

# Thomasfield Homes Limited

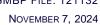
Hydrogeological Study for Hillsburgh Trails Subdivision: Part of Lot 23, Con 7, Town of Erin

**GMBP File: 121132** 

November 7, 2024









# **TABLE OF CONTENTS**

1.	INTRODUCTION	
1.1	Purpose and Scope	1
2.	BACKGROUND	2
2.1	Site Location and Setting	2
2.2	Proposed Development	2
2.3	Local Relief and Drainage	2
2.4	Surficial Geology and Physiography	3
2.5	Local Use of Groundwater and Source Protection	3
2.6	Relevant Local and Site-Specific Reports	4
2.6.1	Geotechnical Investigation – 2015	4
2.7	Identified Receptors	5
3.	FIELD INVESTIGATION	5
3.1	Methodology	5
3.2	Subsurface Investigation	6
3.3	Groundwater Levels	7
3.4	Well Survey	7
3.5	Shallow Groundwater Quality	8
4.	HYDROGEOLOGICAL CONCEPTUAL SITE MODEL	9
5.	CONSTRUCTION DEWATERING ANALYSIS	9
5.1	Dewatering Rates	9
5.2	Zone of Influence	11
5.3	Dewatering Methodology	12
6.	IMPACT ASSESSMENT	12
6.1	Receptor Analysis	12
6.2	Private Water Wells	
6.2.1	Quantity	14
6.2.2	Quality	
6.3	Surface Water Bodies – Credit River (Erin Branch) and Associated Wetland Areas	16
6.3.1	Quantity	16
6.3.2	Quality	
6.4	Construction Activities	
7.	CONSTRUCTION DEWATERING MONITORING AND MITIGATION PLANS	17
7.1	Monitoring Activities	17
7.1.1	Groundwater Level Monitoring	18
7.1.2	Private Well Monitoring	
7.1.3	Discharge Monitoring	
7.2	Mitigation Activities	19



7.2.1	General Mitigation Activities	19
7.2.2	Contingency Mitigation Activities	20
8.	SUMMARY	21
9.	CONCLUSIONS AND RECOMMENDATIONS	22
10.	STATEMENT OF LIMITATIONS	23
11	REFERENCES	23

# **APPENDICES**

**FIGURES** 

**TABLES** 

**CHARTS** 

APPENDIX A: DRAFT PLAN APPENDIX B: ZONING MAP

**APPENDIX C: MECP WATER WELL RECORDS** 

**APPENDIX D: BOREHOLE LOGS** 

APPENDIX E: RESPONSES FROM DOOR-TO-DOOR WELL SURVEY

APPENDIX F: CERTIFICATE OF ANALYSIS OF GROUNDWATER SAMPLES

**APPENDIX G: RESULTS OF GRAIN SIZE ANALYSES** 

**APPENDIX H: CONSTRUCTION DEWATERING ESTIMATES** 

APPENDIX I: MONITORING AND MITIGATION PLAN FOR CONSTRUCTION DEWATERING



# HYDROGEOLOGICAL STUDY FOR HILLSBURGH TRAILS SUBDIVISION: PART OF LOT 23, CON 7, TOWN OF ERIN

### THOMASFIELD HOMES LIMITED

**NOVEMBER 7, 2024** 

**GMBP FILE: 121132** 

# 1. INTRODUCTION

Thomasfield Homes Limited (the Client) retained GM BluePlan Engineering Ltd. (GMBP) to prepare a hydrogeological study for submission as part of a Zoning By-Law Amendment and Draft Plan of Subdivision approval application for a residential development on a property occupying Part of Lot 23, Concession 7, Town of Erin, County of Wellington, Ontario.

The subject property (the Site) is 14.14 ha (35 acres) and is located to the southwest of the community of Hillsburgh on Wellington County Road 22. The development is proposed to be serviced by municipal water supply and municipal sewage system. A copy of the draft plan of the development (dated October 19, 2022, revised March 8, 2023) showing the conceptual layout of the property is provided in Appendix A.

The following report presents the findings of the hydrogeological study, which gathers data from review of background information and field investigation to assess the potential impact that the proposed subdivision may have on the local groundwater and nearby surface water features.

### 1.1 PURPOSE AND SCOPE

The purpose of this report is to gather information about the Site from existing sources and from Site-specific field investigation to characterize the hydrogeological setting of the Site.

The study considers a desktop "Study Area" that encloses the area within 500 m of the Site . To gather the necessary information for the required assessment, both desktop (e.g., review of records on file) and field investigation work were performed. In general, the scope of work included:

- Background study regarding the geological and physiographic setting of the Site;
- Search of MECP records for wells within 500 m of the Site boundaries;
- Field Investigation, including:
  - Completion of overburden boreholes, complete with monitoring wells, for characterization of overburden materials and groundwater;
  - o Door-to-door survey of properties adjacent to the Site for information on water wells;
  - Measurement of groundwater levels including installation of data loggers for long-term groundwater elevation data collection; and
  - Water quality testing of samples taken from monitoring wells installed on-site
- Hydrogeological data analysis and reporting including:
  - o Presentation of information gathered through desktop study and field investigation,
  - Preliminary Construction Dewatering Assessment, including estimated flow rates and water quality as well as identification of potential impacts due to dewatering.
  - Monitoring and Mitigation Plan for use during construction dewatering,

THOMASFIELD HOMES LIMITED

Amore detailed description of the investigation activities is given in Section 3.1 (Methodology).

# 2. BACKGROUND

For the purposes of this report, the term "north" shall be taken to mean the direction parallel to Trafalgar Road and toward Station Street from County Road 22.

#### 2.1 SITE LOCATION AND SETTING

The Site is situated in the vicinity of the community of Hillsburgh in the Town of Erin (refer to Figure 1). It occupies an area of 14.15 ha (35 acres) and is located on Wellington County Road 22 approximately 600 m west of its intersection with Trafalgar Road. The property is described as Part of Lot 23, Concession 7, Town of Erin.

The Site is bounded on the south side by County Road 22 and surrounding properties appear to generally be under agricultural (north and west of Site), natural green space (east of Site) and/or rural residential land use (west, south and east of the Site). Credit River (Erin Branch) is approximately 100 m east of the eastern boundary of the Site. An aerial photo of the layout of the Site is provided in Figure 2.

According to the Town of Erin Comprehensive Zoning By-law (2014, as amended), the Site is presently zoned for Future Development (FD) (Appendix B). Adjacent lands carry zoning designations as follows: residential to the north, environmental protection (EP1) to the east, and agricultural to the south and west.

#### 2.2 PROPOSED DEVELOPMENT

Thomasfield Homes Limited proposes to develop the Site as a residential development comprising:

- 142 single-detached lots,
- Two on-street townhome blocks (24 units)
- A multiple residential block (+/- 50 units)
- An open space block
- A park block
- A stormwater management block
- And a sanitary sewage pumping station block.

The proposed development will be serviced with municipal water supply and municipal sewage collection. That is, no private wells or septic systems are proposed as part of this development.

To assist with maintaining the pre-development quantities of groundwater recharge, the proposed development includes rear-yard infiltration galleries for each of the detached and townhome lots. An infiltration gallery is also proposed to be included in the multiple residential block (Block 145).

A copy of the draft plan of the development is provided in Appendix A.

#### 2.3 LOCAL RELIEF AND DRAINAGE

According to topographic maps available through Atlas Canada (Natural Resources Canada 2016), the central portion of the Site features a minor local ridge which rises up to 10 m, 5 m, and 6 m, above the ground surface at the eastern, western, and southern site boundaries, respectively. As such, runoff drainage on the Site is anticipated be toward the eastern, western, and southern portions of the Site.

The Site is also located approximately 1 km north of the confluence of two local watercourses which flow generally southward: these watercourses are the Credit River (Erin Branch), which is located east of the Site and an intermittent tributary thereto, which is located southwest of the Site. Associated with the Credit River (Erin Branch) are a series of



THOMASFIELD HOMES LIMITED

marsh and swamp type wetland areas. These are identified to be part of a series of Provincially-Significant Wetlands referred to as the West Credit River Wetland Complex, Locations of these wetland areas are shown on Figure 2.

Topographic maps (NRC 2016) indicate that the slope of lands adjacent to the Site varies considerably. Average slopes of up to 13% exist between the eastern Site boundary and the Credit River (Erin Branch) which lies approximately 150 m away to the east; average slopes to the south are approximately 4% between the southern Site boundary and the aforementioned confluence.

#### 2.4 SURFICIAL GEOLOGY AND PHYSIOGRAPHY

The Site is located at the boundary between the physiographic regions known as the Guelph Drumlin Field (the southern one-fifth of the Site) and the Hillsburgh Sandhills (the northern four-fifths of the Site). The Hillsburgh Sandhills are characterized by knobby, rough, hilly terrain with low-lying swampy areas (Chapman and Putnam 1984). Sandy surficial materials are prevalent in the region (Chapman and Putnam 1984). In the Guelph Drumlin Field, local soils generally consist of stony tills and deep gravel terraces typical of drumlins and melt water spillways. In this region, natural gravel deposits tend to be overlain with a layer of silty loam (Chapman and Putnam, 1984). In terms of physiographic landforms, the site lies on a spillway feature with drumlinized till plains located to the east and south of the site at distances of approximately 1,000 m and 800 m respectively (Chapman and Putnam 2007). The physiography of the Site is illustrated in Figure 3.

The surficial materials underlying the site are glacial tills of sandy-silty texture while adjacent to the east and north sides of the site are stratified drift deposits, predominantly of sand and gravel (Ontario Geological Survey 2010). East of the Site at a distance of approximately 150 to 200 m is a band of organic deposits approximately 150 to 250 m wide: this band is oriented lengthwise in a north-south direction and roughly coincides with the flood limits of the Credit River (Erin Branch) tributary which is located there (Corporation of the Town of Erin 2014, Ontario Geological Survey 2010). Review of well records from lands adjacent to the Site corroborates the general distribution of surficial materials as indicated in the mapping provided by the Ontario Geological Survey. The distribution of surficial geological materials is presented in Figure 4.

Shallow groundwater flow often correlates to topographical features and typically flows towards nearby lakes, streams, and wetland areas, except where modified by service trenches. Based on the topography and the location of the site between two tributaries and just north of their confluence to form the Credit River (Erin Branch), it is inferred that the shallow groundwater flow in the vicinity of the site is generally toward the south. While the shallow groundwater flow is inferred for the site and the vicinity, an accurate assessment of the shallow groundwater flow direction requires the installation of groundwater monitoring wells and water level measurements. Such installations and measurements have been completed as part of the fieldwork for this study and will be presented later.

Bedrock beneath the Site is understood to be of the Guelph and Gasport formations, both of which are largely composed of sedimentary rock such as sandstone, shale, dolostone, and siltstone (Ontario Geological Survey 2011), According to well records attributed to water wells near the Site, the depth to bedrock beneath the Site is inferred to be between 11.9 mbgs (Well ID 6705153) and 37.5 mbgs (Well ID 6705975). MECP well record 6705153 indicates that this well is located on the east side of the Site, approximately 120 m (400') west of Main Street, near the Credit River (Erin Branch); MECP well record 6705975 is located at 9354 Wellington County Road 22, potentially within several metres of the southwestern property line of the Site.

#### 2.5 LOCAL USE OF GROUNDWATER AND SOURCE PROTECTION

A review of mapping available through the Ministry of the Environment, Conservation and Parks reveals that the Site is located predominately within the Credit Valley Source Protection Area (SPA), with a small portion of the Site (i.e. the northeast corner) located within the Grand River Source Protection Area. The mapping indicates that the Site is not within a wellhead protection area (WHPA) in either SPA: the community of Hillsburgh obtains its municipal water supply from groundwater wells and the nearest of these wells is approximately 1,200 m north of the Site (MECP 2024).

THOMASFIELD HOMES LIMITED

However, the mapping does indicate that the Site is located within the following:

- Significant Groundwater Recharge Area (SGRA)
  - limited to the portion of the Site within the Credit Valley SPA
  - the vulnerability score is described as "N/A" or unevaluated
- Highly Vulnerable Aquifer (HVA)
  - o limited to the portion of the Site within the Credit Valley SPA
  - with a vulnerability score of 6.

Upon review of the Credit Valley Source Protection Policy, there are no activities considered as "Significant threats" to drinking water with respect to the HVA designation and vulnerability score of 6. Furthermore, the SGRA designation does not have any specific policies in the CTC Protection Plan but based on the proposed enhancement of recharge through the use of rear-yard infiltration galleries at each lot, the annual quantity of recharge is expected to be maintained in the post-development condition. As such, the risk of reducing recharge to the aquifer by the proposed development is mitigated.

A desktop survey of water wells within 500 m of the Site boundary was conducted and a total of 61 records were found. Figure 5 shows the locations of these wells with respect to the Site. Table 1 presents a list of these wells, including location and well log information as obtained from the available MECP well records. Copies of the well records are provided in Appendix C.

The well records have been summarized as follows:

- No records belonged to wells located on the Site (i.e., all wells are reported to be on neighbouring properties and lands)
- With respect to the well interval and the stratum in which each well was installed:
  - 52 of the wells were installed in bedrock
  - 2 of the wells were installed in overburden
  - 7 of the records did not list this information
- Of the 52 wells that reach bedrock
  - The average depth to bedrock is 18.3 mbgs
  - The minimum depth to bedrock is 5.2 mbgs (Well Record 6706041, located on Main Street, approximately 475 m east of the north end of the Site)
  - 48 were domestic wells, 1 was for irrigation, and 3 were observation wells.
- Of the 2 wells noted to be installed in the overburden
  - 1 was a test hole and 1 was an observation well
- Of the 7 records of unknown well interval
  - 2 were of unknown well use (MECP Well ID 7179274 and 7181812, which are located approximately 475 m away from the Site on Station Road and Main Street, respectively)
  - 4 were abandoned wells, and
  - 1 was a domestic water well (MECP Well ID 7104643, located on Main Street, approximately 475 m east of the south end of Site)

#### 2.6 RELEVANT LOCAL AND SITE-SPECIFIC REPORTS

# 2.6.1 Geotechnical Investigation – 2015

A geotechnical investigation of the Site was conducted in 2015 by V.A. Wood (Guelph) Incorporated. The investigation comprised the drilling of 6 boreholes to depths ranging from 4.9 mbgs to 6.6 mbgs.

The soils encountered during the drilling operations were generally stiff or compact to about 2.5 to 3 mbgs and then hard or very dense at greater depths. The boreholes were all remarked to be "dry and open to the full depth" at the time of completion. Generally speaking, the stratigraphic sequence of the soil materials was described as follows:

- Topsoil, typically 0.3 m thick, overlying
- Silt (Sandy to Clayey), approximately 4.5 m to 6 m thick, overlying
- Clayey Silt Till.

THOMASFIELD HOMES LIMITED

Notably, a sand layer containing minimal silt and/or clay was recorded in borehole 2 (the northeastern portion of Site), occupying the interval from 2.3 to 3.1 mbgs.

#### 2.7 **IDENTIFIED RECEPTORS**

Receptors are those entities which may be affected by the proposed development or its construction. They may include anthropogenic features, water users, or ecological features.

Receptors relevant to the anticipated development and potential construction dewatering activities at the Site include the following:

- municipal water resources (per the Source Protection Plan).
- private water supply wells on nearby properties,
- local watercourses (e.g., Erin Branch of the Credit River),
- nearby provincially significant wetlands associated with the Erin Branch of the Credit River, and,
- construction activities (i.e., the construction of the proposed development).

# 3. FIELD INVESTIGATION

In order to collect site-specific information about the hydrogeological conditions on-Site, a field investigation was conducted as part of this hydrogeological study. This information was combined with the existing geotechnical and geological information to establish the site conceptual model.

#### 3.1 **METHODOLOGY**

During the days of September 19 to 22, 2016, a set of six boreholes were advanced by Aardvark Drilling Inc. with the oversight of GMBP staff member Mr. Matthew Long, M.Eng., P.Eng.

Each borehole was advanced using hollow-stem auger to intersect the inferred groundwater table: total depths of boreholes ranged from 8 mbgs (MW-01) to 14.3 mbgs (MW-05). Samples were collected during boring and visually assessed to describe the stratigraphy of the soils underlying the Site. A monitoring well was installed in each of the six boreholes. Each well was constructed with casing of 50 mm (2") diameter PVC pipe with slotted screens. The annulus around the screen was backfilled with "00" fine sand filter pack and bentonite chips were placed in the annulus above the filter pack to seal the well and protect it from surface water intrusion. Each well was provided with a J-plug well cap and a protective steel stickup casing which was secured with a padlock. Stratigraphic records and details of monitoring well construction are provided in the borehole logs in Appendix D.

On September 19, 2016, a door-to-door well survey was performed with water well information survey forms distributed to properties adjacent to the Site. These contained a questionnaire for residents to complete with information about their well including details about usage, construction type, water quality, water quantity, and more. Each form was accompanied with a self-addressed, postage-paid envelope for the convenience of residents to mail to Mr. Long at the Guelph office for GM BluePlan. In the cover letter accompanying the form, residents were asked to submit their responses by September 30, 2016. Copies of the cover letter and well survey form are included in Appendix E along with the completed well survey forms received from residents.

On September 26, 2016, GMBP staff attended the Site to perform additional investigative work including:

- Water level observations in each of the six monitoring wells;
- Sampling of groundwater from each of the monitoring wells in which water was observed;
- Topographic survey of the monitoring wells installed in those boreholes;
- Collection of surface soil samples for grain-size analyses and T-time assessment; and,
- Topographic survey of the surface soil sampling locations.

GMBP FILE: 121132

**NOVEMBER 7, 2024** 

Water levels were monitored by GM BluePlan at each of the existing on-Site monitoring wells. Water level data was collected by manual measurement using an electric water level tape and through the use of electronic datalogging pressure transducers. The pressure transducers were installed in the monitoring wells on February 26, 2022. A continuous record of groundwater level data has been collected from the time of installation up to June 13, 2024 and is enclosed herein (refer to Charts 1 through 6 for hydrographs).

Groundwater samples were collected from the five wells in which water was observed (no water was observed in MW-02 at the time of sampling) following industry-accepted practices. Each well was first purged of at least three well-volumes of water or until dry, whichever occurred first. Water was removed from MW-03 using a Waterra inertial pump and from wells MW-01, -04, -05 and -06 using a Waterra PVC bailer. Samples were then collected into laboratory-supplied bottles appropriate to the planned analyses. These sample bottles were then submitted to a laboratory accredited by the Canadian Association of Environmental Analytical Laboratories (CAEAL) for "RCAP" analysis, which is a suite of analyses for various parameters including metals, inorganics, and nutrients. The Certificates of Analysis of these samples are provided in Appendix F.

A topographic survey of the monitoring wells was carried out using GPS to determine the horizontal and vertical (elevation) position of each well at ground and top of casing. GPS was also used to obtain coordinates of the surface soil sampling locations.

The four surficial soil samples GS-01, GS-02, GS-03 and GS-04 were assessed visually in the field and were submitted to the GMBP soils laboratory in Owen Sound for grain size analyses and T-time assessment as per the Ontario Building Code (2012). Plots of the grain size distributions of these samples are provided in Appendix G.

### 3.2 SUBSURFACE INVESTIGATION

The subsurface investigation comprised the drilling of 6 boreholes, each installed with a monitoring well. Stratigraphic records and details of monitoring well construction are provided in the borehole logs in Appendix D. The layout of the monitoring wells installed across the Site is provided in Figure 6.

Generally, the stratigraphic sequence of the soil materials encountered during the subsurface investigation is described as follows:

- Topsoil overlying
- Silt, approximately 2.5 m to 6 m thick, overlying
- Upper Till (Sandy Silt to Clayey Silt), approximately 4.5 m to 6 m thick, overlying
- Gravel and Sand to Sand and Silt Deposit, overlying
- Lower Till (Clayey Silt).

The Topsoil layer was typically about 0.3 m deep and was generally of a sandy silt texture except for lower-lying areas in the northeastern and east-central portions of the Site which were clayey silt. Organic material was found as deep as about 0.8 m in places.

