15-16 17-18		LOCATION OF	WELL	
STATIC	WATER LEVEL 25 END OF WATER LEVELS DURING	HOURS MINS	IN DIAGRA	AM BELOW SHOW DISTANCES INDUCATE NORTH BY ARRO	OF WELL FROM ROAD	AND
19-21	PUNPING  22-24   15 MINUTES   30 MINUTES   45 MIN   26-28   29-31	☐ RECOVERY  UTES   60 MINUTES   32-34   35-37		613	->N	
	55 FEET 60 FEET 50 FEET 50	FEET 50 FEET END OF TEST 42	<b> </b> -			
TF FLOWING. GIVE RATE  RECOMMENDED PUT	Gra-	LEAR 2 CLOUDY				
SHALLOW	PUMP / PUMPING	G GPM				
50-53	54 ] . /				KERR S/R/WI	
FINAL STATUS	The supply some abandoned. Som	NSUFFICIENT SUPPLY POOR QUALITY		1	e lost	
OF WELL	4   RECHARGE WELL	*	( X )	80)	3/K/A	
WATER	DOMESTIC S COMMERCIAL STOCK S MUNICIPAL SHREIGATION 7 PUBLIC SUPPLY				10/H	Total Control of the
USE	#   INDUSTRIAL B   COOLING OR AIR (	ONDITIONING NOT USED	<u>*</u>	<u> </u>	77	To the second
METHOD	CABLE TOOL G		114	REASANTA	TACE RO.	
OF DRILLING	2	ING	[3] E V/V.	$\sum_{i} \sum_{j} \sum_{i} \sum_{j} \sum_{j} \sum_{i} \sum_{j} \sum_{i} \sum_{j} \sum_{i} \sum_{j} \sum_{i} \sum_{j} \sum_{i} \sum_{j} \sum_{j} \sum_{j} \sum_{i} \sum_{j} \sum_{j} \sum_{j} \sum_{i} \sum_{j} \sum_{j$	RIAAO	2556
	5 AIR PERCUSSION		DRILLERS REMARKS	<del></del>	ATE RECEIVED	3.00
NAME OF WELL	ERT DEXIS	ICENCE NUMBER	DATE OF INSPECTIO		JAN 26 K	
ADDRESS ADDRESS	8.42 BRANTZ	OKT	Luci	ON INSPECTOR		
ADDRESS NAME OF DRILL OUT SIGNATURE OF	ER OR BORER	LICENCE NUMBER	REMARKS			-
SIGNATURE OF	- 11 ' r	12 vg7	OFFICE		CSS	S.ES
I I K MU	Wennes DAY	MO YRZ	1 - 1	One a company of the		



Ontario  1. PRINT ONLY IN SPI	ACES PROVIDED 11	1303695	MUNICIP CON.	22 23 74
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE  RRANT FOR	CON	BLOCK TRACT SURVEY ETC	LOT / 4 23-27
		BRANTFOR	DAY 15 M	o_/88
	6 RC	ELEVATION RC	BASIN CODE	11 147
10 12	G OF OVERBURDEN AND BEDRO		INSTRUCTIONS)	
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENEI	RAL DESCRIPTION F	DEPTH - FEET  ROM TO
BROWN TOP-SON	<u></u>			0 /
BROWN TOP-SONO BROWN SAND & BROWN SAND &	- GRAVEL			1 10
BROWN SAND	GRAVEL	m015	7	0 15
	•			
	ť			
	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
31	<u>                                     </u>			75 80
1 2 10 14 15 21 14 1 WATER RECORD	51 CASING & OPEN HOLE	RECORD Z	E(S) OF OPENING 31-33 DIAMETER	34-38 LENGTH 39-40
WATER FOUND KIND OF WATER AT - FEET	INSIDE WALL DIAM MATERIAL THICKNESS INCHES		TERIAL AND TYPE  SRAVEL FILL OF S	INCHES FEET TH TO TOP 41-44 30 CREEN
10-13   Fresh 3   SULPHUR   10-15   SALTY 4   MINERALS   6   GAS	10-11 1 STEEL 12 2 GALVANIZED 3 GO 3 GO NORETE 3			PECORD
15-18   FRESH 3   SULPHUR 19 4   MINERALS   SALTY 6   GAS	5 PLASTIC 19	20-21 DEPT	H SET AT - FEET MATERIAL AND TYPE	CEMENT GROUT
20-23 1 FRESH 3 SULPHUR 24 4 MINERALS 2 SALTY 6 GAS	1 STEEL 2 GALVANIZED 3 GCONCRETE 4 GOPEN HOLE	FRO	M TO 10-13 14-17	
25-28 1   FRESH 3   SULPHUR 29   4   MINERALS   2   SALTY 6   GAS	5 □ PLASTIC  24-25 1 □ STEEL 2 □ GALVANIZED	27-30	18-21 22-25	
30-33 1 ☐ FRESH 3 ☐ SULPHUR 34 80 4 ☐ MINERALS 2 ☐ SALTY 6 ☐ GAS	3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		26-29 30-33 80	
71 PUMPING TEST METHOD 10 PUMPING RATE	11-14 DURATION OF PUMPING 15-16 17-1		LOCATION OF WELL	
1 PUMP 2 BAILER  STATIC WATER LEVEL 25 FIND OF WATER L	GPM HOURS MINS  1 □ PUMPING  EVELS DURING 2 □ RECOVERY	■ IN DIAGRAM B	ELOW SHOW DISTANCES OF WELL FRO INDICATE NORTH BY ARROW.	M ROAD AND
LEVEL PUMPING  19-21 22-24 15 MINUTES	30 MINUTES 45 MINUTES 60 MINUTES	BRANTI	EOR 1)	HOUSE
		T B L	RoR	$\int $
IF FLOWING SO-41 PUMP INTAKE GIVE RATE GPM  RECOMMENDED PUMP TYPE RECOMMENDE PUMP	FEET 0 CLEAR 2 CLOUDY  D 43-45 RECOMMENDED 46-4	= HWY		o/
SHALLOW LI DEEP SETTING	14 FEET RATE 3 GPM	8 33	COURIER 1000	400/1
50-53	■ ABANDONED, INSUFFICIENT SUPPLY		1000' > GREGOR SIDE RI	PEND
STATUS 2 OBSERVATION WE		3 mc	GREGOR SIDE RI	2
OF WELL 4   RECHARGE WELL	9 DEWATERING 5 COMMERCIAL	7 / 1	A /	
WATER  2 STOCK 3 IRRIGATION	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 9 ☐ COOLING OR AIR CONDITIONING	3		
USE 4 INDUSTRIAL OTHER	• □ NOT USED			`
METHOD    CABLE TOOL   CONVEY   CONVEY   CONVEY		To		0.4000
OF CONSTRUCTION GREVERS A CONSTRUCTION GREVERS A CONSTRUCTION GREVERS AIR PERCUSSION	BE)	HWY 24		24203
	The contractor	PS DATA	54 CONTRACTOR 59-62 DATE RECEIVED	4 4000
NAME OF WELL CONTRACTOR  TO HNSON & BY  ADDRESS  ADDRESS  RR# 1 MT. 7	4ETZ LICENCE NUMBER 30 30	DATE OF INSPECTION	3030 APR 1	1 1988
C WANT OF WELL TECHNICIAN	WELL TECHNICIAN	S AEMARKS		
JOHN BAET	LICENCE NUMBER	OFFICE S		
SIGNATURE OF TECHNICIAN CONTRACTOR	DAY MO YR	9		SS.ES



	IN SPACES PROVIDED ORRECT BOX WHERE APPLICABLE	1303871	10 300 14 CON.	0,11, 10,5
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILL	AGE CO	N. BLOCK, TRACT, SUBJEY, ETC	LOT 25-27
	041	BRANTER	DATE CO	MPLETED 41-53 YR. 88
	( <del>4</del> )	RC ELEVATION RC	BASIN CODE II	
1 2 4 10 12	LOG OF OVERBURDEN AND BE	DROCK MATERIALS (SE	E INSTRUCTIONS)	
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS		ERAL DESCRIPTION	DEPTH - FEET FROM TO
GENERAL COLOUR COMMON MATERIAL				0 15
CREV CLAVES	SAND			15 40
BLACK SAND	(COARSE)	*		40 33
		•		
31			JAN XXXXX	OR PAC
41 WATER RECORD	51 CASING & OPEN H	OLE RECORD	SIZE(S) OF OPENING 31-33 D	MATER 34-38 LENGTH 39-40  5 INCHES 3 FEET
WATER FOUND KIND OF WATER  10-13 1 MRESH 3 SULPHUR	INSIDE DIAM MATERIAL THICKNESS INCHES INCHES		MATERIAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
45 SALTY 6 GAS	2 GALYANIZED 3 CONCRETE		PLUGGING & SE	EALING RECORD
FRESH SUSPINION 4 MINERALS 6 GAS	1 STEEL	20-23 DE	DAN SET AT SEET	. AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
20-23   FRESH   3   SULPHUR 2   SALTY   6   GAS	3 CONCRETE 4 OPEN HOLE 5 DELASTIC		10-13 14-17	
Z SALTY 6 GAS	S 24-25 1 STEEL 26 26 2 GALVANIZED	27-30	26-29 20-33 80	
30-33   FRESH 3 SULPHUR 4 MINERAL 2 SALTY 6 GAS	S 4 OPEN HOLE 5 OPLASTIC			
71 PUMPING TEST METHOD 10 PUMPING	NG RATE 11-14 DURATION OF PUMPING  15-16  GPMHOURS	17-18 MINS	LOCATION OF W	
STATIC WATER LEVEL 25 END OF W LEVEL PUMPING	ATER LEVELS DURING 2 RECOVERY	LOT LINE	BELOW SHOW DISTANCES OF WINDICATE NORTH BY ARROW.	ELL FROM ROAD AND
	20-21 29-31 21-34	33-37 5 FEET		Y
O FEET PUMP	INTAKE SET AT WATER AT END OF TEST	LOUDY LOT LO Y	0	-IM
PIIMP	FEET TECHER 2 C	12 . I I		
SHALLOW DEEP SETTIN	NG 50 FEET RATE	GPM		hz
FINAL 2 OBSERVATI		SUPPLY	~0 VD5	
STATUS  STATUS  OF WELL  OF WELL  OF WELL	7 UNEINISHED		5-0 yos	i.
55-56 I DOMESTIC	5 COMMERCIAL 6 MUNICIPAL			
WATER 3   IRRIGATIO	L COOLING OR AIR CONDITIONING	HI	14 53	
57 1 TV ABLE TO			CON 14 53	
METHOD 2 ROTARY (	CONVENTIONAL) 7   DIAMOND REVERSE)   I   JETTING			20110
CONSTRUCTION 4 ROTARY (	USSION DIGGING DOTH		CONTRACTOR SS.62 DATE R	IECEIVED 63-68 A
NAME OF WELL CONTRACTOR	DENNIS WELL CONTRI	SOURCE	1702 J	AN 20 1989
ADDRESS PRAZ	BRANTFORD	SE	(NOTECTOR	ť
NAME OF WELL TECHNICIAN  SIGNATURE OF TREMNICIAN FONTRE	BAILUS TOO			
SIGNATURE OF TECHNICIAL CONTR	ACTOR SUBMISSION DATE  DAY	WDE WDE		CSS.ES
1 1 Yen	ALDONMENT COPY			FORM NO. 0506 (11/86) FORM



Ontario	1. PRINT ONLY IN S	SPACES PROVIDED  11	1303881 🏋เร็นคม โ	KT 22 23 74
COUNTY OR DISTRICT	2. 011201 (2. 00111	TOWNSHIP, BOROUGH CITY, TOWN, VILLAGE	CON. BLOCK TRACT SURVEY, ETC	J 3 3 3 27
		EASANI	RIDGE RD- DAY	E COMPLETED 41-53 26, MO 10 YR
		XG RC	ELEVATION RC BASIN CODE	, (i) (v
1 2	LC	OG OF OVERBURDEN AND BEDROC		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM TO
BRIWN	SAND			08
BROWN	CEMENTE	O GRAVEL 4 57	TONES	8 30
GREY	GRAVELY	O GRAVEL + 57 CLAY		30 67
GREY	SAND	•		6///
			·	
	-			
31		<u>.                                    </u>		
32		32	131 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LEADER
	TER RECORD	51 CASING & OPEN HOLE R	RECORD  DEPTH - FEET  DM TO  SIZE IS 1 OF OPENING S1-33  SIZE IS 1 OF OPENING S1-33  WHATERIAL AND TYPE	DIAMETER 34-38 LENGTH 39-4
WATER FOUND AT - FEET	KIND OF WATER	INSIDE MATERIAL THICKNESS FROM INCHES FROM	OM TO COMMATERIAL AND TYPE	DEPTH TO TOP 0F SCREEN FEET
69	SALTY 4 MINERALS 6 GAS  FRESH 3 SULPHUR 19	5 PM 1 PSTEEL 148 S S S CONCRETE 4 OPEN HOLE	76	SEALING RECORD
2 1	SALTY 6 GAS	5 PLASTIC 19 1 DSTEEL	DISTANCE AT LEFFT	RIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
2	SALTY 6 GAS	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 5 PLASTIC	10-13 14-17	
2	SALTY 6 GAS	24-25 1 STEEL 26 2	27-30 18-21 22-25 # 26-29 30-33 80	
1 1	FRESH 4 DAINERALS SALTY 6 DAAS	4 □ OPEN HOLE 5 □ PLASTIC		
71 PUMPING TEST M		TE 11-14 DURATION OF PUMPING  15-16 17-18  GPM HOURS MINS	LOCATION OF	
STATIC LEVEL	WATER LEVEL 25 END OF WATER PUMPING	LEVELS DURING 1 PUMPING 2 PECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF LOT LINE INDICATE NORTH BY ARROW	V. L N
TEST 52	711	1 71 71 71 71 71 TH		4
IF FLOWING.	ST FEET PUMP INTAKE	E SET AT WATER AT END OF TEST 42	1	
ON IF FLOWING. GIVE RATE  RECOMMENDED P	GPM PUMP TYPE RECOMMENDS	ED 43-48 RECOMMENDED 46-49 PUMPING	\	LOT 3
SO-53	DW DEEP SETTING	76 FEET RATE 4 GPM	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
FINAL	1 WATER SUPPLY 2 OBSERVATION WI	B ☐ ABANDONED, INSUFFICIENT SUPPLY ELL 6 ☐ ABANDONED POOR QUALITY	34M 30 X 30	ELR
STATUS OF WELL	3 TEST HOLE	7 UNFINISHED	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	TRXCI
	55-56 1 DOMESTIC 2 STOCK	S COMMERCIAL  MUNICIPAL	30 403	
WATER	3   IRRIGATION 4   INDUSTRIAL   OTHER	7  PUBLIC SUPPLY  COOLING OR AIR CONDITIONING  NOT USED	1 11	i i
	57   CABLE TOOL	€   BORING	PLEASANT R	INOK NU
METHOD OF	z   ROTARY (CONVE	_	,	20106
CONSTRUCT	FION 4   ROTARY (AIR) 5   AIR PERCUSSION	DIGGING OTHER	DRILLERS REMARKS	
n	ERT DA	ENNIS PORTACTOR'S LICENCE NUMBER	는 SOURCE 1702	JAN 2 0 1989
CONTRACTOR WATER	12 PRANT	TEORD	DATE OF INSPECTION INSPECTOR	
NAME OF W	ELT DELL	WELL TECHNICIAN'S LICENCE NUMBER		
SIGNATURE O	of Technician/Contractor	SUBMISSION DATE	MDE	CSS.ES
MINIST	RY OF THE ENVIRO	DNMENT COPY		FORM NO. 0506 (11/86) FORM



Ontario	SPACES PROVIDED  ECT BOX WHERE APPLICABLE	304000 <u>113001</u> K	T
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH CITY, TOWN VILLAGE	CON. BLOCK TRACT. SURVEY ETC.	3
OWNER (SURNAME FIRST) 28-47	ADDRESS 00 + 0 2	DATE CO	MPLETED 2953 2 MO Way YR 87
Yarrhill tarms	NORTHING RC.	ELEVATION RC. BASIN CODE	MO PERSON TR
	17 18 24 25	26 30 31	47
[	OG OF OVERBURDEN AND BEDROCK		DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	FROM TO
Brown		top soil	0 1
Brown clay,	stones		/ 25
Brown sand			25 75
Brown gravel	/L		75 78
Browy fine sand	silT		78 103
/	(1)	Denth 86	
	Finished	Lep/n oc	
31	<u>                                     </u>		
32			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
41 WATER RECORD	51 CASING & OPEN HOLE RE	CORD   Z (SLOT NO.)	LENGTH 39-40
WATER FOUND KIND OF WATER AT - FEET	INSIDE DIAM MATERIAL THICKNESS FROM INCHES	TO MATERIAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
10-13 1 FRESH 3 SULPHUR 14 SALTY 6 DGAS	10-11 1 DESTEEL 12 12 12 12 12 12 12 12 12 12 12 12 12	5 Standless Steel	73 FEET
15-18 1 FRESH 3 USULPHUR 2 SALTY 6 GAS	4 GOPEN HOLE 5 PLASTIC		EALING RECORD
20-23 1 FRESH 3 SULPHUR 24	17-18 1 Seteel 2 Galvanized 3 Concrete		AND TYPE LEAD PACKER, ETC )
2 SALTY 6 GAS  25-28 1 FRESH 3 SULPHUR 4 MINERALS	5   PLASTIC   / E / S	227-30 18-21 22-25	
30-33 3 - SULPHUR 34	1 USTEEL 2 GALVANIZED 3 GONCRETE	26-29 30-33 80	
2 SALTY 6 GAS	5 OPLASTIC		
71 PUMPING TEST METHOD 10 PUMPING RA	TE 11-14 DURATION OF PUMPING  7 GPN 15-16 17-18 HOURS MINS	LOCATION OF W	
WATER LEVEL 25	PLEVELS DURING  2 M RECOVERY	IN DIAGRAM BELOW SHOW DISTANCES OF W LOT LINE INDICATE NORTH BY ARROW.	ELL FROM ROAD AND
19-21 22-24 15 MINUT	ES 30 MINUTES 45 MINUTES 60 MINUTES 5-28 29-31 32-34 33-37		,
FEET FEET FEET FEET FUMP INTAI	EEET JEET JEET LEET LEET LEET LEET LEET		
IF FLOWING. GIVE RATE  RECOMMENDED PUMP TYPE  RECOMMENDED PUMP TYPE  RECOMMENDED PUMP TYPE  RECOMMENDED PUMP TYPE	FEET 1 0 CLEAR 2 CLOUDY		Brantford
RECOMMENDED PUMP TYPE RECOMMEN PUMP SETTING	PUMPING GPM	53 Hwy 24253	Dran
50-33		X	
FINAL  STATUS  WATER SUPPLY DESERVATION V TEST HOLE			
OF WELL 4   RECHARGE WEL	DEWATERING	well with I	
SS-SS I DOMESTIC	S COMMERCIAL  6 MUNICIPAL	3 1	
WATER  J ☐ IRRIGATION  USE  4 ☐ INDUSTRIAL	7 D PUBLIC SUPPLY  COOLING OR AIR CONDITIONING  D NOT USED		
OTHER —	6 D BORING	"	
METHOD    CABLE TOOL	ENTIONAL) 7 DIAMOND	well at older farm house	40E04
CONSTRUCTION 4 OF ROTARY (AIR) 5 AIR PERCUSSIO	9 DRIVING	DRILLERS REMARKS	42594
NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S	DATA SOURCE SOURCE SOURCE SOURCE SOURCE SOURCE SOURCE	U6 2 4 1989
Packham Well &	ancaster Ont	O DATE OF INSPECTION INSPECTOR	100 E 7 1303
	WELL TECHNICIAN 5	O REMARKS	
Merryn Packha	01 LICENCE NUMBER	OFFICE	COO TO
SIGNATURE OF TECHNICIAN CONTRACTO	DAY 12 MO MAY YR 79	I O	CSS.ES
MINISTRY OF THE ENVIRO	NMENT COPY		FORM NO. 0506 (11/86) FORM 9

MINISTRY OF THE ENVIRONMENT COPY

Ontario	IFONMENT  1. PRINT ONLY IN  2. CHECK ⊠ CORR	ECT BOX WHERE APPLICABLE	13040	10 14	CON. M.T. 22 23 24
COUNTY OR DISTRICT	* *	TOWNSHIP, BOROUGH CITY, TOWN, VILLAGE		CON BLOCK TRACT, SURVEY ET	TRACT 5"
		LEASANT,	RIDGE	AD.	ATE COMPLETED 141-53 YR 89
		IING BRAND	ZORV.	A SASIN CODE	, , , , , , , , , , , , , , , , , , ,
1 2	10 12	OG OF OVERBURDEN AND BEDRO	OCK MATERIA	LS (SEE INSTRUCTIONS)	
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	DEPTH - FEET FROM TO
BOWIN	SANP.4	STONES			0 10
GPEN	CLAV	V-1,023			10 20
BROWN	SAND				20 65
GREY	SAND			/	65 72
/					
		/			
		*	•		
				j.	
				:	
					and the same of th
31					
32	14 15	32	اليسلليا	1 54	
41 WA	TER RECORD	CASING & OPEN HOLE	RECORD DEPTH - FEET	SIZE STOP OPENING SI-3 (SLOT NO )  M  MATERIAL AND TYPE	DIAMETER 34-38 LENGTH 39-4
AT - FEET	KIND OF WATER  FRESH 3 3 SULPHUR	DIAM MATERIAL THICKNESS INCHES F	ROM TO	MATERIAL AND TYPE	DEPTH TO TOP 41-44 I
17 /2	SALTY 4 MINERALS 6 GAS  FRESH 3 SULPHUR	2 GALVANIZED / UV	9  67**	DI/W/VLJSS	& SEALING RECORD
69 1	SALTY 6 GAS	4 □ OPEN HOLE 5 □ PLASTIC 17-18 1 □ STEEL	20-23	DEPTH SET AT - FEET	ERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
2 (	SALTY 6 GAS	2 GALVANIZED 3 GCONCRETE 4 DOPEN HOLE 5 DPLASTIC		10-13 14-17	
* {	SALTY 6 GAS	24-25 26 1 STEEL 26 2 GALVANIZED	27-30	18-21 22-25	
	☐ FRESH 3 ☐ SULPHUR 34 M 4 ☐ MINERALS ☐ SALTY 6 ☐ GAS	3 CONCRETE 4 COPEN HOLE 5 CPLASTIC		26-29 30-33 80	
71 PUMPING TEST ME		E 11-16 DURATION OF PUMPING 15-16 17-18		LOCATION OF	WELL
STATIC	WATER LEVEL 25 WATER 1	GPM HOURS MINS    DUMPING   DUMPING	IN DI.	AGRAM BELOW SHOW DISTANCES O	
H 40	PUMPING	4 LJ RECOVERY	لا		< /v
FEE OF FEE	ET 64 FEET 64 FE	SET AT WATER AT END OF TEST 42	<b> </b>		IN
IF FLOWING. GIVE RATE  RECOMMENDED PI	GPM	FEET 1 CLEAR 2 CLOUDY	1 6		N. A.
☐ SHALLO	UMP TYPE RECOMMENDE PUMP SETTING	FEET RATE 5 GPM	- 2	-30yr - 0-	/M - N
\$0-\$3			1 /2		7
FINAL STATUS	WATER SUPPLY Description we Test hole		8	i	2/2
OF WELL	A   RECHARGE WELL	DEWATERING		160 715	
WATER	DOMESTIC  DOMESTIC  RRIGATION	S COMMERCIAL  MUNICIPAL  PUBLIC SUPPLY	H Woll		3.8
USE	4   INDUSTRIAL   OTHER	COOLING OR AIR CONDITIONING  NOT USED			TO F NO
METHOD	57 1 CABLE TOOL	● □ BORING		PLEASANT RIL	
OF CONSTRUCT	3   ROTARY (REVERS				42426
	5 AIR PERCUSSION	DIGGING DOTHER	DRILLERS REMAR		
C ROB	EXT DE	WALL CONTRACTOR'S	DATA	1 7 0 2 DAT	APR 0 5 1990
O ADDRESS	12 BRAK	TPORD	DATE OF INSP	ECTION INSPECTOR	
NAME OF WE SIGNATURE OF SIGNATU	LE TECHNICIAN DEA	WELL TECHNICIAN'S	AEMARKS		
SIGNATURE O	F TECHNICIAN/OF TRACTOR	SUBMISSION DATE	OFFICE		CSS.ES
KHO	y Wann	DAY 3 MOYR	] [ ]		



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ON A LIT	TOWNSHIP, BOROUGH, CITY, TOWN VILLAGE	KERR TRACT	3 25.27
	EASANT RI	DAY 20 DA	
2 N 10 12	G OF OVERBURDEN AND BEDROCK	MATERIALS (SEE INSTRUCTIONS)	
MOST	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM TO
BRANAS FILL			0 4
J#14	/C/ A //		4 35
PROWN GRAVELY FREY SAND+	CLAY		35 70
COPY CANA	<i>(2)</i>		70 77
FILLY 3 MAD			
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	***************************************		
		<u> </u>	
31		111115121111111111111111111111111111111	لالطراغ
2 10 14 15 21 41 WATER RECORD	51 CASING & OPEN HOLE REC	ORD SIZE S OF OPENING 31-33 DIAME	-11
ATER FOUND KIND OF WATER	INSIDE WALL DEPT DIAM MATERIAL INICHES FROM	ORD H - FEET TO MATERIAL AND TYPE	DEPTH TO TOP 41-44 OF SCREEN
7 5 1 FRESH 3 SULPHUR 14 MINERALS 6 GAS	STOP 1 STEEL 12 188 0	72" STAINLESS S.	73
15-18 1 FRESH 3 SULPHUR 19 2 SALTY 6 GAS	3 CONCRETE 4 COPEN HOLE 5 CPLASTIC	61 PLUGGING & SEAL	
20-23 1 FRESH 3 SULPHUR 24	17-14 1 □ STEEL 2 □ GALVANIZED 3 □ CONCRETE	FROM TO MATERIAL AND 10-13 14-17	CEMENT GROUT LEAD PACKER, ETC 1
25-28 t FRESH 3 SULPHUR 29	4 GPEN HOLE 5 PLASTIC	27-30 18-21 22-25	
2	1  STEEL 2  GALVANIZED 3  GCONCRETE 4  GOPEN HOLE	26-29 30-33 80	
2 SALTY 6 GAS	5 PLASTIC	LOCATION OF WEL	
1 PUMP 2 BAILER	O GPM 17-18 HOURS MINS	IN DIAGRAM BELOW SHOW DISTANCES OF WELL	
LEVEL ) PUMPING		LOT LINE INDICATE NORTH BY ARROW.	< N
19-21 22-24 15 MINUTES 24-2		13	į
FEET FEET FEET FEET FEET FEET FEET FEET	E SET AT WATER AT END OF TEST 42		
RECOMMENDED PUMP TYPE RECOMMENDED PUMP	FEET 1 CLEAR 2 CLOUDY  ED 43-45 RECOMMENDED 46-49 PUMPING		40
SHALLOW DEEP SETTING	70 FEET RATE 10 GPM		7
FINAL 34 WATER SUPPLY	S ABANDONED, INSUFFICIENT SUPPLY	SOYDS	
STATUS	7 UNFINISHED	S KERR 60 YDS	
OF WELL 4   RECHARGE WELL	5 COMMERCIAL	TRAC	
WATER    2   STOCK     3   RRIGATION     1   SE	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING	6 Con	
USE   4   INDUSTRIAL   OTHER	9   NOT USED	PLEASANT RIDGE RE	7
METHOD 2 GABLE TOOL 2 ROTARY (CONVE	6   BORING NTIONAL) 7   DIAMOND	PLDISIN	
OF ONSTRUCTION A ROTARY (REVERS	9 DRIVING		42464
S AIR PERCUSSION	WELL CONTRACTOR'S	DATA SO CONTRACTOR S9-62 DATE RECEIVE	
D. O. Car	ENNLS 1702	SOURCE 1702 APF	0 5 1990
ADDRESS  NAME OF WELL TECHNICIAN  SIGNATURE OF TECHNICIAN SONTRACTOR	PANIFORD	S .	
NAME OF WELL TECHNICIAN			
SIGNATURE OF TECHNICIAN PONTRACTOR	SUBMISSION DATE  DAY 20 MO. 9 YR89	OFFICE	CSS.ES
MINISTRY OF THE ENVIRON	DAY MO. TRUE		ORM NO. 0506 (11/86) FO