The Silt layer was encountered in all boreholes and was found to be thickest on the southern portion of the site (e.g., between 4 and 6 m thick in MW-01, MW-02, and MW-05) and thinner in the northern portion of the site (e.g., about 2 m thick in MW-04). Though the proportions of sand and gravel in this stratum varied somewhat from borehole to borehole, the relatively soft consistency and minimal plasticity were common across the Site.

The Upper Till generally exhibited stiff to hard consistency and contained greater proportions of fines (i.e., silt and clay) and generally greater plasticity than the Silt stratum above it. The Upper Till ranged in thickness from 4.5 m thick (MW-04) to over 12.5 m (MW-02) thick and tended to be thickest in the southwestern and central portions of the Site.



GMBP FILE: 121132

**NOVEMBER 7, 2024** 

The Gravel and Sand to Sand and Silt deposit was present below the Upper Till and ranged in texture from very coarse Gravel and Sand (MW-01, MW-03, MW-04) to fine sandy silt (MW-05, MW-06). Generally, this deposit was very densely compacted and was the stratum in which free groundwater was first encountered during drilling. Where fully penetrated, the thickness of the Gravel and Sand to Sand and Silt Deposit ranged between 2.5 m (MW-01) to about 6.5 m (MW-04). It is noted that boreholes MW-05 and MW-06 were terminated within this deposit.

The Lower Till was generally uniform, predominantly clayey silt in texture, and exhibited considerable plasticity and remolded dry strength. It was encountered below the Gravel and Sand to Sand and Silt Deposit in boreholes MW-01, MW-03 and MW-04. The Lower Till was very hard and despite being located below the water table was found to be at a moisture content well below the plastic limit. No boreholes were drilled to fully penetrate the Lower Till but it was found to be at least as thick as about 3.5 m in MW-01 and MW-03.

### 3.3 GROUNDWATER LEVELS

Based on the water level measurements and elevation survey completed on September 26, 2016, the elevation of the groundwater table was determined for each of the boreholes. A record of manual groundwater level measurements and monitoring well details, is provided in Table 2. Figure 6 shows a plan view of the Site with the layout of the monitoring wells and Figure 7 shows interpreted groundwater elevation contours based on depth to water measurements recorded on September 26, 2016.

Based on the groundwater levels recorded, it is inferred that the general direction of groundwater flow is southward, but measurements indicate that the Site features a local groundwater divide, the axis of which falls roughly along a line between MW-01 and MW-04: groundwater west of this axis tends to flow in a southwesterly direction while groundwater east of this axis tends to flow east toward the Credit River (Erin Branch).

Hydrographs of the groundwater level data collected from MW-01 through MW-06 are plotted in the enclosed Charts 1 to 6, respectively. The record of available groundwater data indicates that the range of overall fluctuation (i.e., vertical distance between maximum ("seasonal high") and minimum ("seasonal low") in measured groundwater levels is approximately 1.22 m (recorded at MW-05) to 4.73 m (recorded at MW-02), indicating a varying degree of seasonal fluctuation depending on location on-Site.

Based on available groundwater level data collected from February 26, 2022, to June 13, 2024, the highest seasonal groundwater elevations reach up to between 432.01 masl (MW-05) to 438.72 (MW-03), during short periods in late winter and early spring (March/April). During summer and early fall, lowest reported seasonal groundwater elevations range from 430.79 masl (MW-05) to 436.34 masl (MW-03).

### 3.4 WELL SURVEY

Well survey forms were distributed to the addresses listed below. An asterisk marks those residences from which responses were received. Copies of these responses are provided in Appendix E.

On Wellington County Road 22

• 9322

• 9329

93339335

• 9357\*

9354\*

9364\*

• 9366

9367\*

• 9343

### On Station Road

• 0014



THOMASFIELD HOMES LIMITED

### On Sideroad 24

9313

Based on the response received, the well located at 9354 Wellington County Road 22 is the same as that which is reported in MECP well record 6705975. Of the responses received, this is the nearest well to the proposed development on Site, located within 20 m of the Site property line. This well has casing to 38.7 mbgs (127' below ground surface), reaches a total depth of 71.6 mbgs (235'), and draws water from the bedrock.

The response from 9367 Wellington County Road 22 included a copy of the well record which was determined to be the same as MECP Well ID 6709568. The well is reported to be installed in bedrock, having casing extending to 28 mbgs (92') and having a total depth of 32.6 m (107').

The well located at 9364 Wellington County Road 22 was reported to have unknown depth, but was noted to be a drilled well for domestic usage. Based on the location of the house at that address, the well is likely located approximately 80 m from the eastern property line of the Site and is likely associated with MECP well record 6710551. That well record indicates casing to 26.2 mbgs (86'), total depth of 29.9 mbgs (98'), and draws water from the bedrock aquifer.

The well located at 9357 Wellington County Road 22 was reported to be a dug well extending to a depth of 2.7 mbgs (9'). There appears to be no well record associated with this well.

Due to the shallow reported depth of this well, an additional field visit was made to inspect the well and the premises of 9357 and to interview the well owner for additional hydrogeological information. The location of this well was verified during the visit and is marked on Figure 6 as "Dug Well". The property was observed to slope rather steeply southward away from County Road 22 and the well was found to be located approximately 200 m to the southeast of the Site. The owner indicated that the well had been installed in a sand and gravel deposit and that in the springtime the lawn at roughly the same elevation as the well would be saturated and too wet to mow. The owner also noted that the pond on his property was fed by groundwater via the subsurface and by two drain pipes that he had installed to drain parts of his yard toward the pond. One of these pipes intersects the gravel backfill around the well tile and was observed to be discharging to the pond at a slow drip at the time of the visit. Though the well was inaccessible at the time of the visit, based on the information gathered it was inferred that the groundwater level in the dug well was approximately 428.5 masl.

#### 3.5 SHALLOW GROUNDWATER QUALITY

Of the six monitoring wells installed as part of the subsurface investigation, groundwater was found in five of them (MW-02 was dry at the time of sampling). A groundwater sample was taken from each of these five wells and the samples submitted for routine groundwater quality analyses. The results of quality analyses of the shallow groundwater samples are provided in Table 3 and the laboratory Certificates of Analysis for the groundwater quality analyses are included in Appendix F. For reference, the results presented in Table 3 are compared to the Ontario Drinking Water Standards though it is noted that the proposed development is intended to be serviced by the Hillsburgh municipal system rather than by wells on-site.

Generally, the reported results indicate groundwater with moderate mineralization evident in the elevated levels of hardness, manganese, magnesium, and calcium. These results are typical of the geological environment in which the Site is situated: the local overburden, which is largely derived from regional bedrock materials such as limestone and dolostone of the Guelph and/or Gasport formations, contribute to elevated levels of alkalinity, magnesium and calcium.

The concentration of nitrate in the shallow groundwater samples ranged over a relatively wide margin from nondetectable (MW-05) up to 13.2 mg/L (MW-04), with an average nitrate concentration of 5 mg/L. It is common for lands under agricultural land use to have elevated levels of nitrate.

THOMASFIELD HOMES LIMITED

# 4. HYDROGEOLOGICAL CONCEPTUAL SITE MODEL

The information gathered from the desktop study and the observations from the field investigation were synthesized to produce a conceptual model of the hydrogeology of the Site. A set of three hydrogeological cross-sections of the Site have been prepared using information from the boreholes drilled during the subsurface investigation for this project and from select MECP water well records. Figure 8 shows the layout of cross-sections A-A', B-B', and C-C', which are themselves shown in Figures 9A, 9B, and 9C respectively.

The cross-sections reflect the interpreted geological setting, which is that the general local stratigraphy follows a pattern of silt overlying an upper (silt) till overlying a layer of sand and gravel to sand and silt overlying a lower (clay) till which overlies bedrock.

The survey data and groundwater level measurements from the field investigation were assessed in the context of the local topography and surface drainage and a map of groundwater contours was interpreted based on groundwater level measurements on September 26, 2016. This groundwater contour map is presented in Figure 7 and reflects the hydrogeological interpretation that the general groundwater flow direction is from north to south but also includes that the Site features a local hydrogeological divide, where flow tends to split in the central portion of the Site and proceeds off-Site predominantly flowing in southwesterly or easterly directions.

Groundwater levels fluctuate over the course of the year, typically reaching "seasonal high" levels during the late winter and early spring (March/April) and descending gradually to "seasonal low" levels in the summer and fall. The interval separating "seasonal high" from "seasonal low" ranges from about 1.24 m (recorded at MW-01) to 4.91 m (recorded at MW-02), indicating a high degree of seasonal fluctuation in groundwater levels (refer to Charts 1 through 6, after text).

An interpreted seasonal high groundwater level (SHGWL) surface has been determined and is presented as a contour plot in Figure 10.

Due to the relatively high fines (silt and clay) content of the surficial soils, it is inferred that there is a significant separation between the surface and the groundwater table. The average thickness of overburden deposits at the Site is approximately 17 to 20 m. Additionally, the thick deposit of dense, fine-textured soils in the lower till provides more resistance to flow and contributes to significant hydraulic separation between the groundwater table and the deeper bedrock aquifer. As such, activities affecting the overburden aquifer (e.g., construction dewatering) would not be likely affect the bedrock aquifer.

### 5. CONSTRUCTION DEWATERING ANALYSIS

#### 5.1 **DEWATERING RATES**

Based on the relative elevation of proposed services and the interpreted seasonal high groundwater level on Site, it is expected that construction of the proposed subdivision may require excavations below the groundwater table and therefore construction dewatering may be required to facilitate construction. Depending on the dewatering rates that may be required, water-taking approvals may be required from the MECP. In addition, the estimation of dewatering rates assists in assessing for the potential for the dewatering activities to cause impacts to the project or to other receptors.

Appendix H provides calculations for estimating construction dewatering rates. These calculations were based on analytical models provided by Powers et al (2007) for an unconfined aguifer.

Four work areas were identified as potentially requiring excavations below groundwater and therefore dewatering:

- Sanitary sewer (particularly in the southern part of the Site)
- Stormwater management pond construction Forebay
- Stormwater management pond Deep Pool

THOMASFIELD HOMES LIMITED

### Sewage Pumping Station

Estimates for construction dewatering for the sanitary sewer work area was modeled as a finite trench 3 m wide and up to 30 m long for two cases:

### Maximum:

- o Hydraulic conductivity of 2x10<sup>-4</sup> m/s (i.e., includes a factor of safety of 2 applied to the assumed value of hydraulic conductivity for sand and gravel, some silt unit encountered at MW-01)
- Drawdown of up to 0.4 m (i.e., representing a worst-case scenario under seasonal high groundwater conditions for the construction of servicing in the vicinity of sanitary manhole MH36A in the easterly portion of the Site, where trench depth is expected to be 436.0 masl (including 0.5 m excavation below the sewer pipe) and the highest groundwater level recorded is 435.9 masl (recorded at MW-

### Typical:

o Under typical conditions, sanitary sewer excavations are not expected to extend below groundwater. As such dewatering under typical conditions is estimated to be negligible.

Construction of the SWM Facility Forebay was modeled as flow-to-well for an equivalent well with area equal to approximately 700 m<sup>2</sup>. The following cases were estimated:

### Maximum:

- o Hydraulic conductivity of 2x10<sup>-4</sup> m/s (i.e., includes a factor of safety of 2 applied to assumed value for hydraulic conductivity for sand and gravel, some silt unit encountered at MW-01)
- Target drawdown of 0.3 m, which assumes a target groundwater level of 435.8 masl (i.e., 0.5 m below base of excavation) and an initial groundwater level of 436.1 masl (seasonal high groundwater level determined at MW-06)

### Typical:

Under average groundwater conditions, the forebay excavations are not expected to extend below groundwater. As such dewatering under typical conditions is estimated to be negligible.

Construction of the SWM Facility outlet "deep pool", which was modeled as flow-to-well for an equivalent well with area equal to approximately 585 m<sup>2</sup>). The following cases were estimated:

### Maximum:

- o Hydraulic conductivity of 2x10<sup>-4</sup> m/s (i.e., includes a factor of safety of 2 applied to assumed value for hydraulic conductivity for sand and gravel, some silt unit encountered at MW-01)
- Target drawdown of 1.1 m, which assumes a target groundwater level of 434.8 masl (i.e., 0.5 m below the base of excavation) and an initial groundwater level of 435.9 masl (i.e., seasonal high groundwater level determined at MW-01)

# Typical:

Under average groundwater conditions, the forebay excavations are not expected to extend below groundwater. As such dewatering under typical conditions is estimated to be negligible.

Construction of the Sanitary Sewage Pumping Station was estimated using a flow-to-well model for a well with equivalent perimeter equal to approximately 120 m. Although the detailed design of the SPS is not available at this time, this estimate assumes that the excavation will extend 5 m below the invert of the sewer that enters into the SPS block (approximately 436.0 masl). This corresponds to a bottom-of-excavation elevation of 431.0 masl.

Based on this information, the following SPS dewatering scenarios will be used for the purposes of this dewatering assessment:

### Maximum:

 Assumes that sand and gravel with a saturated thickness of 2.5 m is encountered during the excavation, overlying the Lower Till.

HYDROGEOLOGICAL STUDY FOR HILLSBURGH TRAILS SUBDIVISION: PART OF LOT 23, CON 7, TOWN OF ERIN

GMBP FILE: 121132 **NOVEMBER 7, 2024** 

THOMASFIELD HOMES LIMITED

- Hydraulic conductivity of 2x10<sup>-4</sup> m/s (i.e., includes a factor of safety of 2 applied to assumed value for hydraulic conductivity for sand and gravel, some silt unit encountered at MW-01)
- Hydraulic conductivity of 1x10<sup>-7</sup> m/s (i.e., assumed value for hydraulic conductivity of the clayey silt Lower Till)
- Target drawdown of 3.5 m, which assumes a target groundwater level of 430.5 masl (i.e., 0.5 m below the base of excavation) and an initial groundwater level of 434 masl (interpreted seasonal high groundwater level at the SPS location)

# Typical:

- Based on the same assumptions as the maximum case except that the sand and gravel unit terminates above the groundwater table:
  - Hydraulic conductivity of 1x10<sup>-7</sup> m/s (i.e., assumed value for hydraulic conductivity for the clavey silt Lower Till)

Additional assumptions are given in the construction dewatering calculation sheets (Appendix H).

For permitting purposes, the construction dewatering rates have been estimated to be as follows (values have been rounded from line estimates provided in Appendix H):

Excavation Type	Typical Expected Daily Water-Taking Rate (L/d)	Maximum Expected Daily Watering-Taking (L/d)
Sanitary Sewer Construction (near MH36A, MH21A, MH22A, MH23A).	0*	76,000
Construction of SWM Pond (includes contributions from Forebay and Deep Pool)	0*	261,000
Construction of Sanitary Sewer Pumping Station	7,000	181,000

<sup>\*</sup> Excavation depths are well above the SHGWL for much of the year. Therefore, under typical dewatering conditions, dewatering is expected to be nil.

Based on the estimates provided, the maximum expected daily water-taking rate assuming dewatering from all sources at once is approximately 518,000 L.

However, it is expected that the construction of the storm water management facilities (261,000 L/d) will not occur concurrently with the construction of the sanitary sewer pumping station (181,000 L/d) and the connecting sanitary sewer (76,000 L/d).

As such, the dewatering activities are not expected to exceed the threshold of 400,000 L on any given day. It is therefore recommended that an EASR be sought for the dewatering activities, assuming that the construction can be staged as described above.

#### 5.2 **ZONE OF INFLUENCE**

The zone of influence is expected to vary depending on the location of a given excavation in which dewatering is occurring. For the various types of dewatering situations, the zone of influence is defined as the area within the "radius of influence" from the edge of excavation, with the radius of influence (R<sub>0</sub>) being calculated using the Sichardt equation (see Appendix H).

THOMASFIELD HOMES LIMITED

The following is a summary of the estimated radius of influence for each of the work areas that are expected to require dewatering:

- Servicing (i.e., Sanitary Sewer Construction near MH36A, MH21A, MH22A, MH23A)
  - o Radius of Influence: 17 m
- Stormwater Management Pond Forebay
  - o Radius of Influence: 13 m
- Stormwater Management Pond Deep Pool
  - o Radius of Influence: 47 m
- Sewage Pumping Station
  - Radius of Influence: 106 m

The largest expected zone of influence is attributed to the construction of the Sewage Pumping Station (SPS) in the southeasterly portion of the project area.

Review of the zones of influence indicates that the expected dewatering will not interfere with existing wells as the nearest overburden well is located over 200 m from the southern boundary of the Site. Furthermore, the zones of influence do extend as far as the wetlands in the low-lying areas to the east of the Site.

Therefore, based on the separation distance from receptors, impacts related to water-taking during construction dewatering are not anticipated.

#### 5.3 **DEWATERING METHODOLOGY**

Due to the prevalence of cohesionless soils (predominantly sand/sand with gravel and silt) below groundwater, it may be preferable to undertake the dewatering operation using wellpoints, especially for trench excavations if it is desirable or necessary to limit the overall width of the excavation.

Wellpoints, if utilized, shall be installed by a licensed well drilling contractor in accordance with O.Reg. 903. At the end of the project, they shall be decommissioned by licensed well drilling contractor, also in accordance with O.Reg. 903.

Alternatively, the dewatering could be undertaken using sumps, though due to the instability of the trench below groundwater it is expected that sump dewatering would require the excavation of a much wider trench than would be required if wellpoints were used.

For the stormwater management pond excavations, sump dewatering is expected to be most applicable, but wellpoints may be of use at the outlet/deep pool area if excavation is undertaken in seasons of high groundwater (i.e., February to April).

It will be the responsibility of the contractor to select and implement an appropriate dewatering methodology.

### 6. IMPACT ASSESSMENT

Hydrogeological impacts generally concern either impacts to the quantity of groundwater or the quality of groundwater. Both of these types of impacts must be considered in the context of their sources (or stressors) and the potential receptors.

#### 6.1 **RECEPTOR ANALYSIS**

In terms of receptors, the nearest surface water body is the Credit River (Erin Branch) and associated wetlands which lie approximately 110 m east of the Site. The sand and gravel to sand-silt aquifer that appears to be laterally extensive



THOMASFIELD HOMES LIMITED

beneath the Site may also potentially drain via springs in the hillslope (e.g., to the east and south of the Site) to the Credit River (Erin Branch).

There are also numerous domestic water wells located within the study area.

For most of the development area, excavations and structures will lie at surface or at shallow depths well above this aquifer, and hydraulic separation provided by the upper till will prevent impacts to the aquifer and the River. However, the deeper parts of the SWM Pond (e.g., forebay, outlet "deep pool") may intersect the aquifer, which could result in a transport pathway. This will be discussed in greater detail in the following sections.

With respect to wells, generally, shallow overburden wells are at greater risk of being impacted by near-surface activities. There are two known overburden wells within the Study area: the dug well at 9357 Wellington County Road 22 and MECP Well ID 7104643, which is located at a property on Main Street in Hillsburgh. These wells are located approximately 200 m and 475 m from the Site, respectively. The well at Main Street is relatively far away and on the opposite side of the Credit River from the Site. As such there does not appear to be a pathway for the Site to cause impacts at that well. The dug well at 9357 Wellington County Road 22 may be susceptible to stormwater management activities at the Site: this will be discussed in greater detail in the following sections.

The other domestic wells known to be located within the study area are reported to be bedrock wells. The nearest domestic bedrock well to the Site (Well ID 6705975) is recorded to have a static water level of 24 mbgs, while the water levels on-site are generally in the range of 9 to 12 mbgs. It is also noted that there is a capillary break (i.e., the unconfined sand and gravel to sand-silt layer underlying the upper till) and a lower till layer of significant thickness separating the surface from the bedrock aguifer. This indicates a significant hydraulic resistance to vertical groundwater flow and effective separation between the overburden groundwater and the bedrock aquifer.

The table below provides the results of a screening assessment used to identify which types of impacts apply to which receptors. Potential impacts identified in the screening process will be discussed in greater detail in the following sections.

GMBP FILE: 121132

THOMASFIELD HOMES LIMITED

**NOVEMBER 7, 2024** 

Receptor	Potential Impacts Related to		Rationale	
Keceptoi	Water Quantity	Water Quality	Rationale	
Municipal Water Resources/Source Water Protection			The nearest municipal water supply well is over 1,200 m north of the Site, east of Credit River (Erin Branch). The Site is not within a wellhead protection area. Though the Site does overlap an SGRA and HVA, the proposed development does not trigger source protection policies for those areas (See Section 2.5).	
Private Water Wells	•	•	Several domestic water well records within the Study Area were identified. Though most wells are not expected to be affected by the proposed development, one overburden dug well located approximately 200 m south of the Site may be susceptible to impacts unless appropriate mitigation is implemented.	
Credit River (Erin Branch) and Associated Wetland Areas	•	•	Water quantity impacts must be assessed because development often results in changes to the water balance at the site level, which may have implications for downgradient water bodies. Water quality may also be affected due to the potential for the SWM Pond to affect groundwater in the sand and gravel to sand-silt aquifer. The management of dewatering discharge must also be considered.	
Construction Activities	•	•	Construction dewatering may be required to complete servicing activities. The approval and operation of groundwater control systems will be considered a potential water quantity impact to the project.  The dewatering discharge may result in impacts to surface water quality for which the construction project is responsible to mitigate.	

### 6.2 PRIVATE WATER WELLS

Most drilled wells within the study area have the benefit of significant hydraulic separation from the proposed development and are not expected to be affected by the development.

However, one well located at 9357 Wellington County Road 22 has greater susceptibility due to its construction (i.e., a shallow dug well intersecting the sand and gravel aquifer that extends beneath the Site) and location (i.e., about 200 m downgradient of the Site).

# 6.2.1 Quantity

### Long-Term Subdivision Operation

The subdivision is not expected to induce long-term impacts to the quantity of water available to this well because the development is municipally serviced for water (i.e., will not be actively drawing groundwater for supply).



HYDROGEOLOGICAL STUDY FOR HILLSBURGH TRAILS SUBDIVISION: PART OF LOT 23, CON 7, TOWN OF ERIN

GMBP FILE: 121132 **NOVEMBER 7, 2024** 

THOMASFIELD HOMES LIMITED

A water balance has been prepared regarding the proposed development (GMBP, 2024). Accounting for the effects of proposed infiltration galleries to provide enhanced recharge, the proposed development is expected to have little effect on the estimated annual quantity of groundwater recharge:

Pre-development: 26,448 m<sup>3</sup>/year Post-development: 26,603 m<sup>3</sup>/year

% Change: +0.6%.

Therefore, the proposed development is not expected to reduce the availability of groundwater for private well users.

# Construction Dewatering

Construction dewatering will be undertaken to facilitate certain aspects of the construction process (i.e., construction of SWM pond and site servicing) and is expected to result in a temporary drawdown of the shallow water table. The zone of influence of the dewatering activity has been estimated to extend up from about 17 m to 106 m from the proposed excavation areas (depending on hydraulic conductivity and dewatering scenario).

The well at 9357 Wellington County Road 22 lies a significant distance outside of the expected zone of influence. Therefore, the amount of groundwater available to this well is not expected to be affected by construction dewatering for the proposed development.

# 6.2.2 Quality

### Long-Term Subdivision Operation

Among the activities associated with the development, the one that is most likely to affect the groundwater quality available to the well at 9357 Wellington County Road 22 is the operation of the stormwater management (SWM) pond.

The proposed design of the SWM Pond indicates potential for the deepest parts of the SWM Pond to be excavated into the sand and gravel / sand-silt aguifer that lies beneath the upper till. As such, the SWM Pond may be a transport pathway for surface contaminants, such as metals and hydrocarbons which are often associated with stormwater, to enter into that aquifer.

To mitigate the potential for the SWM Pond to influence the water quality in the underlying aquifer, and to ensure that the SWM Pond is capable of effectively retaining the permanent pool according to design, it is recommended that a liner be designed and installed.

The liner would prevent the development of transport pathways into the sand and gravel aquifer which may intersect the deepest parts of the SWM Pond (i.e., the outlet "deep pool" basin and forebay). The liner shall be designed with input from a geotechnical engineer to confirm details such as the type of liner (e.g., geomembrane, compacted clay), extent of the liner installation, and requirements for cover, subgrade preparation, and stabilization (e.g., anchor trenches, runout lengths).

### **Construction Dewatering**

The dewatering activity itself is not expected to affect water quality available to private wells. This is because dewatering generally affects only water quantity, rather than quality. However, during construction there are some activities that should be restricted or subject to certain mitigation measures.

For example, when excavating the SWM Pond or services along the southerly portion of the Site (e.g., Street A), care should be taken to prevent contaminants from entering the excavations. Fueling of equipment or storage of chemicals should be prohibited within 30 m of the SWM Pond or within 30 m of any open excavation along Street A between MH32A and County Road 22.

THOMASFIELD HOMES LIMITED

#### 6.3 SURFACE WATER BODIES - CREDIT RIVER (ERIN BRANCH) AND ASSOCIATED WETLAND AREAS

# 6.3.1 Quantity

# **Long Term Subdivision Operation**

The water balance provided in the functional servicing report indicates that, with the provision of the enhanced recharge by the rear-yard and other infiltration galleries, the annual quantity of recharge is expected to be maintained in the postdevelopment condition.

It is also noted that the use of rear-yard infiltration galleries will ensure that recharge is relatively evenly distributed over the entire site and therefore capable of closely approximating the pre-development condition in which there are no impervious surfaces and infiltration may occur at essentially any location on-site. This approach will support the maintenance of existing groundwater flow patterns on-site.

On a monthly basis, it is noted that the proposed development will have an "equalizing" effect on recharge in that the amount of recharge will be more consistent throughout the year whereas in the pre-development condition the recharge quantities were skewed towards the early part of the growing season. For example,

Estimated Groundwater Recharge in May

Pre-Development: 9.015 m<sup>3</sup> o Post-Development: 6.142 m<sup>3</sup>

Estimated Groundwater Recharge in October

Pre-Development: 315 m<sup>3</sup> Post-Development: 1469 m<sup>3</sup>

However, this anticipated shift in recharge is not expected to result in a negative impact to wetlands or surface water receivers because, as is noted in the groundwater hydrographs, groundwater levels in the aguifer (e.g., MW-04, MW-05) on-site remain relatively consistent throughout the year under current conditions. The shift in groundwater recharge is therefore not expected to significantly affect current patterns of groundwater flow or potential groundwater discharge to the surface water bodies or wetland areas.

In terms of runoff, the proposed development is expected to increase annual quantities by approximately 246%. This is understood to be mainly due to the increase in impervious surfaces, which will reduce loss of moisture through evapotranspiration and divert the excess to runoff. However, this change in runoff quantities is not expected to have a significant impact on the wetland areas. During periods of low water, when runoff may be confined to channels within the wetland area, the peak runoff flows will be attenuated by the stormwater management facility, minimizing the potential to cause overbank flooding or excessive erosion. During periods of high water, runoff will be distributed over a large area (i.e., the inundated area of the wetland) and, due to the large size of the wetland areas, will correspond to a very minor increase in water levels or impact to hydroperiod.

In addition, in the Environmental Impact Study report prepared for the proposed development, NRSI (2024) conducted an assessment of potential impacts to the West Credit River Wetland Complex according to the Wetland Water Balance Risk Evaluation (TRCA, 2017), concluding that though the ecological system associated with the wetland complex may be considered "highly sensitive" to hydrological change, the degree of hydrological change that is expected to be caused by the proposed development is "low". As a result, the proposed development is not expected to cause negative impacts to the water balance of the West Credit River Wetland Complex.

### Construction Dewatering

The impact of construction dewatering is not expected to affect the wetland area because the water extracted during dewatering activities is proposed to be returned to the same catchment from which it was taken. It will therefore not reduce water availability to the local wetlands and Credit River (Erin Branch).

THOMASFIELD HOMES LIMITED

Furthermore, the dewatering quantities are expected to be relatively small and the duration of dewatering would be temporary. The potential for dewatering to cause negative water quantity impacts to the nearby water bodies or wetlands is considered to be very low.

# 6.3.2 Quality

# Long-Term Subdivision Operation

The mitigation measures recommended in Section 6.2.2 would also help to prevent impacts to the Credit River (Erin Branch) and associated wetlands.

The functional servicing report (GMBP, 2024) identifies a treatment train approach to mitigating potential water quality impacts that may be associated with stormwater runoff. The proposed stormwater management facility has been designed with the intent of achieving "enhanced" water quality treatment in accordance with the MECP Stormwater Management Planning and Design Manual (2003). Thermal mitigation measures have also been incorporated into the design of the stormwater management facility.

As such, water quality impacts to downstream surface water bodies are expected to be appropriately mitigated.

# Construction Dewatering

The recommendations regarding construction dewatering given in Section 6.2.2 would also apply here, namely that fueling of equipment or storage of chemicals should be prohibited within 30 m of the SWM Pond or within 30 m of any open excavation along Street A between MH32A and County Road 22.

Additional mitigation measures are provided in Section 7 below.

#### 6.4 **CONSTRUCTION ACTIVITIES**

Construction activities are expected to be subject to potential hydrogeological impacts in the sense that there is potential for groundwater to seep into excavations. Dewatering is therefore required to facilitate the construction work.

An analysis of construction dewatering requirements has been completed and has identified potential for dewatering in the range of 200,000 to 300,000 L/d (see Section 5), depending on project scheduling and phasing.

As such, it is recommended that an Environmental Activity and Sector Registry approval be obtained from the MECP in respect of the proposed dewatering project.

# 7. CONSTRUCTION DEWATERING MONITORING AND MITIGATION PLANS

The following describes the details of the monitoring and mitigation plan proposed to be implemented alongside the construction dewatering activities. It is noted that though this section does not constitute an entire water-taking and discharge plan as is required to accompany an EASR registration under O.Reg. 63/16, it is recommended that the plans given in this section (i.e., Section 7 and subsections) be included in the development of the water-taking and discharge plan.

#### 7.1 **MONITORING ACTIVITIES**

The results of all monitoring activities should be kept in a monitoring logbook. The logbook may be maintained in paper or electronic format but must be available for review on-Site, as required.

Except where noted below, it is recommended that the monitoring activities be the responsibility of the Engineer / Construction Inspector.



THOMASFIELD HOMES LIMITED

Where monitoring activities are to be made the responsibility of the Contractor, the Engineer / Construction Inspector shall undertake regular checks (e.g., reviews of collected data, observation of monitoring practices) to ensure that the Contractor is meeting the requirements of the program.

Appendix I (Table I1) provides a summary of the monitoring activities and related thresholds in tabular format. In Appendix I, the monitoring activities are divided into pre-construction and during/post-construction sections. For the during/post-construction monitoring activities, a threshold has been identified which, if exceeded, shall be followed up with contingency mitigation measures.

For example, if inspection of erosion and sediment control facilities (Table I1, monitoring task D1) indicates evidence of erosion (Table I1, Threshold ID D1.1), then corrective action shall be undertaken to repair or replace the defective facilities (per Table I2, Threshold ID D1.1).

# 7.1.1 Groundwater Level Monitoring

Prior to the start of dewatering, groundwater level measurements will be made at all on-site monitoring wells to ensure that groundwater levels are within the historical range.

If groundwater levels are above the historical range, then construction dewatering rates must be re-assessed to ensure that the proposed mitigation measures remain adequate and that the same approvals framework (i.e., EASR) applies.

### 7.1.2 Private Well Monitoring

At the time of preparation of this report, based on results of the desktop well records review and the door-to-door well survey completed in 2016, there were no shallow overburden water supply wells identified within 125 m from the proposed development. The nearest shallow dug well is reported to be located approximately 200 m southeast of the Site. Based on the separation distance from the Site and the estimated radius of influence, impacts from construction dewatering to this overburden well during construction dewatering are not anticipated.

However, as a matter of due diligence, it is recommended that a well monitoring program be developed and that the user of this well (i.e., residents of 9357 County Road 22) be invited to participate in the program.

The well monitoring program shall include baseline (i.e., pre-construction sampling) as well as sampling during construction of the SWM Pond or of any servicing construction along the segment of Street A between MH32A and County Road 22. It is recommended that the sampling schedule be once per two months during construction, plus two semi-annual samples in the 12 months following the completion of SWM Pond and servicing construction.

# 7.1.3 Discharge Monitoring

The discharge monitoring program will include the following tasks:

- Inspection of erosion and sediment control facilities
- 2. Inspection of the discharge water for evidence of impacted water (e.g., hydrocarbon sheen)
- 3. Field measurement of turbidity in dewatering discharge
- 4. Sampling and analysis of discharge water
- 5. Measurement of daily discharge volume

Regarding item 1: the inspection shall address all facilities installed by the contractor to control erosion and sediment for the dewatering activity, including but not limited to filter bags, check dams, silt socks or barriers, and/or armouring. It is recommended that the Contractor conduct these inspections on a daily basis and that the inspection records be issued to the Engineer.



HYDROGEOLOGICAL STUDY FOR HILLSBURGH TRAILS SUBDIVISION: PART OF LOT 23, CON 7, TOWN OF ERIN

GMBP FILE: 121132 NOVEMBER 7, 2024

Regarding item 2: the inspection shall be conducted to identify potential changes in water quality (e.g., sheen, odour, globules, colour change, other characteristics) which may signal the discharge of deleterious materials into the environment. It is recommended that the Contractor conduct these observations on a daily basis and that the results of observation be issued to the Engineer.

Regarding item 3: Field measurement of turbidity is to be completed on any occasion where the dewatering discharge is released in a location such that the discharge would flow overland into the nearby Credit River (Erin Branch) without first passing through an erosion and sediment control pond.

Regarding item 4: samples of discharge water shall be collected "as is" (i.e., unfiltered) and submitted to an accredited environmental laboratory for analysis of total suspended solids and turbidity. Where the discharge is passing through a temporary erosion and sediment control pond or other erosion and sediment control facility (e.g., check dams), the sample may be collected from the outlet or from the effluent downgradient of that facility, but always before the flow enters the receiving stream (e.g., the Credit River (Erin Branch)).

Regarding item 5: the measurement of daily discharge volume is preferably completed using a totalizing flow meter installed according to the manufacturer's specifications on the discharge line; alternatively, the discharge volume may be determined through calculation by multiplying the daily runtime of the pump by the discharge rate of the pump. In either case, as the measurement requires the installation or manipulation of equipment related to the dewatering discharge works, it is recommended that the measurement of daily discharge volume be made the responsibility of the Contractor.; If the calculation method is used, the pump discharge rate shall be confirmed by an appropriate method of measurement at least once per week. Daily discharge volumes are to be reported to the MECP in accordance with conditions of the EASR registration.

### 7.2 MITIGATION ACTIVITIES

Mitigation activities are divided into two categories: general mitigation activities and contingency mitigation activities. General mitigation activities are those which are implemented for the duration of the dewatering project. Contingency mitigation activities are those which are implemented when indicated by the results of the monitoring activities. For example, if a monitoring activity indicates that a water quality threshold has been exceeded, the corresponding contingency activity would then be implemented.

Appendix I (Table I2) provides a summary of the mitigation activities in tabular format. Contingency mitigation measures are associated with a Threshold ID, which corresponds to a line in the monitoring plan (Appendix I, Table I1). If the monitoring activity results in the identification of a threshold exceedance, then the corresponding mitigation measure shall be undertaken.

### 7.2.1 General Mitigation Activities

The following mitigation activities are to be maintained throughout the duration of the dewatering activity:

- 1. Erosion and Sediment Control Plan
- 2. Dewatering Intake Points
- 3. Restriction of Contaminating Activities

### **Erosion and Sediment Control Plan**

The Erosion and Sediment Control Plan concerns the management of discharge water. It involves the preparation of a discharge area consisting of a pad of clearstone surrounded by a silt sock barrier. Discharge will be released into the discharge area through a geotextile filter bag to capture sediment. The discharge area, selected by the contractor, shall be placed at least 15 m away from any surface water bodies. Where possible, the discharge area shall be placed such that the overland flow path that would be taken by the discharge, is fully vegetated.

HYDROGEOLOGICAL STUDY FOR HILLSBURGH TRAILS SUBDIVISION: PART OF LOT 23, CON 7, TOWN OF ERIN GMBP FILE: 121132

**NOVEMBER 7, 2024** 

THOMASFIELD HOMES LIMITED

The anticipated maximum rate of dewatering is relatively small (~180 L/min) and is therefore expected to be easily accommodated by the roadside ditch along County Road 22. The dewatering discharge area is therefore proposed to be placed within the SPS block (i.e., Block 149), with outlet draining south toward County Road 22.

The discharge area and filter bag shall be sized by the contractor according to the manufacturer specifications to ensure that there is sufficient capacity for the expected flow. It may be necessary to provide multiple filter bags to provide sufficient capacity and to provide flexibility or redundancy in maintenance.

The location and details of the dewatering discharge area are provided in the erosion and sediment control plan which is included as part of the engineering drawings for draft plan approval (submitted under separate cover).

Due to the steepness of the slope of County Road 22, it is recommended that erosion and sediment control facilities (e.g., rock or sandbag check dams) be installed to check the dewatering flow as it proceeds from the discharge location toward Credit River – Erin Branch, thereby mitigating erosion along the ditch and sediment entrainment toward the River.

The contractor shall select and install all erosion and sediment control facilities according to the following standards:

- OPSS.MUNI 805 (Construction Specification for Temporary Erosion and Sediment Control Measures)
- OPSS.MUNI 518 (Construction Specification for Control of Water from Dewatering Operations).

### **Dewatering Intake Points**

Sump dewatering is particularly susceptible to the uptake of entrained sediment with the discharge water.

Therefore, all sumps shall be constructed as filtered sumps, lined with a clean granular material (e.g., clearstone), to allow entrained sediment to settle out before being taken up by the sump pump. The contractor shall determine the number of sumps and select appropriate pumps to meet the dewatering drawdown and flow requirements. Where wellpoints are utilized, the wellpoints shall be provided with adequate screens and/or filters and the network shall be properly developed and tuned to ensure minimal uptake of sediment with the dewatering stream.

The discharge from the construction dewatering works shall be released within the prepared discharge area described in "Erosion and Sediment Control Plan" above.

# **Restriction of Contaminating Activities**

To prevent the introduction of contaminants into the subsurface which may then impact the groundwater quality available to nearby overburden water wells or surface water receptors, the mitigation plan shall prohibit the storage of chemicals or the refueling of equipment within 30 m of the following areas:

- The SWM Pond during construction (i.e., until the liner has been completed); and
- Any open servicing excavations along Street A between MH32A and County Road 22.

### 7.2.2 Contingency Mitigation Activities

Each activity in the monitoring plan has been assigned a threshold which, if exceeded, shall be followed by execution of contingency mitigation activities. The contingency mitigation activities are provided in Table I2 of Appendix I.

When a monitoring activity indicates a deficiency or an exceedance of an identified standard/threshold, the corresponding mitigation activity shall be undertaken.

THOMASFIELD HOMES LIMITED

# 8. SUMMARY

A hydrogeological study of the proposed residential development has been as part of an application for Zoning By-Law Amendment and Draft Plan of Subdivision for a residential subdivision proposed for a 14.15 ha parcel occupying Part of Lot 23, Concession 7, Town of Erin.

The study comprised several aspects, including desktop study of available geological and hydrogeological information. field activities such as subsurface investigation, monitoring well installation, groundwater monitoring, groundwater sampling and groundwater quality analyses.