#### The Ontario Water Resources Act

#### WATER WELL RECORD

Ontario	ironment	1 1 1	130439	5 NUNICIPA 11 KM	Τ	.     .
COUNTY OR DISTRICT		TOWNSHIP. BOROUGH, CITY, TOWN, VILLAGE		CON . BLOCK, TRACT. SURVEY ETC	T BIK	22 23 74 LOT 25-27
RON		BRANTFOR	<u>D</u>	MAIR TRACT	5 MPLETED	48-53
		R.R.# BRA	NTFORE		1 MO 9	88 <sub>AY</sub>
		11NG RC	ELEVATION	RC BASIN CODE I)	<u></u>	<u> </u>
1 2	10 12 L(	OG OF OVERBURDEN AND BEDRO				
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	DEPTH FROM	- FEET
BROWH	TOP SOIL				0	2_
GREY	CLAY				2_	42
11	SAND	CLAY			42	52
",	SAND		FIN	€	52	65
/1	CLAY				65	110
					_	
<u> </u>						
31	<u>.</u>	<u>.                                    </u>				
32				54 65		75 40
	TER RECORD	51 CASING & OPEN HOLE	1 u	SIZE(S) OF OPENING 31-33 DIA	METER 34-38	10
WATER FOUND AT - FEET	KIND OF WATER	INSIDE DIAM MATERIAL THICKNESS INCHES FI	пом 10	STAINLESS STEE	DEPTH TO TOP	41-44 30
60 10	FRESH 3 SULPHUR  SALTY 4 MINERALS 6 GAS	10-11 1	0 55 6	JOHNSON	5:	) FEET
	☐ FRESH 3 ☐ SULPHUR 19 H	5 D PLASTIC	20-23	PLUGGING & SEA		RD ENT GROUT
	FRESH 3 SULPHUR 24  SALTY 6 GAS	1 USTEEL	5 65	FROM TO MATERIAL A	NO TYPE LEAD PA	ACKER, ETC >
	FRESH 3 SULPHUR 29 SALTY 6 GAS	24-25 1 Deres 26	27-30	10 0 HOLE		AL
30-33	FRESH 3 SULPHUR 34 0	4 OPEN HOLE	5 78	WEL 30-33 80	L 3E	<del></del>
PUMPING TEST MI		5 □ PLASTIC		LOCATION OF WE	LL	
	2 SCBAILER 4	GPM	IN DIAGRA	AM BELOW SHOW DISTANCES OF WEL		AND
STATIC LEVEL	END OF WATER	1	LOT LINE			
TE	69 15"	1 1 1 1 1	A	4		
F FLOWING. GIVE RATE	2 SB-41 PUMP INTAKE	SET AT WATER AT END OF TEST 42		L		
GIVE RATE  RECOMMENDED P	PUMP	D 43-48 RECOMMENDED 46-49 PUMPING	ET.	150'		
50-53		FEET RATE 7 GPM	NOF	/ / -		
FINAL	1 X WATER SUPPLY	B ABANDONED. INSUFFICIENT SUPPLY	il <i>†</i>	<b>→</b> • • • • • • • • • • • • • • • • • • •		
STATUS OF WELL	2 OBSERVATION WE	LL 6 ABANDONED POOR QUALITY 7 UNFINISHED 9 DEWATERING	+	T		
L	4 RECHARGE WELL  55-56 1 M DOMESTIC	5 COMMERCIAL	+	500'		
WATER	2 STOCK 3 IRRIGATION 4 INDUSTRIAL	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING				
USE	OTHER	• NOT USED	<u> </u>	+		
METHOD			‡			
OF CONSTRUCT	ION 4 ROTARY (REVERS	DRIVING	·		38	910
NAME OF WELL	AIR PERCUSSION	☐ DIGGING ☐ OTHER	DRILLERS REMARKS	58 CONTRACTOR 59-62 DATE RECEI	IYED	63-68 8
	V MITCHELL	\$ SONS 3604	SOURCE DATE OF INSPECTION	3604 NO		
ADDRESS NAME OF WE NAME OF WE NAME OF WE	5 SIMCOE		SE SE			
RUGE	R MITCHE	LICENCE NUMBER	D REMARKS			
SIGNATURE O	F TECHNICIAN/CONTRACTOR	SUBMISSION DATE	OFFICE		CSS.	ES
	RY OF THE ENVIRO	<u> </u>	1 🖳		FORM NO. 0506	



ntario  1. Print only in spaces provided  2. Check ⊠ correct box where applicable  1. 2	1304396	NUNICIP.	CON.	12 23 24 ot 25-27
TROPITED TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE TROPITED RO	4			13
RR 4 BRAN	NTFORD		DAY 4 MO //	YR. <b>2</b> /_
HING RC	ELEVATION RC	BASIN CODE		1V
LOG OF OVERBURDEN AND BEDRO	CK MATERIALS (SEE	INSTRUCTIONS)	0.00	
ENERAL COLOUR NOST OTHER MATERIALS	GENEF	RAL DESCRIPTION	DEPTH -	TO
		TOP SOIL	0	<u> </u>
		GRAVEL SAND	5	5 60
		JANU		00
2 1 1 WATER RECORD 51 CASING & OPEN HOLE	RECORD Z SIZE	54 (5) OF OPENING 31-3	65 3 DIAMETER 34-38 LI	75 ENGTH 39-
TER FOUND KIND OF WATER INSIDE WATERIAL THICKNESS	DEPTH - FEET W	ERIAL AND TYPE	DEPTH TO TOP	5 FE
26 2 SALTY 6 GAS 1 SULPHUR 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 48" 0	55	4	18 FEET
15-18     FRESH 3   SULPHUR	20-23 DEPTH	SET AT - FEET	SEALING RECO	RD
20-23	FROM			KER. ETC )
25-28 1 FRESH 3 SULPHUR 29 5 PLASTIC 26 24-25 1 SALTY 6 PLASTIC 26	27-30	18-21 22-25		
30-33   FRESH   3   SULPHUR   34   90   3   CONCRETE   4   OPEN HOLE   5   PLASTIC	2	5-29 30-33 80		
PUMPING TEST METHOD 10 PUMPING RATE 15-14 DURATION OF PUMPING 15-16 17-18		LOCATION OF	WELL	
1 DPUMP 2 BAILER GPM HOURS MINS  STATIC WATER LEVEL END 1 PUMPING LEVEL PUMPING PUMPING 2 RECOVERY		LOW SHOW DISTANCES O	141	
19-21 22-24 15 MINUTES 30 MINUTES 45 MINUTES 60 MINUTES 24-28 29-31 32-34 35-37			₩0	RT H
26 FEET 34 FEET FEET 34 FEET  IF FLOWING 38-41 PUMP INTAKE SET AT WATER AT END OF TEST 42  GPM 40 FEET 1 VCLEAR 2 CLOUDY  RECOMMENDED 43-45 PUMPING 46-49  PUMP 40 PUMPING				ľ
GPM FEET 1 TICLEAR 2 CLOUDY  RECOMMENDED FUMP TYPE RECOMMENDED 43-45 RECOMMENDED 46-43	4005	/=		
SHALLOW DEEP SETTING 40 FEET PUMPING RATE 15 GPM			<i>■</i>	
FINAL 1 WATER SUPPLY S ABANDONED, INSUFFICIENT SUPPLY				
STATUS  2	1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2	11KE	150	, ,
55.56   DOMESTIC 5 COMMERCIAL 2 STOCK 6 MUNICIPAL	24 HWY 1/2"			
WATER  3   IRRIGATION 7   PUBLIC SUPPLY  USE 4   INDUSTRIAL   COOLING OR AIR CONDITIONING			V	
OTHER OTHER	53	11111		
METHOD  2   ROTARY (CONVENTIONAL) 7   DIAMOND  OF 3   ROTARY (REVERSE) 6   JETTING		# 4	91	0613
ONSTRUCTION   ROTARY (AIR)   DISTRICTION   DIGGING   OTHER	DRILLERS REMARKS			
NAME OF WELL CONTRACTOR  BEVEN ELECTRIC LTD LICENCE NUMBER  1347	DATA SE	1347 DAT	NOV 1 5 199	1 43-44
ADDRESS RUPEDRY		INSPECTOR		
ADDRESS  BEVEN ENECTRIC 10 134  ADDRESS  NAME OF WELL TECHNICIAN  BARRY BEVEN  SIGNATURE OF TECHNICIAN/CONTRACTOR  SUBMISSION DATE	O REMARKS			
NAME OF WELL TECHNICIAN  BARRY BEVEN  SIGNATURE OF TECHNICIAN/CONTRACTOR  SUBMISSION DATE  91	OFFICE		CSS.1	ES
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	NG RC	ELEVATION RC.	BASIN CODE	111 11 11
Z 1 12 12 12 12 12 12 12 12 12 12 12 12 1	OG OF OVERBURDEN AND BEDROC	K MATERIALS (SEE	NSTRUCTIONS)	
CENERAL COLOUR MOST	OTHER MATERIALS		AL DESCRIPTION	DEPTH - FEET FROM TO
brown boulders	clay + grav	el h	ard.	030
asey houlders	gravel	cem	ented,	30 90
Just gravel	sand	· ce	mented	4030
blu'c Elyy				70 90
brown clay +	sund			90 100
brown sand				70 700
		7N		
				<u> </u>
31				
41 WATER RECORD	51 CASING & OPEN HOLE R	ECORD Z SL	OT NO 1	LETER 34-38 LENGTH 39-40
WATER FOUND KIND OF WATER AT - FEET 14	INSIDE MATERIAL THICKNESS INCHES INCHES	TO 5 MA	TERIAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
7 00-13   [I] FRESH 3   SULPHUR 2   SALTY 6   GAS	10-11 1 GSTEEL 2 GALVANIZED 3 CONCRETE 12	0 /0 [	33 / [6 ]	1 4 5 FEET
90-100 1 FRESH 3 SULPHUR 19 2 SALTY 4 MINERALS 6 GAS	5 PLASTIC	20.23	PLUGGING & SEA	CEMENT GROUT
20·23   □ FRESH 3 □ SULPHUR 24 2 □ SALTY 6 □ GAS	1 STEEL 2 GALVANIZED 3 GCONCRETE 4 GOPEN HOLE	FROM	10-13 14-17	LEAD FACILITY.
25-28 1   FRESH 3   SULPHUR 29 2   SALTY 6   GAS	5   PLASTIC   24-25   1   ISTEEL   2   GALVANIZED	27-30	18-21 22-25	
30-33 1 FRESH 3 SULPHUR 34 MINERALS 2 SALTY 6 GAS	3 CONCRETE 4 OPEN HOLE 5 PLASTIC	4.	26-29 30-33 80	
71 PUMPING TEST METHOD 10 PUMPING RA	15-16 17-18		LOCATION OF WE	LL
	GPM HOURS MINS  1 C PUMPING  LEVELS DURING 2 FRECOVERY	IN DIAGRAM BE LOT LINE I	LOW SHOW DISTANCES OF WEL NDICATE NORTH BY ARROW.	L FROM ROAD AND
LEVEL PUMPING  19-21  22-24  15 MINUTE  (%)	S 30 MINUTES 45 MINUTES 60 MINUTES		_1	NT
T IF FLOWING. GIVE RATE  OF THE TOTAL SEASON	EET FEET FEET OFFEET E SET AT WATER AT END OF TEST 42		9	e7
IF FLOWING. GIVE RATE  GPM  RECOMMENDED PUMP TYPE  RECOMMENDED PUMP TYPE  RECOMMENDED PUMP TYPE				
SHALLOW B DEEP SETTING	PUMPING OPM		<i>d</i>	
54 CAMAZER CHIRRLY	5 ABANDONED, INSUFFICIENT SUPPLY		200	if the
FINAL STATUS OF WELL  OF WELL  TEST HOLE  TEST HOLE	, 🗌 UNFINISHED			
55-56 1 DOMESTIC	5 COMMERCIAL		+	
WATER  2	6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING		2	,
OTHER	9 NOT USED		Pal	
METHOD  OF  TOTAL  TOTA			D(.	
CONSTRUCTION    CONSTRUCTION   CONST	9 DRIVING	DRILLERS REMARKS	. I	121394
NAME OF WELL CONTRACTOR	WELL CONTRACTOR'S	DATA 58	5 CONTRACTOR 0 53-62 DATE RECE	Ğ 2 4 1992 ""
ADDRESS DOLL RESSEL	Ca termine 5001	SOURCE O DATE OF INSPECTION	INSPECTOR	
NAME OF WELL TECHNICIAN  REMARKS  NAME OF WELL TECHNICIAN  REMARKS  SIGNATURE OF TECHNICIAN/CONTRACTOR	WELL TECHNICIAN'S LICENCE NUMBER	O REMARKS		
SIGNATURE OF TECHNICIAN/CONTRACTOR	70511	OFFICE		CSS.ES
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1 2	M 10 12	17 18	24		26	30 31	<u> </u>		
		1	RDEN AND BED	ROCK	MATERIAL	GENERAL DESCRIP			H · FEET
GENERAL COLOUR	MOST COMMON MATERIAL	OTI	HER MATERIALS					FROM	2
Brown	TUPSOIL					MAN OVERS	NOFW	2	10
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32	<u> </u>			با لى		لسيا لسا	ا لىلىلىا إ		
1 Z 10	ATER RECORD	51 CAS	ING & OPEN HOI	E REC	CORD	SIZE S) OF OPENIN		AMETER 34-3	3
WATER FOUND AT - FEET	KIND OF WATER	INSIDE DIAM MAT INCHES	ER:AL TH:CANESS	DEPT FRUM	H · FEET	MATERIAL AND T	(PE	DEPTH TO TO	OP 41-44 30
	FRESH 3 SULPHUR 4 MINERALS 6 GAS	2-H-11   STEE	EL JZ 244	0	36	STAINLE	SS STEEL		36 FEET
15-18 1	FRESH 3 DSULPHUR 19	3 CON 4 OPE 5 PLA	CRETE N HOLE			<u> </u>	JGGING & SI		
20-23 1	FRESH 3 DSULPHUR 24	17-18 1 STE 2 GAL 3 CON 4 OPE	EL VANIZED		20-23	DEPTH SET AT - FEI	MATERIAL		D PACKER, ETC.)
L	FRESH 3 DSULPHUR 29	5 LI PLA	STIC		27.30	10-13	14-17		
	SALTY 6 GAS  FRESH 3 SULPHUR 34	24-25   1   STE 2   GAL 3   CON 4   OPE	VANIZED				30-33 80		
	SALTY 6 GAS	5 UPLA	STIC						
71 PUMPING TEST A	METHOD 10 PUMPING R	ATE 11-14 DUI		7-18			ION OF W		
STATIC LEVEL	WATER LEVEL 25	R LEVELS DURING	PUMPING		IN DI LOT L	AGRAM BELOW SHOW LINE INDICATE NO	DISTANCES OF W RTH BY ARROW.	ELL FROM ROA	- N
TEST O	-21 22-24 IS MINUT	ES 30 MINUTES 6-28 29-31	45 MINUTES 60 MINUT 32-34 3	ES 5-37		INT IL			11
IF FLOWING	EET FEET JO	FEET FEET W	FEET ATER AT END OF TEST	FEET 42		CONIL			
IF FLOWING. GIVE RATE  RECOMMENDED	GPM GPM	- FEET	CLEAR 2 CLOU		or,				
RECOMMENDED	PUMP TYPE RECOMMEN PUMP OW DEEP SETTING		IMPING 🥌 🧥	6-49 GPM ,		IM	a		a
50-53					#	•	ĺ	9	
FINAL STATUS	1 WATER SUPPLY 2 DESERVATION	WELL G ABAND	ONED INSUFFICIENT SUPPONED POOR QUALITY	'LY	3		\ DS	<b>.</b>	40
OF WELI	3	7 UNFIN			0	$\mathcal{B}^{0}$	y 05	לא	1
	55-56 1 DOMESTIC	5 COMMERCIA 6 MUNICIPAL			6				R
WATER USE	TRIAL	7 PUBLIC SU  COOLING O	PPLY R AIR CONDITIONING 9		4		<u> </u>		#
	`HER		BORING			24 HWY			
I		PENTIONAL) 7 [	] DIAMOND ] JETTING			LOT 10	1	7	00501
	•	9 🗆	DIGGING OTHER		DRILLERS REMA	RKS		0	<u>93581</u>
			WELL CONTRACT	OR'S	> DATA SOURCE	58 CONTRACTOR	∩ %62 DATE RE		1993 ""
			1702		DATE OF INS	PECTION	UZ J	AN 07	1334
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		· : ·	WELL TECHNICI						
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21	10			RRURDEN	AND BED	ROCK	MATERIAL	S ISEE IN	STRUCTIONS)			
GENERAL COLO	OUR	MOST	01 012	OTHER MAT					L DESCRIPTION		DE FROM	EPTH - FEET TO
	CO	MMON MATERIAL							SAN	0	0	46
									GRAV	EL	46	49
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32	14 15			لللياللـ CASING &	ODEN HO	<u> Ц</u>		SIZE:	54 S) OF OPENING	31-33	DIAMETER 34	75 AC
WATER FOUND AT - FEET	WATER F	OF WATER	INSIDE DIAM	MATERIAL	WALL THICKNESS	DEPT	TH - FEET	1 🔠	RIAL AND TYPE		INC DEPTH TO	TOP 41-44 30
1800	1 FRESH	. 4 - MINERALS	INCHES 1	STEEL .	INCHES	FROM	48"	NATE OF			OF SCREE	FEET
15-18	I   FRES	H 3 DSULPHUR 19	J 3	GALVANIZED CONCRETE OPEN HOLE PLASTIC	188		10	61		ING &	SEALING R	
20-23	1	H 3 DSULPHUR 24	17-15	STEEL	19		20-23	FROM	SET AT - FEET	MATERI	AL AND TYPE	(CEMENT GROUT LEAD PACKER, ETC.)
25-20	1 []	6 □GAS	5	DOPEN HOLE	26		27-30		0-13 14-17 8-21 22-25			
30-33	2 SALT	6 DGAS	0 3	GALVANIZED GONCRETE			₩.	26	2. 3-29 30-33	80		
PUMPING	2 SALT	Y 6 GAS		PLASTIC DURATION OF	PUMPING	<u> </u>		i	OCATION	OF V	VELL	
1741	PUMP 2 18	BAILER	12 0	м 📈 7 н	OURS	17-10 MINS	1 IN DIA	AGRAM BEL	OW SHOW DISTA	NCES OF	WELL FROM R	OAD AND
STA'	'' <sup>'</sup>   E	R LEVEL 25 ID OF WATER MPING 22-24 15 MINUTE	LEVELS DURING	2 [	PUMPING RECOVERY  5   60 MINU	TES	LOT L		DICATE NORTH E	BY ARROW.		
TEST 2		8 28		1		35-37 FEET			ie ,			
IF FLOWING IVE RATE	NG. E	36-41 PUMP INTA	110	WATER AT EN		42 UDY	-	1/4 194	E	<b>&gt;</b>	4)	
RECOMME	NDED PUMP TYPE	PUMP	DED 43			46-49 GPM	7	1			P. S. Pringer, Balance of all	
50-53	SHALLOW 🗡	DEEP SETTING	70				3		HOUSE		Common Capacity C	
FIN	AL	WATER SUPPLY OBSERVATION	VELL 6	ABANDONED. INS	OFFICIENT SUF	PPLY	2	Į				
STAT OF W	rus	TEST HOLE RECHARGE WEL	, 🗆	UNFINISHED DEWATERING		,	A			3	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
1010		DOMESTIC STOCK	5   COM 6   MUN	ICIPAL			F			•		
WAT US		IRRIGATION INDUSTRIAL OTHER	7   PUB     COO	LING OR AIR CO	NDITIONING							
	57	I DIHER		6 BORING					53 H	nf	Ψ	<del></del>
MET	HOD F	2 AOTARY (CONV 3 ROTARY (REVE		7 DIAMON  B DETTING  DRIVING	G				JJ #	7	4	15727
CONSTR		4   ROTARY (AIR)  S   AIR PERCUSSIC	N	☐ DIGGIN	G OTHER		DRILLERS REMA	RKS				
	REUE	RACTOR EN ELE	OTPIN	1, 10	ELL CONTRAC CENCE NUMBI	TOR'S ER	DATA SOURCE  DATE OF INSI	58	134	TATE DATE	JUL 13	3 1994
ADDRES	SS						DATE OF INSI	PECTION	INSPEC	TOR		
ONTRACTOR	OF WELL TE	CHNICIAN  RELIE	·	W	ELL TECHNIC	E Francis						
SIGNA	TURE OF TECH	VEVE	PR	SUBMISSION DATE	1038	2	OFFICE				C	CSS.ES
1 1	1124	45 eva		DAY 07	1007 Y	<b>74</b>	~.l					2772 144 (20) 7074



The Ontario Water Resources Act

# WATER WELL RECORD

Ontario	1. PRINT ONLY IN SPACES PR 2. CHECK 🔀 CORRECT BOX V		11	1	30479	12	1,3,0,0	يا لِدُه		106
COUNTY OR DISTRICT		NSHIP, BOROUGH, CITY.		_		CON BLO	CK, TRACT, SURV	6 6	1	18
					C	PAR	. <	DAY_		18-53 YR.94
		is F1 /	NELI	RC.	S T		IN CODE	11	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,v
21 I		, 18	1 1 1	25	26	30 31				
		OVERBURDEN		ROCI	K MATERIAL:		DESCRIPTION			· FEET
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATE	RIALS			GENERAL	DESCRIPTION		FROM	10
BROWU	70P-501L								0	
BROWN	SANDY	LOAM					3 <i>E</i>		4	12
BROWN	SAND &	GRAUE				OAR ET	) <u> </u>		12	25
380W M	SAND &	GRAUEI				F_				
·										
									<u></u>	<u> </u>
31				إلى		با لب				
32	15 21	32		الد	43	SIZE(S)	OF OPENING	31-33 DIAM	ETER 34-38	75 80 LENGTH 39-40
	R RECORD 51	CASING &	OPEN HOI		ECORD	Z ISLOT NO			INCHES	FEET
WATER FOUND AT - FEET	KIND OF WATER DIAM	MATERIAL	THICKNESS INCHES	FRO	M 10	S MATERIA	AVE C	_	DEPTH TO TOP OF SCREEN	FEET
12-25 0 5	ALTY 6 GAS	1 STEEL 2 DEALVANIZED 3 CONCRETE	16	K	25	61			LING REC	ORD
1	SALTY 6 GAS	4 OPEN HOLE 5 PLASTIC	,	10	20-23	DEPTH SET	AT - FEET			
20-23 1 F	RESH SULPHUR	2 □ GALVANIZED 3 □ CONCRETE 4 □ OPEN HOLE	3	0	15	10-13	10		RETE	
25-28 1	FRESH 3 DSULPHUR	A-ZS STEEL	-	-	27-30	18-21		CAKKI	TE S	TOINTS
30-33 1	FRESH 3 SULPHUR 34 10	2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC				26-29	30-33	e6		
PUMPING TEST METHO		11-14 DURATION OF F				LC	CATION	OF WE	LL	
71 1 PUMP 2	BAILER WATER LEVEL 25			7-18 M1NS			N SHOW DISTA	NCES OF WEL	L FROM ROAD	AND
LEVEL	END OF WATER LEVELS PUMPING		RECOVERY		LOTL	INE INDI		403		
12 /2	26-28 FEET FEET			FEET				N	EW HOUSE	
FEET FLOWING. GIVE RATE  RECOMMENDED PUMP	38-41 PUMP INTAKE SET AT	WATER AT END	R 2 CLO	JDY				<u></u>		
RECOMMENDED PUMP	PILMP	43-45 RECOMMENDE		6-49			1 100	, WE		
ED SHALLOW	DEEP SETTING	FEET RATE	,	GPM		500	11/20			
FINAL	1 CT WATER SUPPLY	5 ABANDONED, INS		PLY			V			
STATUS	2 OBSERVATION WELL 3 TEST HOLE	ABANDONED POO     UNFINISHED     DEWATERING	OR QUALITY	ı						
OF WELL	DOMESTIC "	COMMERCIAL				/	REST AC	LE3		
WATER	3   IRRIGATION 7	<ul><li>☐ MUNICIPAL</li><li>☐ PUBLIC SUPPLY</li><li>☐ COOLING OR AIR CON</li></ul>	IDITIONING				X			
USE	4 D INDUSTRIAL 5		OT USED		To		1		B	PANTFOR
METHOD	CABLE TOOL CONVENTIONA	6 19 BORING			BURFOR	0	Hw	71		<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>
OF CONSTRUCTIO	N 1 ROTARY (REVERSE)	□ JETTING     □ DRIVING	; ;				HWY 24	5 /	13	24821
	3 AIR PERCUSSION	DIGGIN	LL CONTRAC	TOR'S	DRILLERS REMA	58 C	MAK O	DATE RECE	IVED	63-68
NAME OF WELL C	SON & BAET	LIC	3030	ER	SOURCE DATE OF INS		303		CT 13	1994
NAME OF WELL		ASANT			اسا	. 20,104				
NAME OF WELL	L TECHNICIAN	w	ELL TECHNIC	IAN'S	REMARKS					<b>*</b>
SIGNATURE OF	TECHNICIAN/CONTRACTOR	SUBMISSION DATE			OFFICE				CSS.	es
	Daily		10Y	R			·			06 (11/86) FORM
MIMSTRY	OF THE ENVIRONME	NI COPY								



0506 (07/94) Front Form 9

County or District		Township/Borough/City/T	own/Village	Con block tract sui	rvey, etc. Lot	/ 25-27
ounty of District		BRANT		KERRIGA	T 2	1 48.5
		Address CLA	OSANT RIDGE 1	Date complete	423 /A	th /
1 .	U I	Northing	RC Elevation	RC Basin Code ii	. <u></u>	iv ii
3	LOG	OF OVERBURDEN AND BEDI	74 23 20	tructions)		
General colour	Most common material	Other materials		eneral description	From	th – fee To
SRam	TAXALL			. #	0	2
2000	ROULDERS	CARRICS.			2	10
SRUM.	GRAVEL	MAYISAND	(EME)	JOD GRAVEL	10	40
Zourn I	FINE SAND		DRY		40	10
a a m	SAND		Fine		10	35
2024	SAND		WEDI	un	95	83
1,561	3712					
				-		
1				<u> </u>	يتنالين	
2		W - Land While	D- A POCHOR			1
10	TER RECORD 51	CASING & OPEN HOL	E RECORD SI	izes of opening 31-33 Diam	eter 34-38 Lengti	ħ
Vater found t – feet	Kind of water Inside	Material thickness	From To	6 4	Depth at top of	of corner
3 14	Sulphur 14	Steel 12 2 Galvanized	13-16 S	aterial and type	19	feet
7 3 1	Fresh 3 Sulphur 19	3 Concrete 4 Open hole 5 Plastic	0 11	PLUGGING & SEA	U ING RECOR	
	Salty 6 Gas Fresh 2 Sulphur 24	13 ,	20 23 61	☐ Annular space	☐ Abandonme	
2 (	Salty 6 Gas	5 Concrete 4 Open hole	Fro	m io .	e (Cement grout, be	ntonite,
25 - 28 1 [	☐ Fresh 3 ☐ Sulphur <sup>29</sup> ☐ Salty 4 ☐ Minerals ☐ Gas 24	5 Plastic 25   Steel 26	27. 20	3 21 22-25		
30 33 , [	Fresh 3 Sulphur 34 50	Galvanized Concrete Copen hole	26	6-29 30-33 80		
2 [	Salty 6 Gas	5 Plastic				
Pumping test r	iteriod Lambing tota	Duration of pumping  SPM Hours Mins		LOCATION OF WELL		ina
01-11-1-11	Water level 25 Water levels during	Pumping 2 Recovery	In diagram below Indicate north by	show distances of well from arrow.		
LS 19-21	22-24 15 minutes 30 minutes 26-28	tes 45 minutes 60 minutes 32-34 35-37				77
If flowing give	rate 38.41 Pump intake set at	feet 5 feet 5 feet Water at end of test 42		KERRACI	1	.1
If flowing give	GPM	feet 🗄 Clear 🗌 Cloudy	1 / 105	a " Akir"		4.6
Recommende	d pump type  Recommended pump setting	43-45 Recommended. 46-49 pump rate GPM		^		•
50-53		feet / GPM	1 / 2 M	ι — γ	1	
FINAL STATU	ipply 5 Abandoned, insuffi	cient supply 9				
Observa	e 7 🛄 Abandoned (Other)	uality to the neplacement well		11.705		1)
₄ ☐ Recharg				HOXDS		B
WATER USE	ic 's Commercial ε Municipal	9 🔲 Not used				1
2 ☐ Stock 3 ☐ Irrigatio 1 ☐ Industri	n 7 🔲 Public supply		11 11			
	CONSTRUCTION 57		LIEA	SAM RIDGE	RD	
Cable to		9 Driving 10 Digging		•		
Botary	(reverse) 7 🗌 Diamond	Other	·   <i> </i>		1684	21
		I Wall Comment of the Comment	Data 58 Con	ntracctor 59-62 Da	ite received	63-
Name of Well Cor	TETO GNN 13	Well Contractor's Licence No	Data 56 Con			996
Address	CONTEAN		Date of inspection	Inspector		- •
Name of Well Tec	STANT FUILD	Well Technician's Licence N	D. Remarks			
	all DE C STRATEGI	W 12293	11 👼	•	~~	1 WAZE
CHICISTO	DUSK.G.STRATFU	Submission date	<b>□.  꽃</b>		CSS	LES.

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Municipality Con - KT

LOQ OF OVERBURDEN AND BEDROOK MATERIALS (see instructions)  Characteristics of the second sec			1 2			10	į4 15		22 23
LOQ OF OVERBURDEN AND BERNOCK MATERIALS (see instructions)  Most coerrison methods  Most coerrison methods  ARE VIAUS  DUG  PARTICLES  REALIN  General description  Depth - for the particles  DUG  REALIN  GRAVIE  CLAY  SILT  CEMBRIED  REALIN  GRAVIE  COARSE  31 38  STORY  SAND  COARSE  SILV  SAND  Depth - for the particles  SILV  SAND  COARSE  TO HOUSE  SILV  SAND  Depth - for the particles  SAND  Depth - for the particles  SAND  SAND  Depth - for the particles  Depth - for the particles  SAND  Depth - for the particles  Depth	County or District		Township/Borough/City/Tov	wn/Village	TWO.	1		y, etc. L	01-3 25-
LOG OF OVERBURDEN AND BEDROOK MATERIALS (see instructions)  Other quadratis  Other quadrati			Address	FOAL	)	11 Ea		1.1	<u> </u>
LOG OF OVERBURDEN AND BEPROCK MATERIALS (see instructions)  Committee of the materials			RR#2	BR	ANI FOR	D Code		day	month ye
MATER RECORD  WATER RECORD  WA	! <b>1</b>	I	Northing	AC		Basin Code	ونا نا د	<u> </u>	
Control of the control makeful and the control makeful	2	LOG	OF OVERBURDEN AND BEDRO	OCK MATER	IALS (see instruct	ions)		1 -	enth feet
BROWN GRAVE   CLA X 5 LT CEMENTED GRAVE   18.3    SAND GRAVE   Suprise   Sup	General colour	Most common material	Other materials		Genera	description			<del>-</del>
BRAWN GRAVE   CLAY SILT CEMENTED CRAWE   16 3 1 3 1 3 5		PR	EVIOUS D	10G P	77			0	4
WATER RECORD  Water Grand  Water Stand  Material March  Same (Country)  Same (	BROWN	SANO	CLAX					4	18
WATER RECORD  Water Grand  Water Stand  Material March  Same (Country)  Same (	BRALLA	GRAVEL	CLAX/SIL	7 1	EMEN	TED	TRAVE	× 19	531
WATER RECORD	CREY	SAND			COARS	E		31	38
WATER RECORD	314								
WATER RECORD   Water borned   Wate									
WATER RECORD   Water bound									
WATER RECORD									
WATER RECORD									
WATER RECORD   Size for Commercial   Size of Consering   Size of									
WATER RECORD   Size for Commercial   Size of Consering   Size of									
WATER PECORD  Vater found Kind of water	31					1111	<u>.i.l</u> li		<u>L.:.</u>
WATER RECORD   Water level   Green	)2 <u>                                    </u>			L 1 1 1 1 1	54	_ <u> </u>	65		75_
Salty   Gas   Sulphur		TIL COLL	Wali			)	31 33 Diameter	-	21
Salty   Gas   Sulphur	t - feet	Kind of water diam inches	Material thickness inches		To Material				op of screer
Plastic   Plastic   Street		I Minerals	Galvanized	0 3	$ \mathcal{G} $	5.5.		3:	feet
Steel   Sulphur   Sulphu		Minerals □ Minerals	5 Plastic		61	PLUGG	ING & SEALI		
Pumping test method	% 20 : □ Fre	esh 3 Sulphur 24	2 Galvanized		\ <u> </u>	t _ feet			
Saley   Gass	Į.	esh 3 Sulphur 29	□ Open hole			10			
Pumping test method   Pumping rate   Gas   Plastic   P	₂ □ Sa	alty 4   Minerals 24-	□ Gaivanized		27 30 2 18-21	22-25			
Pumping test method   Pumping rate   Pumping rate rate of of test   Pumping rate rate of of	1 12 17	4  Minerals	₄ ☐ Open hole		2629	30-33 80	12.00		
Static level   Water levels during   Pumping   Recovery     Static level   Water levels   Water levels during   Pumping   Recovery     Static level   Water levels   Water levels   Water at end of test   Other     Static level   Water levels   Water levels   Water at end of test   Other     Static level   Water levels   Water levels   Water at end of test   Other     Static level   Water levels   Water levels   Water at end of test   Other     Static level   Water levels   Water levels   Water at end of test   Other     Static level   Water levels   Water levels   Water levels   Water levels   Water at end of test   Other     Water levels   W	Pumping test metho	od 10 Pumping rate	Duration of pumping		LO	OCATION (	OF WELL		
Static level end of pumping water levels using 1 static level and of pumping 1 static level and of pumping 1 static level and	1 Dump 2 Water	Sailer 6 G	1	N Ins	diagram below show	w distances		oad and i	ot line.
Shallow   Deep   29   feet   GPM	Static level end o	of pumping Water levels during 22-24 15 minutes 30 minute	es 45 minutes 60 minutes	Ino	ilicate north by arrov	<b>"</b>	. K	KEN	R
Shallow   Deep   2.9   feet   GPM	12 test /		15 15	1	LO	R. 1R1	KN 7	RACI	3
Shallow   Deep   2.9   feet   GPM	If flowing give rate	38-41 Pump intake set at	Water at end of test 42		Allina	POIVA	TE R	5"	
Shallow   Deep   29   feet   GPM	Recommended pun	mp type Recommended	43-45 Recommended 46-49						
Mandoned, insufficient supply   S   Abandoned, insufficient supply   S   Abandoned, poor quality   S   Replacement well   Recharge well   S   Dewatering      MATER USE		Deep 29	feet / O GPM		13 5	·	og y W.	<b>一</b> )	
Observation well   6   Abandoned, poor quality   10   Heplacement well   Abandoned (Other)   Abandoned (	FINAL STATUS C	OF WELL 54	ient sunnly s □ Unfinished	l ,	1 +			<b>*</b>	96-4
WATER USE    Domestic   Stock   Gomercial   Gomercial	Water supply Description v  Test hole	well 6 Abandoned, poor qu 7 Abandoned (Other)	ıality ₁₀ ☐ Replacement well	"	1 3		~ ~	1/2	11
Domestic   Commercial   Golden   Colling & air conditioning   Colling &	₄ ☐ Recharge we	BI ε Dewatering			8		RA		
Stock	Domestic	5 Commercial			7				
METHOD OF CONSTRUCTION 57    Cable tool   5   Air percussion   9   Driving   10   Diggling   11   Other   168465    Rotary (reverse)   7   Diamond   11   Other   1702   1702   1702   1802   1996	₂ ☐ Stock ₃ ☐ Irrigation	∠ □ Public supply			13 11		14		
Cable tool   5   Air percussion   6   Boring   10   Digging   10   Digging   11   Other   11   Other   12   Other   13   Other   14   Other   15							L		
Name of Well Contractor  RABERT DENNIS Well Contractor's Licence No.   702   Data source   Source   Data   Source   Data   Source   Data   Source   Data   Data   Source   Data	(Mahla taal	✓ ☐ Air nercussion					į		_
RIBERT DENNIS 1702   Source 1702   FEB 0 2 1996	2 ☐ Hotary (conv 3 ☐ Rotary (reve 4 ☐ Rotary (air)	erse) 7 Diamond  B Jetting					,	168	<b>46</b> 5
RIBERT DENNIS 1702   Source 1702   FEB 0 2 1996			i Wall Contractor a License No.	] L Data	58 Contract		59-62 Date 1	received	63-
Address DAY 2 BRANTERD Date of inspection Inspector	Name of Well Contract			source	Jo Consumcc	702	FE	B 0 2	1996
	Address DD 4	10 ADITI	SAD	Date of	inspection	Inspector			

FEB. 5/96. PS.