The findings of the study are as follows:

- The site is 14.15 ha in size and is located west of the community of Hillsburgh. It is accessible from Wellington County Road 22.
- The development is proposed to comprise 142 single detached residential lots, two on-street townhouse blocks (24 units total), a multiple residential block (approximately 50 units), a park block, an open space block, a stormwater management block, a sewage pumping station, a future residential block and associated roadways.
- Topographically and hydrologically, the site is located on a hilltop with ground sloping away to the east, south and west and the Credit River (Erin Branch) lies approximately 100 m east of the site.
- The stratigraphy of the soils on and beneath the site roughly follow this sequence:
  - Topsoil overlying
  - Silt, approximately 2.5 m to 6 m thick, overlying
  - Upper Till (Sandy Silt to Clayey Silt), approximately 4.5 m to 6 m thick, overlying
  - Gravel and Sand to Sand and Silt Deposit, overlying
  - Lower Till (Clayey Silt).
- Based on information from MECP Water Well Records, bedrock was estimated to be approximately 12 to 38 metres below ground surface in Site vicinity.
- The nearest municipal water supply well is over 1,200 m north of the site, east of Credit River (Erin Branch). The Site is not within a wellhead protection area.
- The shallow groundwater on-Site is moderately mineralized and typical of the hydrogeological environment of the Site with elevated levels of hardness, calcium, manganese, and magnesium, Concentrations of nitrate in the shallow groundwater are between non-detectable to 13.2 mg/L with an average of 5 mg/L.
- Monitoring of the groundwater elevations on-site indicated that shallow groundwater flow is generally southward. though the site is situated on a groundwater divide such that groundwater flowing on the site is diverted southwestward or eastward.
- Based on the thickness of fine-textured soils in the subsurface interval above the water table, it is inferred that there is a considerable hydraulic separation between the surface and the bedrock aquifer.
- In terms of source protection, the Site is not located in a WHPA.
- Construction dewatering is expected to be required for this Site for the construction of services, the sewage pumping station, and the stormwater management facility. Based on information available to date, for approval purposes the following dewatering rates have been determined:

0	Maxim	um dewatering rate:	261,000 L/d
		From sanitary sewer trench	76,000 L/d
	•	From SWM pond excavations	261,000 L/d
	•	From Sewage Pumping Station (SPS)	181,000 L/d
0	Typica	I dewatering rate:	<7.000 L/d

- Typical dewatering rate:
  - For most of the year, groundwater levels are expected to be well below the depth of proposed excavations for the SWM Pond and the site servicing (i.e., sanitary sewer).
  - Under average groundwater level conditions, up to 7,000 L/d dewatering has been estimated or the SPS excavation.
- Based on the quantity of dewatering, it is proposed that dewatering discharge be released to the ditch along County Road 22 with appropriate erosion and sediment controls.
- Based on the dewatering rates expected, it is recommended that the construction dewatering activity for this project be registered on the Environmental Activity and Sector Registry (EASR).
- The zone of influence of dewatering has been estimated for the excavations as follows:

GMBP FILE: 121132

NOVEMBER 7, 2024

•	From sanitary sewer trench	17 m
•	From SWM pond excavation	47 m
	From Sewage Pumping Station (SPS)	106 m

- The nearest shallow dug water supply well is reported to be located approximately 200 m south of the Site. Based on the separation distance from the Site and the estimated radius of influence, impacts from construction dewatering to this overburden well during construction dewatering are not anticipated. However, to prevent contamination of the overburden aquifer associated with this well, mitigation measures have been proposed (e.g., SWM Pond liner, restrictions on certain activities near select excavations) and a due-diligence well monitoring program has been proposed.
- A conceptual monitoring and mitigation plan has been prepared to address potential impacts that the construction dewatering operations may have on the natural environment, though it is expected that a more detailed watertaking and discharge plan will need to be prepared to meet the requirements of O.Reg. 63/16 and the associated EASR registration.
- Accounting for the effects of the proposed rear-yard infiltration galleries, the proposed development is expected
  to result in a slight increase (+0.6%) in recharge as compared to pre-development conditions. This change is not
  expected to result in hydrogeological impacts to water well users or ecological features (e.g., wetlands, Credit
  River Erin Branch).

### 9. CONCLUSIONS AND RECOMMENDATIONS

Based on the information presented in this report, the hydrogeological impact assessment of the Site indicates that there are no major regulatory obstacles to the development of the Site.

Regarding the hydrogeological conditions and impact assessment of the Site, GM BluePlan make the following recommendations for consideration of the proposed dewatering activities:

- That all on-Site wells be decommissioned according to O.Reg. 903 by a licensed water well drilling contractor
  when it has been determined that the wells are no longer required for monitoring purposes and preferably before
  the start of house construction at the Site;
- That a water-taking and discharge plan be developed according to the requirements of O.Reg. 63/16 and in consideration of the recommendations made in Section 7 of this report and that this water-taking and discharge plan be implemented during construction;
- That an EASR registration be made in respect of the anticipated construction dewatering activity;
- That a private well water quality monitoring program be developed and implemented according to the recommendations provided in Section 7.1.2;
- That an appropriate liner be designed and installed with the intent of preventing the development of transport pathways between the deepest parts of the SWM Pond (i.e., the outlet basin and the forebay) and the underlying aquifer and that the details of the design of this liner (e.g., extent, type, and requirements for cover, subgrade preparation, and stabilization) be confirmed with input from a geotechnical engineer; and
- That the outlet from the SWM Pond be constructed with provisions to mitigate the potential for erosion.

All of which is respectfully submitted.

Jama Obsich

GM BLUEPLAN ENGINEERING LIMITED Per:

Joanna Olesiuk, M.A.Sc., C. Tech., P.Geo. (Limited) Senior Technical Specialist Matthew Long, M. Eng., Yes

7 Nov 2024

M. R. LONG 100228503

THICE OF ON THE

GMBP FILE: 121132

**NOVEMBER 7, 2024** 

THOMASFIELD HOMES LIMITED

# **10. STATEMENT OF LIMITATIONS**

The information in this report is intended for the sole use of Thomasfield Homes Limited and its successors or assigns. GM BluePlan Engineering Limited accepts no liability for use of this information by third parties. Any decisions made by third parties on the basis of information provided in this report are made at the sole risk of the third parties.

GM BluePlan Engineering Limited cannot guarantee the accuracy or reliability of information provided by others. GM BluePlan Engineering Limited does not accept liability for unknown, unidentified, undisclosed, or unforeseen surface or sub-surface conditions that may be later identified.

The conclusions pertaining to the condition of soils and/or groundwater identified at the site are based on the visual observations at the locations of the investigative boreholes/monitoring wells and on the reported analytical data for the selected soil and groundwater samples. GM BluePlan Engineering Limited cannot guarantee the condition of soil and/or groundwater that may be encountered at the site in locations that were not specifically investigated as part of this investigation. This report is considered to be representative of the condition of the Site as of June 13, 2024.

### 11. REFERENCES

Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario. Ontario Geological Survey, Miscellaneous Release. Data 228.

Chapman, L.J. and Putnam, D.F. 1985. Physiography of Southern Ontario – 3<sup>rd</sup> Edition. Ontario Geological Survey. Special Volume 2.

Corporation of the Town of Erin. 2014. Comprehensive Zoning By-law No. 07-67. Accessed online on 3 September 2016 at http://www.erin.ca/file.ashx?id=d02164e9-e6a2-4cee-a36b-2c2997914d7e

Ontario Ministry of the Environment, Conservation and Parks. 2016a. Ontario Water Well Information System – Map: Well Records. Accessed online at https://www.ontario.ca/environment-and-energy/map-well-records on September 6, 2016.

Ontario Ministry of the Environment, Conservation and Parks, 2024. Map: Source Water Protection, Accessed online at http://www.applications.ene.gov.on.ca/swp/en/ on September 16, 2024.

Ontario Ministry of Natural Resources. 1984. Water Quantity Resources of Ontario.

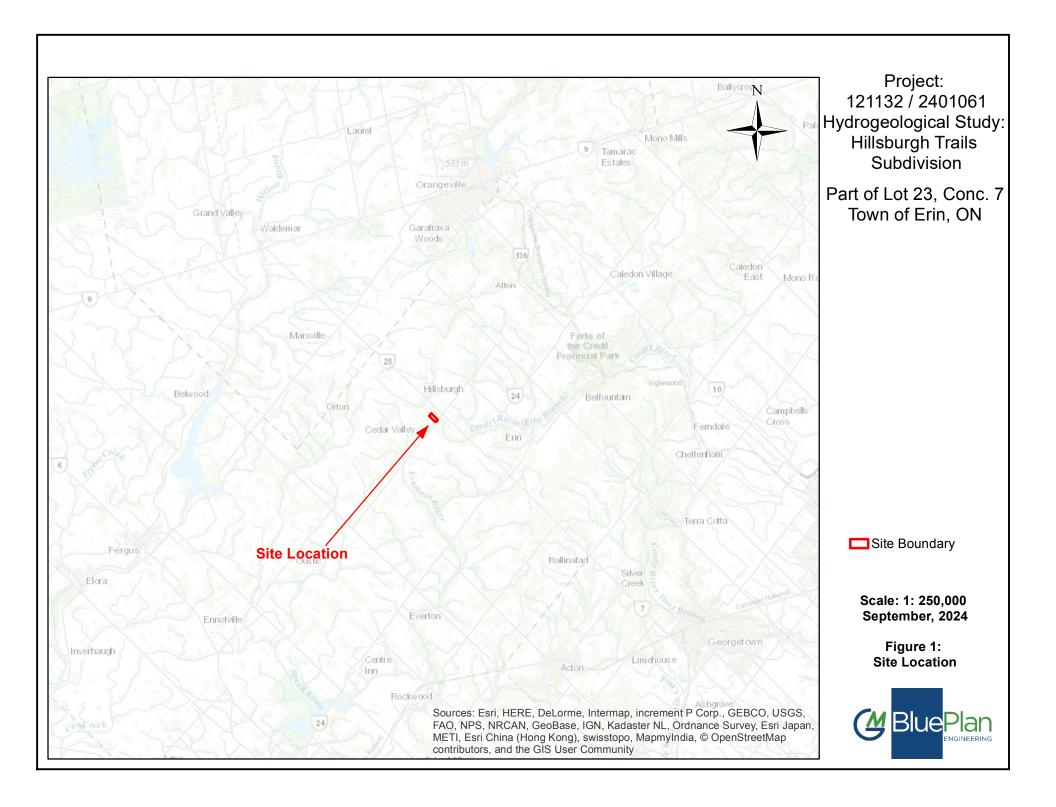
Ontario Ministry of Transportation. 1997. Drainage Management Manual – Part 4 Design Charts.

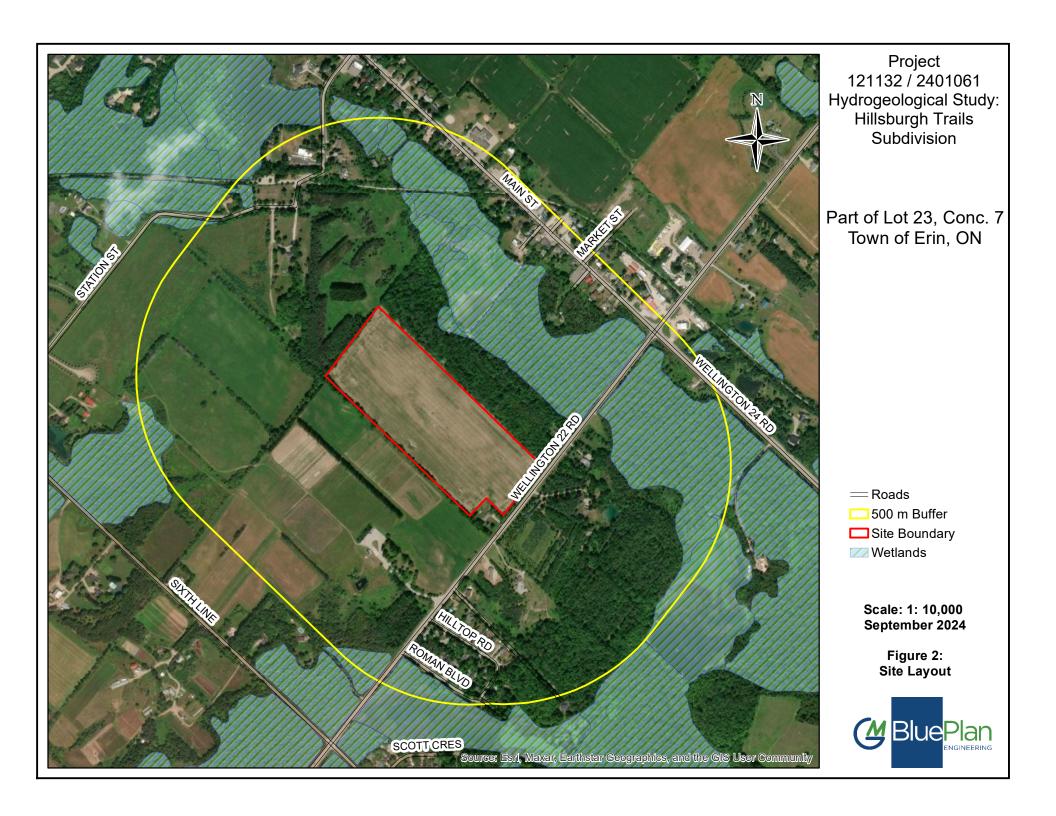
Natural Resources Canada. 2016. Toporama Topographic Map – 040P16 – Orangeville, Ontario. Accessed online at http://atlas.nrcan.gc.ca/toporama/en/index.html on September 3, 2016.

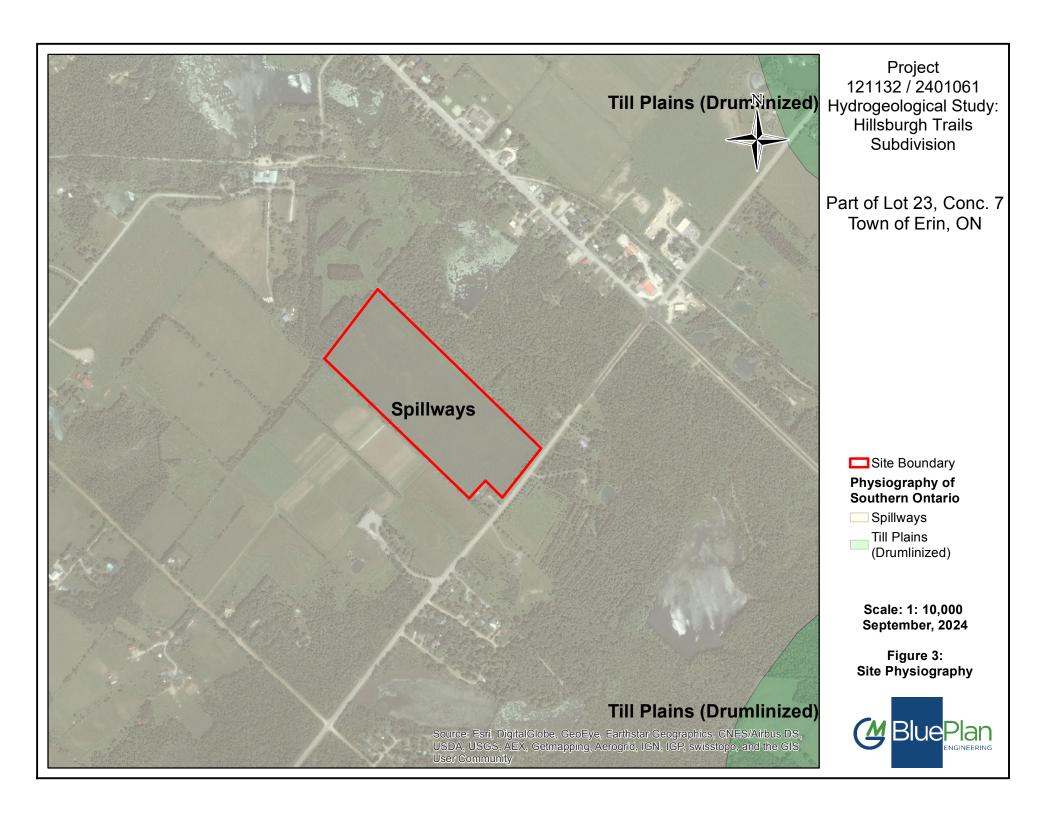
Ontario Geological Survey. 2010. Surficial Geology of Southern Ontario; Ontario Geological Survey. Miscellaneous Release, Data 128 - Rev.

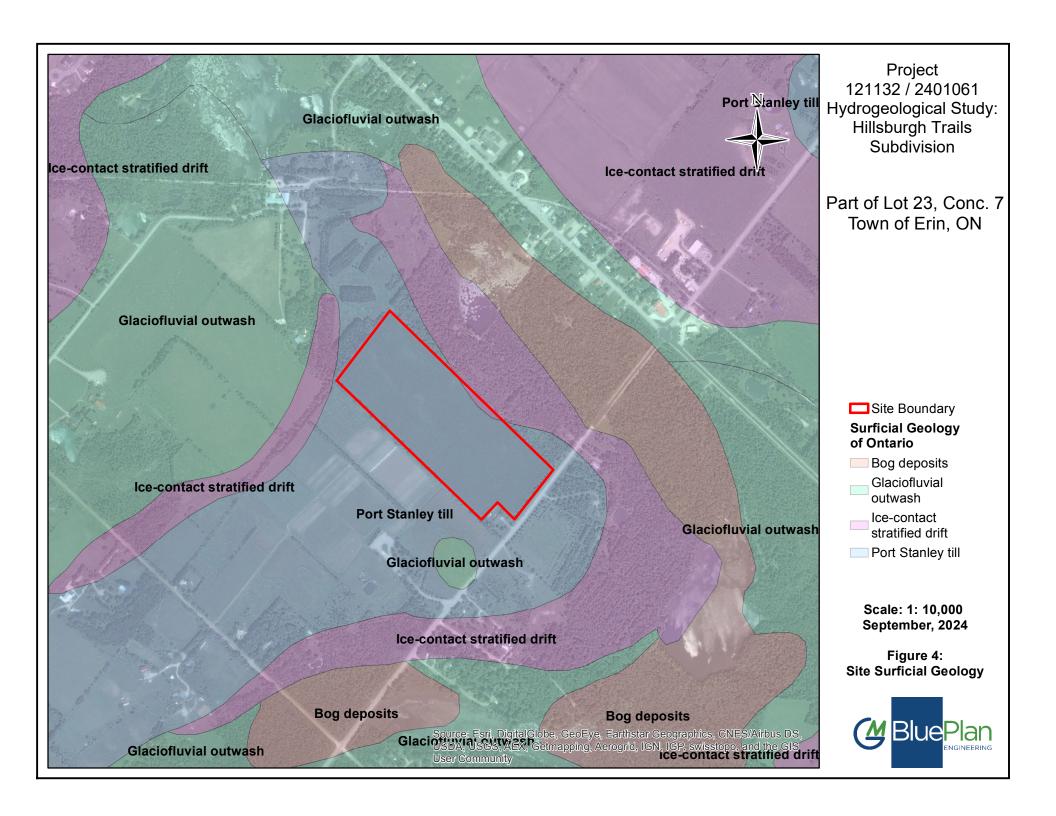
Ontario Geological Survey, 2011. 1:250,000 Scale Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release, Data 126 - Rev. 1