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Municipality	Con.					
13001	KT	1	. 1	-	į	
10 14	15			22	23	24

Dec Blackov PC Blackov	County or District		Township/Borough/City/T	own/Village		Con block	tract survey	, etc. Lo	t 25-2
LOG OF OVERBURDEN AND BEDROCK MATERIALS (see Instructions)  Central discontinuo motivati  Other manefalls  Other manefalls  ORANGE SAND  CENTER GRAVEL  CASSE ES / SAND  CENTER GRAVEL  CLAY  HARDSALT TILL  ORANGE SAND  CENTER GRAVEL  CASHA ROPEN LOUE FECORD  FIRM  WATER RECORD  SAND  CASHA ROPEN LOUE FECORD  FIRM  WATER RECORD  SAND  CASHA ROPEN LOUE FECORD  FIRM  SOLVE OF MANE SAND  CONCRETE SAND  CONCRETE SAND  CONCRETE SAND  CONCRETE SAND  CASHA ROPEN LOUE FECORD  FIRM  SAND  CASHA ROPEN LOUE FECORD  FIRM  SAND  CASHA ROPEN LOUE FECORD  FIRM  SAND  CONCRETE SAND  CASHA ROPEN LOUE FECORD  FIRM  SAND  CONCRETE SAN			Address	BRA	MFOD.			Hay an	Shth 75
TRANSPORT OF WELL  TRANSPORT OF THE PROPERTY O	21	J	Northing		RC Elevation RC	Basin Code		. <u>_ L _ L _ L _ L _ L _ L _ L _ L _ L _ </u>	iv
The meterable of the me			OF OVERBURDEN AND BED	ROCK MAT				De	pth - feet
CALLY  CARLY  CA	General colour	Most common material	Other materials		Genera	al description		From	
AND SAND  SAND  SAND  SAND  CONTROL SAND  CO	BRUN		COBBLES/S	AND					20
WATER RECORD  WATER RECORD  WATER RECORD  IT SHOW I Shall be the state of the state	BROWN		WAY		CEMENTO	DURAL	EL_		60
WATER RECORD  WATER RECORD  WATER RECORD  IT SHOW I Shall be the state of the state	argy		CLAP		HAUDS		<u></u>	1 -	
WATER RECORD  WATER RECORD  CASING A OPEN HOLE RECORD  CONTROL OF CASING A OPEN HOLE RECORD	<b>POWA</b>		GE .		UERYFIN	, <u>y </u>			
WATER RECORD  As WATER RECORD  Water found is good of water with a second property of the second in feet a second property of the second	R60	SAND			F/Nº-			70	-
Author County   Control									
WATER RECORD    Mater   Marcola   Material   Marcola   Material				· · · · · · · · · · · · · · · · · · ·		:			
Secondary   Seco	41 WA'	Kind of water diam	de Wall n Material thickness	Depth -	D Sizes o (Slot No	S.) <b>8</b>	Diameter	inches	10
Second   S	90 10-13 14	Fresh 3 Sulphur 14 Minerals Gas Sulphur 19	Steel    Galvanized   See   Se	0		1.57EE		89	feet
Saby   General grout, bentonie,   From   To   Material and type (Ceneral grout, bentonie,   To   Material and type (Ceneral grout,	2 [	Salty 6 Gas	17-18 <sub>1</sub> Steel <sup>19</sup>		20.22		G & SEALI		
Protein   Supply	2[	□ Salty 6 □ Gas	Goncrete  Goncrete  Goncrete		From	To Mate	rial and type (C	Cement grout,	bentonite,
Pumping test method   Osean hole   Osean h	25-28 1 [ 2 [	Colb. 4   Minerals	24-25 1 Steel 26		97.20				
Pumping test method   Pumping rate	1 '1	Fresh 3 Galpha	3 ☐ Concrete		26-29	30-33 80			
FINAL STATUS OF WELL   S4   Abandoned, insufficient supply   S   Abandoned, insuffici	Static level Stati	Bailer  Water level end of pumping  22-24  15 minutes 30 minutes 76-28  Pump intake set at GPM  GPM  Recommended  Recommended	GPM Pumping 2 Recovery  Ites 45 minutes 32-34 60 minutes 35-3  feet feet feet feet  Water at end of test 42  Glear Cloudy  GPM Pumping 2 Recovery  Geometric Recommended pump rate		In diagram below sho	w distances of w.	f well from r	ر من	t line.
Domestic   S   Commercial   9   Not used   10   Other   15   Stock   S   Contractor   S	FINAL SPATU  Water su  Observe  Test hole	upply 5 ☐ Abandoned, insur- ation well 6 ☐ Abandoned, poor e 7 ☐ Abandoned (Othe	quality to $\square$ Replacement well	3 2 6		257 <sup>05</sup>			
Name of Well Contractor  Address  RRQ BRATFORD  Name of Well Technician  Name of Well Technician  CHAY STOP HER G. STRATFORD.  Polity ing Digging 10 Digging 11 Diata Stratford.  Polity ing Digging 10 Digging 11 Diata Stratford.  Polity ing Digging 11 Data Stratford.  Polity ing Digging 12 Data Stratford.  Polity ing Digging 13 Data Stratford.  Polity ing Digging 14 Data Stratford.  Polity ing Digging 15 Data Stratford.  Polity ing Data Stratford.	Domesi 2 ☐ Stock 3 ☐ Irrigatio	tic 5 ☐ Commercial 6 ☐ Municipal n 7 ☐ Public supply	10 Other		REASANT	RIPOL	, KD		
Name of Well Contractor  Name of Well Contractor's Licence No.  1702  Address  RRQ BRANT FUSD  Name of Well Technician  CHAY STOP HCR-G-STRATFUP.  Well Contractor's Licence No.  270  Well Contractor's Licence No.  270  Date of inspection  Inspector  Remarks	Cable to	ool 5 Air percussion (conventional) 6 Boring (reverse) 7 Diamond	10 🗌 Digging						77
Name of Well Technician  CHY STOP HERE STRATTUP. 2273	Name of Well Cor	SRANTFUSD		SON Da	urce				1996
CONTRACTOR OF THE CONTRACTOR O	CHAY STA	ornician SPHGR.G. STRATA	Submission date	o. NINISTRY (	emarks			Co	C PC

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Municipality	Con.			
13001	CON	1	0	5
10 14	15	22		24

County or District	Township/Borough/City/To		)	Con block tract s		2 25.27
	Address RR# 3			Date complet	ed 20	3 48 53 Onth year
	Northing	F	RC Elevation RC	Basin Code		iv
21 1, 10 12 12 12 12 12 12 12 12 12 12 12 12 12	RBURDEN AND BEDF		ERIALS (see instructi	ons)		47
General colour Most common material	Other materials			description	Dep	oth – feet To
BROWN TOP-SOIL					0	/
BROWN SAND & G	RAUEL					6
BROWN SAND				- 100	6	12
BROWN SAND & GRAC	JE C				12	22
BROWN SAND & GRA	UEL		CEMENT	ED	22	23,
BROWN SAND & GRA	VEC I	DIRTY	PIT	RUN	23,	325
BROWN SAND	COAI	15E			325	375
						1
31 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Laa libera	l		, <u></u>		1. ma — — — — 1. f = 1.
32 14 15 21 51 51	CASING & OPEN HOLI	FRECORD	54	opening 31-33 Diar	5 neter 34 38 Leng	75 80 th 39 40
Water found Kind of water diam	Wall Waterial thickness	Depth -	feet Z (Slot No.)		inches	feet
	inches Steel 12 Galvanized	From	—— Material a	and type AVEL FIL	Depth at top	41-44
7 - 3   3   Salty 6   Gas   3   BY   3   Gas   Gas   3   Gas   G	Concrete Open hole	0	37= GRI		l	feet
Salty 6 Gas	Plastic Steel '9		20-23	PLUGGING & SE Annular space	ALING RECOF	
Salty Minerals	Galvanized Concrete Open hole		Depth set at From	To Material and ty	pe (Cement grout, b	entonite, etc.)
25-28     Fresh   3   Sulphur   29   5   5   5   5   5   5   5   5   5	Plastic Steel 26		27-30 10 13 .	75 BENT	NITE &	
30-33	Galvanized Concrete Open hole		26 29	5AKR	ITE JOH	V15
2 Salty 6 Gas 5	Plastic					
Pumping test method 10 Pumping rate 11-14 Du	ration of pumping			CATION OF WELL	فما لمسم لمستست	lina
Static level Water level end of pumping 25 Water levels during , Delta Pu	mping 2 Recovery		In diagram below show Indicate north by arrow	distances of well tro	ANTFU	
19 21 22 24 15 minutes 30 minutes 26 28 29-31 45	60 minutes 32-34 60 minutes 35-37		In diagram below show Indicate north by arrow	)	11/20	1
feet feet feet feet VVI	feet feet at end of test 42				HIMION	- /
GPM feet	☐ Clear ☐ Cloudy		Λ/			
pump setting 35 feet	mp rate 8 GPM		, ,			To
SO SS STATUS OF WELL 54		To	Hu	7 53	BA	ANTFORE
Water supply 5 ☐ Abandoned, insufficient supp □ ☐ Observation well 6 ☐ Abandoned, poor quality	ly 9 [] Unfinished 10 [] Replacement well	24	1	12 mile	>/	n
☐ Test hole ☐ Abandoned (Other) ☐ Recharge well ☐ Dewatering			HOUSE YOUSE	OLD JCOUNTRY FURNITU	<u>,                                    </u>	
WATER USE 55 56				FUKNITU	RE P	, ;
, ☑ Domestic 5 ☐ Commercial 2 ☐ Stock 6 ☐ Municipal 3 ☐ Irrigation 7 ☐ Public supply	g  Not used 10 Other		GREENHOUS	: <i>c</i>	6	-
4   Industrial 8   Cooling & air conditioning			[]GREEN HOO.	11-	K	
METHOD OF CONSTRUCTION 57	g Driving				/	
☐ Rotary (conventional) 6 P Boring ☐ Rotary (reverse) 7 □ Diamond	10 Digging 31 Other				1689	15
4 Rotary (air) 8 Detting		<u> </u>			1000	
Name of Well Contractor	Well Contractor's Licence No	Data soul	a 58 Contraccto	030	APR 0 9	1996
JOHNSON & BAETZ Address OF	2020	II ш I Date	e of inspection	Inspector	731 31 <b>V</b> V	<u> 1000</u>
Name of Well Technical	Well Technician's Licence No	.     ĪS   D.     ≵   Ren	narks	1		
DON BAEZZ	T-0338	MINISTRY			CSS.I	F <b>Q</b>
Signature of Technician/Contractor	Submission date day mo yr	N S				
2- MINISTRY OF ENVIRONMENT	& ENERGY C	OPY			0506 (07/94	) Front Form 9



### The Ontario Water Resources Act

CSS.ES 0506 (07/94) Front Form 9

WATER WELL RECORD Print only in spaces provided. 1305034 Mark correct box with a checkmark, where applicable. 11 13001 County or District Township/Borough/City/Township/Bage Brantford Address 96 completed Basin Code 7-LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet Other materials General description General colour Most common material From То rown lygered bioun san a 32 **CASING & OPEN HOLE RECORD** WATER RECORD Inside diam Wall thickness inches Water found at - feet Material Sulphur Minerals Steel
Description
Steel
Description
Steel
Steel 105 ∍ ☐ Salty 110 5 ☐ Sulphur
4 ☐ Minerals
6 ☐ Gas □ Fresh PLUGGING & SEALING RECORD ∍ ☐ Salty 61 Steel
Galvanized
Concrete
Open hole
Plastic Sulphur Minerals Gas 3 | | | 4 | | | 6 | | ☐ Annular space ☐ Abandonment ; ☐ Fresh Depth set at - fe ∍ ☐ Saltv Material and type (Cement grout, bentonite, etc.) From 3 Sulphur
4 Minerals
6 Gas ⊹∏ Fresh Steel
Galvanized
Concrete
Open hole
Plastic ₂ ☐ Salty 3 D 4 D 6 D Sulphur Minerals Gas ∗ ☐ Fresh 2 ☐ Salty Pumping test method **LOCATION OF WELL** )GPM 2□ Bailer In diagram below show distances of well from road and lot line. Water level end of pumping ndicate north by arrow. 6Water at end of test **B** Sear GPM ☐ Cloudy Recommended Deep ☐ Shallow GPM 54
5 Abandoned, insufficient supply 9 Unfinished
6 Abandoned, poor quality 10 Replacement well
7 Abandoned (Other) WATER USE

, Domestic

Stock

Irrigation

Industrial 55-56 5 ☐ Commercial
c ☐ Municipal
7 ☐ Public supply
c ☐ Cooling & air conditioning. □ Not used ı₀ ☐ Other 1004 1 5 ☐ Air percussion
6 ☐ Boring
7 ☐ Diamond
8 ☐ Jetting 9 Driving
10 Digging
11 Other ... **16854**5 Date received MINISTRY USE ONLY Dankessel Whencells JUL 1 6 1996 Date of inspection

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

1305035

Mark correct box with a checkmark, where applicable.	11 2	1305035	13001	22 23 24
County or District	Township/Borough/City/To	wn/Village	Con block tract	survey, etc. Lot 25-27
	Address	ouse + Ride	Date comp	oleted 29 5 91653 month year
21	Northing	HC Elevation	RC Basin Code	day month year
M 10 12	RBURDEN AND BEDR	OCK MATERIALS (see in	30 31	47
General colour Most common material	Other materials		General description	Depth – feet From To
brown clay	boulding		<u> </u>	15 35
grey grave	boulded			75 05
grey grave 1819x	Desciper	dev		45 65
brown fine sand.	day	198	erd	65 49
brown med sand	//	,		99 106
	`			
		Y		
31				
32 10 14 15 21 21 41 WATER RECORD 51 51	CASING & OPEN HOLE	RECORD S		65 75 87 Diameter 34 38 Length 39 40
Water found at – feet Kind of water linside diam inches	Material Wall thickness inches	Depth - feet	Slot No.) # /O	5 inches 5 feet
Salty 4 Li Minerais	Steel 12 Galvanized Concrete ,244 W		S John Gu	1 0 1 41-44
Fresh 3 Sulphur 19 4 5	Open hole Plastic	0 100 61		SEALING RECORD
20-25     Fresh   Sulphur   24     2	Steel <sup>19</sup> Galvanized Concrete Open hole	Dept	Annular space th set at - feet om To Material and	☐ Abandonment  I type (Cement grout, bentonite, etc.)
23-23   Fresh 3 Sulphur 29 5 U	Plastic Steel	27-30	18-21 22 25	
30 33 1 Fresh 3 Sulphur 34 60 3 Minerals	Galvanized Concrete Open hole*		26-29 30-33 80	
Pumping test method 13 Pumping rate	ation of pumping		LOCATION OF WEL	1
71 Deump Dailer Caph.	nping 2 Recovery	In diagram below Indicate north by	show distances of well	
end of pumping	minutes 60 minutes 32-34	111 1	53Hary	
The string of th	feet feet ter at end of test	1	<u> </u>	
GPM GPM feet  Recommended pump type Recommended 45.45 Rec	Clear Cloudy			
pump setting pump	np rate / GPM		3 miles	
FINAL STATUS OF WELL  [I] Water supply 5 Abandoned, insufficient supply	y ₃ ☐ Unfinished	35	3 miles	
Description well  Colories Test hole  Colorie	10 ☐ Replacement well	W		
WATER USE 55.56				
1 Domestic 5 □ Commercial 2 □ Stock 6 □ Municipal 3 □ Irrigation 7 □ Public supply	9	SKA	house	
METHOD OF CONSTRUCTION 57	A.	2 mitx		•
, ( Cable tool 5 ☐ Air percussion	g Driving	10		
☐ Rotary (reverse) ☐ Diamond ☐ Rotary (air) ☐ Jetting	11 Other			168542
Name of Well Contractor	Well Contractor's Licence No.	Data 58 Co	potracctor of 1 59-62	Date received 63-68 U
TEDVAN KESSEL WATERWELLS Address 179 SHERMANST, SIM		Date of inspection	Inspector	1 2 2 1 0 1000
Name of Well Technician	Well Technician's Licence No.	Remarks	1	
Mike McOuire Signature of Technician/Contractor	Submission date	Remarks		CSS.ES
MINICHUM	day mo yr			0506 (07/94) Front Form 9

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Mark correct box with a checkmark, where applicable.

1305203

Municipa	ality	Con.	
130	01	KT	

County or District		Township/Borough/City/Tow	n/Village	KERR	ct survey, etc. Lot
		Address ALCA	SANT RID	SP RD Da	te mpleted Z4 9 month
1	;	Northing	RC Elevation	RC Basin Code	il iii iv
3	LOG	OF OVERBURDEN AND BEDRO	CK MATERIALS (see in	structions)	
General colour	Most common material	Other materials		General description	Depth – fe
REX	STONES	GRAVEL			05
BOWN	SAND	CLAY			58 89
ROWN	SANO	CLEAN			88 9
	ķ.				
				<u></u>	
1					
32	14 15 21	32	43	54	65 7
1 WA	TER RECORD 51 Inside diam			Sizes of opening 31-33 Slot No.)	Diameter 34-38 Length
– feet	Fresh 3 Sulphur 14 Minerals	inches F	Depth - feet	Material and type	Depth at top of scree
	Salty 6 Gas	2 Galvariized	88 97	STAINLESS	> 94 fee
<b>38</b> 120	☐ Salty 6 ☐ Gas	-18 1 Steel 19	20-23	PLUGGING &	SEALING RECORD  Abandonment
	☐ Fresh 3 ☐ Sulphur 24 ☐ Minerals ☐ Gas	2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole		th set at - feet	and type (Cement grout, bentonite
25-28 1	☐ Fresh 3 ☐ Sulphur <sup>29</sup> ☐ Salty 4 ☐ Minerals ☐ Gas	5 Plastic	27-30	10-13 14-17 18-21 22-25	
30-33	☐ Fresh 3 ☐ Sulphur 34 60	2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole		26-29 30 33 80	4.
	Gas Gas	<sub>5</sub> Plastic			
Pumping test r	Bailer 12	Duration of pumping Hours	In diagram below	LOCATION OF WE	ELL all from road and lot line.
Static level	Water level end of pumping Water levels during  22-24 15 minutes 30 minut	es 45 minutes 60 minutes	Indicate north by	arrow.	<b>←</b> ₩
If flowing give	70 70 70 74	29-31			
If flowing give	, icet icet	Water at end of test    Clear   Cloudy	10	T	
Recommende	d pump type Recommended	45-45 Recommended 46-49 pump rate	9 6	4	
☐ Shallow	Deep Pulip setting 90	feet /O GPM	+		
INAL STATU	upply 5 Abandoned, insuffic	sient supply 9 🔲 Unfinished	3-11	1 -q	
	ation well 6 Abandoned, poor q	uality 10 ∐ Replacement well	X	I	1
2 Dobserva 3 Test hole	e 7 🗌 Abandoned (Other)		\	1	
2 ☐ Observa 3 ☐ Test hole 4 ☐ Recharg	e 7 Abandoned (Other) ge well 6 Dewatering		3	100405	CR
2 Observa 3 Test hold 4 Recharg	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal	9	3	100 X P.S K	ERR.
Observa	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal n 7 Public supply	9 ☐ Not used	S C	100 YPS	
WATER USE Domest Inrigatio Industri	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal 7 Public supply al 6 Cooling & air condi	9 ☐ Not used 10 ☐ Other	D QUEA	\$	
WATER USE Domest Inrigatio Industri  METHOD OF Rotary Rotary Rethrication Rethricat	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal 7 Public supply al 8 Cooling & air condi  CONSTRUCTION 57 cool 5 Air percussion (conventional) 6 Boring (reverse) 7 Diamond	9 ☐ Not used	PLEA	\$	
Observe Cable to Cabl	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal 7 Public supply al 8 Cooling & air condi  CONSTRUCTION 57 cool 5 Air percussion (conventional) 6 Boring (reverse) 7 Diamond	g	PLEA	SANT RIDGE	
WATER USE Domest Inrigatio Industri  METHOD OF Rotary Rotary Rethrication Rethricat	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal n 7 Public supply al Cooling & air condi  CONSTRUCTION 57 tool 5 Air percussion (conventional) 6 Boring (reverse) 7 Diamond (air) 3 Jetting	9		SANT RIDE	181107
WATER USE Domest Stock Industri  METHOD OF Rotary Rotary Rotary	e 7 Abandoned (Other) ge well 6 Dewatering    55 56	9	Data source 58 Co	SANT RIDE	DE RD. 181107
WATER USE Domest Stock Infragatio Cable to Rechary  WETHOD OF Rotary Rotary Rotary Rotary	e 7 Abandoned (Other) ge well 6 Dewatering  55 56 tic 5 Commercial 6 Municipal n 7 Public supply al Cooling & air condi  CONSTRUCTION 57 tool 5 Air percussion (conventional) 6 Boring (reverse) 7 Diamond (air) 3 Jetting	9	Data 58 Co	SANT RIDGE LOT 3	181107

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1305204

Municipality	Con.				
3001	KT	1 1	į		_
10 14			 22	23	24

0506 (07/94) Front Form 9

		1 2		10 14	
County or District		Township/Borough/City/To	wn/Village	Con block tra	act survey, etc. Lot 25-27
		Address AM	1	PANIEIRO Da	moleted 24
	0	Northing	, , , ,	vation BC Basin Code	day month year
21	M 10 12	F OVERBURDEN AND BEDR		(see instructions)	47
General colour	Most common material	Other materials		General description	Depth - feet
	PRINCE	DIT			08
Round		1,04			8 15
BRUNN	SAND	CUST MEANEL.			15 34
BOWN		CAN PLANT		CARSE	34 40
SKINN	SAND	ON APPOR		nedim	40 44
BRUNN	SAND	WG OFV		CARSE	114 50
GREI	SHAD	CUST		UHCJE	34 6
1014	SAND SAND	CLAY /SILT	(	WKSAND.	62 75
7/204	W SHICE	CVVI / SID	<del>\</del>	110.	
31					
32		418cm+ 4x4	LEADE	PIRE	65 75 8
	TER RECORD 51	CASING & OPEN HOLE	RECORD  Depth - feet	Sizes of opening 31-33 (Slot No.)	Diameter 34-38 Length 39-40
Water found at - feet	Kind of water diam inches	Material thickness inches	From To	Material and type	Depth at top of screen 30
	Fresh 3 Sulphur 14 Minerals Salty 6 Gas	Gaivanized	0 50	SSTEEL	5 feet
1	Fresh 3 Sulphur 19 Minerals	Concrete  Copen hole  Plastic	20-23	1 0	SEALING RECORD
	Fresh 3 ☐ Sulphur 24 17.18	Steel 19 2 Galvanized 3 Concrete		Depth set at - feet	Abandonment  and type (Cement grout, bentonite, etc.)
25-28 1 [	☐ Salty 6 ☐ Gas ☐ Fresh 3 ☐ Sulphur 29	4  Open hole 5  Plastic		From To Waterial C	and type (certient group battorne) cary
2 [	☐ Salty 6 Gas 24-29	5 1 Steel 26 2 Galvanized 3 Concrete	27 -30	18-21 22-25	
	□ Fresh 3 □ Sulphur 34 60 4 □ Minerals □ Salty 6 □ Gas	4 Open hole 5 Plastic		26-29 30-33 80	
Pumping test r	incursor is a company taxes	-14 Duration of pumping -15-18 17-18		LOCATION OF W	ELL ,
0	Water level  Water level  Water levels during	PM   Hours Miris	In diagra	m below show distances of we north by arrow.	ell from road and lot line.
I.	end of pumping 22-24 15 minutes 30 minutes		Maiodio	noral by allow.	< V.
If flowing give	feet /U feet /U f	eet / feet / feet	1		Lo1   //
If flowing give		Water at end of test 42 eet ☐ Clear ☐ Cloudy	10°		ν  //.
Recommende	d pump type Recommended pump setting	Recommended 46-49 pump rate	' '		
50-53	25 f	eet /5 GPM	-		- IM - 1/3
FINAL STATU	uppiv 5 Δbandoned, insuπicie	ent supply 9 🔲 Unfinished		ly l	
2 ☐ Observa 3 ☐ Test hole 4 ☐ Recharg	e ≀ □ Abandoned (Other)	ality 10 ☐ Replacement well		700	KERR I
	55-56			2	KARACI/
WATER USE Domest  Stock		9 ☐ Not used 10 ☐ Other		*	7N //
₃ ☐ Irrigation		oning	(-	OBY RD	
METHOD OF	CONSTRUCTION 57				//
Cable to	ool 5 Air percussion (conventional) 6 Boring	g Driving 10 Digging Dother			10111
3 ☐ Rotary 4 ☐ Rotary	(reverse) / Diamond (air) 8 Jetting	11 Other			<b>18111</b> 5
Name of Well Cor	ntractor	Well Contractor's Licence No.	> Data	58 Contracctor 59	Date received 63 68
RUBGR	T DENMS.	1702	Date of inspect	on Inspector	MAR 0 3 1998
RR#	2 BRANIFOR	0			
Name of Well Tec	STORILL ON	O 2273	Remarks		CSS SS
Signature of Tech	nician/Conficatory	Submission date			CSS.S8

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0506 (07/94) Front Form 9

Print only in spaces provided. 1305409 Mark correct box with a checkmark, where applicable. Township/Borough/City/Town/Village Con block tract surve County or District BRATFIND Address PLEBERT RIGEND LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General description Other materials Most common material General colour 0 GRAVEL BRUN SAMO 20 SAND / LUBBLES BRUN GROVEL CORET CALDVEL GRET CIAY BROWN SAND MEDUN SAND BRUNN WATER RECORD 1 E. Sizes of opening (Slot No.) CASING & OPEN HOLE RECORD WATER RECORD 8 Water found at – feet SCREEN Steel

Galvanized

Goncrete

Open hole

Plastic of screen 30 Sulphur Minerals Gas Fresh <sup>2</sup>  $\square$  Salty 61 Sulphur Minerals **PLUGGING & SEALING RECORD** 2 🗌 Salty Gas Steel

Galvanized

Concrete

Open hole

Plastic 3 [] 4 [] 6 [] ☐ Abandonment ¹ ☐ Fresh Sulphur Minerals Gas Depth set at - feet 2 🗌 Salty From 10-13 Sulphur Minerals Gas ¹ 🛘 Fresh Steel 2 Galvanized Concrete Open hole Plastic 1 | 2 | 3 | 4 | 5 | 2 🗌 Salty 27-30 18-21 22-25 Sulphur Minerals Gas ¹ ☐ Fresh 2 🛮 Salty Pumping test method

Pump <sup>2</sup> Bailer **LOCATION OF WELL** +GPM In diagram below show distances of well from road and lot line. Indicate north by arrow. Water level end of pumping Static level Water levels during 15 minutes 30 minutes 58 65 mended Clear ☐ Cloudy ☐ Shallow ☐ Deep ☐ Abandoned, insufficient supply ☐ Unfinished ☐ Abandoned, poor quality ☐ Replacement well ☐ Abandoned (Other) ☐ Dewatering WATER USE Oomestic
Stock
Irrigation
Industrial 9 Not used
10 Other .... SHELLOUDS LANE METHOD OF CONSTRUCTION 9 Driviñg
10 Digging
11 Other ... 201804 Data source ONLY 1702 RUST. DEMMS HOLDRILLING-PURP 170 AUG 2 4 1999 Date of inspection USE **ISTRY** Well Technician's Licence No CSS.ES0

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0506 (07/94) Front Form 9

Print only in spaces provided. 1305469 Mark correct box with a checkmark, where applicable. 11 13001 Township/Borough/City/Town/Vill County or District 4 Bran74org Date completed LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet Other materials General description General colour Most common material From silt 10 sand 10 34 34 32 31 32 11111111 CASING & OPEN HOLE RECORD WATER RECORD Sizes of opening (Slot No.) Water found at - feet Inside Wall thickness inches From То ☐ Sulphur ☐ Minerals ☐ Gas 1 Steel 1
2 Galvanized
3 Concrete
4 Open hole
5 Plastic Material and type Depth at top of screen 30 1 🕩 Fresh 🕯 <sup>2</sup> Salty 6 0 39 **PLUGGING & SEALING RECORD** Steel

Galvanized
Concrete
Copen hole
Plastic ¹ ☐ Fresh ☐ Annular space Abandonment Material and type (Cement grout, bentonite, etc.) Sulphur Minerals Gas ¹ ☐ Fresh 1 Steel 2
2 Galvanized
3 Concrete
4 Open hole
5 Plastic 2 🗌 Salty Sulphur Minerals ¹ ⊟ Fresh 2 Salty Pumping test method Duration of pumping 77-18 Mins **LOCATION OF WELL** 20 GPM In diagram below show distances of well from road and lot line. Indicate north by arrow. Water level Water levels during 1 🗌 Pumping end of pumping 15 minutes 30 minutes 29-31 30 30 geet  $30_{\frac{\text{feet}}{}}$ **HWY 403** Water at end of test Pump intake set at If flowing give rate GPM ☐ Cloudy **Bethel Rd** Recommended pump setting 35 Recommended pump type Cleaver Ro GPM Restacres Rd **Brantford Airport** York Rd. Bishop Gate Rd. WATER USE Classic-Cold 1 Domestic
2 Stock
3 Irrigation 9 | Not used ☐ Industrial HWY 68 & 24 HWY 58 HWY 24 Brantford METHOD OF CONSTRUCTION 
 1
 □ Cable tool
 5
 □ Air percussion

 2
 □ Rotary (conventional)
 6
 □ Boring

 3
 □ Rotary (reverse)
 7
 □ Diamond

 4
 □ Air percussion
 8
 □ Jetting
 9 Driving
10 Digging
11 Other ... 201130 MINISTRY USE ONLY 4207 DEC 0 1 1999 Date of inspection Well Technician's Licence No 10058 CSS.ES0

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Environment

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Municipality Con.