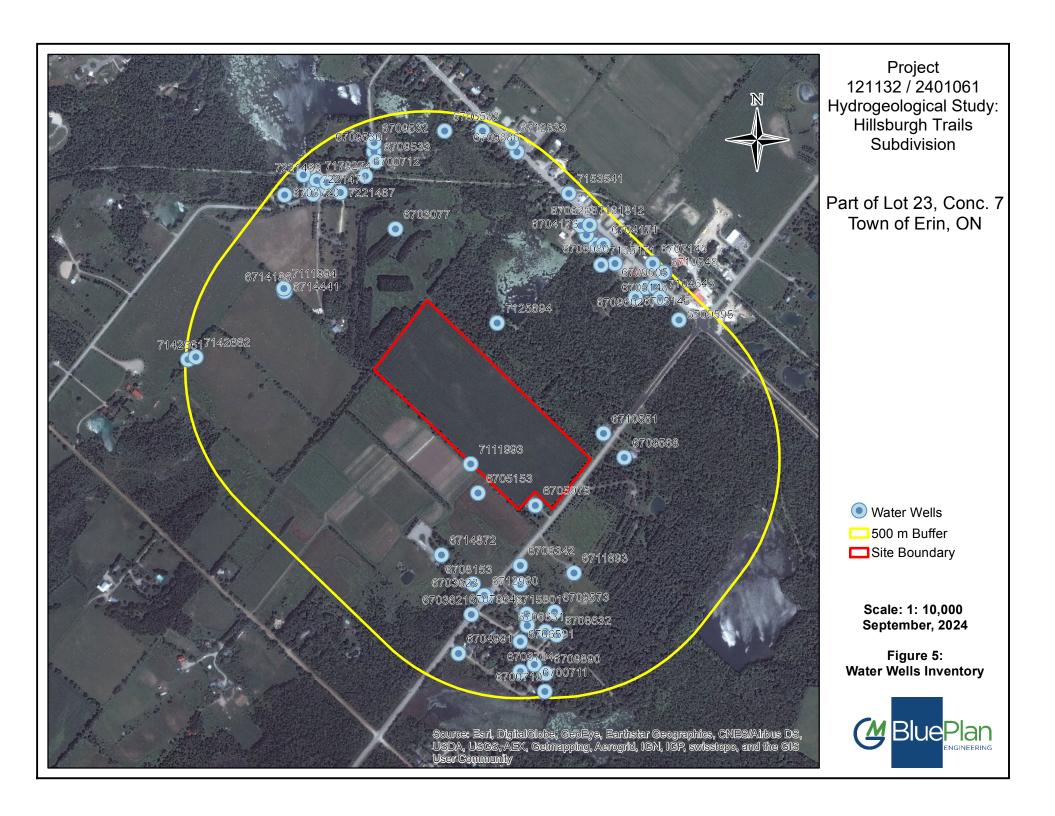
**FIGURES** 

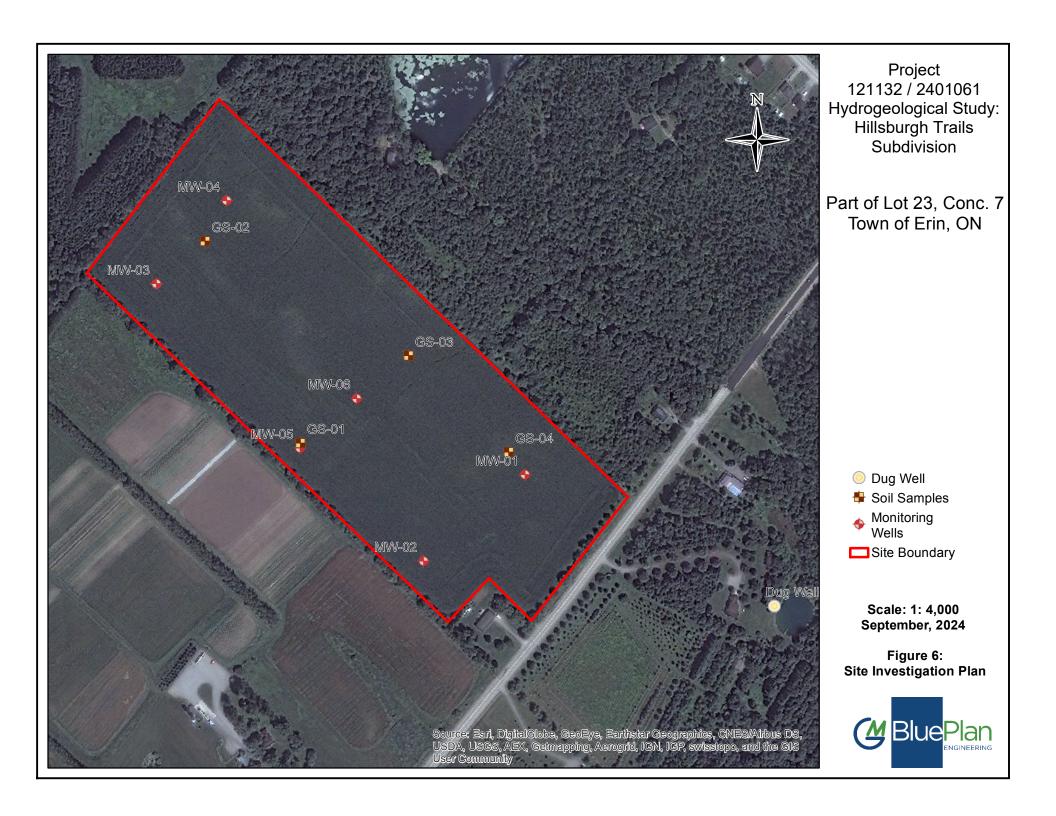














Project: 121132 / 240161 Hydrogeological Study: Hillsburgh Trails Subdivision

# **LEGEND**



INFERRED GROUND WATER FLOW DIRECTION



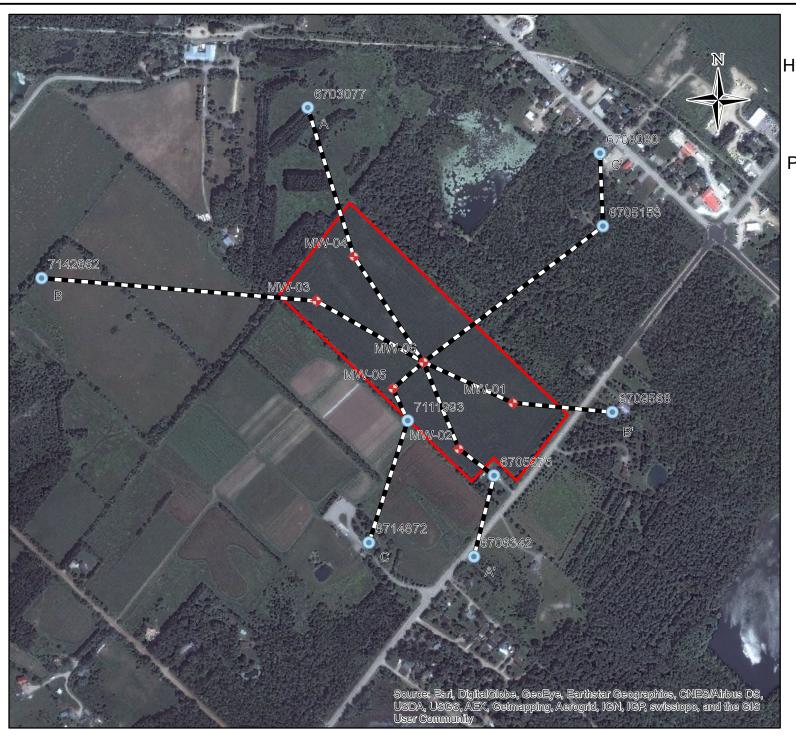
MONITORING/ GROUNDWATER WELL

Note: GWLs are from Sep 26, 2016

INFERRED GROUNDWATER CONTOURS AND FLOW DIRECTION Figure No. 7



116103 AUGUST 2024 Scale: 1:4000 | NAD 1983 UTM Zone 17N



Project: 121132 / 2401061 Hydrogeological Study: Hillsburgh Trails Subdivision

Part of Lot 23, Conc. 7 Town of Erin, ON

# **LEGEND**

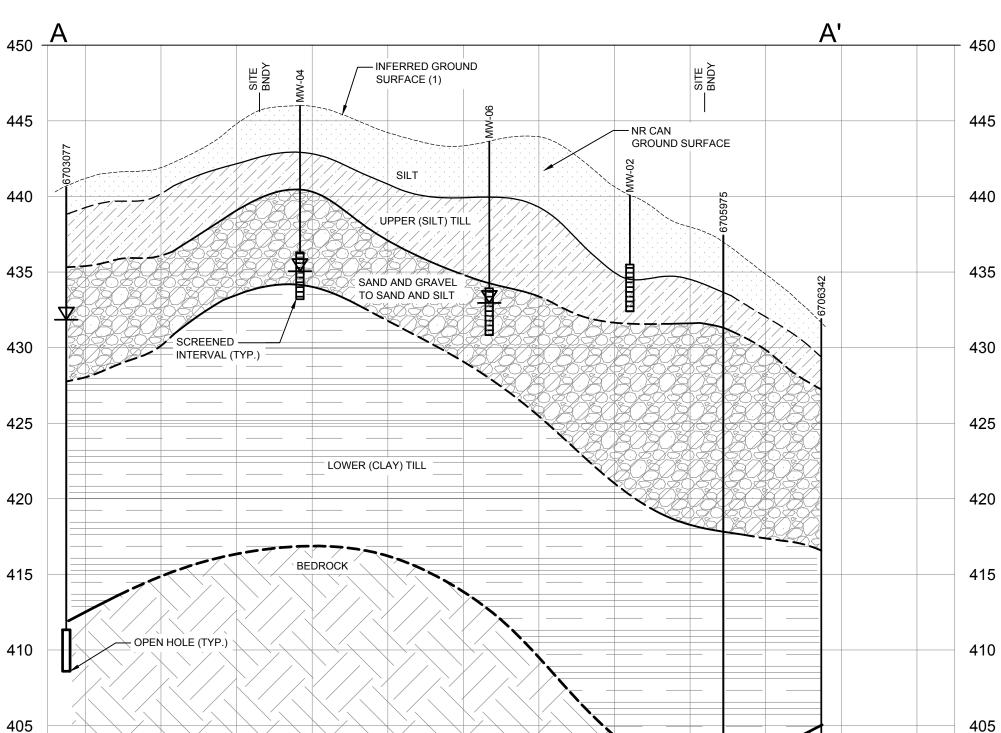
- MOECC Water Wells
- Monitoring Wells
- Sections
- ☐ Site Boundary

Note: GWLs are from Sep 26, 2016

August, 2024

Figure 8: Section Key Plan





Project: 121132 / 2401061 Hydrogeological Study: Hillsburgh Trails Subdivision

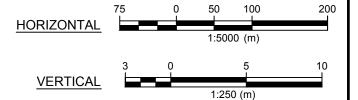
Part of Lot 23, Conc. 7 Town of Erin, ON

**LEGEND** 

WATER LEVEL

----INFERRED FROM INCOMPLETE DATA

Note: GWLs are from Sep 26, 2016

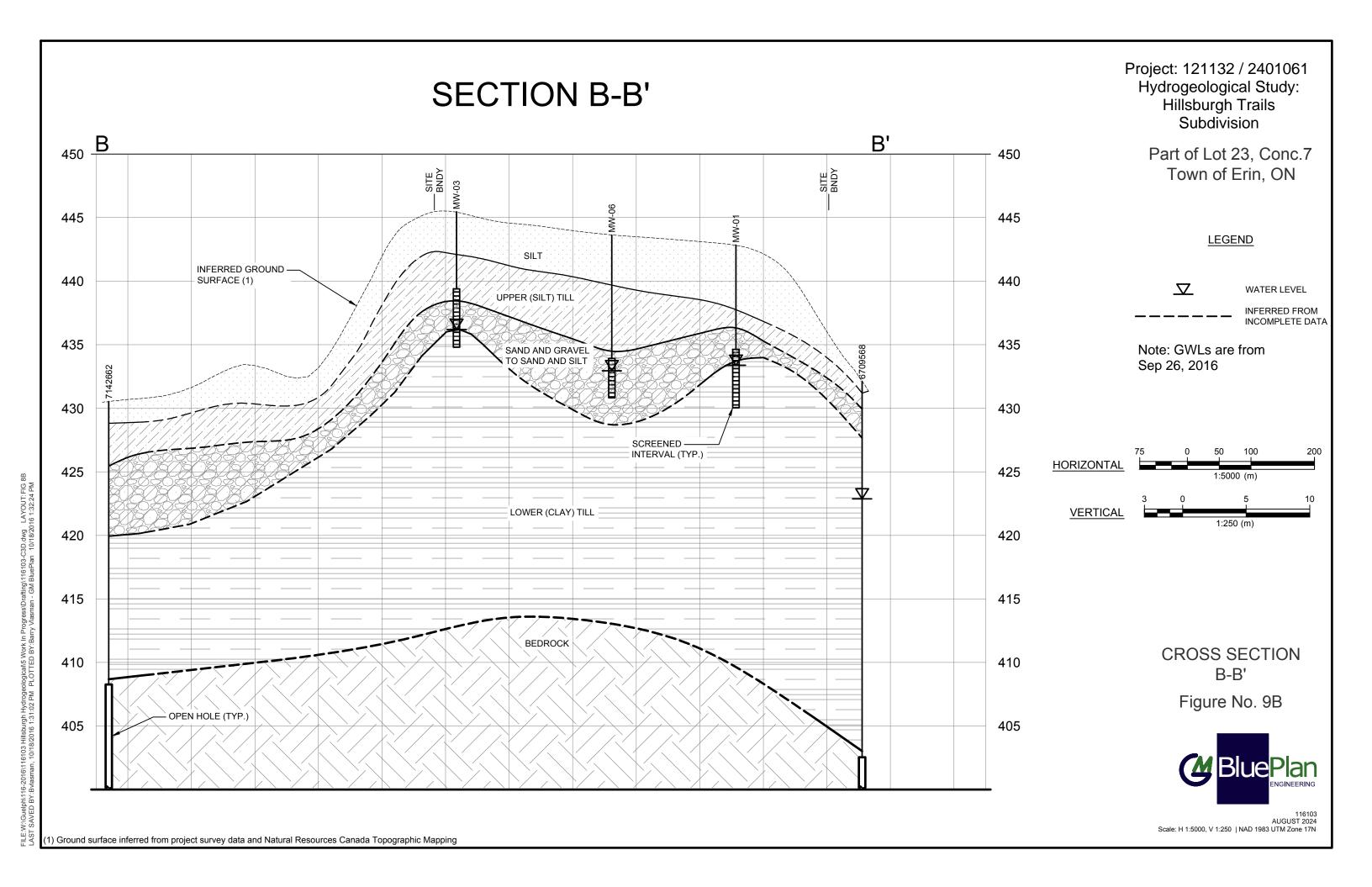


CROSS-SECTION A-A'

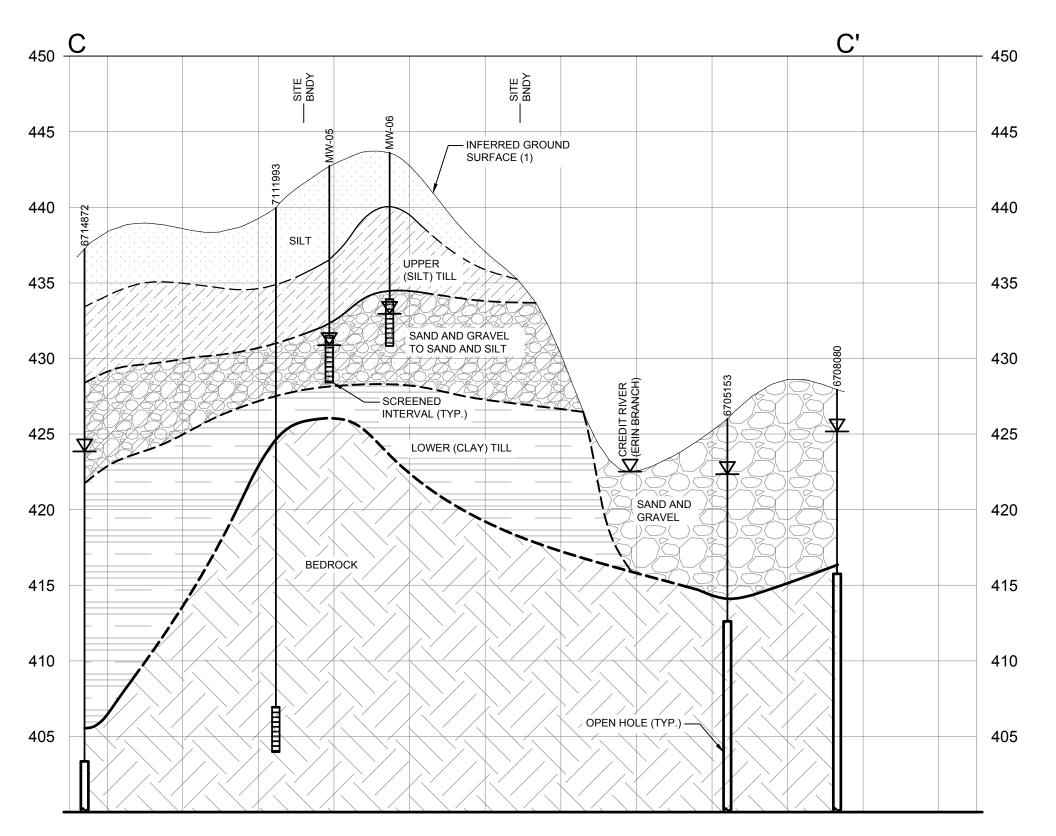
Figure No. 9A



116103 AUGUST 2024 Scale: H 1:5000, V 1:250 | NAD 1983 UTM Zone 17N



### **SECTION C-C'**



Project: 121132 / 2401061 Hydrogeological Study: Hillsburgh Trails Subdivision

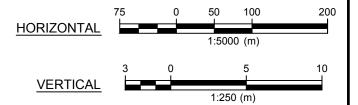
> Part of Lot 23, Conc.7 Town of Erin, ON

> > LEGEND

WATER LEVEL

INFERRED FROM INCOMPLETE DATA

Note: GWLs are from Sep 26, 2016

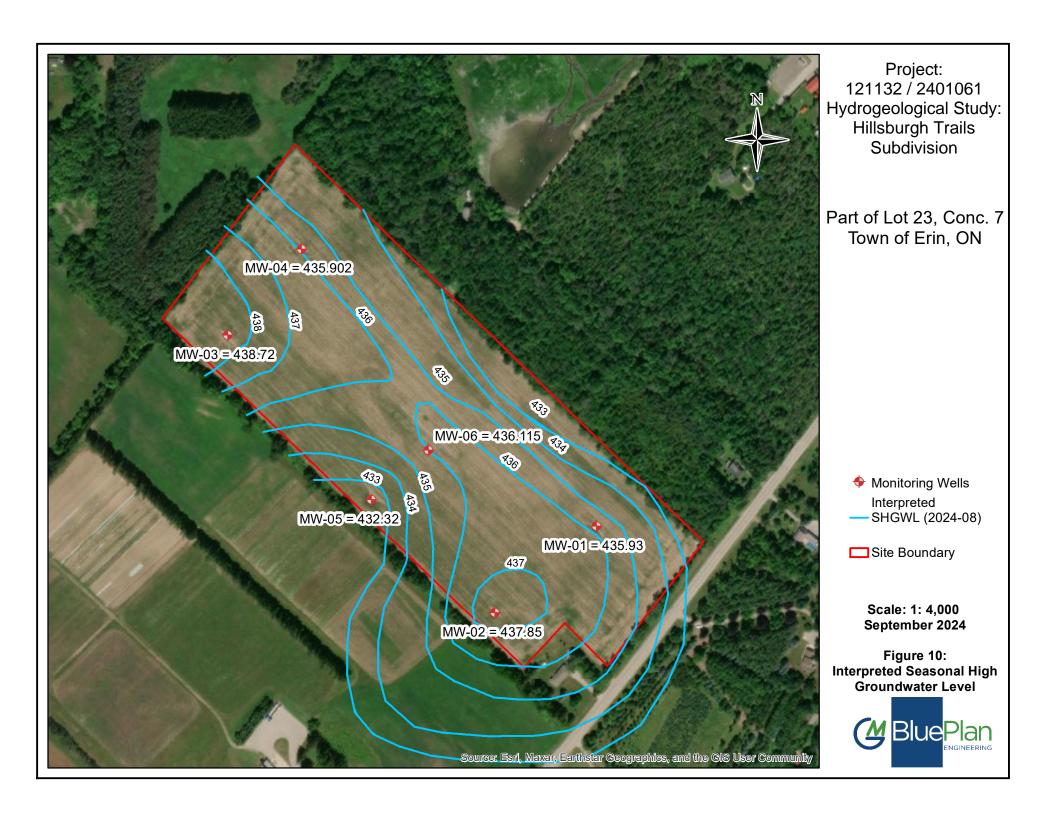


CROSS SECTION C-C'