0506 (11/98) Front Form 9

Court - Sixt		Township/sorough/City/T	own∆illaga		"	tract surve		Lot .
County or District	ANT	BRANT FO			1	2 TRAC		4
		Address R R,		NTFORD	\	Date completed	14	OI 60 month year
21	9: 4	Northing	RC RC	Elevation RC	Basin Code	1	. 01	year
		FOVERBURDEN AND BEDR	OCK MATERIAL	S /ean instruction	31		اـــاـــــــــــــــــــــــــــــــــ	
General colour	Most common material	Other materials	OCK MATERIAL		description			pth - feet
						<del>"</del>	From	2
BLACK	TOPSOIL						0	
BROWN		SAND BOW	DI-RS				2	25
GRIZY	GRAVIEL			****			25	35
BROWN	1	CLAY		to and y			35	78
BROWN	FINE SAND	CLAY					78	100
BROWN	FINE SAND						100	113
								-
				<b>-</b>		<u></u>		-
		-						
							<u> </u>	
31   1   1   1							11.	
32	14 15 11		4.3	Sizes of c		Diameter		ength
Water found	ER RECORD 51 Inside diam	CASING & OPEN HOLE   Wall   Material   thickness	Depth - feet			_	inches	feet
	Freeh 3 Sulphur 13		From To	(Slot No.) Material	• • • • • • • • • • • • • • • • • • • •		Depth at t	op of screen
	☐ Salty → ☐ Gas ☐ Sulphur → ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ Galvanized ☐ Concrete ☐ Open hole	0 113	111 >	<u> 5.</u>		10	5 feet
	☐ Fresh ☐ Sulphur ☐ Minerals ☐ Salty ☐ Gas	□ Plastic		61	PLUGGING Annular space	& SEALING	RECOI	
*****	☐ Fresh 3 ☐ Sulphur 24 3 ☐ Minerals ☐ Gas	Galvanized Concrete		Depth set a	t - feet			, bentonite, etc.)
25.27	☐ Fresh ☐ Sulphur ② ☐ Minerals	Open hole Plastic		2.30		HOLI	Plan	
3, 35	☐ Salty ☐ Gas ☐ Gas ☐ Sulphur 34 69	2 ☐ Galvanized 3 ☐ Concrete		(#Q*				-
	☐ Fresh : ☐ Minerals ☐ Gas	Description  Desc		34.28	v. %   €0			
Pumping test	mound in amping rate	Duration of pumping		LOC	CATION OF	WELL		
	Water level Water levels during	PM 2 Hours O Mins	In dia	agram below show ate north by arrow	v distances		road and	lot line.
Static level	end of pumping 15 minutes 30 minute		Indic	ale north by allow	v.			1
78 feet  If flowing give	//o feet // o feet // o	1 1						ni
If flowing give	rate Pump intake set at	Water at end of test 42 feet ☐ Cloudy		HWY. 53				•
Recommended	pump type Recommended	Recommended 46-49 pump rate			A			
☐ Shallow	7/2	feet O GPM						
FINAL STATU		et euweku 🤔 🖂 Hefinished		<b>*</b>	,	1 MEXICS		
<sup>2</sup> ☐ Observate ☐ Test hole	ition well	nt supply 9		86. A		E MERKS		
4 ☐ Recharge	ge well discontinuity and a contracting discontinuity and a contractinuity and a contract			9,				
WATER USE		⊎ ☐ Not use		1		<b>,</b>		
2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industria		¹0 □ Other			10	C WASTE		
		<u>-</u>						
Cable to		9 Driving			フ』	_		
2 ☐ Rotary (c 3 ☐ Rotary (c 4 ☐ Rotary (c	reverse) 🗌 Diamond	Digging Other				<b>\</b> 50FT.	211	L <b>8</b> 79
			<u>                                   </u>			,		
Name of Well Con		Well Contractor's Licence No. 5201	Data source Data of inspe	58 Contractor	01	1942 Date rece		2000
Address	KESSEL WATERNE HERMAN ST.	Similar	Date of inspe		Inspector		, <del>v</del> .	~ ~ ~ ~
Name of Well Tech	HEMMW ST,	Well Technician's Licence No.	Remarks				<b>C</b> CC	Tico.
MARK	UAN KRESSIEL	7-0528 Submission date	Remarks				CSS.	.ESO
Signature of Techr	nician/Contractor/	oudmission date	≦					

CSS.ES3

0506 (07/00) Front Form 9

WATER WELL RECORD **Environment** Print only in spaces provided. MUSICIALITY CON 1305946 Mark correct box with a checkmark, where applicable. 11 Township/Borough/City/Town/Village
Mt Pleasen + Con block tract, survey, etc. County or District හි Address つこ year LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General description Most common material General colour From Sail TOP Packed 3 Brown <u> 37</u> 3 F rown 31 **CASING & OPEN HOLE RECORD** WATER RECORD Sizes of ope (Slot No.) Water found at - feet Inside Wall thickness Depth - feet Kind of water То From Depth at top of screen inches Material and type 3 Sulphur
4 Minerals
6 Gas Steel
Galvanized
Concrete
Copen hole
Plastic 1 Fresh
2 Galty 13-16 26 39 Sulphur Minerals Gas **PLUGGING & SEALING RECORD** 2 | Salty 61 Steel
Galvanized
Concrete
Copen hole
Plastic 3 Sulphur
4 Minerals
6 Gas 1 ☐ Fresh 2 ☐ Salty Depth set at - fee 3 Sulphur
4 Minerals
6 Gas 25-28 ¹ □ Fresh 1 Steel
2 Galvanized
3 Concrete
4 Open hole
5 Plastic bin7 Sulphur Minerals Duration of pumping Pumping test method **LOCATION OF WELL** 1 🗆 Pump 2 | Baile In diagram below show distances of well from road and lot line. Indicate north by arrow. Water level Water level end of pumping 22-24 Static level Water levels during 1 Pumping 2 ☐ Recovery PUMPING TEST 15 minutes 26-28 30 minutes 29-31 TO53 26 feet If flowing give rate ☐ Clear Cloudy
46-49 GPM feet 43-45 Recommended pump type Recommended 38 Deep S ☐ Shallow 5 Abandoned, insufficient supply
6 Abandoned, poor quality
7 Abandoned (Other)
8 Dewatering 9 ☐ Unfinished
10 ☐ Replacement well WATER USE 55-56 ъ 24 METHOD OF CONSTRUCTION 57 5 Air percussion
6 Boring
7 Diamond
8 Jetting 9 Driving
10 Digging
11 Other .... 249246 ONLY 3°030 physon & Baetz Well Born source JAN 10 2003 Date of inspection USE MINISTRY

- Z9*6*8

02

Signature @Technician/Contractor

Ministry of Environment and Energy

#### The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided. 1306055 Mark correct box with a checkmark, where applicable. 11 County or District Township/Borough/City/Town/Village Con block tract survey, etc. Brantford Ker Track Bl.3 ot 4 Address of Well Location 48-53 Date completed 94 Pleasent Ridge Rd day month year Elevation Easting Basin Code 21 LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General colour Most common material Other materials General description From To silt 5 0 Brown sand gravel 5 65 sand grey 65 83 sand grey 31 32 WATER RECORD 41 CASING & OPEN HOLE RECORD Sizes of opening Diameter Length (Slot No SCREEN Water found Inside Depth - feet 5 5 Kind of water 10 inches Material thickness feet diam at - feet From То inches inches Depth at top of screen Material and type Sulphur Fresh ¥ Steel 10-11 13-16 Minerals 74-81 🔲 Salty Galvanized stainless steel 74 Gas □ Concrete +2 73 188 Sulphur Open hole 1 🗌 Fresh Minerals Plastic **PLUGGING & SEALING RECORD** 2 Salty 61 Gas Steel 20-23 Annular space Abandonment 20-23 Sulphur 1 🗌 Fresh Galvanized Depth set at - feet Minerals 2 🗆 Salty Concrete 69 83 Material and type (Cement grout, bentonite, etc.) Gas From To Open hole 25-28 Sulphur Plastic 14-1 1 ☐ Fresh Minerals 27-30 24-25 Steel 2 
Salty Gas 18-21 22-25 Galvanized Sulphur Concrete 1 🗆 Fresh ☐ Minerals 30-33 Open hole 2 Salty □ Gas Plastic Duration of pumping Pumping test method LOCATION OF WELL 17-18 Mins Pump 2 🔲 Bailer In diagram below show distances of well from road and lot line. Water level Static level Water levels during ∃ □ Pumping 2 Recovery Indicate north by arrow. end of pumping TEST 45 minutes 32-34 60 minutes 35-37 30 minutes 29-31 15 minutes 26-28 UMPING Pump intake set at Water at end of test If flowing give rate **GPM** feet Clear ☐ Cloudy Recommended pump type Recommended Recommended 46-49 pump setting pump rate ☐ Shallow ¶ Deep GPM feet Brantford Airport FINAL STATUS OF WELL 53 54 Water supply Observation well <sup>5</sup>  $\square$  Abandoned, insufficient supply □ Unfinished 10 ☐ Replacement well Abandoned, poor quality 7 ☐ Abandoned (Other) 3 ☐ Test hole <sup>4</sup> □ Recharge well 8 Dewatering Pleasent Ridge Rd 24 WATER USE 55-56 -well 1 Domestic 5 Commercial 9 Not use Stock 6 🗌 Municipal 10 Other 3 ☐ Irrigation Public supply The well is at 4 🗆 Industrial 8 🗆 Cooling & air conditioning 94 Pleasent Ridge Rd. METHOD OF CONSTRUCTION 57 <sup>9</sup> □ Driving ¹ ☐ Cable tool <sup>5</sup> Air percussion <sup>2</sup>  $\square$  Rotary (conventional) <sup>10</sup> □ Digging 6 ☐ Boring 7 🗆 Diamond ¹¹ □ Other <sup>3</sup> □ Rotary (reverse) 261300 <sup>4</sup> Rotary (air) <sup>8</sup> D Jetting Name of Well Contractor Well Contractor's Licence No. NOV 2 0 2003 ONLY Packham Well Drilling Inc, 4207 source Date of inspection Inspecto Address R.R. # 2 Ancaster, Ont. Name of Well Technician Well Technician's Licence No. Remarks MINISTRY Mervyn Packham T0058

Submission date

2 - MINISTRY OF ENVIRONMENT AND ENERGY COPY

0506 (06/02) Front Form 9

Ministry of Environment and Energy

# The Ontario Water Resources Act WATER WELL RECORD

0506 (06/02) Front Form 9

Print only in spaces provided. 1306072 Mark correct box with a checkmark, where applicable. Con block tract survey, Lot Township/Borough/City/Town/Village County or District Lot 4 Ker Tract Brantford Address of Well Location Date 23/09/03 completed 96 Pleasent Ridge Rd. Brantford year Basin Code Northing 21 LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General description Other materials Most common material General colour From To 0 60 gravel Brown sand 60 88 sand grey 31 32 **CASING & OPEN HOLE RECORD** Diameter Length Sizes of opening WATER RECORD 41 (Slot No.) Depth - feet SCREEN Inside 5 5 Water found inches 12 feet Kind of water thickness diam Material at - feet From inches inches Material and type Depth at top of screen Fresh Suiphur 13-16 10-11 Steel Galvanized ☐ Minerals -80-85 50 stainless steel Salty feet Gas 6.25 +2 з 🗌 Concrete 78 188 Sulphur \_\_ Fresh 4 🗌 Open hole ☐ Minerals 5 🗌 Plastic **PLUGGING & SEALING RECORD** 61 Gas 20-23 1 Galvanized 17-18 Annular space Abandonment Sulphur ⊢ ☐ Fresh Depth set at - feet Minerals Material and type (Cement grout, bentonite, etc.) з 🗌 Concrete 2 🗆 Salty 75 88 From To Gas Open hole Cillings 5 🗆 Plastic Sulphur ı □ Fresh Minerals ı □ Steel 2 🗆 Salty ☐ Gas 18-21 22-25 Galvanized Sulphur Concrete □ Fresh Minerals Open hole Salty
 ☐ Plastic Duration of pumping Pumping testimethod Pumping rate **LOCATION OF WELL** 0 Mins Pump **GPM** Hours 2 🗌 Bailer In diagram below show distances of well from road and lot line. Water level Water levels during 1 Pumping 2 Recovery Static level Indicate north by arrow. end of pumping 45 minutes 32-34 UMPING TES 30 minutes 22-24 15 minutes **77** feet **77**<sub>feet</sub> Pump intake set at Water at end of test If flowing give rate 🖫 Clear feet ☐ Cloudy **GPM** Recommended Recommended pump type Recommended Brantford Airport pump setting pump rate ☐ Shallow 🔐 Deep **GPM** feet U 24 & 53 53 i-unt \$23 FINAL STATUS OF WELL Water supply Observation well  $^{5}$   $\square$  Abandoned, insufficient supply  $^{-9}$   $\square$  Unfinished turns. 10 Replacement well 6 ☐ Abandoned, poor quality 3 ☐ Test hole 3 🖸 Abandoned (Other) Pleasent Ridge Rd 24 8 Dewatering "WeII 4 
Recharge well  $\Box$ p-mg WATER USE 55-56 Domestic Stock 5 Commercial 9 ☐ Not use The well is at 10 🗌 Other e 🗌 Municipal Public supply 96 Pleasent Ridge Rd. з 🗌 Irrigat on 4 🗌 Industrial METHOD OF CONSTRUCTION 57 <sup>9</sup> ☐ Driving 5 🗆 Air percussion 1 
Cable tool <sup>2</sup>  $\square$  Rotary (conventional) □ Boring ¹3 ☐ Digging ¹¹ □ Other 7 🔲 Diamond 3 ☐ Rotary (reverse) 261329 5 🗌 Jetting 4 ScRotary (air) TEC. 2 Som Name of Well Contractor Well Contractor's Licence No. ONLY source Packham Well Drilling Inc. 4207 inspector Date of inspection Address ш <u>S</u> R.R. # 2 Ancaster, Ont. Name of Well Technician Well Technician's Licence No. Remarks MINISTRY Mervyn Packham T0058 Signature of Technician/Contractor Rugar 1

Address of Well Location (County/District/Municipality)

Ministry of the Environment Well Tag Number The state of the s

Well Record Regulation 903 Ontario Water Resources Act

A003422

page	(	of	

Instructions for Completing Form For use in the Province of Ontario only. This document is a permanent legal document. Please retain for future reference.

All Sections must be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.

Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.

All metre measurements shall be reported to 1/10th of a metre.

Ministry Use Only Please print clearly in blue or black ink only.

Township

Address of Well <b>Bra</b> i	Location (County/District/I	Municipality)	Towns	•		Lot Cor	ncession
RR#/Street Num 125	nber/Name <b>Pleasent Ridge F</b>		City	ntford /Town/Village rantford		4 Compartment/Block <b>Kirr Tract</b>	
GPS Reading	83 17 58	54528	4773641 Ma	t Make/Model <b>IGEUARI EllAZEI</b>	Mode of Operation:	Undifferentiated Differentiated, speci	Averaged fy
Log of Overb	ourden and Bedrock	Materials (see ii	nstructions)	3			
General Colour	Most common material	Other	Materials	G	eneral Description		Depth Metres From To
brown	gravel	sih	<u>t</u>			0	12
grey	šand	lie	<u> </u>			12	29
grey	sand	······································				26	33.5
0				Ф		•	a
				d		u u	

Ho	le Diamet	ter
Depth	Metres	Diameter
From	То	Centimetres
+.5	28	15.9
28	33.5	12.7
	ater Reco	rd
Vater found tMetre:	s Kind	of Water
<b>33</b> m	<b>ऑ</b> Fresh	Sulphur
Gas Other:	Salty	Minerals
m	Fresh	Sulphur
Gas Other:	Salty	Minerals
• m	Fresh	Sulphur
Gas Other: _	Salty	Minerals
√fter test of √f Clear and	d sediment	
Other, sp	ecify	
Chlorinated	Vcc.	No

	Cons	truction Rec	ord	
Inside diam	Matarial		Depth	Metres
centimetres		centimetres	From	То
	hanna	Casing	479KDN146444	
	Steel Fibreglass	(4000000000000000000000000000000000000		
15.9	Plastic Concrete	188	+.5	23.4
	Galvanized			
	Steel Fibreglass			
	Plastic Concrete	•	! : •	•
	Galvanized			
	Steel Fibreglass		•	
•	Plastic Concrete			•
	Galvanized			
		Screen	***************************************	
Outside	▼ Steel Fibreglass	Slot No.		
diam	Plastic Concrete			
12.7	Galvanized	12	29.5	31.4
	No C	asing or Scr	een	
	Open hole	(8 <i>6</i>		*

Test of Well Yield							
Pumping test method	Dra	aw Down	R	ecovery			
	Time	Water Level	Time	Water Level			
Pump Pump intake set at -	min	Metres	min	Metres			
Pump intake set at -	Static	<b>45.45.45</b>					
(metres) 33	Level	22.9		<b>22.9</b>			
Pumping rate -	1	25.9	1	<u> 23.4                                     </u>			
(litres/min) 40							
Duration of pumping	2	26	2	23.2			
hrs min							
Final water level end	3	26.5	3	22.9			
of pumping 2 netres							
Recommended pump	4	26.2	4	22.9			
type. ☐Shallow ☐Deep							
Recommended pump	5	26.2	5	22.9			
depth. 33 metres							
Recommended pump	10	26.2	10	22.9			
rate. <b>40</b> (litres/min)	15	26.2	15	22.9			
If flowing give rate -	20	26.2	20	22.9			
(litres/min)	25	26.2	25	22.9			
If pumping discontin- ued, give reason.	30	26.2	30	22 9			
ucu, give reason.	40	26.2	40	22 9			
	50	282	50	22 q			
	60		~ ~	22.8			