Figure No. 9C



AUGUST 2024 Scale: H 1:5000, V 1:250 | NAD 1983 UTM Zone 17N



**TABLES** 

#### **Table 1: Summary of Water Well Records**

MOECC Well ID	Address	Lot	Conc.	Easting	Northing	Township	County/ Municipality	Well Use	Bedrock/ Overburden	Depth to Bedrock (m)	Total Depth of Well (m)	Static Water Level (m)	Year Drilled	Notes
						Well	s on Neighbou	ring Properties						
6700710	~	22	7	569479	4846990	Erin	Wellington	Domestic	Bedrock	15.2	21.0	7.6	1963	
6700711	~	22	7	569451	4847061	Erin	Wellington	Domestic	Bedrock	15.8	39.6	3.0	1966	
6700712	~	24	7	569004	4848354	Erin	Wellington	Domestic	Bedrock	19.8	39.6	9.1	1966	
6703077	~	24	7	569084	4848213	Erin	Wellington	Domestic	Bedrock	21.3	32.0	8.8	1968	
6703621	~	22	7	569284	4847193	Erin	Wellington	Domestic	Bedrock	18.3	52.7	9.1	1969	
6703623	~	22	7	569324	4847243	Erin	Wellington	Domestic	Bedrock	25.3	59.1	16.2	1969	
6703704	~	22	7	569414	4847043	Erin	Wellington	Domestic	Bedrock	15.8	39.0	3.7	1970	
6704175	~	23	7	569614	4848173	Erin	Wellington	Domestic	Bedrock	12.2	42.7	6.7	1971	
6704176	~	23	7	569589	4848198	Erin	Wellington	Domestic	Bedrock	12.5	42.7	6.7	1971	
6704171	~	23	7	569634	4848173	Erin	Wellington	Domestic	Bedrock	11.6	25.9	3.7	1972	
6704921	~	22	7	569432	4847165	Erin	Wellington	Domestic	Bedrock	22.6	53.0	15.8	1973	
6705612	~	24	7	568840	4848356	Erin	Wellington	Domestic	Bedrock	18.3	41.1	7.0	1974	
6704991	~	22	7	569250	4847091	Erin	Wellington	Domestic	Bedrock	8.5	25.0	0.6	1974	
6705146	~	23	7	569719	4848033	Erin	Wellington	Domestic	Bedrock	12.5	24.4	2.4	1974	
6705148	~	23	8	569795	4848098	Erin	Wellington	Domestic	Bedrock	12.8	18.3	0.9	1974	
6705153	~	23	7	569302	4847515	Erin	Wellington	Domestic	Bedrock	11.9	50.3	3.7	1974	
6705975	~	23	7	569454	4847483	Erin	Wellington	Domestic	Bedrock	37.5	71.6	24.4	1975	
6706041	~	24	7	569314	4848473	Erin	Wellington	Domestic	Bedrock	5.2	15.8	3.0	1975	
6706342	~	22	7	569414	4847323	Erin	Wellington	Domestic	Bedrock	26.8	62.8	16.8	1976	
6706286	~	23	7	569574	4848223	Erin	Wellington	Domestic	Bedrock	9.4	32.0	3.0	1976	
6706583	~	24	7	569214	4848473	Erin	Wellington	Domestic	Bedrock	18.3	20.7	5.5	1977	
6706591	~	22	7	569414	4847123	Erin	Wellington	Domestic	Bedrock	23.2	58.2	12.8	1977	
6707143	17 Main Street	23	7	569764	4848123	Erin	Wellington	Domestic	Bedrock	12.2	25.0	4.6	1979	
6707864	~	22	7	569414	4847273	Erin	Wellington	Domestic	Bedrock	44.2	62.5	15.8	1983	
6708080	~	23	7	569664	4848123	Erin	Wellington	Domestic	Bedrock	9.8	31.1	1.8	1983	
6708153	~	23	7	569289	4847274	Erin	Wellington	Irrigation	Bedrock	10.7	54.9	0.9	1984	
6708631	~	22	7	569481	4847149	Erin	Wellington	Domestic	Bedrock	20.7	54.9	7.6	1986	
6708632	~	22	7	569510	4847139	Erin	Wellington	Domestic	Bedrock	20.1	53.3	8.5	1986	
6708720	~	24	7	568791	4848303	Erin	Wellington	Domestic	Bedrock	9.1	42.7	4.6	1986	
6709595	~	23	7	569834	4847973	Erin	Wellington	Domestic	Bedrock	11.0	21.3	0.3	1988	
6709602	~	23	7	569745	4848059	Erin	Wellington	Domestic	Bedrock	13.1	23.2	2.4	1988	



MOECC Well ID	Address	Lot	Conc.	Easting	Northing	Township	County/ Municipality	Well Use	Bedrock/ Overburden	Depth to Bedrock (m)	Total Depth of Well (m)	Static Water Level (m)	Year Drilled	Notes
						Well	s on Neighbou	ring Properties						
6709605	~	23	7	569770	4848060	Erin	Wellington	Domestic	Bedrock	10.1	21.3	0.3	1988	
6709530	٠	24	7	569027	4848418	Erin	Wellington	Domestic	Bedrock	24.1	30.5	9.1	1988	
6709532	~	24	7	569027	4848442	Erin	Wellington	Domestic	Bedrock	21.3	23.5	8.5	1988	
6709533	~	24	7	569032	4848393	Erin	Wellington	Domestic	Bedrock	21.6	22.9	8.8	1988	
6709573	~	22	7	569505	4847201	Erin	Wellington	Domestic	Bedrock	21.0	44.2	10.1	1988	
6709568	~	22	7	569689	4847609	Erin	Wellington	Domestic	Bedrock	28.0	32.6	8.2	1988	
6709886	~	24	7	569405	4848417	Erin	Wellington	Domestic	Bedrock	14.6	22.9	4.9	1989	
6709890	~	22	7	569482	4847037	Erin	Wellington	Domestic	Bedrock	18.6	54.6	7.0	1989	
6710548	13 Main Street	23	7	569791	4848098	Erin	Wellington	Domestic	Bedrock	12.5	26.2	4.3	1990	
6710551	~	23	7	569634	4847672	Erin	Wellington	Domestic	Bedrock	25.0	29.9	9.1	1990	
6711893	~	22	6	569556	4847304	Erin	Wellington	Domestic	Bedrock	33.2	57.9	15.2	1995	
6712833	~	24	8	569392	4848443	Erin	Wellington	Domestic	Bedrock	16.8	24.4	4.3	1998	
6712960	~	24	7	569318	4847244	Erin	Wellington	Test Hole	Overburden	0.0	12.8	1.8	1999	
7142661	9313 Station St.	24	7	568535	4847868	Erin	Wellington	Observation	Overburden	0.0	11.0	0.0	2001	
6714186	~	24	7	568791	4848048	Erin	Wellington	Domestic	Bedrock	18.6	29.6	7.6	2002	
6714441	~	24	7	568791	4848048	Erin	Wellington	Domestic	Bedrock	18.0	38.7	8.2	2003	
6714872	9322 W.R. 22	21	7	569206	4847351	Erin	Wellington	Domestic	Bedrock	31.7	48.7	13.8	2004	
6715801	~	22	7	569431	4847195	Erin	Wellington	Abandoned	~	0.0	0.0	0.0	2006	Abandonment Record
7104643	14 Main Street	23	7	569784	4848031	Erin	Wellington	Domestic	~	0.0	0.0	0.0	2008	Alteration Record
7111993	~	23-24	7	569283	4847592	Erin	Wellington	Observation	Bedrock	15.3	36.0	0.0	2008	
7111994	~	23-24	7	568788	4848057	Erin	Wellington	Observation	Bedrock	19.8	32.0	0.0	2008	
7135171	~	24	8	569628	4848118	Erin	Wellington	Domestic	Bedrock	15.9	19.8	2.4	2009	
7125694	9366 W.R. 22	23	7	569353	4847965	Erin	Wellington	Domestic	Bedrock	21.0	25.0	5.2	2009	
7142662	9313 Station St.	24	7	568556	4847875	Erin	Wellington	Observation	Bedrock	22.3	52.1	0.0	2009	
7153541	~	24	8	569543	4848308	Erin	Wellington	Domestic	Bedrock	15.3	20.7	3.7	2010	
7179274	~	24	7	568876	4848342	Erin	Wellington	~	~	0.0	0.0	0.0	2012	~
7181812	30 Trafalgar Rd.		9	569598	4848224	Erin	Wellington	~	~	0.0	0.0	3.2	2012	Alteration Record
7221469	15 Station St.	25	7	568903	4848337	Erin	Wellington	Abandoned	~	0.0	0.0	0.0	2014	Abandonment Record
7221467	15 Station St.	25	7	568938	4848310	Erin	Wellington	Abandoned	~	0.0	6.0	0.0	2014	Abandonment Record
7221471	15 Station St.	25	7	568866	4848306	Erin	Wellington	Abandoned	~	0.0	38.5	6.7	2014	Abandonment Record

W.R. - Wellington County Road



<sup>~ -</sup> indicates data unavailable

**Table 2: Monitoring Well Details and Water Level Observations** 

			Screen		Water Level 26-Sep-2016			Level 0-2022	Water 26-Ma	Level y-2022	Water 6-Jan	Level -2023	Water Level 31-Mar-2023		Water Level 13-Jun-2024	
Well ID	Ground Elev.	TOC Elev.	Bottom Elev.	Length	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
Well ID	(m ASL)	(m ASL)	(m ASL)	(m)	(m bTOC)	(m ASL)	(m bTOC)	(m ASL)	(m bTOC)	(m ASL)	(m bTOC)	(m ASL)	(m bTOC)	(m ASL)	(m bTOC)	(m ASL)
MW-01	442.84	443.71	430.0	4.6	10.331	433.38	9.179	434.53	9.067	434.64	9.702	434.01	8.407	435.30	8.958	434.75
MW-02	441.02	441.02	433.4	3.1	~	~	4.467	436.557	4.743	436.281	8.182	432.842	3.593	437.431	4.543	436.481
MW-03	445.46	446.38	434.8	4.6	10.178	436.198	8.800	437.576	8.617	437.759	9.824	436.552	9.134	437.242	8.582	437.794
MW-04	446.00	446.95	433.2	3.1	11.901	435.050	11.445	435.506	11.263	435.688	12.493	434.458	12.105	434.846	11.202	435.749
MW-05	442.74	443.67	428.4	3.1	12.792	430.882	12.551	431.123	12.003	431.671	12.983	430.691	12.782	430.892	11.938	431.736
MW-06	443.62	444.53	430.8	3.1	11.581	432.953	10.323	434.211	9.655	434.879	12.612	431.922	11.026	433.508	9.474	435.060

<sup>~ -</sup> indicates well was dry at time of measurement

m bTOC - metres below top of casing of well.

TOC - Top of Casing

m ASL - metres above Sea Level

Elev. - Elevation



		Sample ID	MW-01	MW-03	MW-04	MW-05	MW-06
	,	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Scree	ned Interval (m asl)	430 - 434.6	434.2 - 438.8	432.3 - 435.3	428.4 - 431.5	430.8 - 433.9
		Sampling Date	2016-09-26	2016-09-26	2016-09-26	2016-09-26	2016-09-26
	Criteria 1	Criteria 2					
Parameters	ODWS (2002) -	ODWS (2002) -			Concentration	1	
	MAC	A/O					
Dissolved Aluminum (AI) (ug/L)		100	12	6.7	11	<5.0	5.3
Dissolved Antimony (Sb) (ug/L)			0.53	0.81	<0.50	<0.50	<0.50
Dissolved Arsenic (As) (ug/L)			<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba) (ug/L)	1000		110	110	88	92	63
Dissolved Beryllium (Be) (ug/L)			<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Boron (B) (ug/L)			89	47	19	23	<10
Dissolved Cadmium (Cd) (ug/L)	5		<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Calcium (Ca) (ug/L)			43000	52000	80000	80000	79000
Dissolved Chromium (Cr) (ug/L)	50		<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co) (ug/L)			<0.50	<0.50	0.53	<0.50	<0.50
Dissolved Copper (Cu) (ug/L)		1000	<1.0	2.3	1.1	<1.0	<1.0
Dissolved Iron (Fe) (ug/L)		300	<100	<100	<100	<100	<100
Dissolved Lead (Pb) (ug/L)	10		<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg) (ug/L)			23000	18000	22000	29000	22000
Dissolved Manganese (Mn) (ug/L)		50	18	66	110	120	20
Dissolved Molybdenum (Mo) (ug/L)			17	12	4.5	9.3	0.96
Dissolved Nickel (Ni) (ug/L)			<1.0	1.2	1.5	<1.0	<1.0
Dissolved Phosphorus (P) (ug/L)			<100	<100	<100	<100	<100
Dissolved Potassium (K) (ug/L)			20000	13000	4700	4700	1100
Dissolved Selenium (Se) (ug/L)	10		<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si) (ug/L)			3600	3800	4800	5500	6100
Dissolved Silver (Ag) (ug/L)			<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Sodium (Na) (ug/L)	20000	200000	14000	12000	4800	8800	3200
Dissolved Strontium (Sr) (ug/L)			190	190	210	210	160
Dissolved Thallium (TI) (ug/L)			<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti) (ug/L)			<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U) (ug/L)	20		0.69	1.1	0.55	1.8	0.33
Dissolved Vanadium (V) (ug/L)			1.3	0.83	0.64	<0.50	1
Dissolved Zinc (Zn) (ug/L)		5000	8.6	6.8	6.1	<5.0	<5.0

#### Notes:

- 1. Criteria are from the Ontario Drinking Water Objectives (2002). Criteria are indicated by:
  - White Text for Maximum Acceptable Concentration, Italics for Aesthetic Objective
- 2. Criteria and concentrations are given in units consistent with the units listed for the associated parameter.
- 3. Concentrations with bold, italic, or underlined text in shaded cells exceed the corresponding criteria.
- 4. Screened well intervals presented are approximate.
- 5. ---- represents sample parameters that were not analyzed; NV = No value specified.



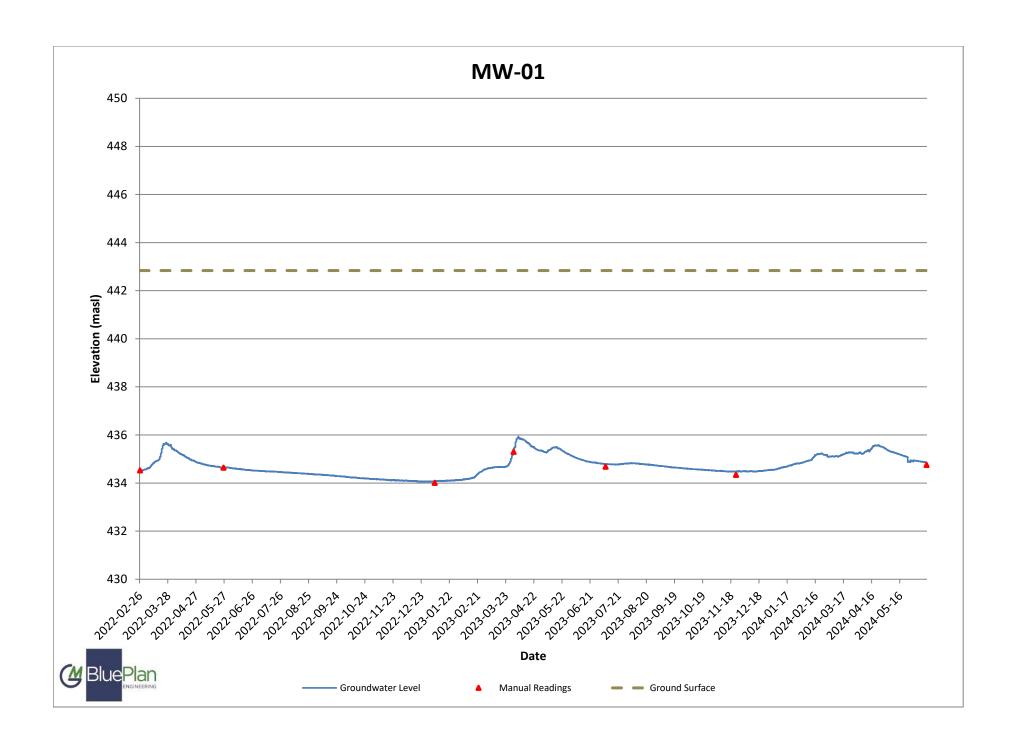
		Sample ID	MW-01	MW-03	MW-04	MW-05	MW-06
	S	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Screen	ned Interval (m asl)	430 - 434.6	434.2 - 438.8	432.3 - 435.3	428.4 - 431.5	430.8 - 433.9
		Sampling Date	2016-09-26	2016-09-26	2016-09-26	2016-09-26	2016-09-26
	Criteria 1	Criteria 2					
Parameters	ODWS (2002) -	ODWS (2002) -			Concentration	1	
	MAC	A/O					
Alkalinity (Total as CaCO3) (mg/L)		30:500	140	180	220	230	240
Carb. Alkalinity (calc. as CaCO3) (mg/L)			1.1	1.7	2.1	2.2	2.3
Hardness (CaCO3) (mg/L)		80:100	200	200	290	320	290
Orthophosphate (P) (mg/L)			<0.010	<0.010	<0.010	<0.010	<0.010
pH (pH)		6.5:8.5	7.95	8.01	8	8.01	8
Dissolved Sulphate (SO4) (mg/L)		500	68	53	11	89	12
Dissolved Chloride (CI) (mg/L)		250	77	16	19	25	15
Nitrite (N) (mg/L)	1		0.084	0.042	0.223	0.013	<0.010
Nitrate (N) (mg/L)	10		5.14	1.19	13.2	<0.10	5.54
Nitrate + Nitrite (N) (mg/L)	10		5.22	1.23	13.5	<0.10	5.54
Total Ammonia-N (mg/L)			0.35	0.38	0.18	0.098	<0.050
Dissolved Organic Carbon (mg/L)		5	1.6	3.5	1.1	1.8	0.99

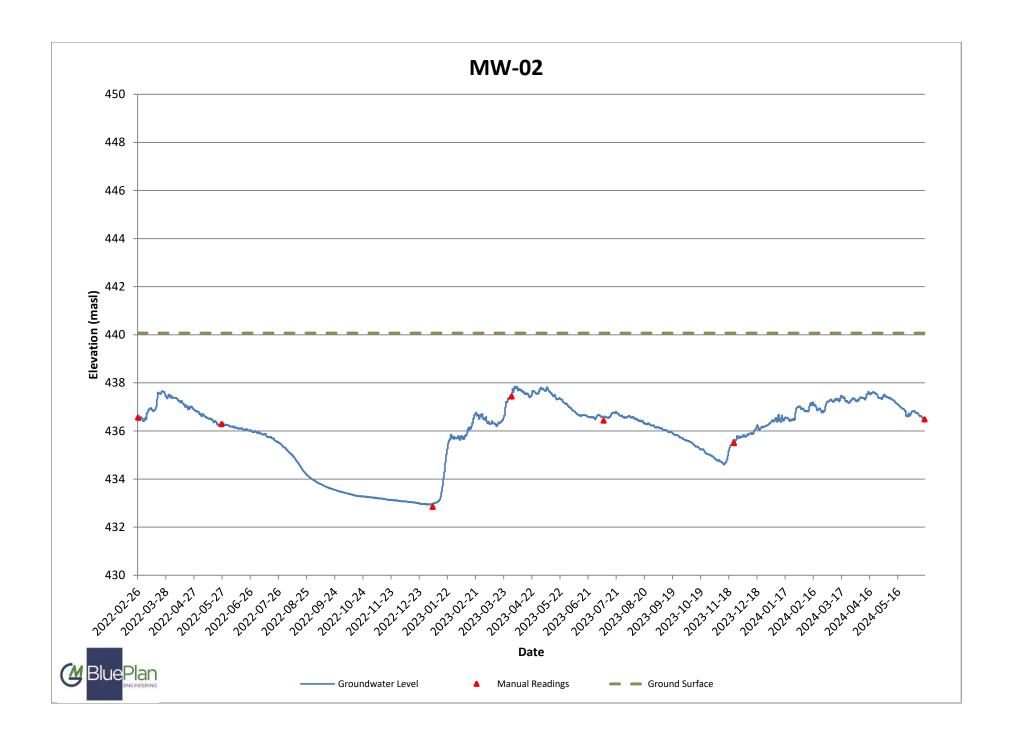
#### Notes:

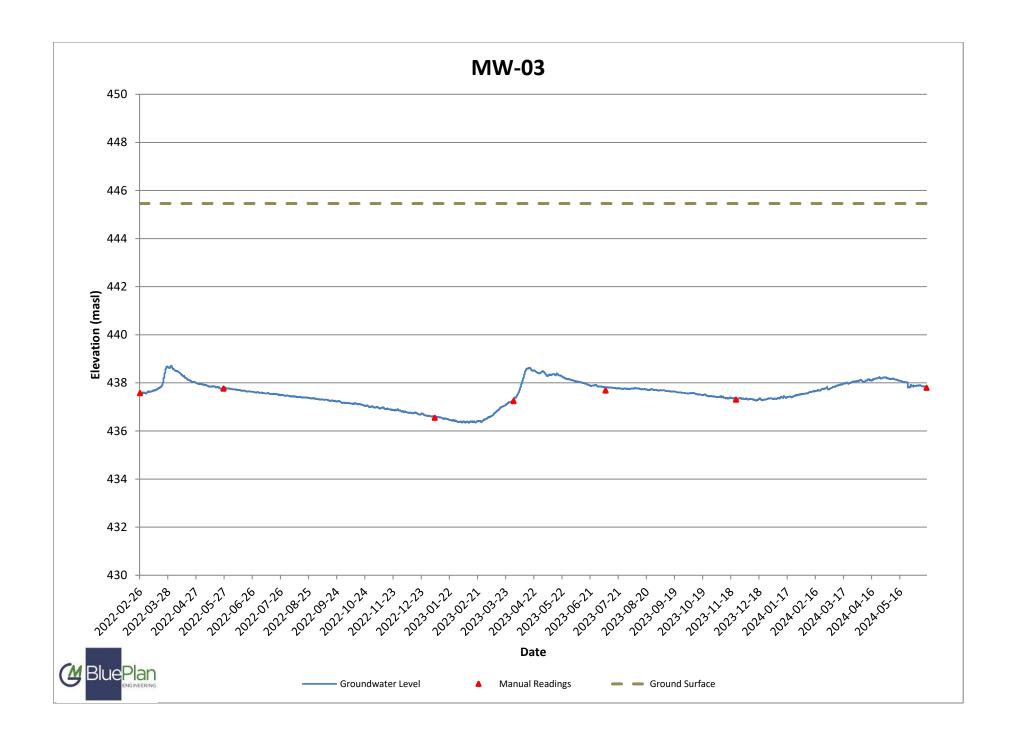
- 1. Criteria are from the Ontario Drinking Water Objectives (2002). Criteria are indicated by:
  - White Text for Maximum Acceptable Concentration, Italics for Aesthetic Objective
- 2. Criteria and concentrations are given in units consistent with the units listed for the associated parameter.
- 3. Concentrations with bold, italic, or underlined text in shaded cells exceed the corresponding criteria.
- 4. Screened well intervals presented are approximate.
- 5. ---- represents sample parameters that were not analyzed; NV = No value specified.

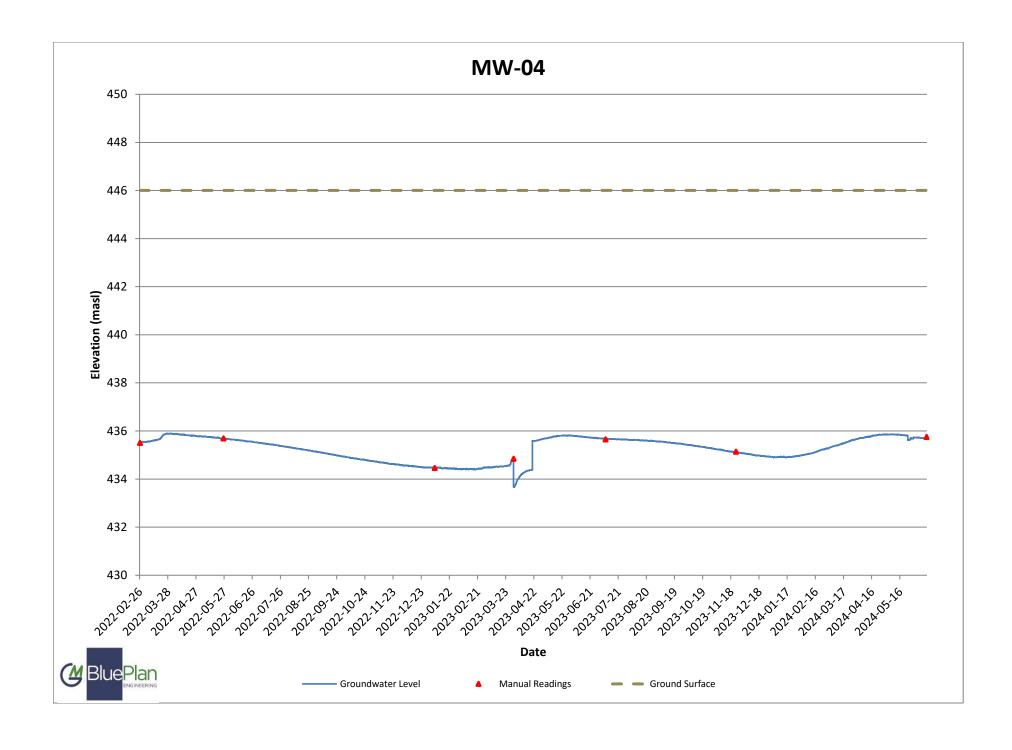


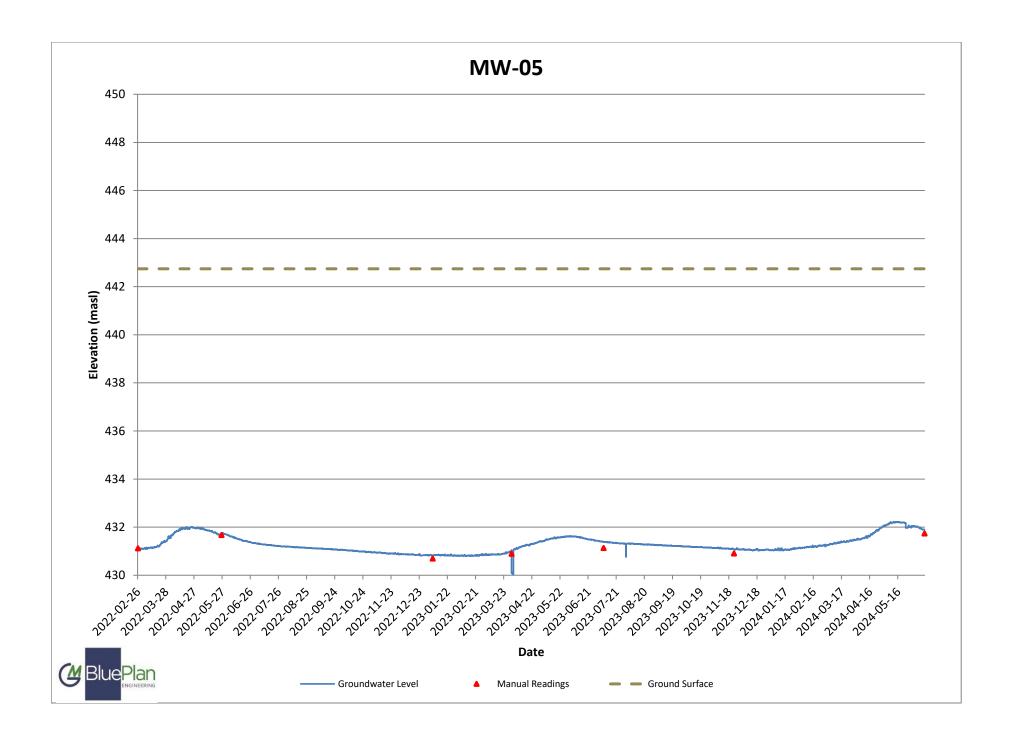


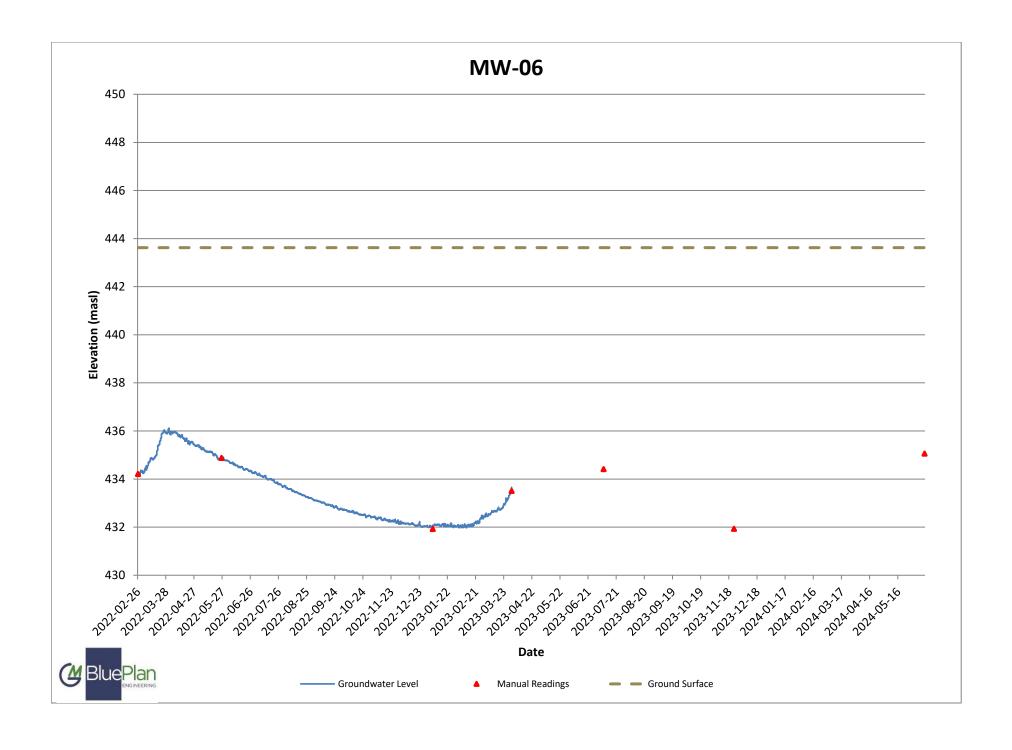




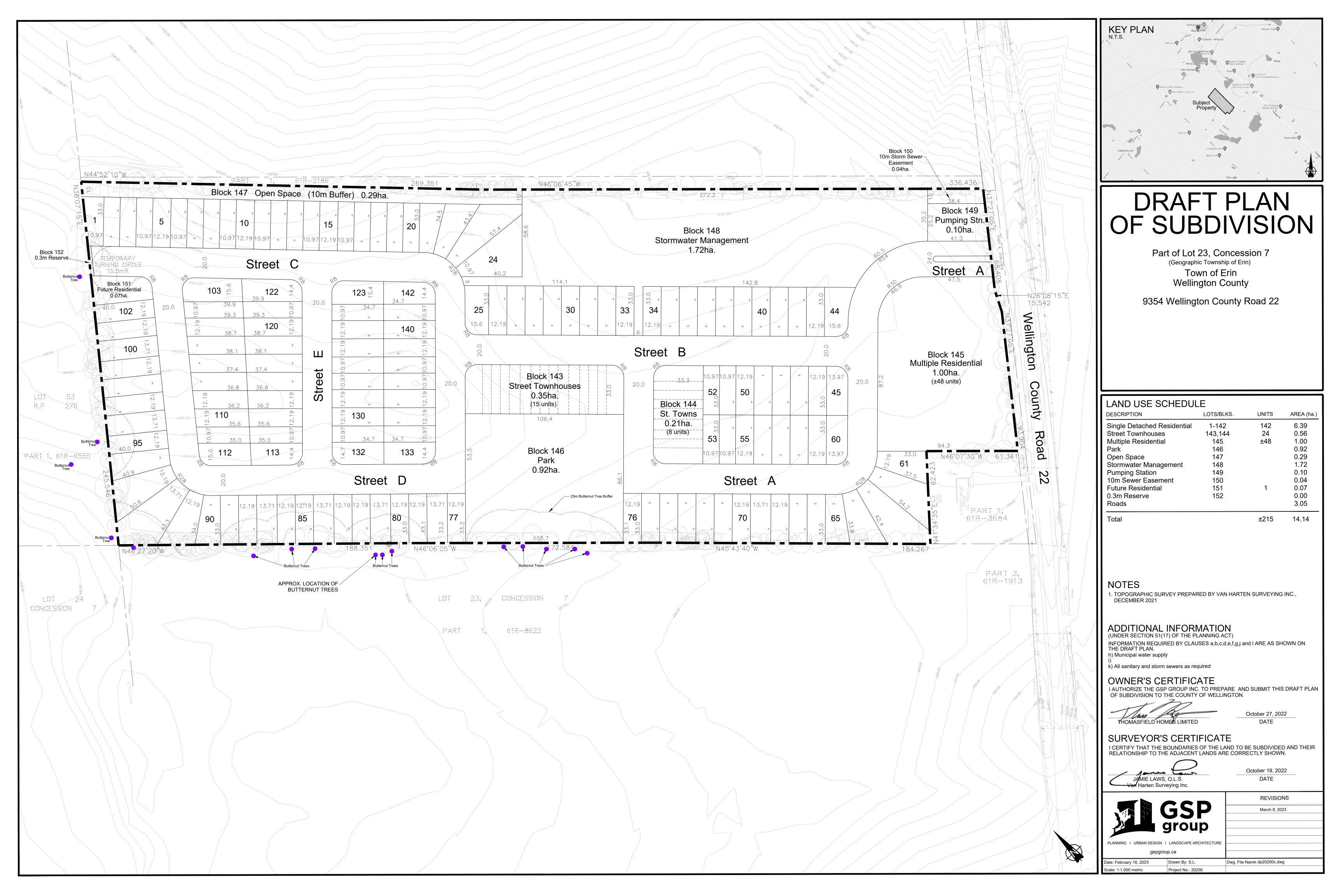




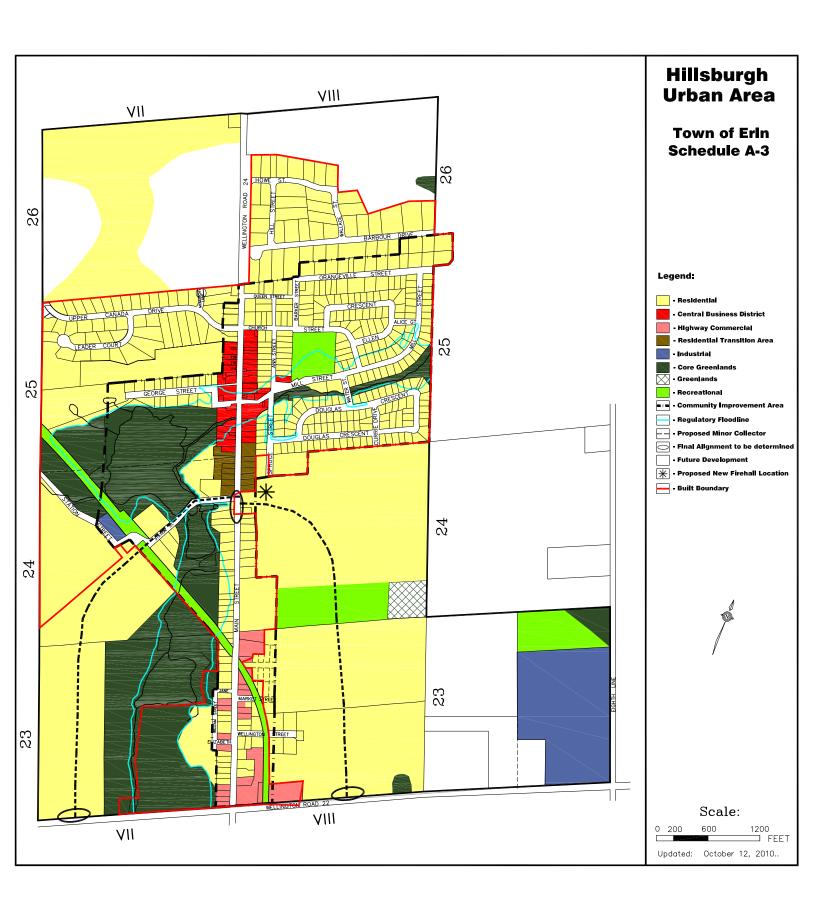




APPENDIX A: DRAFT PLAN



**APPENDIX B: ZONING MAP** 



APPENDIX C: MECP WATER WELL RECORDS



MINISTRY OF THE ENVIRONMENT COPY

### The Ontario Water Resources Act

#### WATER WELL RECORD

Env	ironment	<b>VV</b> 2-			2.4	MUS1. 19	con.	
Ontario	1. PRINT ONLY IN	SPACES PROVIDED	t	57086	31	10 1 1		1 1 2 23 /4
COUNTY OR DISTRICT		TOWNSHIP, BOROUGH, CITY, TOWN, VILLA	GE		CON	BLOCK, TRACT, SURVE	Y. ETC	2 a
1/1/5/11						011	DATE COMPLETED	<u>ਕਕ</u>
		RI A	<u>///</u>	Sbur	gh,	Cht.	DAYM	<u>.09 v86</u>
4	1,	uisc 1 L L L L L	90 	SECULTION		tion one		
	L(	OG OF OVERBURDEN AND BEI	DROC	K MATERIAI	LS (SEE	INSTRUCTIONS)		
GENERAL COLOUR	Most	OTHER MATERIALS			·	RAL DESCRIPTION	-	DEPTH - FEET
15.0	COMMON MATERIAL		-					0 12
R	Clay,	and & Graver					/	2 22
Or.	Clay,	Tones					2	2/0
Gr.	Clay	otones					1	a 120
Br.	ROCK				·-·		1-	0 100
Gr/Br	KOCK				<del></del>		10	(0 100
						1 1 1 1		
31			الب					
32	14 15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ا لـد.	43	SIZE	54	55 31-33 DIAMETER	75 80 34-38 LENGTH 39-40
WATER FOUND	TER RECORD	51 CASING & OPEN HO		ECORD EPTH - FEET		OT NO 1		INCHES FEET
AT - FEET	FRESH 3 SULPHUR 14	DIAM. MATERIAL THICKNESS INCHES  10-11 L DESTEEL 12	FROM	M TO	SCR	TERIAL AND TYPE	DEPTH OF SCI	1
	] SALTY 4   MINERAL   19	2 GALVANIZED	_				O S SEALUNG	PECOND
1 2	SALTY 4 MINERAL	17-18 1 - STEEL 19	0	73	61 DEPTH	PLUGGIN	G & SEALING	(CEMENT GROUT
20-23	FRESH <sup>3</sup> SULPHUR <sup>24</sup> SALTY <sup>4</sup> MINERAL	GALVANIZED  GALVANIZED  CONCRETE	7	2 100	FRON	TO 10-13 14-17	MATERIAL AND THE	LEAD PACKER, ETC.)
25-28 1 [	FRESH 3 SULPHUR 29	4	1	3 180		18-21 22-25		
30-33	FRESH 3 SULPHUR 34 31	2 ☐ GALVANIZED 3 ☐ CONCRETE			2	6-29 30-33 80		
	THOD A	4 OPEN HOLE			<u> </u>			
71 PUMPING TEST ME	THOD AIR PUMPING RAT	15-16 -1	17-18 MINS			LOCATION		
STATIC LEVEL	WATER LEVEL 25 END OF WATER I	LEVELS DURING 2 RECOVERY		IN DIA LOT L		LOW SHOW DISTANC IDICATE NORTH BY A		ROAD AND
19-21		30 MINUTES 45 MINUTES 60 MINUT 28 29-31 32-34 3	ES  5-37				71	
	T 55 FEET 55 FE	SET AT WATER AT END OF TEST	FEET 42				يرلا .	USBURGH
IF FLOWING. GIVE RATE  RECOMMENDED PU	GPM	FEET 1 CCLEAR 2 CLOU	YDL	″_a3			M L.	
RECOMMENDED PU	MP TYPE RECOMMENDE PUMP SETTING	PUMPING	6-49 GPM	L0/23				
0-53					77 1	PD #22		
FINAL	1 WATER SUPPLY 2 OBSERVATION WE	5 ABANDONED, INSUFFICIENT SUPP	²LY	207 22	2 /	\ <u></u>	_3000'-	7
STATUS OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 UNFINISHED				$\mathcal{K}$		
5	5-56 1 DM DOMESTIC	5 COMMERCIAL	11		1	. 120	14	5/
WATER	2 STOCK 3 SIRRIGATION 4 SINDUSTRIAL	6  MUNICIPAL 7  PUBLIC SUPPLY 8  COOLING OR AIR CONDITIONING			,		·* 1.	3 12
USE	OTHER	9   NOT USED					S	IF /3
METHOD	1 CABLE TOOL	6 ☐ BORING					, A	25
OF	2 S ROTARY (CONVENT 3 ROTARY (REVERS 4 ROTARY (AIR)						Ŷ	ITU
DRILLING	5 AIR PERCUSSION			DRILLERS REMAR	KS:			
NAME OF WELL		LICENCE NUMBER		DATA	5.8	CONTRACTOR 59-62	1 3 0 1	87 *** ***
ON SIGNATURE OF	Sul Alu	Ching Ltd 3317	$\dashv$	SOURCE DATE OF INSPE	CTION	INSPECTOR		
A PLE	LER OR BORES	Shough Licence NUMBER		W REMARKS				
No France	Larg	331	Z	OFFICE				
SIGNATURE	CONTRACTOR	SUBMISSION DATE DAY 29 MO. 12 YR.	8	9.F			C	SS.ES
L. L. //	a way	100.		L		·····	FORM	NO. 0506-4-77 FORM