<b>*************************************</b>	Plu	gging and Sealing Record	**********	Annular spac	e Abandonment
Depth set a	at - Metres To	Material and type (bentonite slurry, r	eat ce	ment slurry) etc.	Volume Placed (cubic metres)
0	6	Bentonite	***		
	•	9			•
•	•	0			•
•	4	0	~~~~~	***************************************	•
•	•	6			•
***************************************		Method of Const	tructi	on	
Cable T	ool	Rotary (air)	[	Diamond	Digging
Rotary (	convention	al) 🖺 Air percussion	J	etting	Other
Rotary (	reverse)	Boring	[] C	Priving	
h3440-2444-65-65-65-65-65-65-65-65-65-65-65-65-65-		Water Use	<del></del>		
Domest	ic	Industrial	F	ublic Supply	Other
Stock		Commercial	N	lot used	
Irrigation	1	Municipal	C	cooling & air cond	ditioning
		Final Status of	Well		
Water S	Supply	Recharge well	L	Infinished [	Abandoned, (Other)
	ation wel	Abandoned, insufficient supply		ewatering)	
Test Ho	ole	Abandoned, poor quality	1777277	Replacement well	***************************************
~~~~~~~		Well Contractor/Technici	an Ir	nformation	
Name of	alemas e	m Well Drilling Inc,		<b>~426</b>	tractor's Licence No.
Business	dd Res fetr	2°'AftCaster'; 'C'At:')			············
Name of W	Hetrryre	i <b>Deckham</b> irst name)		Well Tec TOO!	hnician's Licence No.
Signature o	of Technicia	an/Contractor		Date Subr	nitted YYYY MM DD

	Location of Well
In diagram below she	ow distances of well from road, lot line, and building.
Indicate north by arro	DW.
<b>53</b>	Erantford Airport  24 dt 53
24 	Pleaseat Ridge Rd
	Well x The well fa at 125 Pleasent Rådge Rd.
Audit No. 📆 🌔	3508 Date Well Completed YYYY MM DD C
Was the well owner	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

	Min	istry	Use Only			
Data Source			Contractor 2	0	7	
Date	6°2003 <sup>MM</sup> 1	DD	Date of Inspection	YYY	Y MM	DD 
Remarks			Well Record Numl	per		·

Yes **X** No

package delivered?

1306080

Cette formule est disponible en français

g of Overburden and Be	edrock N	1936 4 laterials (see ins	774470 tructions)	CP\$ 2	000			ted, specify		
neral Colour Most common	material	Other Ma	aterials		Gener	al Description		Dep Fro		Metre To
LACK JOPSOIL	•							0	<b>)</b>	2:
ROWN SAND		GRANICL						.62	! <u>•</u> .	16.
form CLAY						1 1 10 10 10 10 10 10 11 11 11 11 11 11		16.0	12	17.5
RIEY FINE	SANC	2						17.5	4	21.
						3				
Hole Diameter		Cons	truction Reco	ord		Tes	t of V	Well Yield	!	
Depth Metres Diameter	Inside		Wall	Depth	Metres	Pumping test method	_	aw Down	R	ecovery
From To Centimetres	diam centimetres	Material	thickness	From	To	540.	Time min	Water Level Metres	Time min	1
0 21.33 12.7	Centimetres		centimetres	110111	!	Pump intake set at -	Statio	+	11110	<b>—</b>
:		<b>X</b> Steel Fibreglass	Casing			(metres) 20 Pumping rate -	Level	7,6	1	16
	12.7	Plastic Concrete	.62	0	21,33	(litres/min) 75	1	4	!	121
Water Record	74.7	Galvanized	_	-	~1133	Duration of pumping	2	12	2	12
ter found Kind of Water		Steel Fibreglass				hrs + 50 min	3	15		9
7 m X Fresh Sulphur Gas Salty Minerals		Plastic Concrete				of pumping metres	3	'	3	7
Other:		Galvanized Steel Fibreglass				type	4	16	4	7. 0
m Fresh Sulphur Gas Salty Minerals		Plastic Concrete				Shallow Deep Recommended pump	5	1,	_	-
Gas Salty Minerals Other:		Galvanized			1	depth. 20 metres	. 5	16	5	7.
m Fresh Sulphur			Screen			Recommended pump	10	16	10	7
Gas Salty Minerals Other:	Outside	X Steel Fibreglass	Slot No.			rate. 45 (litres/min)	15	1	15	
r test of well yield, water was	diam	Plastic Concrete		0	19.08	If flowing give rate -	20		20	
Clear and sediment free	12.7	Galvanized	6	•	•	(litres/min) If pumping discontin-	25 30		25	
Other, specify		No C	asing or Scre	en		ued, give reason.	40		30 40	
princted May		Open hole					50		50	小
orinated X Yes No		Open note					60	V	60	
	-!! D	ord 🔀 Annula	r cpage	andonment		Location o	f Wa	11		
Plugging and Se	aling Kec	Jiu 🔼 Aiiiula	space [ ] AL	andomnent I						

Method of Construction 🔀 Cable Tool Rotary (air) HWY. 53 Diamond Digging Rotary (conventional) Air percussion \_\_\_ Jetting Other Rotary (reverse) Boring Driving Water Use Domestic Industrial Public Supply Other Stock \_\_\_ Commercia Not used Irrigation Municipal Cooling & air co Audit No. Final Status of Well Water Supply Recharge well Unfinished Abandoned, (Other Was the well owne package delivered? Abandoned, insufficient supply Observation well ☐ Dewatering Ministry Use Only Well Contractor/Technician Information Data Source Date Bece Date of Inspect ON Well Record Number Remarks -03 1306138 <u> 2004</u> 10 Contractor's Copy Ministry's Copy Well Owner's Copy Cette formule est disponible en français

page

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♥ Ontario	Ministry of the Environment	Well Tag	09317	er below)	Regulation 903	Well F Ontario Water Res	Record
Instructions for Comple	eting Form	A 009	317			page	of
<ul> <li>For use in the Provin</li> <li>All Sections must be</li> </ul>	ce of Ontario only. Thi completed in full to avo	s document is a perr	nanent <b>legal</b>	document. P	lease retain for futur	e reference.	£41-:- £
Questions regarding q	ompleting this application	ion can be directed to	o the Water \	Well Manager	nent Coordinator at	416-235-6203.	of this form.
<ul> <li>Please print clearly in</li> </ul>	blue or black ink only.				Ministry Use		
Well Owner's Informati	an and Location of V	Vall Information	MUN	C	DN       NC	LOT	
Brant			Brantfo		LOI	9 Concession	
RR#/Street Number/Name R.R. 2, 59 Godb	y Rd		City/Town/Vill Brantfo	ord	Site/Compa	rtment/Block/Tract e	tc.
GPS Reading NAD 834 Feet 8 3	[7"   0551840	Northing 2765	Unit Make/Mo Garmin	del Mode etrex		fferentiated Ave	raged
Log of Overburden and		see instructions)					
General Colour Most comm	on material	Other Materials		Genera	I Description	Depth From	Metres To
Brown Sand	Gra	vel				40	40 50
						7777	
NOTE: DO NOT IN	STALL PUMP IN	SCREENS, DO	NOT IN	STATI P	IIMP ANY TOUI	PD THAN CU	MUNI
	PUMP TO 30 G		7 101 11	COAPILLE I	OFIL ANT LOW	SK INAN SH	JW IX
						1	
Hole Diameter	7			1 2 /*			
Depth Metres Diameter	er Inside	Construction Reco	Depth	Metres	Pumping test method	of Well Yield  Draw Down F	Recovery
From To Centimetr 0 43 9½	es diam Mater centimetres	thickness centimetres	From	To	1 23 1375125	Time Water Level Time min Metres min	1
73 72		Casing			1	Static 17	
		Fibreglass			Pumping rate - (litres/min)	1 30 1	17
Water Record Water found   Kind of Water	6   Plastic   Galvanized	• 100	<b>*2</b>	43	Duration of pumping 1 hrs + 30 min	2 40 2	
at Metres Kind of Water	Steel Plastic	-			Final water level end	3 3	
Gas Salty Minera	Is Galvanized	1		The state of the s	of pumping 40 metres  Recommended pump	4 4	
m Fresh Sulphu	r	Fibreglass Concrete			type. Shallow Deep  Recommended pump		
Gas Salty Minera Other:	Galvanized				depth. 40 metres	5 5	
m Fresh Sulphu	le Outoide	Screen Fibreglass Slot No.			Recommended pump rate. (litres/min)30	10 10 15 15	·
Other:  After test of well yield, water was	diam	Concrete			If flowing give rate - (litres/min)	20 20 25 25	
Clear and sediment free	6 Galvanized		43	50	If pumping discontinued, give reason.	30 30	
Other, specify	Open hole	No Casing or Scre	en		Clear	40     40       50     50	
Chlorinated Yes No						60 40 60	17
Depth set at - Metres Material and	Sealing Record type (bentonite slurry, neat cen	nent slumy) etc Volum			Location of show distances of well fro		ilding.
0 43 Se	e Above		metres)	Indicate north by	arrow.		N
							<i>. †</i>
				1 Ro Od	7 /	_	
Cable Tool Rota	Method of Construction	···	Digging	LANI	1 gmi		
	ercussion Je		Other	**			
	Water Use	iving		Ó	00 FEET		
F	mercial No	ublic Supply ot used	Other				
☐ Irrigation ☐ Muni	Final Status of Well	ooling & air conditioning		Audit No. <b>Z</b>	09391 Date	Well Completed 2005	MM DD 12
Water Supply Recharge Observation well Abandone	<u>_</u>	nfinished Abando ewatering	, , , , , ,	Was the well owr	ior o miorridaon	Delivered 2005	04 13
Test Hole Abandone	• • • • =	eplacement well		,	Ministry Use		
Name of Well Contractor Mc Leod Well Dri		Well Contractor's L	icence No.	Data Source		ractor	
Business Address (street name, nu	nber, city etc.)			Date Received		of Inspection YYYY	MM DD
R.R.4, 293810 Ct Name of Well Technician (last name	e, first name)	Well Technician's L	icence No.	MAY Remarks	8 2005   Well	Record Number	
Ralph H. Mc Leoc Signature of Technician/Contractor		T-007 Date Submitted YYYY	MM DD			ti, ⊎g	
X DL X DC 0506E (09/03)	Contractor's Cop			r's Copy □	Cette for	mule est disponible	en français
·	¥1.4.*	ুংৰপ,	4				3

@ 0	<b>N.</b>	Ministry	· · · · · · · · · · · · · · · · · · ·	VETED Well To			MEASURE mber below)	MENTS	herten by "		gganer (gr.	
W C	<b>Intario</b>		ronment	<u> </u>		19318		Regulation 90	3 Onte			ecoro
72	ns for Comp	•	-			9318	HALL SHAWN AND A S	<u>.</u>			page _	of
<ul><li>All Sec</li><li>Questi</li></ul>	ctions <b>must</b> be ons regarding	completed completing	in full to avoi this application	d delays ir on can be	n processi directed t	ing. Fürther o the Water	instructions and	lease retain for futu d explanations are av nent Coordinator at	/ailable	on the b	ack of	this form.
<ul> <li>Please</li> </ul>	tre measurem print clearly ir	blue or bla	ck ink only.					Ministry Us	e Only	/		
Well Own	ar's Informat	on and Lo	cation of M	lall Inform	notion	MUN	C	NO		y la	LOT	
Brant	· • · · · · · · · · · · · · · · · · · ·	ani, a a a a a a a	marnorpanty)			Brantf	ord	LOC	9	Conce	ssion 4	
RR#/Street I	lumber/Name Iborne S	E. W. B	R. 4			City/Town/Y		Site/Compa	artmen	t/Block/Tr	act et	J.
GPS Readin	g NAD		51580	Northin	4399	Unit Make/N Garmin	lodel Mode	e of Operation:			Avera	aged
	੮   <sub>8⊹3</sub>   erburden and					Guinan	/ccrex	Diff	erentiate	ed, specify		
General Colo		non material		Other Mater	rials		Genera	l Description		Dep Fro	m	Metres To 20
Brown	Clay		Silt	• • • • • • • • • • • • • • • • • • •	a				·······································		0	
Brown Brown	Sand Sand		Grav	re l							20 35	35 49
DIOMII	Jenu		GLAV	CT.		-			***************************************		33	47
*			The Control of the Co								:	
												147700
	O NOT IN RESTRICT	1	i		NS, DO	NOTI	NSTALL P	UMP ANY LOW	er 1	CHAN :	SHO	N .
Hole	e Diameter			Constru	uction Rec	ord		Tes	t of W	ell Yield		
Depth	Metres Diame	Inside	N4-t		Wall	Depth	Metres	Pumping test method	Dra	w Down		ecovery
From 0	To Centime	Maiii	Materi es	i '	thickness entimetres	From	То	Pump	Time \	Water Level Metres	Time min	Water Leve Metres
	70 72			С	asing	<u> </u>		(metres) 40	Static Level	30		l
		61/2	Steel F	Fibreglass	.188	+2	40	Pumping rate - (litres/min) 50	1	40	1	30
Wat Water found	er Record		Galvanized					Duration of pumping hrs +min	2		2	
at Metres	Kind of Wate	ļ	Steel F	ŭ				Final water level end			3	
Gas Other:	Salty <b>X</b> Mine		Galvanized	1				of pumping 40 metres Recommended pump	4		4	
m [	Fresh Sulpl		Steel F					type. Shallow Deep				
Gas Cher:	Salty Mine	rals	Plastic G		٠			Recommended pump depth. 40 metres	5		5	$-\mathbf{l}$
m [	Fresh Sulpl			<del></del>	Screen			Recommended pump rate. (litres/min) 50	10 15	<u>.</u>	10 15	
Other:		diam	Steel F		Slot No.			If flowing give rate -	20		20	
	ell yield, water wa sediment free	<sup>s</sup>    6	Galvanized			40	49	(litres/min) If pumping discontin-	25 30		25 30	_
Other, spe	ocify			No Cas	ing or Scr	een		ued, give reason.  Clear	40		40	
Chlorinated [	<b>X</b> Yes ☐ No		Open hole					Orear	50 60	40	50 60	30
Depth set at -	Plugging and	ļ		Annular sp		bandonment ne Placed	In diagram bolow	Location of show distances of well from			nd bui	Idina 1
From	To Iviaterial al	ee Abor	e slurry, neat cen	nent siurry) et	(cubi	c metres)	Indicate north by		om road	u, lociline, a	ina bui	uilig.
	40 5	EE ADO										#
	·							14	MIL	E		•
	· · ·	:										
		Method o	f Construction	on				200				
Cable Tool		ary (air)	Di	amond		Digging		185			_	<del></del>
Rotary (cor	· <u>==</u>			iving		Other						
Domestic	Ind	wstrial	ter Use □ Pu	ıblic Supply		Other					-	
Stock Irrigation		nmercial nicipal	☐ No	ot used ooling & air co			Audit No. ***	OOAOO Dat	te Well	Completed		
		Final S	tatus of Well				Audit No. <b>Z</b>	<u> </u>		20		04 12
☐ Observation	n well 🔲 Abando	ned, insufficien	supply 🔲 De	nfinished watering		oned, (Other)	Was the well ow package delivered	noi o iniorriduori	te Delive	r	 <b>05</b> ⊥	MM DD 04   13
Test Hole	Well (		echnician Inf	eplacement w	rell			Ministry Us				
Name of Well	Contractor Well Dr			Well C	Contractor's L 3563	icence No.	Data Source	Col	ntractor	356	3	
Business Addr	ess (street name, r 293810 C	umber, city etc	)			0-5	Date Received	YYYY MM DD Dat	e of Ins	pection y	YYY	MM DD
Name of Well	Technician (last nar	ne, first name)	LLINE,	Well T	rechnician's l	Licence No.	MAY 1 Remarks	8 2005   We	II Reco	rd Number		
Signature of T	Mc Leo	r /)	* :	Date St	T-0073	MM DD						
0506E (09/03)	JAINC	DESTA	ontractor's Cop		1		ler's Copy	Cette fo	ormule	est dispo	nible e	en français
/			I				استندا در وینستان وستان وستان در وستا					

(P) O	, , , ,	Ministry of the Environr	ment A	g Number (Place	<b>?</b>	nt number below)	Regulation 903	Well R Ontario Water Res	
Instructions	s for Completin	na Form	j	icheo a		÷.		page _	of
<ul><li>For use</li><li>All Section</li><li>Question</li><li>All metricities</li></ul>	in the <b>Province</b> ons <b>must</b> be cor	of Ontario	III to avoid delays application can be reported to 1/10	s in processing be directed to	g. Further in	nstructions and Well Managen	ease retain for future descriptions are available nent Coordinator at 4 Ministry Use	lable on the back of 16-235-6203.	this form.
Well Owner	r's Information	and Locat	ion of Well Info	ormation	MUN	CC	DN	LOT	
C									code)
APPA	ell Location (County	/District/Muni	icipality)		nship	·	Lot	Concession	<del></del>
BRANT RR#/Street Nu	umber/Name	<u> </u>	· · · · · · · · · · · · · · · · · · ·		ライタルアデ ity/Town/Vil	· · · · · · · · · · · · · · · · · · ·	Site/Compart	tment/Block/Tract et	.c.
	CLBURN ST			· · · · · · · · · · · · · · · · · · ·	Init Maka/M	odol Modo	of Operations	C	
GPS Reading	NAD Zoi		1 (	hing \\ \\ \  \  \  \  \  \  \  \  \  \  \	Jnit Make/M <i>伝みパツパ</i>		·	ferentiated Aver entiated, specify	aged
Log of Ove	rburden and B		terials (see ins	tructions)				Donath	B.44
General Colour			Other Ma	aterials		Genera	I Description	Depth From	Metres To
BROWN	SILTY SAND	0					0-8		2,43
BROWN	SAND					<del> </del>	8-40	2.43	12,19
BROWN	COARSE GI	RAVEL	SAND				40-44	12,19	13,41
			······································						
							·		
			<del>.</del>				·		
Holo	Diameter	<u></u>	Cone	struction Reco	rd		Test	of Well Yield	<u> </u>
	Metres Diameter	Inside	COLIS	Wall	Depth	Metres	Pumping test method		Recovery
From	To Centimetres	diam	Material	thickness				Time Water Level Time	
0 6		centimetres		centimetres	From	То	<u></u>	min Metres min	IVICUES
6 1	2,49 1353,49		Stool Dibrogloss	Casing			(metres) // L Pumping rate -	1 9,54 1	8,86
12.49 1	3.41 12.7		Steel Fibreglass Plastic Concrete	1	7,2	12,49	(litres/min) // 3, 65		
	er Record		Galvanized		+,7		Duration of pumping  hrs + 6 min	2 9,63 2	8,86
Water found at Metres	Kind of Water		Steel Fibreglass				Final water level end	3 9.61 3	
12,49m Gas 76	☐ Fresh ☐ Sulphur☐ Salty ☐ Minerals		Plastic Concrete Galvanized				of pumping 9,64 metres		
Other:			 SteelFibreglass	5			Recommended pump type. Shallow [7] Deep	4 9,61 4	
	」Fresh   Sulphur ]Salty    Minerals		Plastic Concrete				Recommended pump	5 9,61 5	
Other:			Galvanized	Screen			Recommended pump	10 9,63 10	<u> </u>
Gas C	」Fresh □ Sulphur Salty □ Minerals	Outside 🗲	€Steel Fibreglass		<u> </u>		rate. 4/10 /13,65 (litres/min)	15 9,64 15	
Other:		diam	<b>万</b> Steel ☐ Fibreglass ☐ Plastic ☐ Concrete	1	12.49	13.41	If flowing give rate -	20 9,64 20	
After test of we	ell yield, water was sediment free		Galvanized	20			(litres/min) If pumping discontin-	25     9.64     25       30     9.64     30	
Other, spec	cify		No (	Casing or Scre	en		ued, give reason.	40 9.64 40	
Chlorinated 🔀	Yes No		Open hole				]	50 9,64 50 60 9,84 60	
	Plugging and S	ealing Recor	d X Annul	ar space Ab	andonment		Location of		
Depth set at - M	Metres Material and ty		urry, neat cement slum	v) etc Volum	e Placed metres)	· ·	w show distances of well fro		uilding.
From	To	TONITE		(Cubic		Indicate north by		•	THE WAY
						DDDDDL WELL			E AS
						WILL	27/		N. N. S.
-									7.55
							7		E
	······ <u>···</u>	Method of C			Discipa	H645E 1149		HWY 5-3	
Cable Tool Rotary (conv	☐ Rotary ventional) ☐ Air pe	(air) cussion	☐ Diamond ☐ Jetting		Digging Other		CCLBHRN ST. U	NEST	#
Rotary (reve		·	Driving	· · · · · · · · · · · · · · · · · · ·			TO BRANT FORD	_	7
<b>又</b> Domestic	[ ] Indust	water rial	r <b>Use</b> ☐ Public Sup	vla	Other				*
Stock	Comm	ercial	Not used			A 114 h h	D-4-	e Well Completed	•
Irrigation	Munici	pal Final Statı		air conditioning		Audit No. <b>Z</b>		2006 Completed	MM DD 08
₩ Water Supp     ■ Total Control     ■ Total Control		vell	Unfinished		ned, (Other)	1	wner's information Date	e Delivered YYYY	MM DD
Observation Test Hole	<u></u>	l, insufficient su l, poor quality	pply Dewatering			package deliver			06 08
	Well Co		hnician Informat	ion	inanaa N-	Data Source	Ministry Use Con	e Only ntractor	
Name of Well C		RILLING	LTP.	Vell Contractor's L	icence No.	pala Source		4005	·
Business Addre	ess (street name, num	ber, city etc.)	A Secretary and the second	100-10		Date Received	YYYY MM DD Date	e of Inspection Yerry	MM DD
Name of Well T	Technician (last name	first name)		Vell Technician's L	icence No.	JUN 1 C Remarks	2006 Wel	II Record Number	
HOWE	WA	YNE		ate Submitted					
	echnician/Contractor			ate Submitted YYYY	MM DD		·	armula oot dianonihle	

Contractor's Copy Ministry's Copy Well Owner's Copy

0506E (09/03)

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<u> </u>	er e	COM	MPLETED IN	IMPERI	AL MEA		<u>8</u>		The state of	
♥ Or	ntario	Ministry of the Environm	Well Ta	A 034	236	nber below)	Regulation 903		<b>Nell R</b> Vater Reso	
Instructions	s for Completi	na Form		A 03	4236				page _	of
• Foruse i	in the <b>Province</b>	of Ontario	nly. This docume	ent is a perm	anent legal	document. Ple	ease retain for future	referen	ce.	
All Section     Ouestion	ons <b>must</b> be co	mpleted in ful	I to avoid delays application can b	in processin e directed to	g. Further ir the Water '	nstructions and Well Managem	explanations are ava ent Coordinator at 4	ilable on t 116-235-6	ne back of 6203.	this form.
<ul> <li>All metro</li> </ul>	e measuremen	its shall be re	eported to 1/10 <sup>st</sup>	of a metre.			Ministry Use			
	orint clearly in bl		on of Well Info	rmation	MUN	СО	N		LOT	
Brant		<b>y</b>	• • • • • • • • • • • • • • • • • • • •	F	Brantfo	rd		1	K'.	Γ
RR#/Street Nu	ımber/Name	<u> </u>			City/Town/Vil	lage	Site/Compa	rtment/Blo	ck/Tract et	C.
R.R. 2, GPS Reading	583 Hwy	24 one Easting	North		Brantfo Unit Make/M Barmin/		O. T. P. O	fferentiated	Aver	aged
GPS Reading 761 Fee		one Easting			sarmin/	etrex	Diffe	rentiated, sp	ecify	
General Colour			erials (see inst Other Ma		· · · · · · · · · · · · · · · · · · ·	General	Description		Depth	Metres
Brown	Sand	Ti matorial							From 0	<sub>To</sub>
Brown	Sand		Gravel						22	48
DIOWI										
							3.			
			Andrew .							
Do Not	Install I	Pump In	Screen: D	o Not In	nstall	Pump Any	Lower Than	Show	m Ber	ow:
	t Pump To	4								
	Diameter Diameter		Cons	truction Reco			Pumping test method	t of Well ` Draw D		Recovery
Depth M	Metres Diameter To Centimetre	_   Inside	Material	Wall thickness	Depth	Metres	Pump	Time Wate	er Level Time	Water Level
0	40 9½	centimetres	-	centimetres	From	То	Pump intake set at -	Ctatio	etres min	ivieties
			10 P	Casing			(metres) 35 Pumping rate 7 (litres/min) 20	Leveil ~	27 1	17
		1 61 1	Steel Fibreglass  Plastic Concrete	.188	+2	40	,			
Wate	er Record		Galvanized				Duration of pumping  1 hrs + 30 min	-	3 <b>0</b> 2	
Water found at Metres 40-4,3 _X	Kind of Water		Steel Fibreglass				Final water level end		31 3	
Gas	Fresh Sulphu Salty X Mineral		Plastic Concrete Galvanized				of pumping 35 metres  Recommended pump	<del>                                     </del>	3 <b>2</b> 4	
Other:	]		Steel Fibreglass				type. ☐ Shallow T Deep			
Gas	J Fresh □ Sulphu ] Salty □ Mineral	11 11	Plastic Concrete				Recommended pump	5	33 5	
Other:	Track Deviation	-	Galvanized	Screen			Recommended pump	1 1	34 10	+ +
Gas	」Fresh □ Sulphu Salty □ Mineral	S Outside	Steel Fibreglass	T			rate. (litres/min)28		35 15	
Other:	ell yield, water was	diam	Plastic Concrete	18	40	43	If flowing give rate - (litres/min)	20	20 25	
Clear and s	•	64	Galvanized				If pumping discontinued, give reason.	30	30	
Other, spec	cify		,≉°No (	Casing or Scr	een .	1	Clear	50	40 50	+ + -
Chlorinated **	Yes No		Open hole						<b>35</b> 60	17
	Plugging and	Sealing Recor	d 🔀 Annula		bandonment		Location			
Depth set at - M	Metres Material and	type (bentonite slu	irry, neat cement slum		ne Placed c metres)	In diagram below Indicate north by	v show distances of well for arrow.	rom road, k	ot line, and b	uilding.
0	40 See	Above /			9.60		5	3 HW	<b>y</b> .	_/1/
							+			10
							TW			
							7/2			
		Method of C	onstruction				7			
Cable Tool	Rota	•	Diamond		Digging	2	~ (D)			
Rotary (con	· = '	ercussion ng	Jetting Driving		Other		3 1			
		Water			1	7	16.			
Domestic Stock	☐ Indus ☐ Com	mercial	☐ Public Sup ☐ Not used	pıy	Other	5	150 FEET			
Irrigation	Muni	cipal Final Statu		air conditioning		Audit No. <b>Z</b>	44608 Pa	ite Well Cor	1006	107 84
Water Supp		well	Unfinished		oned, (Other)	Was the well ov	VII S II II OI I I I I I I I I I I I I I	te Delivered		07 04
☐ Observation☐ Test Hole	well 🔲 Abandon	ed, insufficient sur ed, poor quality	Dewatering Replacement	<i>-</i>		package delivere	d2 Yēs No			
	Well C	ontractor/Tech	nnician Informati		icance No	Data Source	Ministry Us	e Only entractor	9 F /	^ ^
Name of Well C	ontractor Dr	illing L	.td "	Vell Contractor's 3563					<u> </u>	<u> 33                                  </u>
Business Addre	ess (street name, nu	mber, city etc.)			0	Date Received	) '9''2006   DD Da	ite of Inspec	tion YYYY	MM DD
Name of Well T	293810 Technician (last nam	e, first name)	Line, in	versoll Vell Technician's		Remarks		ell Record N	lumber	
Kalph H	H. Mc Leo	<u>a</u>	Da	T-0073 ate Submitted YYYY	/ MM DD					
x		<u> </u>					0.4	formula	of dianoniki	on francois
0506E (09/03)		Contr	actor's Copy 🔲 N	finistry's Copy	<b>X</b> I Well Ow	ner's Copy 📋	Cette i	orriule es	ı uisponible	en français

Well Tag No. (Place Sticker and/or Print Below) Well Record the Environment Regulation 903 Ontario Water Resources Act **Imperial** ☐ Metric Page Address of Well Location (Street Number/Name) Township BRANT FORD PT16,17 884 COLBORNE ST. W. Postal Code County/District/Municipality City/Town/Village N3T6M4 BRANT. BRANTFORD Ontario UTM Coordinates | Zone | Easting | Northing | NAD | 8 | 3 | 1 | 7 | 5 | 5 | 4 | 3 | 8 | 1 | 4 | 7 | 7 | 5 | 0 | 0 | 8 Municipal Plan and Sublot Number Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) Most Common Material Other Materials General Description well ( Pump styck in well) Annular Space Results of Well Yield Testing Type of Sealant Used (Material and Type) Depth Set at (m/ft) After test of well yield, water was: Volume Placed Recovery Draw Down (m3/ft3) Clear and sand free Time Water Level Time Water Level Grout slury Bentonite Other, specify (m/ft) (m/ft) (min) 100 gal Static If pumping discontinued, give reason: 400 Bertonte Chips 150 lbs 1 1 Pump intake set at (m/ft) 2 2 3 3 Pumping rate (Vmin / GPM) Method of Construction Well Use 4 Public Commercial Not used Duration of pumping Domestic Rotary (Conventional) Jetting
Driving Municipal Dewatering 5 min 5 hrs + Rotary (Reverse) Irrigation Test Hole Monitoring Boring Final water level end of pumping (m/lt) Digging Cooling & Air Conditioning 10 10 Air percussion Other, specify 15 15 If flowing give rate (I/min / GPM) Construction Record - Casing Status of Well 20 20 Depth (m/ft) Open Hole OR Material Well Water Supply Recommended pump depth (m/ft) Replacement Well 25 From (cm/in) . To (cm/in) Test Hole
Recharge Well Recommended pump rate (I/min / GPM) 30 30 1-88 - 6 100 + Dewatering Well 40 40 Observation and/or Monitoring Hole Well production (I/min / GPM) Alteration Disinfected? (Construction) Yes No 60 60 Abandoned, Insufficient Supply Construction Record - Screen Map of Well Location Abandoned, Poor Outside Please provide a map below following instructions on the back. Water Quality Depth (m/ft) Material (Plastic, Galvanized, Steel) Diamete (cm/in) Abandoned, other, Pump stick Other, specify Water Details Hole Diameter Water found at Depth Kind of Water: Fresh Untested Diamete (cm/in) Depth (m/ft) From (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 Untested (m/ft) Gas Other, specify Well Contractor and Well Technician Information Business Name of Well Contractor Well Contractor's Licence No. WRC PURTYING LTD
Business Address (Street Number/Name) 6824 Municipality Comments NORWICH Business E-mail Address NOJI PO Service a wropurifying. com Ministry Use Only Well owner's information Date Package Delivered Vell Technician (Last Name, I package delivered Yes 2011 19513 5198633000 ROOD. Horle Wash 20111015018 ☐ No 20110513 JUN 8 8 2011 Ministry's Copy

Ministry of the Environment

Measurements recorded in: Metric Imperial

Well Tag No

A108180

Well Record

Alobibo

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

0	BOKNE ST.		T	BRANTFORO		ot T 16,1	and the second	Concessio		
BRANT - UTM Coordinates	Zone Easting	Northing	N	ity/Town/Village BRANT FORD. Iunicipal Plan and Subl			Onta Other	ce	Posta	T GML
NAD 8 3 Overburden and	7 5543 Bedrock Materials Most Common	s/Abandonment Sea	ing Reco	rd (see instructions on the	F 10 7 10 7 10 7 10 10 10 10 10 10 10 10 10 10 10 10 10	Description			De	pth (m/ft)
Grey	Stones	i material	Oth	er Materials	General	Description			From	To
Grey	Sand				Sand la	am			1'	3.
Brown	Sard				Canaly 10		X I Talle Co		3'	35'
Grey	Sand				Graves				35'	64"
Brown	Sand				fine				64'	83'
									83'	135
Depth Set at (m/		Annular Space ype of Sealant Used		Volume Placed	After test of well yield, war		Dra	w Down	1	Recovery
Prom To	/ .	Material and Type)	4.)	(m³/ft³)	Clear and sand free Other, specify		Time (min)	Water Lev (m/ft)	el Time (min)	Water Level (m/ft)
0 00	Bentonite	Shary (Benta	nite /	150 lbs	If pumping discontinued,	give reason:	Static Level	49'1"		
	DEMINIATE	· mps		150 105			1	55'4"	1	51'2"
					Pump intake set at (m/ft,		2	58'5'	2	49.4'
Method of	Construction	I I Mendelle	Well Us	e	Pumping rate (I/min / GP	M)	3	59'2'	3	49'3"
Cable Tool Rotary (Convention	Diamond onal) Jetting		Commer		Duration of pumping		4 4	59'5'	4	49'1"
Rotary (Reverse) Boring	Driving	Livestock [	Test Hol		hrs + min Final water level end of pu		5	59.81	5	49.1
Air percussion Other, specify		Industrial Other, specify	cooling (	a Air Coriditioning	60'2"	amping (mm)	10	601"	10	49"
-	Construction Rec		E PER E DE LOS	Status of Well	If flowing give rate (I/min	/ GPM)		60.21		11
Inside Open	Hole OR Material	Wall Depth	(m/ft)	₩water Supply	Recommended pump de	epth (m/ft)	20	1)	20	11
(cm/in) Concr	ete, Plastic, Steel)	(cm/in) From	То	Replacement Well Test Hole	Recommended pump ra	te	25	15	25	11
5" sta	2/	1.88 +2	128'	Recharge Well  Dewatering Well	(1/min/GPM)		30	11	30	
				Observation and/or Monitoring Hole	Well production (I/min / G	SPM)	40	11	40	- 11
				Alteration (Construction)	Disinfected?		50	11	50	yr.
100000000000000000000000000000000000000	Construction Reco	ard Screen	-	Abandoned, Insufficient Supply	Yes No	Man of W	60	atlan	60	
Outside Diameter (cm/in) (Plastic	Material	Slot No. Depth (	(m/ft) To	Abandoned, Poor Water Quality Abandoned, other, specify	Please provide a map bel	Map of We ow following	instructio	ons on the	back.	
4" Skin	less stel	8 129	135	Other, specify						1
4	Water Detail pth Kind of Water:	Fresh Untested		ole Diameter in (m/ft) Diameter To (cm/in)				24	0'	
Water found at De	pth Kind of Water: [	Fresh Untested	0	20' 8%						10
(m/ft) _ 0		Fresh Untested	20	135 5/2"						. ! ;
(m/ft) 🔲 0	Sas Other, specify	y			1				D# (	3'
Business Name of N	Well Contractor	and Well Technician		on Contractor's Licence No.	N					
	ifying LTD		k	0 0					ae K	:
44 MAIN			1	ORWICH	Comments:					
Province		Service W		uing room	Well owner's Date Pack	age Delivere	d	Minis	stry Us	e Only
Sus.Telephone No. (	inc. area code) Name	of Well Technician (La	st Name, F	fist Name)	information package delivered	Completed		Audit No.		406
337	10 Adri			041 05 180	No 201		12	Received	JUN 1	8 2011
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Regulation 903 Ontario Water Resources Act

Well Loca	ation Well Location (	Street Nur	nher/Name)		ĪΤ	ownship		Lot	Concess	ion	
822	RASTA	1845				BRANT		10	3	1011	
County/Dist	trict/Municipalit	ty			C	ity/Town/Village			rovince	Postal	Code CBE3
UTM Coordin	ANT nates Zone E	Easting	, No	orthing		PARTS  Junicipal Plan and Suble	ot Number		Ontario Other_	100	-040
			284							-	
						rd (see instructions on the				Den	th (m/ft)
General Co			non Material	<del>,                                    </del>		er Materials	Genera	al Description		From	To
Brow	in Co	<u> </u>	_Sano		<u>5</u>	nes	- fac	Kell			45
Grey		CAUE	2/	_		ders	100		1	45	47
Grey	<u> </u>	2 Cau	ie	,	_	blezClay	-	ranted	<b>/</b>	47	50
Black	$z + \frac{f}{4}$	-ine	Sano		Brown	Sand'	•	Ked,		50	68
Grey	Me	dium	-Same	<i>d</i>	<u> </u>	<u>e&gt;</u>	Pac	kell		68	261
Black	1-1	re Sa	nd		Mediun	n Sand		عد	:	74_	87
Grey		lay					Der	rse		4	86
Taxasti vastimina kilovi	Town the state of	ia i adinami		o dentisano de la competencia	\$45.00 (A)			A	SV:#41a18=E###**		
Depth Se	et at ( <i>m/ft</i> )		Annular Type of Sea	alant Used	· · · · · · · · · · · · · · · · · · ·	Volume Placed	After test of well yield, w		Draw Down		ecovery
From	To		(Material an			(m³ft³)	Clear and sand fre		Fime   Water Le (min)   (m/ft)	vel Time	Water Level (m/ft)
	50	20	olo Bo	ntom	<u>k</u>		If pumping discontinued		Static evel 4	-	
Pr			***************************************	······································				-	1 46	1	67
							Pump intake set at (mg	<u>f</u>	2 48	2	6
						200	78		3 49	3	63
971000000000000000000000000000000000000	od of Const	. 21 . 14			Well Us		Pumping rate (I/min / G	PM)		4	67
Cable Too	:	Diamond Jetting	□ Pul ⊠ Do		Commer Municipa	= -	Duration of pumping	\\\\	_ / 0 /		02
Rotary (R		Driving Digging		estock	Test Hol	e Monitoring & Air Conditioning	hrs + mi Final water level end of	_	5 5	5 5	60
☐ Air percus	ssion		☐ Ind	lustrial		a Air Conditioning	68		10 60		52
Other, sp		took stand a magetiful page of		ner, specify		I SAME TO SAME THE SA	If flowing give rate (I/mi	in / GPM)	15 6	15	79
Inside	Open Hole OF	R Material	ecord - Cas Wall	· · · · · · · · · · · · · · · · · · ·	th ( <i>nf/ff)</i>	Status of Well  Water Supply	Recommended pump	depth (ng/ft)	20 65	20	47_
Diameter (cm/in)	(Galvanized, F Concrete, Plas	ibreglass, stic, Steel)	Thickness (cn(in)	From	То	Replacement Well Test Hole	78		25 6 G	25	46
6	Steel		O.188	+7_	78	Recharge Well	Recommended pump (//min GPM)	rate	30 68	30	46
					+	Dewatering Well Observation and/or	Well production (l/min	(CPM)	40 69	40	45
						Monitoring Hole  ☐ Alteration	4.5		50 65	50	45
						(Construction)	Disinfected? XYes No		60 68	60	45
	Cons	truction R	ecord - Scre	en		Insufficient Supply		Map of Well	Location		
Outside Diameter	Materi	al	Slot No.		th ( <i>m/ft)</i>	Abandoned, Poor Water Quality	Please provide a map b		***************************************	e back.	
(cmfin)	(Plastic, Galvani	ized, Steel)	0.00140.	From	То	Abandoned, other, specify		louse			
5.5	Steel	/	_/0_	80	84	Other, specify					
							12	zm			
		Water Det	***************************************			ole Diameter		- O 10	o∽		- 41
	d at Depth Kin //ft) ☐ Gas ☐			Untested	From	h (m/h) Diameter					$\rightarrow N$
	d at Depth Kin			Untested	0	50 10.25	1	20			
	/ft) Gas G			711-44-	50	80 8.75	And the second s	30n	^		
	d at Depth Kin √ft)			] Untested	80	86 625	And the second s				
1000 1000 1000 1000	Well (	Contracto		Technicia	an Informat	3,	1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7 11	<u> </u>	
4	ame of Well Co		- 0	A 3	We	Contractor's Licence No.		<u> </u>	<u> </u>		<del></del> ,
	ddress (Street N	Number/Na		W07	Ø₁ ) / Mu	nicipality	Comments:		······································		
83	ANGR	57	<u> </u>	WO	HAM	CENTRE					
Province		Code CQA		E-mail Ad	dress		Well owner's Date Pa	ckage Delivered	Mi-	nistry Use	Only
Bus.Telephor	ne No. (inc. area	code) Na	me of Well T			First Name)	information	11110	4 Audit No	. (20.15) (81.0	
511414	143190	06.7	aterak	geore	y		package delivered Date Wo	rk Completed		<sup>2</sup>	336
Well Technicia	an's Licence No. I S I G	Signature	of Technicia	in and/or C	ontractor Det	e Submitted 1227	Yes Date Wo	1/1/012	/ 1 1 2000000000000000000000000000000000	FEB 16	
0506E /2007/4	12) @ Ouron's E	Printer for Ant	2007	<del></del>	<i>y</i> , q	<u> </u>	<u> γ~ <b>&gt;</b> </u> /	The Iso Lates	Tr [wacewed		

Well Tag No. (Place Sticker and/or Print Below) Well Record Ministry of Ontario the Environment Regulation 903 Ontario Water Resources Act A103254 **M**/Imperial Page Well Owner's Information Last Name / Organization First Name F-mail Address VAMOS BRUS by Well Owner Mailing Address (Street Number/Nam Postal Code Province Telephone No. (inc. area code) M3754757975263019 19 N/3 Well Location Address of Well Location (Street Number/Name) Lot BRANT FORD ROBINSON RD Postal Code BRANTFORD Ontario M317131417 Other NAD | 8 | 3 | 1 | 55 | 53 | 76 | 43 | 8 | 0 | 7 |

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) Most Common Material Other Materials General Description From BOW Krowic ellow Wler Results of Well Yield Testing **Annular Space** Type of Sealant Used (Material and Type) Depth Set at (m/ft) Volume Placed After test of well yield, water was Draw Down Time Clear and sand free Water Level  $(m^3/ft^3)$ Water Level Time (min) Other, specify (m/it) (min) (m/it) 20 BENTONITE GROWT 130 cupt Statio If pumping dîscontinued, give reason: Leve 1 Pump intake set at (m/ft) 2 2 56' 3 3 3 4 ⊃umping rate (l/min / GPM) Method of Construction Well Use Duration of pumping 4 43134 4 ☐ Not used Cable Tool Diamond Public Public ☐ Commercial Rotary (Conventional) ☐ Jetting Domestic Municipal ☐ Dewatering 5 5 thrs + D min Rotary (Reverse) □ Drïving Livestock Test Hole ☐ Monitoring Final water level end of pumping (m/īt) Boring □ Digging Irrigation Cooling & Air Conditioning 10 10 Air percussion ☐ Industrial Other, specify Other, specify 15 15 If flowing give rate (I/min / GPM) Construction Record - Casing Status of Well 20 20 Water Supply
Replacement Well Recommended pump depth (m/ft)

Secommended pump rate
(I/min / GPM) Depth (m/ft) Inside Open Hole OR Material Wall Diamete (cm/in) (Galvanized, Fibreglass, Concrete, Plastic, Steel) Thicknes (cm/in) 25 25 From To Test Hole 30 30 1/2 59' Recharge Well Stell - ૧૮૮ O Dewatering Well 40 40 Observation and/or Well production (I/min / GPM) Monitoring Hole 50 50 ☐ Alteration Disinfected? (Construction) 60 60 Yes No ☐ Abandoned, Insufficient Supply Construction Record - Screen Map of Well Location Abandoned, Poor Water Quality Outside ease provide a map below following instructions on the back. Depth (m/ft) Material farist Diameter Slot No Abandoned, other, (Plastic Galvanized Steel) From Τo (cm/in) specify 10 SLOT 56 59 Other, specify Water Details Hole Diameter Depth (m/ft) Water found at Depth Kind of Water: Fresh Untested Diameter From (cm/in) (m/ft) Gas Other, specify 64 Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Untested Other, specify (m/ft) Gas Well Contractor and Well Technician Information Comments: Well owner's information package delivered Ministry Use Only Date Package Delivered 2060000 z125721 Date Work Completed Yes 20203 7/20306 ☐ No MAR 1 8 2012



Ministry of the Environment Well Tag No Tag#: A134014

Well Record	V	Ve		Re	ec	O	rc
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Regulation 903 Or

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Page	of	

Measureme	ents recorded in	: Metric	☑ Imperia	nl	A134014			Page_		of
Address of	Well Location (St	reet Number/	Name)	T	ownship	Lot	1	Concession	2	
265	ROBINSON				BRANTFORD ity/Town/Village	PT 1 , P1	Provir	ice *	3 Posta	I Code
BRAN	rict/Municipality				BRANTFORD		Ont		N3	
-	nates   Zone   Eas 8   3   1   7   5	~	9 477	6316 M	lunicipal Plan and Sublo	ot Number	Other			
Overburde	n and Bedrock	Materials/A	bandonmen	t Sealing Reco	rd (see instructions on the	F **			Der	oth ( <i>m/ft</i> )
General Co	olour Mos	st Common M	laterial	Othe	er Materials	General Description	***		From	To
ARROWAN AND THE RESIDENCE OF THE PERSON NAMED										
Management of the Committee of the Commi										
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			ex	TENDED	WEII CAS	ing L'				
Marcola de Reseau e de Companyo de Marcola de Carlo de Ca				100-2	70-11 010					
			nnular Space	and the second s		Results of Wo				Recovery
Depth Se From	et at ( <i>m/ft)</i> To		e of Sealant Us erial and Type		Volume Placed (m³/ft³)	After test of well yield, water was:  Clear and sand free	Time	Water Leve	Time	
						Other, specify  If pumping discontinued, give reason:	(min) Static	201"	(min)	(111111)
							Level 1	39:31	1	38'3'
AND THE PROPERTY OF THE PROPER						Pump intake set at (m/ft)	2	43'8"	2	37'5'
						Pumping rate (I/min / GPM)	3	44'5"	3	37'
Meth	od of Constru	<b>ction</b> Diamond	☐ Public	Well Us		21 GPM Duration of pumping	4	45'	4	3694
	Conventional)	Jetting Driving	Domestic Livestock	☐ Municipa ☐ Test Hol		1 hrs + 30 min	5	45'	5	36'8"
Boring Air percu	,	Digging	☐ Irrigation☐ Industrial	Cooling	& Air Conditioning	Final water level end of pumping (m/ft)	10	45'	10	363"
Other, sp	pecify		Other, spe	ocify		If flowing give rate (I/min / GPM)	15	45'	15	36'1"
Inside	Constru Open Hole OR N	ction Recor		Depth (m/ft)	Status of Well  Water Supply	Recommended pump depth (m/ft)	20	45'	20	35.9"
Diameter (cm/in)	(Galvanized, Fibr Concrete, Plastic	reglass, Thic c, Steel) (c	ckness m/in) Fro	1	Replacement Well Test Hole	S2' Recommended pump rate	25	45'	25	35'8'
5"	SICEL	.1	88 -7		Recharge Well Dewatering Well	(l/min / GPM) 21 GPM	30	45' 45'	30	35'7"
4"			나'	57'	Observation and/or Monitoring Hole	Well production (I/min / GPM)	40 50		50	35'5" 35'3"
No.					Alteration (Construction)	Disinfected?	60	45'	60	35'1"
	<u>-</u>				Abandoned, Insufficient Supply	Yes No Map of W				001
Outside	Material		ot No.	Depth (m/ft)	Abandoned, Poor Water Quality	Please provide a map below following			oack.	
Diameter (cm/in)	(Plastic, Galvanize	ed, Steel)	Fr.	om To	Abandoned, other, specify		<b>,</b>			
					Other, specify	•		SHOP		
		ater Details	7.50		lole Diameter		,			
Water four	nd at Depth Kind		Fresh Unt		th ( <i>m/ft</i> ) Diameter To ( <i>cm/in</i> )					<b>A</b>
	n/ft) ☐ Gas ☐ C nd at Depth Kind		Fresh Unt		57' 4"	1224				$\mathcal{I}$
(m	n/ft)	Other, specify								•
	nd at Depth Kind n/ft)		FreshOnt	esteu						
Pusinoss M	Well Co		d Well Tech	nician Informa	tion ell Contractor's Licence No.			^-	tea para de la como de	
MRC	Purifyin	IA LID.		L	824	Robins	ion	KD.		
	ddress (Street Nu	whoer/Name)	Box 36		unicipality . NoRWICH	Comments:				
Province	Postal	Code E	Business E-ma	ail Address	fying com	Well owner's Date Package Deliver	red	Minis	stry Us	se Only
ONTAR Bus.Telepho	ana No (ina araa (	codel Name	of Well Techni	cian (Last Name.)	First(Name)	information package 2012		Audit No.		3420
S19 Well Technic	80/3/3/0/ cian's Licence No.	OO KR	eofinician and	ONK, HU	ICO - ite Submitted	Yes Date Work Completed	i	Stores		
7 4	56	MALL	May	2	VOID ON 17	II No ADVIDA	10	Receill	. 2 !	o <u>2012                                   </u>

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Measurements recorded in:

Ministry of the Environment

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

Well Record

Tag#: A169851

Regulation 903 Ontario Water Resources Act

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Address of Well Location (Street Number/Name) 133 Reason	2 Cach	Township		Concess	sion or Arack
County/District/Municipality		City/Town/Village		Province Ontario	Postal Code
UTM Coordinates Zone Easting Northi	U .	Municipal Plan and Sul	olot Number	Other	
NAD 8 3 17 554 57 747  Overburden and Bedrock Materials/Abandonm			he back of this form)		
General Colour   Most Common Material		Other Materials	General Descri	iption	Depth ( <i>m/ft</i> ) From To
Gra Stoney	C	1cu	SORT	·!-!^! <b>/</b>	0 401
Brown Growell.	400		Saft,	·vvv-v\v\v-vv\v\v\v\v\\\\\\	40' 90'
Gray as Grovel	CA	C-1	ARCUICI	·•/	90' 105'
Bown : Five Some		50 Sanel	Sat	^^_	105 1161
	······································	:		·virilari/\\//\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\/\	· · · · · · · · · · · · · · · · · · ·
			***************************************	~	
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		······································			
Annular Spa	ıce		Results o	of Well Yield Testin	<b>1a</b>
Depth Set at (m/ft)  From To  (Material and Ty		Volume Placed (m³/ft³)	After test of well yield, water was:  Clear and sand free	Draw Down	
0 131 Ransac.0	3111001	In IRS	Other, specify	(min) (m/n)	se Maria
			If pumping discontinued, give rea	ison: Static 641	<b>71</b>
			Pump intake set at (m/ft)	1 22:	711 109 B
				2 7416	
, Method of Construction	Well	Use	Pumping rate (I/min / GPM)		a" 3 9814
☑ Cable Tool ☐ Diamond ☐ Public ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Diamond ☐ Public ☑ Domest ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Diamond ☐ Public ☑ Domest ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Diamond ☐ Public ☑ Domest ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Diamond ☑ Public ☑ Domest ☐ Rotary (Conventional) ☐ Jetting ☑ Domest ☐ Diamond ☑ Diamond	☐ Comr ic ☐ Munic		Duration of pumping		91 4 93 2
☐ Rotary (Reverse) ☐ Driving ☐ Livesto	k 🔲 Test I	Hole	/_ hrs + min		11 5 8819"
☐ Boring ☐ Irrigatio ☐ Air percussion ☐ Industri	31	ng & Air Conditioning	Final water level end of pumping (	1 1 14.5	
Other, specify Construction Record - Casing		C. C	If flowing give rate (I/min / GPM)		- 4216
Inside Open Hole OR Material Wall	Depth (m/ft)	Status of Well  Water Supply	Recommended pump depth (m/	//t) 20 101'S	0 64171
(5.7.7)	rom To	☐ Replacement Well ☐ Test Hole		25 <b>\104'</b>	2" 25 64171
10" Stev 183 1	011 113	Recharge Well  Dewatering Well	Recommended pump rate (I/min / GPM)	30 1062	31 30 6,41-711
		☐ Observation and/or	Well production (I/min / GPM)	40 108	31 40 (24171)
		Monitoring Hole  Alteration	Disinfected?	50 109.	31 50 641211
		(Construction)  Abandoned,	Yes No	60 <b>09''</b>	31 60 64171
Construction Record - Screen Outside	[]	Insufficient Supply  Abandoned, Poor	Please provide a map below follow	f Well Location	- h-a-1
Diameter Material Slot No.	Depth ( <i>m/ft)</i> rom To	Water Quality  Abandoned, other,	I rease brovide a triab perow rollow	wing instructions on the	a Dack.
III Showsteel (e 11	31118	specify	Buny 13-Br	and ford	
		Other, specify			
Water Details	· · · · · · · · · · · · · · · · · · ·	Hole Diameter	1,2542	V	Take 1
Water found at Depth Kind of Water: Fresh Ur  (m/ft) Gas Other, specify	tested From	epth ( <i>m/ft</i> ) Diameter To (cm/in)	HKW	65000	
Water found at Depth Kind of Water: Fresh Ur	tested 20°	" 1131 (o"		WY QUO	
(m/ft) Gas Other, specify Water found at Depth Kind of Water: Fresh Un	tested \\3	1181511			
(m/ft) Gas Other, specify	1212121212121212121212121212121212121212				
Well Contractor and Well Tecl Business Name of Well Contractor	<u> </u>	<b>ation</b> Vell Contractor's Licence No.			
Hunter Mumbine & her		6178			
Business Address (Street Number/Name)  L20 McCLL TOWN.		Apricipality  Avacetor	Comments:		
Province Postal Code Business E-m	ail Address				
Bus. Telephone No. (inc. area code) Name of Well Techn	Pluw Name	CACINOM (Citte Cont)	Well owner's Date Package Deliving		istry Use Only
519 4584488 20765	W Looca	Silows	Date Work Comple		4199363
Well Technician's Licence No. Signature of Technician and			Yes	ann I NOV	192014
0506E (2007/12) © Queen's Printer for Ontario, 2007	Jerselle Jerselle	Ministry's Copy			

Ontario Ministry of the Environment	Well Tag No. (Place Sticker an		Well Record Regulation 903 Ontario Water Resources Act		
Measurements recorded in:			Page of /		
Add	Township	Lot	Concession		
Address of Well Location (Street Number/Name)	Township				
County/District/Municipality	City/Town/Village		Province Postal Code Ontario N27547		
UTM Coordinates Zone Easting Northing	Municipal Plan and Sublo	t Number	Other		
NAD 8 3 / /5 6 1 3 3 / / 6 C Overburden and Bedrock Materials/Abandonment Sea	כל <mark>אַ [5]</mark> ling Record (see instructions on the	back of this form)			
General Colour Most Common Material	Other Materials	General Description	Depth ( <i>m/ft</i> ) From To		
	H Day 5	<u>~~~~~</u>			
.7/	75245064	ed WCU 56-			
	-1722 (5) ST 45 651	- Inrungh 15017			
1	at Coment C	iralated thron	a Point		
		— <u>~1~1~~~1~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</u>			
Annular Space  Depth Set at ( <i>m/ft</i> )  Type of Sealant Used	Volume Placed	After test of well yield, water was:	II Yield Testing  Draw Down Recovery		
From To (Material and Type)	(m³/ft³)	☐ Clear and sand free ☐ Other, <i>specify</i>	Time Water Level Time Water Level (min) (m/ft) (min) (m/ft)		
0 6 FIII (Soil 4 Con	10 CL3	If pumping discontinued, give reason:	Static Level		
g g g Reneral	7 1013		1		
45' 65' Neat Canent	24. 051.2 to 1 1 1 2 3	Pump intake set at (m/ft)	2 2		
Method of Construction	Well Use	Pumping rate (Ilmin / GPM)	3 3		
☐ Cable Tool       ☐ Diamond       ☐ Public         ☐ Rotary (Conventional)       ☐ Jetting       ☑ Domestic	☐ Commercial ☐ Not used ☐ Municipal ☐ Dewatering	Duration of pumping	4		
Rotary (Reverse) Driving Livestock	☐ Test Hole ☐ Monitoring	hrs + min Final water level end of pumping (m/ft)	5 5		
☐ Air percussion ☐ Industrial	Cooming & Air Conditioning				
Other, specify Other, specify Construction Record - Casing	Status of Well	If flowing give rate (Ilmin / GPM)	15		
Inside Open Hole OR Material Wall Depth (Diameter (Galvanized, Fibreglass, Thickness	Denlacement Well	Recommended pump depth (m/ft)	20 20 25 25		
(cm/in) Concrete, Plastic, Steel) (cm/in) From	Test Hole	Recommended pump rate	25		
36 n Brick WA O	Dewatering Well	(Ilmin   GPM)	40 40		
30 in 15/10/h 10/4. 20	Monitoring Hole	Well production (Ilmin   GPM)	50 50		
125 Steel 6.188 45	Alteration (Construction)  Abandoned,	Disinfected? X Yes No	60 60		
Construction Record - Screen	Insufficient Supply  Abandoned, Poor		Il Location		
Outside Material Slot No. Depth (Plastic, Galvanized, Steel)	(m/ft) Water Quality	Please provide a map below following i	nstructions on the back.		
	To Specify				
205 in 24cd 41060	Other, specify		·		
Water Details	Hole Diameter				
Water found at Depth Kind of Water: Fresh Untested	Depth ( <i>m/ft</i> ) Diameter From To ( <i>cm/in</i> )				
(m/ft) Gas Other, specify //one Water found at Depth Kind of Water: Fresh Untested					
(m/ft) Gas Other, specify					
(m/ft) Gas Other, specify		1804ds. 777			
Well Contractor and Well Technician Business Name of Well Contractor					
Contract Drilling Protessionals 7416					
Business Address (Street Number/Name)	Municipality L	Comments:			
Province Postal Code Business E-mail Addre	ess - dos a Hanadal aco	10/01/ 01/00 02/0 1 TO 1 TO 1			
Bus.Telephone No. (inc. area code) Name of Well Technician (La	ot Nama First Nama	Well owner's Date Package Delivered information package			
Well Technician's Licence No. Signature of Technician and/or Con	7/e-7	Date Work Completed	<u> </u>		
2999675	5 20140606	No 2014060			
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Measurements recorded in:

Ministry of the Environment

Imperial

Well Tag No

Tag#: A128182

Well Record

Regulation 903 Ontario Water Resources/Act

Page

Address of Well Location (Street Number/Name)	Township	Lot	Concess	ion	
County/District/Municipality	City/Town/Village	<b>t</b>	Province	Postal	Code
1 TM Coordinates 7 and Tooting Northing	Scarton Municipal Plan and Subl		Ontario	Wist	
UTM Coordinates Zone Easting Northing NAD 8 3 / 756/44/4/4776	Municipal Plan and Suble	Ot Mullinel	Other		
Overburden and Bedrock Materials/Abandonment S		e back of this form)		D	th /m/fil
General Colour Most Common Material	Other Materials	General Description		From	th ( <i>m/ft)</i> To
Bran Dund	Atanes	57 7 7 1		<u>O</u>	12
Sour Sand	150/14/5	13c/44		12	12
Brown Medium Smil		#4CK-C4		7 4	52
Brown Fine Sand	CIANEL			<u>(20</u>	68
Gray Five Dand				68	/3
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			***************************************	
	^~!-!- <i>!</i> -			DINININIIDAIIII	
				<b>4</b> 11	
Annular Space		Results of We	II Yield Testin	G	
Depth Set at ( <i>m/ft</i> )  From To  (Material and Type)	Volume Placed (m³/ft³)	After test of well yield, water was:  ***Clear and sand free	Draw Down Time Water Le		ecovery Water Level
	200/ 14,543	Other, specify	(min) (m/ft)	Į į	(m/ft)
7, 47	7	If pumping discontinued, give reason:	Static 47		<b>5</b> 5
114 5-21-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1			1 48	1	52
		Pump intake set at (m/ft)	2 49	2	.50
Method of Construction	WellUse	Pumping rate (I/min / GPM)	3 49	3	49
☐ Cable Tool ☐ Diamond ☐ Public	Commercial Not used	Duration of pumping	4 4 9	4	48
☐ Rotary (Conventional) ☐ Jetting ☐ Domestic ☐ Rotary (Reverse) ☐ Driving ☐ Livestock	☐ Municipal ☐ Dewatering ☐ Test Hole ☐ Monitoring	hrs + min	5 50	5	4/7
	Cooling & Air Conditioning	Final water level end of pumping (m/ft)	10 52	10	Luf Com
Other, specify Other, specify	/	If flowing give rate (I/min / GPM)	15 5	15	4
Construction Record - Casing	Status of Well		20 25	20	
Inside Open Hole OR Material Wall Dep Diameter (Galvanized, Fibreglass, Thickness (cm/in) Concrete, Plastic, Steel) (cm/in) From	oth ( <i>m(ft)</i> ) Water Supply Replacement Well	Recommended pump depth (m/ft)	25 (	25	4/4
	Test Hole  Recharge Well	Recommended pump rate (//min / GPM)	30 <	30	1
	Dewatering Well  Observation and/or	10 gpm.	40 .	40	Section 1
5,625 7-628 0-108 55	Monitoring Hole  Alteration	Well production (If min / GPM) $/S$	50 2	50	
	(Construction)	Disinfected?  X Yes No	60 (	* 60	
Construction Record - Screen	Abandoned, Insufficient Supply		II Location		<b>V</b>
Outside Material Slot No Dep	Abandoned, Poor oth (m(ft) Water Quality	Please provide a map below following in		e back.	
(Comlin) (Plastic, Galvanized, Steel) Siot No. From	To Abandoned, other, specify				
5.5 h Steel 3 58'	Other, specify				
Water Details  Water found at Depth Kind of Water: ☑ Fresh ☐ Unteste	d Depth (m/ft) Diameter		10 10 Mg		
(m(ft)) Gas Other, specify	From To (cm(h).		Houses T		
Water found at Depth Kind of Water: Fresh Unteste (m/ft) Gas Other, specify	d 20 12.75				
Water found at Depth Kind of Water: Fresh Unteste	d 20 60 8.75		1445		*
(m/ft)  Gas Other, specify	60 78 6.25		so yas		THE PARTY OF THE P
Well Contractor and Well Technici Business Name of Well Contractor	Well Contractor's Licence No.	- Kohns	ten Ru		navana akadhan makanaka sadahan (B. 1987) (B. 1988)
Contract Dailly Votess	and 74 / 6		·	JV	
Business Address (Street Number/Name)	Municipality Brain 4.	Comments:			
Province Postal Code Business E-mail Ad	ldress	1 A. F. E2			
Bus.Telephone No. <i>(inc. area code)</i> Name of Well Technician	**************************************	Well owner's Date Package Delivered information	Avidienia	stry Use	Only
5/19/7/17/1293 Patech, (	Co/en	package 20/4000 delivered Date Work Completed	(n	680	22
Well Technician's Licence No. Signature of Technician and/or C	Contractor Date Submitted	Yes No 201406	,	· ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	<b>4.4</b> 7
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	80 of the control of				

# **Appendix C**

# **Aquifer Test Data Sheets**





#### MTE Consultants 520 Bingemans Centre Drive Kitchener, Ontario N2B 3X9

Slug Test Analysis Report

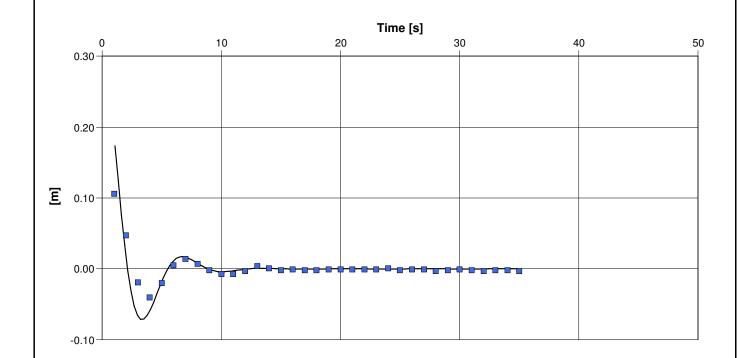
Project: Brantford West Pit

Number: 44021-100

Client: Lafarge Canada

Location: 1044 Colbourne Road West	Slug Test: MW1-18	Test Well: MW1-18
Test Conducted by: MDE		Test Date: 8/20/2018
Analysis Performed by: MDE	Butler High K	Analysis Date: 8/28/2018

Aquifer Thickness: 8.72 m



Calculation using Butler High-K				
Observation Well	tD/t	Hydraulic Conductivity	CD	
		m/s		
MW1-18	1.03 × 10 <sup>0</sup>	9.16 × 10 <sup>-4</sup>	8.29 × 10 <sup>-1</sup>	



#### MTE Consultants 520 Bingemans Centre Drive Kitchener, Ontario N2B 3X9

Slug Test Analysis Report

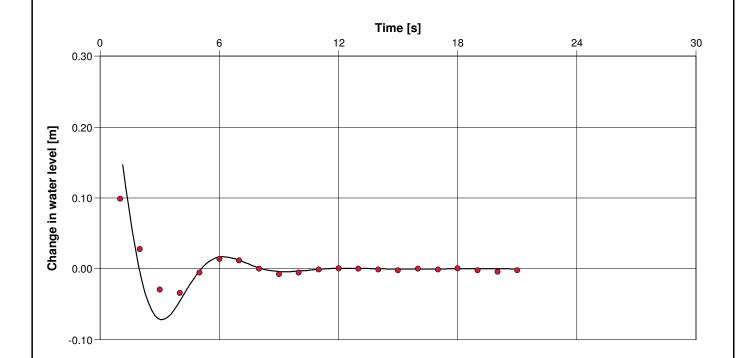
Project: Brantford West Pit

Number: 44021-100

Client: Lafarge Canada

Location: 1044 Colbourne Road West	Slug Test: MW2-18	Test Well: MW2-18	
Test Conducted by: MDE		Test Date: 8/20/2018	
Analysis Performed by: MDE	Butler High K	Analysis Date: 8/28/2018	

Aquifer Thickness: 11.18 m



Calculation using Butler High-K					
Observation Well	tD/t	Hydraulic Conductivity	CD		
		m/s			
MW2-18	1.11 × 10 <sup>0</sup>	9.21 × 10 <sup>-4</sup>	8.29 × 10 <sup>-1</sup>		



#### MTE Consultants 520 Bingemans Centre Drive Kitchener, Ontario N2B 3X9

Slug Test Analysis Report

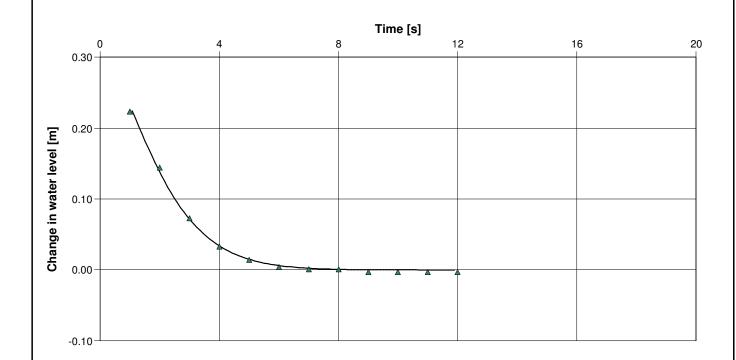
Project: Brantford West Pit

Number: 44021-100

Client: Lafarge Canada

Location: 1044 Colbourne Road West	Slug Test: MW3-18	Test Well: MW3-18	
Test Conducted by: MDE		Test Date: 8/20/2018	
Analysis Performed by: MDE	Butler High K	Analysis Date: 8/28/2018	

Aquifer Thickness: 5.87 m



Calculation using Butler High-K				
Observation Well	tD/t	Hydraulic Conductivity	CD	
		m/s		
MW3-18	8.80 × 10 <sup>-1</sup>	3.17 × 10 <sup>-4</sup>	1.91 × 10 <sup>0</sup>	

# **Appendix D**

# **Laboratory Certificates of Analysis**





MTE CONSULTANTS INC. (Kitchener)

ATTN: JAY FLANAGAN

520 BINGEMANS CENTRE DRIVE

KITCHENER ON N2B 3X9

Date Received: 14-AUG-19

Report Date: 21-AUG-19 12:47 (MT)

Version: FINAL

Client Phone: 519-743-6500

# Certificate of Analysis

Lab Work Order #: L2328976
Project P.O. #: NOT SUBMITTED

Job Reference:

C of C Numbers: 17-826226

Legal Site Desc:

Emily Hansen Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

ALS CANADA LTD Part of the ALS Group An ALS Limited Company



Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2328976-1 MW1-18							
Sampled By: ME on 14-AUG-19 @ 11:45							
Matrix: WATER							
Physical Tests Colour, Apparent	41.0		2.0	CU		15-AUG-19	D 4755 406
Conductivity	694		3.0	umhos/cm		16-AUG-19	
Hardness (as CaCO3)	312		0.50	mg/L		15-AUG-19	K4/3/441
pH	7.89		0.30	pH units		16-AUG-19	D4757441
Total Dissolved Solids	455	DLDS	20	mg/L		18-AUG-19	R4759067
Turbidity	97.9	BEBO	0.10	NTU		15-AUG-19	
Anions and Nutrients	97.9		0.10	INTO		13-406-19	147 34009
Alkalinity, Total (as CaCO3)	252		10	mg/L		16-AUG-19	R4757441
Ammonia, Total (as N)	0.016		0.010	mg/L			R4761973
Chloride (CI)	35.3		0.50	mg/L		15-AUG-19	
Fluoride (F)	0.097		0.020	mg/L			R4757531
Nitrate (as N)	1.40		0.020	mg/L		15-AUG-19	R4757531
Nitrite (as N)	0.126		0.010	mg/L		15-AUG-19	
Orthophosphate-Dissolved (as P)	<0.0030		0.0030	mg/L			
Sulfate (SO4)	74.2		0.30	mg/L		15-AUG-19	
Dissolved Metals				J			
Dissolved Metals Filtration Location	FIELD					15-AUG-19	R4755149
Aluminum (AI)-Dissolved	<0.0050		0.0050	mg/L	15-AUG-19	15-AUG-19	R4755941
Antimony (Sb)-Dissolved	0.00033		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Arsenic (As)-Dissolved	0.00062		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Barium (Ba)-Dissolved	0.115		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Boron (B)-Dissolved	0.014		0.010	mg/L	15-AUG-19	15-AUG-19	R4755941
Cadmium (Cd)-Dissolved	<0.000050		0.0000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Calcium (Ca)-Dissolved	83.9		0.050	mg/L	15-AUG-19	15-AUG-19	R4755941
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	15-AUG-19	15-AUG-19	R4755941
Cobalt (Co)-Dissolved	0.00060		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Copper (Cu)-Dissolved	0.00025		0.00020	mg/L	15-AUG-19	15-AUG-19	R4755941
Iron (Fe)-Dissolved	0.024		0.010	mg/L	15-AUG-19	15-AUG-19	R4755941
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Magnesium (Mg)-Dissolved	24.9		0.0050	mg/L	15-AUG-19	15-AUG-19	R4755941
Manganese (Mn)-Dissolved	0.163		0.00050	mg/L	15-AUG-19	15-AUG-19	R4755941
Molybdenum (Mo)-Dissolved	0.00151		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Nickel (Ni)-Dissolved	0.00265		0.00050	mg/L	15-AUG-19	15-AUG-19	R4755941
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	15-AUG-19	15-AUG-19	R4755941
Potassium (K)-Dissolved	1.63		0.050	mg/L	15-AUG-19	15-AUG-19	R4755941
Selenium (Se)-Dissolved	0.000195		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Silicon (Si)-Dissolved	4.70		0.050	mg/L	15-AUG-19	15-AUG-19	R4755941
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Sodium (Na)-Dissolved	22.2		0.050	mg/L	15-AUG-19	15-AUG-19	R4755941

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2328976-1 MW1-18							
Sampled By: ME on 14-AUG-19 @ 11:45							
Matrix: WATER							
Dissolved Metals							
Strontium (Sr)-Dissolved	0.550		0.0010	mg/L	15-AUG-19	15-AUG-19	
Thallium (TI)-Dissolved	0.000040		0.000010	mg/L	15-AUG-19	15-AUG-19	R4755941
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	15-AUG-19	15-AUG-19	R4755941
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Uranium (U)-Dissolved	0.000715		0.000010	mg/L	15-AUG-19	15-AUG-19	R4755941
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	15-AUG-19	15-AUG-19	R4755941
Zinc (Zn)-Dissolved	0.0014		0.0010	mg/L	15-AUG-19	15-AUG-19	R4755941
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	15-AUG-19	15-AUG-19	R4755941
Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		21-AUG-19	R4762130
Ethylbenzene	<0.50		0.50	ug/L		21-AUG-19	R4762130
Toluene	<0.50		0.50	ug/L		21-AUG-19	R4762130
o-Xylene	<0.30		0.30	ug/L		21-AUG-19	R4762130
m+p-Xylenes	<0.40		0.40	ug/L		21-AUG-19	R4762130
Xylenes (Total)	<0.50		0.50	ug/L		21-AUG-19	
Surrogate: 4-Bromofluorobenzene	96.6		70-130	%		21-AUG-19	R4762130
Surrogate: 1,4-Difluorobenzene	97.2		70-130	%		21-AUG-19	R4762130
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		21-AUG-19	R4762130
F1-BTEX	<25		25	ug/L		21-AUG-19	
F2 (C10-C16)	<100		100	ug/L	15-AUG-19	16-AUG-19	R4757605
F3 (C16-C34)	<250		250	ug/L	15-AUG-19	16-AUG-19	R4757605
F4 (C34-C50)	<250		250	ug/L	15-AUG-19	16-AUG-19	R4757605
Total Hydrocarbons (C6-C50)	<370		370	ug/L		21-AUG-19	
Chrom. to baseline at nC50	YES				15-AUG-19	16-AUG-19	R4757605
Surrogate: 2-Bromobenzotrifluoride	83.4		60-140	%	15-AUG-19	16-AUG-19	R4757605
Surrogate: 3,4-Dichlorotoluene	90.6		60-140	%		21-AUG-19	R4762130
L2328976-2 MW2-18 Sampled By: ME on 14-AUG-19 @ 12:45 Matrix: WATER							
Physical Tests							
Colour, Apparent	90.4		2.0	CU		15-AUG-19	R4755496
Conductivity	671		3.0	umhos/cm		16-AUG-19	
Hardness (as CaCO3)	304		0.50	mg/L		15-AUG-19	
pH	7.90		0.10	pH units		16-AUG-19	R4757441
Total Dissolved Solids	464	DLDS	20	mg/L		18-AUG-19	_
Turbidity	244		0.10	NTU		15-AUG-19	
Anions and Nutrients			5.10				
Alkalinity, Total (as CaCO3)	236		10	mg/L		16-AUG-19	R4757441
Ammonia, Total (as N)	<0.010		0.010	mg/L		20-AUG-19	
Chloride (CI)	28.4		0.50	mg/L		15-AUG-19	
S Pefer to Peferanced Information for Qualifiers (if any) and				y, <del>-</del>		127.00 10	

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_2328976-2 MW2-18							
Sampled By: ME on 14-AUG-19 @ 12:45							
Matrix: WATER  Anions and Nutrients							
Fluoride (F)	0.070		0.000	a/I		15 ALIC 10	D 4757504
( )	0.073 10.0		0.020	mg/L			R4757531 R4757531
Nitrate (as N) Nitrite (as N)	0.013		0.020 0.010	mg/L mg/L		15-AUG-19 15-AUG-19	
Orthophosphate-Dissolved (as P)	<0.0030		0.010	mg/L		19-AUG-19	R47579036
Sulfate (SO4)	53.3		0.0030	mg/L		15-AUG-19	R4757531
Dissolved Metals	55.5		0.30	mg/L		13-406-19	K4737331
Dissolved Metals Filtration Location	FIELD					15-AUG-19	R4755149
Aluminum (AI)-Dissolved	0.0070		0.0050	mg/L	15-AUG-19		R4755941
Antimony (Sb)-Dissolved	0.00037		0.00010	mg/L	15-AUG-19		R4755941
Arsenic (As)-Dissolved	0.00017		0.00010	mg/L	15-AUG-19	15-AUG-19	
Barium (Ba)-Dissolved	0.144		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	R4755941
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	15-AUG-19	15-AUG-19	R4755941
Boron (B)-Dissolved	0.013		0.010	mg/L	15-AUG-19		R475594
Cadmium (Cd)-Dissolved	0.0000064		0.0000050	mg/L	15-AUG-19	15-AUG-19	R475594
Calcium (Ca)-Dissolved	83.6		0.050	mg/L	15-AUG-19	15-AUG-19	
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	15-AUG-19	15-AUG-19	R475594
Cobalt (Co)-Dissolved	0.00032		0.00010	mg/L	15-AUG-19	15-AUG-19	R475594
Copper (Cu)-Dissolved	0.00196		0.00020	mg/L	15-AUG-19	15-AUG-19	R475594
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	15-AUG-19	15-AUG-19	R475594
Lead (Pb)-Dissolved	0.000171		0.000050	mg/L	15-AUG-19	15-AUG-19	R475594
Magnesium (Mg)-Dissolved	23.1		0.0050	mg/L	15-AUG-19	15-AUG-19	
Manganese (Mn)-Dissolved	0.127		0.00050	mg/L	15-AUG-19	15-AUG-19	R475594
Molybdenum (Mo)-Dissolved	0.000507		0.000050	mg/L	15-AUG-19	15-AUG-19	R475594
Nickel (Ni)-Dissolved	0.00100		0.00050	mg/L	15-AUG-19	15-AUG-19	R475594
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	15-AUG-19	15-AUG-19	R475594
Potassium (K)-Dissolved	1.51		0.050	mg/L	15-AUG-19	15-AUG-19	R475594
Selenium (Se)-Dissolved	0.00452		0.000050	mg/L	15-AUG-19	15-AUG-19	R475594
Silicon (Si)-Dissolved	4.13		0.050	mg/L	15-AUG-19	15-AUG-19	R475594
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	15-AUG-19	15-AUG-19	R475594
Sodium (Na)-Dissolved	15.2		0.050	mg/L	15-AUG-19	15-AUG-19	R475594
Strontium (Sr)-Dissolved	0.304		0.0010	mg/L	15-AUG-19	15-AUG-19	R475594
Thallium (TI)-Dissolved	0.000019		0.000010	mg/L	15-AUG-19	15-AUG-19	R475594
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	R475594
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	15-AUG-19	15-AUG-19	R475594
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	15-AUG-19	15-AUG-19	R475594
Uranium (U)-Dissolved	0.000504		0.000010	mg/L	15-AUG-19	15-AUG-19	R475594
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	15-AUG-19	15-AUG-19	R475594
Zinc (Zn)-Dissolved	0.0482		0.0010	mg/L	15-AUG-19	15-AUG-19	R475594
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	15-AUG-19	15-AUG-19	R475594
Volatile Organic Compounds							

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2328976-2 MW2-18 Sampled By: ME on 14-AUG-19 @ 12:45 Matrix: WATER							
Matrix: WATER  Volatile Organic Compounds							
Benzene	<0.50		0.50	ug/L		21-AUG-19	P4762130
Ethylbenzene	<0.50		0.50	ug/L		21-AUG-19	
Toluene	<0.50		0.50	ug/L		21-AUG-19	
o-Xylene	<0.30		0.30	ug/L		21-AUG-19	
m+p-Xylenes	<0.40		0.40	ug/L		21-AUG-19	
Xylenes (Total)	<0.50		0.50	ug/L		21-AUG-19	114702100
Surrogate: 4-Bromofluorobenzene	96.2		70-130	%		21-AUG-19	R4762130
Surrogate: 1,4-Difluorobenzene	97.3		70-130	%		21-AUG-19	
Hydrocarbons	07.0		70 100	70		21710010	114702100
F1 (C6-C10)	<25		25	ug/L		21-AUG-19	R4762130
F1-BTEX	<25		25	ug/L		21-AUG-19	
F2 (C10-C16)	<100		100	ug/L	15-AUG-19	16-AUG-19	R4757605
F3 (C16-C34)	<250		250	ug/L	15-AUG-19	16-AUG-19	R4757605
F4 (C34-C50)	<250		250	ug/L	15-AUG-19	16-AUG-19	R4757605
Total Hydrocarbons (C6-C50)	<370		370	ug/L		21-AUG-19	
Chrom. to baseline at nC50	YES				15-AUG-19	16-AUG-19	R4757605
Surrogate: 2-Bromobenzotrifluoride	81.8		60-140	%	15-AUG-19	16-AUG-19	R4757605
Surrogate: 3,4-Dichlorotoluene	89.2		60-140	%		21-AUG-19	R4762130

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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**Reference Information** 

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)	
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Boron (B)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Potassium (K)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2328976-1, -2	
Matrix Spike	Nitrate (as N)	MS-B	L2328976-1, -2	

#### **Qualifiers for Sample Submission Listed:**

Qualifier	Description
CINT	Cooling initiated. Samples were received packed with ice or ice packs and were sampled the same day as received.

#### Sample Parameter Qualifier key listed:

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

#### **Test Method References:**

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-WT This analysis is carried of colourimetric method.	Water out using prod	Alkalinity, Total (as CaCO3) cedures adapted from EPA Method 310.	EPA 310.2 2 "Alkalinity". Total Alkalinity is determined using the methyl orange
BTX-511-HS-WT BTX is determined by an	Water nalyzing by he	BTEX by Headspace eadspace-GC/MS.	SW846 8260 (511)

CL-IC-N-WT Water Chloride by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

COLOUR-APPARENT-WT Water Colour APHA 2120

Apparent Colour is measured spectrophotometrically by comparison to platinum-cobalt standards using the single wavelength method after sample decanting. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment. Concurrent measurement of sample pH is recommended.

EC-SCREEN-WT Water Conductivity Screen (Internal Use APHA 2510 Only)

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

EC-WT Water Conductivity APHA 2510 B Water samples can be measured directly by immersing the conductivity cell into the sample.

F-IC-N-WT Water Fluoride in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

F1-F4-511-CALC-WT Water F1-F4 Hydrocarbon Calculated CCME CWS-PHC, Pub #1310, Dec 2001-L

Parameters

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:

- 1. All extraction and analysis holding times were met.
- 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.

#### Reference Information

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3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:

1. All extraction and analysis holding times were met.

2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.

- 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
- 4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT Water F1-O.Reg 153/04 (July 2011) E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT F2-F4-O.Reg 153/04 (July 2011) EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HARDNESS-CALC-WT Water Hardness APHA 2340 B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

MET-D-CCMS-WT Dissolved Metals in Water by CRC APHA 3030B/6020A (mod) Water

**ICPMS** 

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

NH3-F-WT Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC Water

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et

NO2-IC-WT Water Nitrite in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-WT Water Nitrate in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-WT pН APHA 4500 H-Electrode Water

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental

Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

PO4-DO-COL-WT Water Diss. Orthophosphate in Water by APHA 4500-P PHOSPHORUS

Colour

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Dissolved Orthophosphate is determined

colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter.

SO4-IC-N-WT Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

SOLIDS-TDS-WT **Total Dissolved Solids APHA 2540C** 

This analysis is carried out using procedures adapted from APHA Method 2540 "Solids". Solids are determined gravimetrically. Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, TDS is determined by evaporating the filtrate to dryness at 180 degrees celsius.

**TURBIDITY-WT** 

Sample result is based on a comparison of the intensity of the light scattered by the sample under defined conditions with the intensity of light scattered

CALCULATION

by a standard reference suspension under the same conditions. Sample readings are obtained from a Nephelometer.

Concentrations

Water

XYLENES-SUM-CALC-

Total xylenes represents the sum of o-xylene and m&p-xylene.

Sum of Xylene Isomer

<sup>\*\*</sup> ALS test methods may incorporate modifications from specified reference methods to improve performance.

L2328976 CONTD....
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Version: FINAL

### **Reference Information**

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

<b>Laboratory Definition Code</b>	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

#### **Chain of Custody Numbers:**

17-826226

#### **GLOSSARY OF REPORT TERMS**

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample mg/kg wwt - milligrams per kilogram based on wet weight of sample mg/kg lwt - milligrams per kilogram based on lipid weight of sample mg/L - unit of concentration based on volume, parts per million. < - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Workorder: L2328976 Report Date: 21-AUG-19 Page 1 of 8

Client: MTE CONSULTANTS INC. (Kitchener)

520 BINGEMANS CENTRE DRIVE

KITCHENER ON N2B 3X9

Contact: JAY FLANAGAN

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-WT	Water							
Batch R475744	1							
WG3134256-2 LCS Alkalinity, Total (as Ca	CO3)		101.6		%		85-115	16-AUG-19
WG3134256-1 MB	000)		101.0		70		03-113	10-400-19
Alkalinity, Total (as Ca	CO3)		<10		mg/L		10	16-AUG-19
BTX-511-HS-WT	Water							
Batch R4762130	)							
WG3137605-4 DUP Benzene		<b>L2328976-1</b> <0.50	<0.50	RPD-NA	ug/L	N/A	30	24 ALIC 40
Ethylbenzene		<0.50	<0.50		ug/L ug/L			21-AUG-19
m+p-Xylenes		<0.40	<0.30	RPD-NA	ug/L ug/L	N/A	30	21-AUG-19
o-Xylene		<0.40	<0.40	RPD-NA	ug/L ug/L	N/A	30	21-AUG-19
Toluene		<0.50	<0.50	RPD-NA RPD-NA	ug/L ug/L	N/A N/A	30 30	21-AUG-19
		<0.50	<0.50	RPD-NA	ug/L	IN/A	30	21-AUG-19
WG3137605-1 LCS Benzene			93.9		%		70-130	20-AUG-19
Ethylbenzene			95.1		%		70-130	20-AUG-19
m+p-Xylenes			94.2		%		70-130	20-AUG-19
o-Xylene			94.5		%		70-130	20-AUG-19
Toluene			91.6		%		70-130	20-AUG-19
WG3137605-2 MB								
Benzene			<0.50		ug/L		0.5	21-AUG-19
Ethylbenzene			< 0.50		ug/L		0.5	21-AUG-19
m+p-Xylenes			< 0.40		ug/L		0.4	21-AUG-19
o-Xylene			< 0.30		ug/L		0.3	21-AUG-19
Toluene			<0.50		ug/L		0.5	21-AUG-19
Surrogate: 1,4-Difluoro	benzene		96.6		%		70-130	21-AUG-19
Surrogate: 4-Bromoflu	orobenzene		94.1		%		70-130	21-AUG-19
WG3137605-5 MS		L2328976-1	01.0		0/		50.446	04 4110 15
Benzene			91.8		%		50-140	21-AUG-19
Ethylbenzene			100.7		%		50-140	21-AUG-19
m+p-Xylenes			96.6		%		50-140	21-AUG-19
o-Xylene			99.6		%		50-140	21-AUG-19
Toluene			94.5		%		50-140	21-AUG-19



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Workorder: L2328976 Report Date: 21-AUG-19

Test Matrix Reference Result Qualifier Units **RPD** Limit Analyzed **CL-IC-N-WT** Water **Batch** R4757531 WG3133461-25 DUP L2328976-2 Chloride (CI) 28.4 28.5 mg/L 0.2 20 15-AUG-19 WG3133461-22 LCS 101.0 Chloride (CI) % 90-110 15-AUG-19 WG3133461-21 MB Chloride (CI) < 0.50 mg/L 0.5 15-AUG-19 WG3133461-24 MS L2328976-2 Chloride (CI) 102.1 % 75-125 15-AUG-19 **COLOUR-APPARENT-WT** Batch R4755496 WG3133670-2 LCS Colour, Apparent 104.0 % 15-AUG-19 85-115 WG3133670-1 MB Colour, Apparent <2.0 CU 2 15-AUG-19 **EC-WT** Water **Batch** R4757441 WG3134256-2 LCS 99.1 Conductivity % 90-110 16-AUG-19 WG3134256-1 MB Conductivity <3.0 umhos/cm 3 16-AUG-19 F-IC-N-WT Water Batch R4757531 WG3133461-25 DUP L2328976-2 Fluoride (F) 0.073 0.072 mg/L 1.7 20 15-AUG-19 WG3133461-22 LCS % Fluoride (F) 103.5 90-110 15-AUG-19 WG3133461-21 MB Fluoride (F) < 0.020 mg/L 0.02 15-AUG-19 WG3133461-24 MS L2328976-2 Fluoride (F) 100.2 % 75-125 15-AUG-19 F1-HS-511-WT Water **Batch** R4762130 WG3137605-4 DUP L2328976-1 F1 (C6-C10) <25 <25 RPD-NA ug/L N/A 30 21-AUG-19 WG3137605-1 LCS F1 (C6-C10) 98.0 % 80-120 20-AUG-19 WG3137605-2 MB



Workorder: L2328976

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F1-HS-511-WT       Water         Batch R4762130         WG3137605-2 MB       F1 (C6-C10)       <25	25 60-140 60-140	21-AUG-19 21-AUG-19 21-AUG-19
WG3137605-2       MB         F1 (C6-C10)       <25	60-140	21-AUG-19
F1 (C6-C10)	60-140	21-AUG-19
WG3137605-5       MS       L2328976-1         F1 (C6-C10)       92.0       %         F2-F4-511-WT       Water         Batch       R4757605         WG3133338-2       LCS         F2 (C10-C16)       91.0       %         F3 (C16-C34)       92.6       %         WG3133338-1       MB         F2 (C10-C16)       MB         F2 (C10-C16)		
F1 (C6-C10)       92.0       %         F2-F4-511-WT       Water         Batch R4757605         WG3133338-2 LCS         F2 (C10-C16)       91.0       %         F3 (C16-C34)       92.6       %         F4 (C34-C50)       90.3       %         WG3133338-1 MB         F2 (C10-C16)       NB          F2 (C10-C16)       Value	60-140	21-AUG-19
Batch R4757605         WG3133338-2 LCS         F2 (C10-C16)       91.0       %         F3 (C16-C34)       92.6       %         F4 (C34-C50)       90.3       %         WG3133338-1 F2 (C10-C16)       MB          T2 (C10-C16)       <100		
WG3133338-2       LCS         F2 (C10-C16)       91.0       %         F3 (C16-C34)       92.6       %         F4 (C34-C50)       90.3       %         WG3133338-1       MB          F2 (C10-C16)       <100		
F2 (C10-C16)       91.0       %         F3 (C16-C34)       92.6       %         F4 (C34-C50)       90.3       %         WG3133338-1       MB          F2 (C10-C16)       <100		
F4 (C34-C50) 90.3 %  WG3133338-1 MB  F2 (C10-C16) <100 ug/L	70-130	16-AUG-19
<b>WG3133338-1 MB</b> F2 (C10-C16)	70-130	16-AUG-19
F2 (C10-C16)	70-130	16-AUG-19
,		
E2 (C46 C24)	100	16-AUG-19
F3 (C16-C34) <250 ug/L	250	16-AUG-19
F4 (C34-C50)	250	16-AUG-19
Surrogate: 2-Bromobenzotrifluoride 84.7 %	60-140	16-AUG-19
MET-D-CCMS-WT Water		
Batch R4755941		
WG3133551-2 LCS Aluminum (Al)-Dissolved 100.2 %	00.400	45 410 40
	80-120	15-AUG-19
	80-120	15-AUG-19
Arsenic (As)-Dissolved 99.0 %	80-120	15-AUG-19
Barium (Ba)-Dissolved 99.2 %	80-120	15-AUG-19
Beryllium (Be)-Dissolved 95.0 %	80-120	15-AUG-19
Bismuth (Bi)-Dissolved 100.5 %	80-120	15-AUG-19
Boron (B)-Dissolved 91.5 %	80-120	15-AUG-19
Cadmium (Cd)-Dissolved 99.7 %	80-120	15-AUG-19
Calcium (Ca)-Dissolved 95.8 %	80-120	15-AUG-19
Chromium (Cr)-Dissolved 100.8 %	80-120	15-AUG-19
Cobalt (Co)-Dissolved 101.1 %	80-120	15-AUG-19
Copper (Cu)-Dissolved 99.6 %	80-120	15-AUG-19
Iron (Fe)-Dissolved 101.8 %	80-120	15-AUG-19
Lead (Pb)-Dissolved 102.1 %	80-120	15-AUG-19
Magnesium (Mg)-Dissolved 100.7 %	00.400	
Manganese (Mn)-Dissolved 101.4 %	80-120	15-AUG-19
Molybdenum (Mo)-Dissolved 101.1 %	80-120 80-120	15-AUG-19 15-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water							
Batch R4755941								
WG3133551-2 LCS			400.4		0.4			
Nickel (Ni)-Dissolved			100.1		%		80-120	15-AUG-19
Phosphorus (P)-Dissolv			104.3		%		80-120	15-AUG-19
Potassium (K)-Dissolve			99.7		%		80-120	15-AUG-19
Selenium (Se)-Dissolve	ed		98.0		%		80-120	15-AUG-19
Silicon (Si)-Dissolved			103.9		%		60-140	15-AUG-19
Silver (Ag)-Dissolved			100.5		%		80-120	15-AUG-19
Sodium (Na)-Dissolved			102.6		%		80-120	15-AUG-19
Strontium (Sr)-Dissolve	d		100.4		%		80-120	15-AUG-19
Thallium (TI)-Dissolved			100.2		%		80-120	15-AUG-19
Tin (Sn)-Dissolved			100.5		%		80-120	15-AUG-19
Titanium (Ti)-Dissolved			97.8		%		80-120	15-AUG-19
Tungsten (W)-Dissolve	d		101.6		%		80-120	15-AUG-19
Uranium (U)-Dissolved			102.6		%		80-120	15-AUG-19
Vanadium (V)-Dissolve	d		101.7		%		80-120	15-AUG-19
Zinc (Zn)-Dissolved			99.9		%		80-120	15-AUG-19
Zirconium (Zr)-Dissolve	ed		97.4		%		80-120	15-AUG-19
WG3133551-1 MB								
Aluminum (Al)-Dissolve	ed		<0.0050		mg/L		0.005	15-AUG-19
Antimony (Sb)-Dissolve	ed		<0.00010		mg/L		0.0001	15-AUG-19
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	15-AUG-19
Barium (Ba)-Dissolved			<0.00010		mg/L		0.0001	15-AUG-19
Beryllium (Be)-Dissolve	d		<0.00010		mg/L		0.0001	15-AUG-19
Bismuth (Bi)-Dissolved			<0.000050	)	mg/L		0.00005	15-AUG-19
Boron (B)-Dissolved			<0.010		mg/L		0.01	15-AUG-19
Cadmium (Cd)-Dissolve	ed		<0.000005	5C	mg/L		0.000005	15-AUG-19
Calcium (Ca)-Dissolved	d		< 0.050		mg/L		0.05	15-AUG-19
Chromium (Cr)-Dissolve	ed		<0.00050		mg/L		0.0005	15-AUG-19
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	15-AUG-19
Copper (Cu)-Dissolved			<0.00020		mg/L		0.0002	15-AUG-19
Iron (Fe)-Dissolved			<0.010		mg/L		0.01	15-AUG-19
Lead (Pb)-Dissolved			<0.000050	)	mg/L		0.00005	15-AUG-19
Magnesium (Mg)-Disso	lved		<0.0050		mg/L		0.005	15-AUG-19
Manganese (Mn)-Disso	lved		<0.00050		mg/L		0.0005	15-AUG-19
Molybdenum (Mo)-Diss	olved		<0.000050	)	mg/L		0.00005	15-AUG-19



Workorder: L2328976

Report Date: 21-AUG-19

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Test	Matrix	Reference	Result Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WT	Water						
Batch R4755941							
WG3133551-1 MB							
Nickel (Ni)-Dissolved			<0.00050	mg/L		0.0005	15-AUG-19
Phosphorus (P)-Dissolv			<0.050	mg/L		0.05	15-AUG-19
Potassium (K)-Dissolve			<0.050	mg/L		0.05	15-AUG-19
Selenium (Se)-Dissolve	d		<0.000050	mg/L		0.00005	15-AUG-19
Silicon (Si)-Dissolved			<0.050	mg/L		0.05	15-AUG-19
Silver (Ag)-Dissolved			<0.000050	mg/L		0.00005	15-AUG-19
Sodium (Na)-Dissolved			<0.050	mg/L		0.05	15-AUG-19
Strontium (Sr)-Dissolve	d		<0.0010	mg/L		0.001	15-AUG-19
Thallium (TI)-Dissolved			<0.000010	mg/L		0.00001	15-AUG-19
Tin (Sn)-Dissolved			<0.00010	mg/L		0.0001	15-AUG-19
Titanium (Ti)-Dissolved			<0.00030	mg/L		0.0003	15-AUG-19
Tungsten (W)-Dissolved	t		<0.00010	mg/L		0.0001	15-AUG-19
Uranium (U)-Dissolved			<0.000010	mg/L		0.00001	15-AUG-19
Vanadium (V)-Dissolved	d		<0.00050	mg/L		0.0005	15-AUG-19
Zinc (Zn)-Dissolved			<0.0010	mg/L		0.001	15-AUG-19
Zirconium (Zr)-Dissolve	d		<0.00020	mg/L		0.0002	15-AUG-19
NH3-F-WT	Water						
Batch R4761973							
WG3138000-2 LCS Ammonia, Total (as N)			92.8	%		85-115	20-AUG-19
WG3138000-1 MB							
Ammonia, Total (as N)			<0.010	mg/L		0.01	20-AUG-19
NO2-IC-WT	Water						
Batch R4757531							
WG3133461-25 DUP Nitrite (as N)		<b>L2328976-2</b> 0.013	0.014	mg/L	1.3	20	15-AUG-19
WG3133461-22 LCS Nitrite (as N)			102.2	%		90-110	15-AUG-19
<b>WG3133461-21 MB</b> Nitrite (as N)			<0.010	mg/L		0.01	15-AUG-19
WG3133461-24 MS Nitrite (as N)		L2328976-2	103.2	%		75-125	15-AUG-19
NO3-IC-WT	Water						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-WT	Water							
Batch R475753	31							
WG3133461-25 DUF Nitrate (as N)	•	<b>L2328976-2</b> 10.0	10.0		mg/L	0.2	20	15-AUG-19
WG3133461-22 LCS Nitrate (as N)	<b>3</b>		100.4		%		90-110	15-AUG-19
<b>WG3133461-21 MB</b> Nitrate (as N)			<0.020		mg/L		0.02	15-AUG-19
<b>WG3133461-24 MS</b> Nitrate (as N)		L2328976-2	N/A	MS-B	%		-	15-AUG-19
PH-WT	Water							
Batch R475744	11							
<b>WG3134256-2 LCS</b> pH	3		7.00		pH units		6.9-7.1	16-AUG-19
PO4-DO-COL-WT	Water							
Batch R475903	36							
WG3136409-2 LCS Orthophosphate-Diss			112.9		%		80-120	19-AUG-19
WG3136409-1 MB Orthophosphate-Diss	olved (as P)		<0.0030		mg/L		0.003	19-AUG-19
SO4-IC-N-WT	Water							
Batch R475753	31							
<b>WG3133461-25 DUF</b> Sulfate (SO4)	•	<b>L2328976-2</b> 53.3	53.4		mg/L	0.2	20	15-AUG-19
<b>WG3133461-22 LCS</b> Sulfate (SO4)	3		101.4		%		90-110	15-AUG-19
<b>WG3133461-21 MB</b> Sulfate (SO4)			<0.30		mg/L		0.3	15-AUG-19
<b>WG3133461-24 MS</b> Sulfate (SO4)		L2328976-2	99.3		%		75-125	15-AUG-19
SOLIDS-TDS-WT	Water							
Batch R475906								
WG3136244-2 LCS Total Dissolved Solid	}		104.2		%		85-115	18-AUG-19
WG3136244-1 MB Total Dissolved Solid	S		<10		mg/L		10	18-AUG-19
TURBIDITY-WT	Water							



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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TURBIDITY-WT		Water							
Batch R4 WG3132291-3 Turbidity	1754889 DUP		<b>L2328976-2</b> 244	243		NTU	0.4	15	15-AUG-19
<b>WG3132291-2</b> Turbidity	LCS			103.5		%		85-115	15-AUG-19
<b>WG3132291-1</b> Turbidity	MB			<0.10		NTU		0.1	15-AUG-19

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#### Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard

#### **Sample Parameter Qualifier Definitions:**

LCSD Laboratory Control Sample Duplicate

Qualifier	Description
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

#### **Hold Time Exceedances:**

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

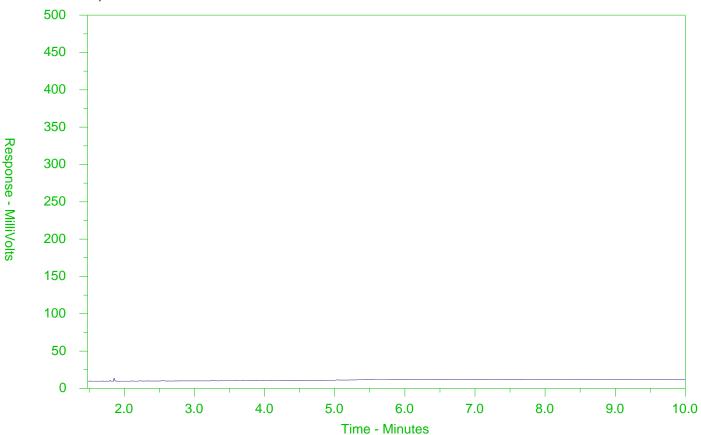
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

#### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2328976-1 Client Sample ID: MW1-18



<b>←</b> -F2-	→←	_F3 <b>→</b> F4-	<b>→</b>			
nC10	nC16	nC34	nC50			
174°C	287°C	481°C	575°C			
346°F	549°F	898°F	1067°F			
Gasolin	ie →	<b>←</b> Mo	tor Oils/Lube Oils/Grease	-		
•	← Diesel/Jet Fuels →					

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

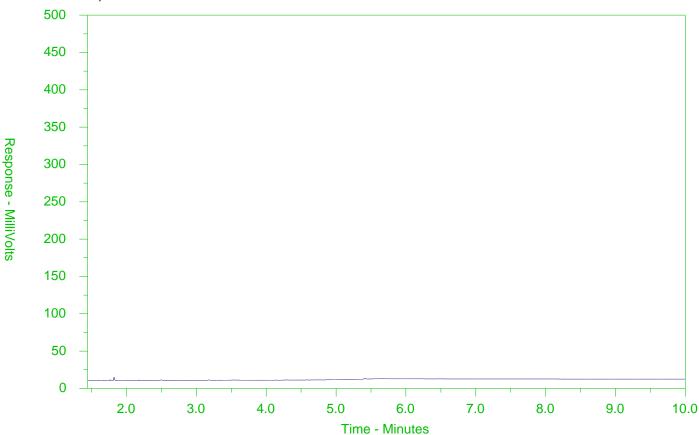
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

#### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2328976-2 Client Sample ID: MW2-18



<b>←</b> -F2-	→←	_F3 <b>→</b> F4-	<b>→</b>			
nC10	nC16	nC34	nC50			
174°C	287°C	481°C	575°C			
346°F	549°F	898°F	1067°F			
Gasolin	ie →	<b>←</b> Mo	tor Oils/Lube Oils/Grease	-		
•	← Diesel/Jet Fuels →					

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at <a href="https://www.alsglobal.com">www.alsglobal.com</a>.



#### Chain of Custody (COC) / Analytical Request Form

L2328976-COFC

COC Number: 17 - 826226

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# **Appendix E**

# **Water Budget**



#### **E.1** Introduction

This Technical Appendix (Appendix E) forms part of the Level 1 and Level 2 Hydrogeological Investigation Report (Level 1 and 2 Report) used to support the below-water-table application for the Site and presents details on the development and results of the water balance model used. This Technical Appendix relies on information presented in and should be read in conjunction with the Level 1 and 2 Report.

## **E.2 Water Balance Conceptual Model**

The natural cyclic process by which water moves from the atmosphere, on to and through the ground into streams/rivers before reaching the oceans and returning to the atmosphere is called the hydrologic or water cycle. The water cycle has no beginning or end and the amount of water moving through the water cycle is in constant change.

The water cycle may be assessed through an analysis of the water budget that attempts to balance water inputs with water outputs. Water budget components are affected by a number of features including:

- Physiography;
- Topography;
- Geology;
- Groundwater;
- Surface Water;
- Evaporation; and
- Precipitation.

Water interacting and/or moving through each of these features determines water balance changes.

A water balance calculation is the numerical approximation of water circulating through the water cycle. The water budget balances water inputs (precipitation, surface water flow, and groundwater movement) and water outputs (evaporation and transpiration [collectively evapotranspiration], surface water flow, and groundwater movement).

The water budget equation is valid for any land use, subwatershed, or watershed and can be expanded into:

$$P + R_{IN} + G_{IN}$$
 =  $ET + R_{OUT} + G_{OUT} + I$ 

Where:

P = Precipitation

R<sub>IN</sub> = Runoff in (Surface Water)

 $G_{IN}$  = Groundwater In

R<sub>OUT</sub> = Runoff Out (Surface Water)

ET = Evapotranspiration G<sub>OUT</sub> = Groundwater Out

I = Infiltration

#### **E.2.1 Pre Extraction (Existing) Conditions**

Water cycle component values for evapotranspiration, surface run-off and infiltration were derived from physical attributes such as land use, soil type, and topography. Soil type was determined from Quaternary geology maps (Level 1 and 2 Report - Figure 5a) and on-Site drilling. Topography was determined from Ontario Base Map contours. Land use was determined through a combination of using existing land cover mapping (MNRF, 2014) and imagery interpretation. Based on the above, six pre-extractrion land cover classes were identified (Figure E1):

- Agricultural (~18.8 ha);
- Forest (~0.4 ha)
- Urban Lawn (~0.5 ha)
- Roof Top (~0.06 ha)
- Open Water (~0.05 ha); and
- Gravel Drive (~ 0.04 ha).

The water balance example in Table 3.1 of the MOE *Stormwater Management Planning and Design Manual* (SMPDM) (March 2003) provided the basis for water cycle component values used. The table was revised with factors and rates specific to latitude ~43°N.

Average annual precipitation values were obtained from the 1981-2010 Climate Normals for the MECP Brantford weather station. The average annual precipitation at this station totals 867.3 mm/year.

The mean evaporative rate from open water bodies (lakes/ponds) in the Study Area is 800 mm/year (MNR, 1984). MNR derived mean evaporative losses from lakes (excluding the Great Lakes) are from isolines printed in the Hydrologic Atlas of Canada. The following excerpt from the page 23 of the MNR publication details how mean lake evaporation was determined:

The isolines of mean annual lake evaporation were developed using pan evaporations data, as well as evaporation calculated from climatological data including air temperature, wind velocity, relative humidity, and the amount of possible bright sunshine.

A water balance analysis indicating how precipitation (P) is distributed into evapotranspiration/evaporation (ET), surface runoff (R), and infiltration (I) within each land cover class was completed for pre-extraction (existing) conditions in order to establish current annual runoff and infiltration rates (mm/yr) (Table E1).

Under pre-extraction conditions, the following assumptions have been made:

 All roof top water will be directed to vegetated areas (Urban Lawns) were it will be subject to ET, runoff, or infiltration.

The pre-extraction water balance calculations estimate the following for the Site (all land cover classes):

Area (ha)	Evapotranspiration (m³/year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)
19.9	105,709	13,613	53,357	172,679

#### **E.2.2 Post Extraction Conditions**

Post-extraction land cover changes will result in a re-distribution of the various component of the water cycle. Under the post-extraction scenario and proposed draft Site Plans (MHBC, 2018), two land cover classes are anticipated **(Figure E2)**:

- Open Water (pit pond) ~16.2 ha; and
- Pasture/Shrubs (setbacks etc.) ~3.7 ha

Under post-extraction conditions, the following assumptions have been made:

- Agricultural land not extracted will be returned to pasture/shrub land; and
- Post-extraction there is no runoff from the extracted area (pit pond).

The post-extraction water balance calculations estimate the following for the Site (all land cover types):

Area (ha)	Evapotranspiration (m³/year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)
19.9	149,467	1,846	21,366	172,679

The water balance calculations indicate that following extraction ET is estimated to increase by 43,759 m³/year (~44% increase). Both runoff and infiltration are estimated to decrease by 11,767 m³/year (~86% decrease) and 31,992 m³/year (~60% decrease), respectively. The increase in ET and decreases in runoff and infiltration are directly related to the construction of the pit pond.

MDE: apm



#### **Hydrologic Cycle Component Values**

Land-use (Slope)/Soil Type	Hydrologic Components (mm/year)					
Land-use (Slope)/Son Type	Evapotranspiration	Runoff	Infiltration	Precipitation		
Deciduous Treed (Hilly)/Find Sand (Type A)	551	95	222			
Agriculture (Flat)/Fine Sand (Type A)	529	68	270			
Community/Infrastructure (Flat)/Fine Sand(Type A)	519	87	261	867		
Urban Lawn(Flat)/Fine Sand (A)	519	87	261	007		
Pasture/Shrubs(Flat)/Fine Sand (A)	536	50	282			
Open Water	800	0	67			

#### **Pre-extraction (Existing) Conditions**

	1044 Colbourne Street West - Brantford Pit Extension							
Land Use / Soil Type	Area (ha)	Evapotranspirtaion (m³/Year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)			
Deciduous Treed (Hilly)/Fine Sandy Loam (Type B)	0.4	2,203	380	887	3,469			
Agriculture (Flat)/Fine Sand (Type A)	18.8	99,538	12,703	50,812	163,052			
Community/Infrastructure (Flat)/Fine Sand(Type A)	0.05	260	43	130	434			
Rural Lawn(Flat)/Fine Sand (A)	0.5	2,597	435	1,305	4,337			
Impervious (Roof)	0.06	312	52	157	520			
Open Water	0.1	800	0	67	867			
Total	19.9	105,709	13,613	53,357	172,679			

#### **Post-extraction Conditions**

	1044	1044 Colbourne Street West - Brantford Pit Extension						
Land Use / Soil Type	Area (ha)	Evapotranspirtaion (m³/Year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)			
Deciduous Treed (Hilly)/Fine Sandy Loam (Type B)	0.0	0	0	0	0			
Agriculture (Flat)/Fine Sand (Type A)	0.0	0	0	0	0			
Community/Infrastructure (Flat)/Fine Sand(Type A)	0.0	0	0	0	0			
Rural Lawn(Flat)/Fine Sand (A)	0.0	0	0	0	0			
Impervious (Roof)	0.00	0	0	0	0			
Open Water	16.2	129,600	0	10,903	140,503			
Pasture/Shrubs(Flat)/Fine Sand (A)	3.7	19,867	1,846	10,463	32,177			
Total	19.9	149,467	1,846	21,366	172,679			
Net Difference	-	43,759	-11,767	-31,992	-			
% Difference	-	41.40%	-86.44%	-59.96%	-			

## **Assumptions:**

Agricultural/Community/Forest/Urban Lawn will be converted to Pasture/Shrub or Open Water post extraction

There is no runoff from Open Water in post-extraction conditions

Pre-extraction, all roof top water from the farmhouse and affilated barns will be directed to vegetated areas (Urban Lawns) were it will be subject to ET, runoff, or infiltraton.



#### Hydrologic Cycle Component Values

Land-use (Slope)/Soil Type	Hyd	Hydrologic Components (mm/year)					
Land-use (Slope)/Son Type	Evapotranspiration	Runoff	Infiltration	Precipitation			
Deciduous Treed (Hilly)/Find Sand (Type A)	551	95	222				
Agriculture (Flat)/Fine Sand (Type A)	529	68	270				
Community/Infrastructure (Flat)/Fine Sand(Type A)	519	87	261	867			
Urban Lawn(Flat)/Fine Sand (A)	519	87	261	007			
Pasture/Shrubs(Flat)/Fine Sand (A)	536	50	282				
Open Water	800	0	67				

#### **Pre-extraction (Existing) Conditions**

	1044 Colbourne Street West - Brantford Pit Extension							
Land Use / Soil Type		Evapotranspirtaion (m³/Year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)			
Deciduous Treed (Hilly)/Fine Sandy Loam (Type B)	0.4	2,203	380	887	3,469			
Agriculture (Flat)/Fine Sand (Type A)	18.8	99,538	12,703	50,812	163,052			
Community/Infrastructure (Flat)/Fine Sand(Type A)	0.05	260	43	130	434			
Rural Lawn(Flat)/Fine Sand (A)	0.5	2,597	435	1,305	4,337			
Impervious (Roof)	0.06	312	52	157	520			
Open Water	0.1	800	0	67	867			
Total	19.9	105,709	13,613	53,357	172,679			

#### **Post-extraction Conditions**

	1044	1044 Colbourne Street West - Brantford Pit Extension						
Land Use / Soil Type	Area (ha)	Evapotranspirtaion (m³/Year)	Runoff (m³/year)	Infiltration (m³/year)	Total (m³/year)			
Deciduous Treed (Hilly)/Fine Sandy Loam (Type B)	0.0	0	0	0	0			
Agriculture (Flat)/Fine Sand (Type A)	0.0	0	0	0	0			
Community/Infrastructure (Flat)/Fine Sand(Type A)	0.0	0	0	0	0			
Rural Lawn(Flat)/Fine Sand (A)	0.0	0	0	0	0			
Impervious (Roof)	0.00	0	0	0	0			
Open Water	16.2	129,600	0	10,903	140,503			
Pasture/Shrubs(Flat)/Fine Sand (A)	3.7	19,867	1,846	10,463	32,177			
Total	19.9	149,467	1,846	21,366	172,679			
Net Difference	-	43,759	-11,767	-31,992	_			
% Difference	-	41.40%	-86.44%	-59.96%	-			

### **Assumptions:**

Agricultural/Community/Forest/Urban Lawn will be converted to Pasture/Shrub or Open Water post extraction

There is no runoff from Open Water in post-extraction conditions

Pre-extraction, all roof top water from the farmhouse and affilated barns will be directed to vegetated areas (Urban Lawns) were it will be subject to ET, runoff, or infiltraton.

# **Appendix F**

# **Zone of Influence**



#### F.1 Introduction

This Technical Appendix (Appendix F) forms part of the Level 1 and Level 2 Hydrogeological Investigation Report (Level 1 and 2 Report) used to support the below-water-table application for the Site and presents details on the development and results of the dewatering model used. This Technical Appendix relies on information presented in and should be read in conjunction with the Level 1 and 2 Report.

#### F.2 Groundwater Drawdown and Zone of Influence

The excavation of a pit pond at the Site has the potential to affect water levels in municipal and private water supply wells. As the excavation at the Site proceeds, the size and volume of stored water will increase. With each scoop of aggregate removed from the pond, the sequence of response in the pond is as follows:

- 1) A given volume of aquifer material (aquifer solids + pore water) is removed;
- 2) Most of the water in the scoop drains back into the pond as the scoop is removed (the bucket is leaky and does not hold water);
- A volume of water equal to the volume of the aquifer solids flows from the existing pond into the void created by the scoop;
- 4) The overall water level of the pond drops slightly as the void space is partly refilled and the effects of this marginal drawdown can be observed at the pond edges;
- 5) The small loss in hydraulic head exerts a force on the aquifer at the pond edge;
- 6) The gradients across the pond edge increases in proportion to the drawdown and flow into the pond increases; and
- 7) A cone of influence is induced in the unconfined aquifer around the pond.

The aquifer material captured in each scoop consists of saturated sand and gravel. Assuming a porosity of 0.35, the volume of aquifer solids in a 1m³ scoop is 0.65m³. When the pond excavation is small, the change in volume caused by the removal of material has the greatest effect on the water level in the pond. As pond sizes increase and volume of water stored is greater, the effects of extraction become increasingly subdued. The effects of increase drawdown in smaller ponds are off-set by the limited area of smaller ponds.

The following calculations show the maximum possible drawdown created around the pond at its smallest and largest extents under conservative (i.e. most adverse) conditions. These conservative conditions are based in assumptions which overestimate factors which could cause drawdown in the ponds.

A pumping rate (Qe) equivalent to extraction was calculated from the maximum annual tonnage (1,000,000 tonnes). Based on this annual tonnage and 236 operating days, a daily tonnage was calculated to be 4,237 tonnes. This daily tonnage will be extracted over a 12-hour work day.

Maximum Daily Tonnage = 4,237 tonnes per day

Hours of Operation = 12 Hours/day

Density of Aggregate = 1,770 kg.m<sup>3</sup> (Rowell, 2014)

Porosity = 0.35 Solids Ratio = 0.65 Qe =  $(4,237,000 \text{ kg/day} / 1,770 \text{ kg/m}^3) \times 0.65$ 

=  $1,556 \text{ m}^3/\text{day}$ =  $130 \text{ m}^3/\text{hour}$ 

Residual moisture is assumed to have a negligible effect on the calculation. Residual moisture (water retained by aggregate, after draining) is observed to be between 3-5% by weight of the aggregate.

#### Scenario 1 – On-Site Extraction Begins (Pond Area = 17.4 ha)

As the proposed pit at the Site will be an extension of the existing Lafarge pit to the east, the on-Site pond, when created, will be connected to the existing pond. MTE estimates the size of final pit pond at the existing Lafarge pit to be ~17.4 ha. When below-water-table extraction commences, extraction is assumed to extend no deeper than 223 metres above mean sea level (mAMSL) as per the Site Plans. The elevation of the water table on-Site is ~ 238 mAMSL. Based on this information the maximum depth of the pond is estimated to be 15 m. At this stage, the maximum volume of the pond is given by:

 $V_0$ . = A x b = 174,000 m<sup>2</sup> x 15 m = 3,132,000 m<sup>3</sup>

The maximum possible drawdown caused by the removal of aggregate was calculated as follows

 $\Delta h = h_0-[P+V_0-V_{evap}-(Q_et)/A]$ 

Where:

 $\Delta h$  = change in hydraulic head of the pond  $h_0$  = initial hydraulic head of the pond

P = the volume of recharge to the pond contributed by precipitation

 $V_0$  = initial volume of the pond

 $V_{evap}$  = evaporation volume from the pond

Q<sub>e</sub> = effective pumping rate

t = operating hours A = area of the pond

The main assumptions in this scenario are:

- The pond is recharged by precipitation only. The volume of recharge (P) has been determined using the average daily precipitation rate over the operating season (3.7x10<sup>-3</sup> m/day).
  - The annual precipitation rate was obtained from the MECP Brantford weather station and is 867.3 mm/year (Technical Appendix E);
  - All precipitation was assumed to occur during active operations (i.e. year equals 236 days); and
  - The volume of precipitation that recharges the initial pond at the end of one operating day is 640 m<sup>3</sup>.

- The volume of evaporation (V evap) has been determined using an average daily evaporation rate over the operating season (3.4x10<sup>-3</sup> m/day).
  - The mean evaporative rate from open water bodies (lakes/ponds) in the Study Area is 800 mm/year (MNR, 1984) (Technical Appendix E);
  - All evaporation was assumed to occur during active operations (i.e. year equals 236 days); and
  - The volume of water that evaporates from the initial pond at the end of one operating day is 590 m<sup>3</sup>.

Under these assumptions, the drawdown in the initial pond at the end of one operating day is calculated to be 0.01 m. The estimated drawdown will be indistinguishable from background climatic fluctuations in the water-table.

#### Scenario 2 Extraction Ends (Pond Size = 33.6 ha)

The final area of the below-water-table pond will be approximately 33.6 ha and includes the common boundary between the Site and the neighbouring Brantford Pit. The maximum depth of the pond is estimated to be 15 m and was determined by the above described methodology. At this stage, the maximum volume of the pond is given by:

 $V_0$ . =  $A \times b$ 

= 348,000 m<sup>2</sup> x 15 m

= 6.048.000 m<sup>3</sup>

The maximum possible drawdown caused by the removal of aggregate was calculated as follows

 $\Delta h = h_0-[P+V_0-V_{evap}-(Q_et)/A]$ 

Where:

 $\Delta h$  = change in hydraulic head of the pond

 $h_0$  = initial hydraulic head of the pond

P = the volume of recharge to the pond contributed by precipitation

 $V_0$  = initial volume of the pond

 $V_{evap}$  = evaporation volume from the pond

Q<sub>e</sub> = effective pumping rate

t = operating hours A = area of the pond

The assumptions used in this scenario are the same as for the initial pond scenario described above which are:

- The pond is recharged by precipitation only. The volume of recharge (P) has been determined using the average daily precipitation rate over the operating season (3.7x10<sup>-3</sup> m/day).
  - The annual precipitation rate was obtained from the MECP Brantford weather station and is 867.3 mm/year (Technical Appendix E);
  - All precipitation was assumed to occur during active operations (i.e. year equals 236 days); and
  - The volume of precipitation that recharges the final pond at the end of one operating day is 1,235 m<sup>3</sup>.
- The volume of evaporation (V<sub>evap</sub>) has been determined using an average daily evaporation rate over the operating season (3.4x10<sup>-3</sup> m/day).

- The mean evaporative rate from open water bodies (lakes/ponds) in the Study Area is 800 mm/year (MNR, 1984) (Technical Appendix E);
- All evaporation was assumed to occur during active operations (i.e. year equals 236 days); and
- The volume of water that evaporates from the final pond at the end of one operating day is 1,140 m<sup>3</sup>.

Under these assumption, the estimated drawdown at the end of one operating day is <0.01 m. As the pit pond increases in size, stored water buffers the effects of drawdown caused by the removal of material. The estimated drawdown will be indistinguishable from background (climatic) fluctuations in the water-table.

As the pit pond is established, the water table surrounding the pond is expected to flatten resulting in a reduction of the horizontal hydraulic gradient across the Site.

MDE: apm

# **Appendix G**

# **GRCA Cumulative Impact Matrix**



#### **G.1 Introduction**

The Grand River watershed is the largest watershed in Southern Ontario. The watershed is home to approximately 900,000 people; of which ~80% rely on groundwater for their water supply. The Grand River watershed is also an important source of close to market aggregates due to geological and population centers.

The Grand River Conservation Authority (GRCA) and some member municipalities have raised concerns about the potential impacts from below-water-table aggregate extraction on water quality and quantity within the Grand River watershed. To address these concerns, the GRCA, Ontario Ministry of Natural Resources and Forestry (MNRF), and the Ontario Stone, Sand and Gravel Association (OSSGA) developed the Best Practices Paper entitled *Cumulative Effects Assessment (Water Quality and Quantity) Best Practices Paper for Below-Water Sand and Gravel Extraction Areas in Priority Subwatersheds in the Grand River Watershed (September 2010).* 

A set of principles to guide future discussions and commitments to action was developed. These principles highlight:

- The importance of water and aggregate resources to the Grand River watershed;
- The need for more comprehensive and consistent data collection and monitoring protocols in order to assess cumulative effects; and,
- Commitment to jointly develop a best practices paper for assessing and addressing cumulative impacts.

The purpose of the Best Practices Paper is to outline a reasonable, consistent, and scientifically-defensible approach to assessing potential cumulative effects of below-water sand and gravel extraction as part of the MNRF's review/approval process under the Aggregate Resources Act (ARA). The Best Practices Paper specifically applies to priority subwatersheds within the Grand River watershed (as identified on Figure 1 of the Best Practices Paper).

## **G.2 Site Location and Proposed Extraction**

Lafarge has applied for a Category 1, Class A License (pit below-water-table) under the ARA and applications under the Planning Act to amend the County of Brant Official Plan and County of Brant Zoning By-Law to permit the expansion to the existing aggregate operation at their Brantford Pit.

The proposed expansion lands are located immediately west of the existing Brantford Pit on Part Lot 12, Concession 5 in the former Geographic Township of Brantford (hereby referred to as the 'Site'). The Site has a proposed licenced area of ~19.9 ha and proposed extraction area of ~16.8 ha. Present land use is primarily agricultural with the exception of an existing residential building and assorted other buildings.

Lafarge Canada Inc.'s (Lafarge) proposed expansion of the Brantford Pit will result in  $\sim 1.6$  hectares (ha) of the 19.9 ha of the proposed expansion being located in the Whiteman's Creek subwatershed which is identified as a priority subwatershed. The portion of the Site that falls within the Whitemans Creek covers <0.5% of the  $\sim 40,000$  ha watershed. As such, the MTE has considered the Best Practices Paper jointly developed by MNRF/GRCA/OSSGA and finalized in September 2010.

The expansion will allow Lafarge to:

- Secure additional reserves to supply high quality aggregate from a strategic location within Brant County;
- Blend Materials to make a wide variety of products; and,
- Provide rehabilitation of the Site into ponds that will add to the biodiversity of the surrounding area.

### **G.3 Cumulative Effects Assessment**

Section 2 of the Best Practices Paper outlines how the assessment of cumulative effects is to be considered and outlines different assessment levels to be taken. The aim of the assessment levels is to place the Site in context with the surrounding landscape.

#### **G.3.1 Initial Assessment**

There are a number of components listed under the initial assessment. These include:

Component	Summary	MTE Report Reference
Existing site(s)	The existing Brantford Pit is the only other	Section 1
proposed for extraction	aggregate operation within one kilometer of the Site.	Section 2.1
Proximity to licenced above- and below-water sand and gravel extraction operations and the potential for overlapping cumulative effects including	The existing Brantford Pit is the only other aggregate operation within one kilometer of the Site. The Brantford Pit is licenced for below-water-table extraction. The proposed Brantford West Pit would be an extension of the Brantford Pit.	Section 1 Section 2.1
changes to surface water drainage patterns and water balance	As the proposed operation will be an extension of the existing operation, there will be a large volume of stored water that will serve to buffer the effects of drawdown from the proposed below-water-table extraction there by limiting any potential impacts to water quantity.	Section 5.2 Appendix F
	The high permeability of the surficial soils at the proposed operation limit the amount of runoff. The establishment of an expanded pit pond will reduce the amount of runoff leaving the Site.	Section 5.1 Appendix E
	The creation of a pit pond has the potential to increase shallow aquifer vulnerability to surficial contamination. This potential can be mitigated through best management practices (e.g. a comprehensive and proven spills contingency plan).	Section 5.4
	Cumulative drawdown effects were examined in the Level 1/2 Hydrogeological Investigation. Cumulative drawdown effects	Section 5.2

	will be indistinguishable from climatic fluctuations.	
	As the pit pond expands, the water table surrounding the Site is expected to flatten resulting in a reduction of the horizontal hydraulic gradient. As the existing measured horizontal hydraulic gradient is relatively flat, a further local flattening is not expected to adversely affect the ability of the water-table aquifer to supply water to existing users.	Section 5.2
Proximity to license applications for proposed above- and below-water sand and gravel extraction activities	There are no additional licence applications for the proposed sand and gravel operations in the immediate vicinity.	
Degree of environmental degradation existing within the subwatershed, if available (e.g. groundwater/surface water quantity and quality, impacts on natural features and functions, ecosystem health)	Whitemans Creek is a cold water creek with 'marginal' water quality (GRCA, 2017) due to elevated nitrate levels associated with agricultural activities. The GRCA recommends the implementation of Best Management Practices such as stream buffers and erosion control structures and the use of cover crops like annual rye grass to promote soil health on tobacco fields and to provide greater organic content for retaining soil moisture. (GRCA, 2014). Costs for the implementation of these measures may be shared under the GRCA's Rural Water Quality Program.	
	Since the rehabilitation plan for the proposed expansion does not include rehabilitation back to agricultural activities, there will be no environmental degradation related to the application of fertilizer causing elevated nitrate levels.	
	Groundwater quality has been assessed by the GRCA based on groundwater catchment areas associated with municipal water supplies, as opposed to surface water subwatersheds. As described in Section 2.3, the current Brantford West Pit and the proposed expansion are located within the 2 to 25-year time of travel to the County of Brant's Airport Well. There are no existing or trending concentration of a parameter or pathogen at the Airport well which would indicate any existing degradation of groundwater quality (LERSPC, 2019). Best management practices (e.g. a comprehensive and proven spills contingency plan) will be employed at the Site	

		T
	to reduce potential groundwater quality	
	impacts.	
Potential impacts on the	The GRCA Tier II Water Quantity Stress	
level of stress that the	Assessment Report (GRCA, 2009) classifies	
proposed below-water	the potential surface water stress in the	
sand and gravel	Whitemans Creek Subwatershed as	
extraction may have	moderate and the groundwater stress as	
using the most current	low. The Tier 3 Risk Assessment Report	
stress assessment	focused on the Bright and Bethel drinking	
provided by the GRCA	water systems (LERSPC, 2018). Bethel is	
	the closer of the two, located approximately	
	3.7 km north of the Site on the far side of	
	Whitemans Creek. As consumptive water	
	taking is not proposed as part of the	
	Brantford West Pit Expansion, no impact to	
	the stress assessment is anticipated.	
Proximity to municipal	The nearest municipal well is the Brantford	Section 2.3
water wells and intakes	Airport Well which approximately 1.2	
if the information is	kilometres from the Site.	
available		
	WHPA-C (2 to 5 year time-of-travel) and	
	WHPA-D (5 to 25 year time-of-travel) for the	
	Airport Well intersect the Site.	
Vulnerability of the	The overburden aquifer is exposed at	Section 5.5
groundwater resources	surface across the Study Area. The surficial	
in the subwatershed	exposure increases the vulnerability of the	
and the potential impact	aguifer to contamination from the ground	
that the proposed	surface.	
below-water sand and		
gravel extraction	Exposing the water-table by expanding the	
operation may have on	existing pit pond will potentially increase this	
vulnerability (if any)	vulnerability.	
vaniorability (ii arry)	vaniorability.	
	The potential increase in vulnerability will be	
	mitigated through operational procedures to	
	control hazardous materials (e.g. fuels).	
Other Activities of	Local private and municipal wells are not	Section 5.3
features in the study	expected to be adversely affected by the	Section 5.4
area that could	proposed pit operations.	Section 5.6
significantly affect or		0000011 0.0
rely on groundwater		
resources.		
resources.		

#### **G.3.2 Local Scale Cumulative Effects**

The next phase of the assessment it known as local scale cumulative effects resulting from the proposed expansion. The local scale assessment will be reviewed by the MNRF and other agencies (e.g. affected municipalities, GRCA, MECP). Local is generally defined as the area impacted or potentially impacted by the proposed expansion and usually extends beyond the Site. A local scale assessment should:

Component	Summary	MTE Report Reference
Characterize the existing	Section 2.0 describes existing	Section 2.0
conditions at the Site and in the	conditions at and surrounding	
vicinity of the Site and during the	the Site.	

extractive and rehabilitation		
stages.	Rehabilitation is discussed in the Natural Environment Report and on the Site Plans.	
Assess the potential impacts to groundwater and surface water resources from the proposed below water sand and gravel extraction operation relative to the impacts of existing above-	The Brantford Pit is licenced for below-water-table extraction. The proposed Brantford West Pit would be an extension of the Brantford Pit.	Section 1 Section 2.1
and below-water sand and gravel extraction operations for all development stages.	As the proposed operation will be an extension of the existing operation, there will be a large volume of stored water that will serve to buffer the effects from the proposed below-water-table extraction.	Section 5.2 Appendix F
	The high permeability of the surficial soils at the proposed operation limit the amount of runoff. The establishment of an expanded pit pond will reduce the amount of runoff leaving the Site.	Section 5.1 Appendix E
	The creation of a pit pond has the potential to increase shallow aquifer vulnerability to surficial contamination. This potential can be mitigated through best management practices.	Section 5.5
	Cumulative drawdown effects were examined in the Level 1/2 Hydrogeological Investigation. Cumulative drawdown effects will be indistinguishable from climatic fluctuations.	Section 5.2
	As the pit pond expands, the water table surrounding the Site is expected to flatten resulting in a reduction of the horizontal hydraulic gradient. As the existing measured horizontal hydraulic gradient is relatively flat, a further local flattening is not expected to adversely affect the ability of the water-table aquifer to supply water to existing users.	Section 5.2
Establish monitoring requirements to identify and distinguish between individual	Existing groundwater monitoring wells and on-Site private well will be monitored manually and using data loggers for a period	Section 6

and aumulative offeets as	of no lose than two years	
and cumulative effects, as	of no-less than two years	
appropriate.	following commencement of	
	below-water-table extraction at	
	the Site.	
	As the proposed below-water-	
	table pit and existing pit are	
	under the same ownership and	
	will form part of the same	
	operation, the monitoring plan	
	has not been designed to	
	distinguish between individual	
	and cumulative effects.	
Establish a mitigation and	The proposed extraction is not	Section 5.0
implementation plan, as	expected to produce adverse	
appropriate.	effects on the hydrogeological	
	resources within the Study Area.	
	Therefore, a mitigation and	
	implementation plan is not	
	required.	
	·	Section 8.0
	However, monitoring results will	
	be analyzed and reported	
	prepared by a Qualified	
	Profession (Professional	
	Geoscientist or exempted	
	Professional Engineer) annually.	
	Mitigation measures will be	
	assessed should unforeseen	
	circumstances arise.	

The Aggregate Resources Act (ARA) Provincial standards establish requirements for Level 1 and Level 2 hydrogeological assessments. An understanding or local-scale cumulative effects can be assessed based on the technical evaluation of:

- Water wells;
- Springs;
- Groundwater aquifers;
- Surface watercourses and bodies; and
- Discharge to surface water.

Potential impacts should be addressed through:

- Monitoring and mitigation plans;
- Mitigation measures (that may include trigger mechanisms); and
- Contingency Plans.

The MTE Level 1 and Level 2 Hydrogeological Investigation was prepared to the ARA Provincial Standards. Conclusions related to various features are found in Section 7 while recommendations for monitoring and reporting are found in Section 8.

As discussed in Section 5.2 and Appendix F on the Level 1 and Level 2 Hydrogeological Investigation, cumulative effects were evaluated through a baseline evaluation of the proposed expansion and exiting below-water-table Brantford Pit. Predictive modelling was conducted to assess impacts to groundwater levels over time during the extraction.

Excluding the existing Brantford Pit, there are no other aggregate extraction operations within one kilometer and within the Whitemans Creek subwatershed; therefore, there are no additional cumulative effects to evaluate. Cumulative effects related to the existing Brantford Pit have been evaluated in the Level 1 and Level 2 Hydrogeological Investigation (Section 5 of the Level 1 and Level 2 Hydrogeological Investigation).

#### G.3.3 Watershed/Subwatershed Scale Cumulative Effects

This level of assessment relates to assessing cumulative impacts within the larger subwatershed. Each subsequent applicant would assess the potential for impacts from their operation on the larger watershed. As noted above, the portion of the Site within the Whitemans subwatershed has an area <0.5% of the total subwatershed area and is not within ~1km of existing pits (excluding the neighbouring Brantford Pit). However, data from this assessment could be made available to other applicants should any new applications come forward within the immediate area.

#### **G.4 Other Assessment Considerations**

Section 3 of the Best Practices Paper refers to other assessment considerations that are to be taken into account during the preparation of the cumulative impact assessment. The following briefly outlines how the MTE Level 1 and Level 2 Hydrogeological Investigation took these matters into account:

#### G.4.1 Data Collection

MTE has undertaken an extensive data collection effort to support this application and to support their assessment and conclusion related to water quantity and water quality. The following tables outlines the specific data collection requirements as presented in the Best Practices Paper and how MTE has met those requirements.

#### **G.4.2 Water Quantity**

Component	Summary	MTE Report Reference
Interference to	Drawdown in the water-table is expected to	Section 5.3
municipal or private	be indistinguishable from background	Section 5.6
wells	fluctuations. No interference with municipal	
	or private wells is expected.	
Lowering of the water	Lowering the water-table due to aggregate	Section 5.2
table (temporary,	extraction will be temporary and limited in	Appendix F
seasonally, yearly)	magnitude and extent.	
Quantity of groundwater	There are no surface courses or wetlands	Section 2.2
discharging to or	within the 500 m Study Area.	
recharging from surface		
water features including		
but not limited to ponds,		
but not limited to ponds,	Appendix C.   Laforgo   Brantford West Dit   Port Let 12	Con F. Township of Bronford

streams, wetlands,		
and/or springs/seeps.		
Effect of water taking and changes in hydraulics from	No aggregate washing is proposed for the proposed below-water-table pit.	Section 4.4
activities (e.g. aggregate washing, inflow due to aggregate removal)	No substantial changes in hydraulics are anticipated due to Site activities as any effects will be attenuated over the timespan of the extraction.	Section 5.2 Appendix F
Changes in the quantity of pattern of groundwater recharge and discharge.	Within the Site boundary, there is expected to be a decrease in Site wide infiltration due to the creation of the pit pond and resulting increase in evaporation.	Section 5.1 Appendix F
Change in hydraulics from the creation of surface ponds	Post extraction, a minor flattening of the water table is expected. As the existing horizontal hydraulic gradient is already relatively flat, a further minor flattening is not expected to adversely affect groundwater flow patterns or groundwater quantity.	Section 5.2
Effect of permanent surface ponds on surface water or groundwater quantity	The rehabilitation plans for the proposed extension include the development of a permanent pit pond. Since there are not surface water courses that cross the Site, this feature will not be in-line with any existing surface water courses. There are no proposed takings or discharge from the pit pond; therefore, these is no potential to affect surface water quantity.  The proposed pit pond is not expected to have an adverse effect on the quantity of groundwater reaching downgradient features or users.	Section 5.0

## **G.4.3 Water Quality**

Component	Summary	MTE Report Reference
Potential changes in groundwater/surface water temperature, chemistry, and biology (i.e. nutrients)	The creation of a pit pond has the potential to affect groundwater quality and temperature.	
	Increasing groundwater temperature effects are to be mitigated by maintaining steep pond sides to reduce shallow areas that may increase groundwater temperatures.	Section 5.5
	A spills contingency plan will be developed prior to extraction occurring at the Site.	

Potential changes to the	Overburden removal may	Section 5
vulnerability of groundwater resources.	increase the vulnerability of groundwater resources in the water-table aquifer.	
	Best management practices will be implemented to mitigate additional risk to groundwater quality.	Section 5.5.1
	The base of the pit excavation is a low permeable silt to sand till that will remain in place to isolate underlying overburden or bedrock aquifers.	Section 2.5.3 Section 4.1
Potential impact of the creation of ponds on exiting surface	No impacts to existing surface water are expected as a result	Section 5.5
water or groundwater quality or	of the creation of ponds from the	
temperature.	proposed expansion.	

#### G.4.4 Establishing a Monitoring Program

A groundwater monitoring program has been on-going since August 2018 to establish background conditions at the Site. Should the expansion be approved, the established groundwater monitoring program is proposed to continue for a period on no less than two years following the commencement of below-water-table extraction. Groundwater levels and temperatures are to be collected using dedicated pressure transducer from the existing on-Site monitoring wells and on-Site private well.

#### **G.4.5 Monitoring Impacts and Taking Mitigative Action**

Section 6 of the MTE Level 1 and Level 2 Hydrogeological Investigation contains information related to monitoring programs.

#### **G.4.6 Data Sharing**

The information and data available in the MTE Level 1 and Level Hydrogeological Investigation is extensive and could be used by future applicants to extend the assessment.

## **G.5 Closing**

The MTE Level 1 and Level 2 Hydrogeological Investigation provides a complete assessment of the potential for cumulative impacts as a results of the proposed Brantford West Pit expansion. This Appendix provides an in-depth summary of the various components of the GRCA Best Practices Paper.

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#### **G.6 References**

Grand River Conservation Authority. 2009: *Tier II Water Quantity Stress Assessment Report.* Prepared by AquaResorce Inc.

Grand River Conservation Authority. 2010: Cumulative Effects Assessment (Water Quality and Quantity) Best Practice Paper for Below-Water Sand and Gravel Extraction Operations in Priority Subwatershed in the Grand River Watershed.

Grand River Conservation Authority. 2014: Whitemans Creek Water Conservation & Drought Contingency Planning. Prepared by H. Kovacs on behalf of the Brant Federation of Agriculture.

Grand River Conservation Authority. 2017: *Water Quality Conditions Report.* Management Committee Report Number GM-02-17-24

Lake Erie Region Source Protection Committee. 2018: Whitemans Creek Tier Three Local Area Water Budget and Risk Assessment Risk Assessment Report. Prepared by EarthFx Incorporated.

Lake Erie Region Source Protection Committee, 2019: *Grand River Source Protection Area, Approved Assessment Report*: March 11, 2019.