Ministry of the		,	<b>Μ/Δ</b> .	TE			Water Resou		CO	RD
Ontario Environme	nt		11		086		MUNICIP	CON.		
COUNTY OR DISTRICT	2. CHECK X CORREC	TOWNSHIP, BOROUGH, CITY	1 2				BLOCK, TRACT, SURVI	Y. ETC.		$ \begin{array}{c cccc} \hline 22 & 23 & 24 \\ \text{Lot} & & 25-27 \\ \hline 22 \end{array} $
Hilellington		11			0		V11	DATE COM	_	2 CZ  8/-
		HING	LSBUR	RC ELE	VATION	I RC	BASIN CODE	DAY 08	мо / 2	YR.O.O.
1 Z M 10	12	G OF OVERBURDEN	AND RED	POCK N	IATERIAI	S (SEE 11	NSTRUCTIONS)			47
GENERAL COLOUR	MOST 40H MATERIAL	OTHER MA		NOOK 10			AL DESCRIPTION		DEPTH	- FEET
Br. C	I O I I	Stones C	and						0	22
Gr. C	lay.	Stones							22	66
Br. Ro	ock'						<del></del>		66	1/7
(3r/Br Re	2cK						<u> </u>	*	1//	//2
						<u> </u>				
			-	<i>-</i>	`					1:
						<i></i>				
			dar							
				,		<del></del>				
31				i			111111		<u>.                                    </u>	<u> </u>
32		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				البليا	54	65	بلبلن	75 83
41 WATER RE		51 CASING &	OPEN HOL	LE RECO			S) OF OPENING T NO )	31-33 DIAM	ETER 34-38 INCHES	LENGTH 39-40
AT - FEET KIND O	F WATER  3 SULPHUR 14	DIAM. MATERIAL INCHES  10-11 1 STEEL	THICKNESS INCHES	FROM	10		RIAL AND TYPE		DEPTH TO TOP OF SCREEN	41-43 30 FEET
/73 2 SALTY	4   MINERAL 3   SULPHUR '9	GALVANIZED CONCRETE	.188	0	70	61	PLUGGIN	IG & SEA	LING RECO	
2 SALTY	MINERAL  3 SULPHUR 24	17-18   STEEL	13		20-23	DEPTH	SET AT - FEET	MATERIAL AN	D TYPE (CEM	ENT GROUT. ACKER, ETC )
2	4   MINERAL 3   SULPHUR 29	5 3 □ CONCRETE 4 Ø OPEN HOLE		70	175		0-13 14-17 8-21 22-25			
2 SALTY		24-25 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE	26		27.30		22-25			
PUNPING TEST METHOD A		B ☐ OPEN HOLE	PUMPING	<u> </u>			COATION	0.5.14151	1	· · · · · · · · · · · · · · · · · · ·
, PUMP 2 BAI	K_ LER	/O GPM	5-16 DURS 30 17	7-18 IINS	IN DIA		OCATION		FROM BOAR	AN D
STATIC LEVEL PUMPIN	OF WATER LE	VELS DURING	PUMPING RECOVERY S   60 MINUTE	īS.	1		DICATE NORTH BY			BURGH
F 28 34	FEET 34 FEET	34" 34"	FEET 34 ,	5-37 EET					HILL	, Burc
O FEET /	SH-41 PUMP INTAKE SI	ET AT WATER AT EN		DY DY	N <sub>LOT</sub>	а <b>र</b>				
RECOMMENDED PUMP TYPE    SHALLOW   80 DEE	RECOMMENDED PUMP (	43-45 RECOMMENDED PUMPING RATE	10	GPM	LOT	· Ro	#22	· · · · · · · · · · · · · · · · · · ·		
50-53				$\exists \mid \downarrow$	(612)	1	]			
STATUS 2	MATER SUPPLY OBSERVATION WELL TEST HOLE	5 ABANDONED, INS 6 ABANDONED, POC 7 UNFINISHED		LY			7	3000'	→	
OF WELL . C	RECHARGE WELL  DOMESTIC	s 🗆 COMMERCIAL					10		)	2
WATER 2 C	STOCK IRRIGATION	6 MUNICIPAL 7 PUBLIC SUPPLY					-5 A		, 3	1 />
USE	INDUSTRIAL OTHER	COOLING OR AIR CON					*		家	] /3/
	CABLE TOOL ROTARY (CONVENT	6 BORING	D						2,5	, 5,
DRILLING 4	☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION	a ☐ JETTING 9 ☐ DRIVING							oh	028
NAME OF WELL CONTRACT	OR	. //	LICENCE NUMBER		DATA SOURCE		CONTRACTOR 53-6	2 DATE RECEIVE	30187	63-64 40
ACTOR ADDRESS DE LA COLOR	ll Drie	ling Std.	3317	ONE	DATE OF INSPE	CTION	INSPECTOR	1.	) A T A L	
NAME OF DRILLER OF BOI	VillShu	igh Vito	LICENCE NUMBER	USE	REMAPES					
NAME OF DRILLER OF BOI	ang	SUBMISSION DATE	3317	OFFICE					~~~	TF C
**	*	DAY 29 MG	12 0	K/10					CSS.	E.S

	Ministry
(52)	of the
	Environment

Ontario Environment	PACES PROVIDED 11	6708720	MUNICIP CON.	. [1]
WELLINGTON 2. CHECK X CORRECTION OF DISTRICT	TOWNSHIP, BOROUGH CITY TOWN, VILLAGE	con	to 14 15  BLOCK, TRACT, SURVEY ETC	LOT 25-27 24
	RRT Hi	1/6 24 60	DATE CO	MPLETED SIPL X
	HING I	C. ELEVATION RC.	BASIN CODE '61	", <b>"</b>
1 2 4 10 12 LO	G OF OVERBURDEN AND BEDR	OCK MATERIALS (SEE )	NSTRUCTIONS:	
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS	GENER	AL DESCRIPTION	DEPTH FEET FROM TO
BR. Fill				0 3
Blk. BR. Muck BR. C. GRA	IEL - STONES			<b>3</b> 6 6 30
BR. CLAY	ROCKS			30 64
GR. ROCK				64 85
BR. ROLK				83 140
31				
32	<u></u>	43 SIZE	54 65 51 OF OPENING 31-33 DIA	75 METER 34-38 LENGTH 39.
WATER RECORD  WATER FOUND AT - FEET KIND OF WATER	INSIDE DIAM MATERIAL THICKNESS	DEPTH - FEET	NO ) . RIAL AND TYPE	INCHES FE
125 10-13 1 FRESH 3   SULPHUR 14 2   SALTY 4   MINERAL	MCHES INCHES	0 67°		OF SCREEN
15-18 1 FRESH 2 SULPHUR 19 2 SALTY 4 MINERAL	A □ CONCRETE  A □ OPEN HOLE	61	PLUGGING & SEA	ALING RECORD
20-23 1 FRESH 3 SULPHUR <sup>24</sup> 2 SALTY 4 MINERAL	17-18 ( ) STEEL 19 2 [] GALVANIZED 3 [] CONCRETE	FROM	10 MATERIAL A	ND TYPE LEAD PACKER LIC
25-26 1 FRESH 3 SULPHUR 25 2 SALTY 4 MINERAL	1 0 OPEN HOLE  24-25 1  STEEL 26  2  GALVANIZED		-21 22-25	
30-33     FRESH 3   SULPHUR 34 BO   Z   SALTY 4   MINERAL	3 CONCRETE 4 () OPEN HOLE	26	29 30-33 80	
71 PUMPING TEST METHOD 10 PUMPING RATE	11-14 BURATION OF PUMPING  2 15-16 00 17-18  GPM 4 HOURS MISS	L	OCATION OF WE	LL
LEVEL PUMPING	VELS DURING 1 1 PUMPING 2 1 RECOVERY		OW SHOW DISTANCES OF WELLICATE NORTH BY ARROW.	L FROM ROAD AND
15 19-21 2 22-24 15 MINUTES 15 26-28 15	15   1 <i>5</i>   1 <i>3</i>		<del>!-</del> -1	of.
IF FLOWING. 38-41 PUMP INTAKE S GPM 36-41	MATER AT END OF TEST 42		18	7 2
RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING	35 FEET RECOMMENDED 10 46-49 PUMPING RATE 10 GPM		FWELL	15342
50-53		7100		11
FINAL  STATUS  Test hole	<ul> <li>5 ABANDONED, INSUFFICIENT SUPPLY</li> <li>6 ABANDONED, POOR QUALITY</li> <li>7 UNFINISHED</li> </ul>			#
OF WELL 4   RECHARGE WELL	5 COMMERCIAL		Station	n Rol
WATER  2  stock 3  RRIGATION  4  INDUSTRIAL	6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING			
□ OTHER	9 □ NOT USED  6 □ BORING		Ħ	
OF 2 ROTARY (CONVENT	ONAL) 7 DIAMOND  8 DIETTING		Con	.7 Can
DRILLING  4	9 DRIVING	DRILLERS REMARKS		
Rudy 5 WELL	ORILLING 2332	SOURCE		290487"
RRI Hills	3419	SE	INSPECTOR	
ADDRESS  RRI HILLS  NAME OF DRILLER OR BORER  RULLY GARBO  SIGNATURE OF CAMPRACTOR	LICENCE NUMBER	D REMARKS		<b>C</b> CC TC
SIGNATURE OF CHARACTOR	DAYYRYR	1 9		CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

6		Minis	stry					The C	ntario `	Water	Resource	s Act		
(	Ť	of the	e ronment		V	<b>TAV</b>	E	ER '	W	EL	L F	RE	CO	RD
0	ntar		1. PRINT ONLY IN S		[	11	6	7095	<b>30</b>	6.	7003	<u>G</u>	N <sub>1</sub> 1	<u> </u>
co	OUNTY /	OR DISTRICT	2. CHECK ⊠ CORRE		OUGH. CITY, TOW	N, VILLAGE		1	CON	. BLOCK. T	RACT SURVEY E	тс		24
		· - · · ·					- 1		 +			DATE COMPLE	MO O	7 88
					NG 11151	<u>nur</u>	3/1	ELEVATION	1	BASIN C		"	/	,,,
	i		M 10 12	G OF OVERE	BURDEN AN	ID BEDR	OCK	MATERIA	LS (SEE	INSTRUCT	TONS)			
, G	ENER	RAL COLOUR	MOST COMMON MATERIAL		OTHER MATERIA					RAL DESC			DEPTH FROM	FEET TO-
			Gravel	Sand						· · · · · · · · · · · · · · · · · · ·			0	47
-			Clay			<u> </u>							47 52	52
-	<u> </u>		Gravel Rock										79	100
•	Br	· · · ·	ROCK						٠.					
1														•
	<u> </u>						,		<del></del> .					4
-		, <u>, , , , , , , , , , , , , , , , , , </u>			<u></u>					<del> </del>	<u> </u>			
ŀ						····								
-		:												
												> * <u> </u>		
	31	]									<u> </u>		<u> </u>	
l [	32 <sup>3</sup>	] WA	TER RECORD	51 CA	SING & OP	EN HOLE	REC	ORD	Z ISL	54 E ( 5 ) DF OPE OT NO )	NING 3	65	ER 34-38	75 80 LENGTH 39-40
ŀ	WATER	R FOUND	KIND OF WATER	INSIDE DIAM M INCHES	ATERIAL TE	WALL HICKNESS INCHES	DEPT FROM	H - FEET	CRE	TERIAL ANI	D TYPE		INCHES DEPTH TO TOP OF SCREEN	FEET 41-44 10
	8	100	FRESH 3 SULPHUR SALTY 4 MINERALS G GAS	10-11 1 (#s1 2 0 G	ALVANIZED	ro c		13-11	S					FEET
Ì	4	2 (	FRESH 3 D SULPHUR 19 3 SALTY 6 D GAS	اه⊐ا (صا	19	188	0	80 10	3 1	H SET AT	——— + MA	& SEAL	(CEM	ENT GROUT
	*¥E	2 [	FRESH 3 SULPHUR 4 MINERALS SALTY 6 GAS	30 c 4 E	ALVANIZED ONCRETE PEN HOLE LASTIC	8	010	100	FROM	10-13	14-17		1	
		3.0	FRESH 3 SULPHUR 4 MINERALS 6 GAS	24-25 1 🗆 S 2 🗆 G	26		0,0	27-30		18-21	22-25			
			FRESH 3 SULPHUR 34 A D MINERALS SALTY 6 GAS		PEN HOLE								· · · · · · · · · · · · · · · · · · ·	
	71	PUMPING TEST ME 1 APUMP	THOD AIR PUMPING RAT	E 11-14 [	15-16 HOURS	3017:	5				TION OF			445
j		STATIC LEVEL	PUMPING	LEVELS DURING	† Ø PU ₽ □ RE				IAGRAM BE LINE II	NDICATE	OW DISTANCES NORTH BY ARR	OW.	FROM ROAD	
	TEST	30 ,	60 60"	1	45 MINUTES 32-34	40"	11	1				. 4	0725	
	PUMPING	IF FLOWING. GIVE RATE	38-81 PUMP INTAKE	SET AT	WATER AT END OF 1	EST CLOUDY					7	=		
	PUM	RECOMMENDED PL	GPM  UMP TYPE RECOMMENDE PUMP W Z-DEEP SETTING	0 41-41	RECOMMENDED PUMPING RATE	10 60	11	Ń			J.	(072	4	
ļ	,	50-53	W 62-DEET		4		]		ROA	5/	J. A.N.			
ا ,		FINAL STATUS	1 3 WATER SUPPLY 2 OBSERVATION WE	LL . ABAN	DONED, INSUFFIC		-	STATION		,	325 KM		168	
	-	OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 UNFI 9 DEWA	TERING		41	. ``		6	5.			
		WATER	1 D DOMESTIC 2 STOCK 3 HRRIGATION	6 ☐ MUNIC(P/ 7 ☐ PUBLIC S	AL UPPLY	+ * <sub>4</sub>		×,			ya Min		13/18	
i#		USE	4   INDUSTRIAL   OTHER	• COOLING	OR AJR CONDITION  NOT US			6	,				2	3/
		METHOD	57   CABLE TOOL Z DR ROTARY (CONVE	NTIONAL) 7	☐ BORING ☐ DIAMOND									Co
	СО	OF NSTRUCT	ION   ROTARY (REVERS	•	DETTING DRIVING DIGGING	J отн <b>е</b> я		ORILLERS REMA	RKS	ナル	1. C. 1	ર	36	846
		NAME OF WELL	L CONTRACTOR		WELL C	ONTRACTOR		DATA	5:	33		FEB	° 1 10 19	89 : "
-	CTOR	ADDRESS A	q Well Dri	eligo,	td. 33	317 +		SOURCE DATE OF IN	SPECTION	U J	INSPECTOR	1 6	1 9 13	
	TRAC	NAME OF ME	// Jules	ling	WELL 1	TECHNICIAN E NUMBER	s   9	D REMARKS		<b>.</b>				
	CONTRA	SIGNATURE O	Y LANG	SUBM	IISSION DATE	015		W W	回				CSS	.ES
l :		K	King	DAY	<del></del>	10 YR )	ZL	0 -				F		(11/86) FORM 9

MINISTRY OF THE ENVIRONMENT COPY

(	क्रि	Ministr of the			WΔ <sup>-</sup>	T			Water Reso		CO	RD
. C	Ontario	Eņviro	nment						MUNICIP 6,70,0	CON.		107
	OUNTY OR I	_	2. CHECK 🗵 CORRE	CT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY	1 ,2	<u> </u>		CO	N . BLOCK, TRACT, SUF			34 34
	lilel	lina-	rnn	Frin		<del></del>			111	DATE COMP	6 MO 09	16-53
				ING	<u>.                                    </u>	<b>#</b> C	ELEVATION	ec   i l	BASIN CODE	DAY	<u> мо у /</u>	IV
Γ	1 1		10 12	G OF OVERBURDEN	AND REDI	BUC:	K MATERI	ALS (SEE	(NSTRUCTIONS)		d d	
-	GENERAL (	COLOUR	MOST COMMON MATERIAL	OTHER MAT					ERAL DESCRIPTION		DEPTH FROM	· FEET
ŀ			Gravel	Stones							0	25
			Sand	Gravel		···	_				25	49
ŀ	Gr		Clay	Sand							53	53
ŀ	P.c		Gravel Rock	Sand				·	<u> </u>		70	77
f			NOCH									, ,
. ]				÷-							f	
				1								
<b>A</b>		. 741	<b>.</b>			,				**		
			The state of the s							.,,		
	<u></u>			in the second								
	31	اِ اِ	تنبأ لبليلانا			الد						
	32	WATE	R RECORD	51 CASING &	OPEN HOL	F RE	CORD		ZE(S) OF OPENING	31-33 DIAMI	ETER 34-38	75 40 LENGTH 39-40
1	WATER FOL	JND 5	KIND OF WATER	INSIDE DIAM MATERIAL INCHES	WALL THICKNESS INCHES		PTH - FEET		ATERIAL AND TYPE		DEPTH TO TOP	FEET 41-44 30
	13 T	0 · · · · · · · · · · · · · · · · · · ·		10-11 1D'STEEL 2 GALVANIZED	Z	<del></del> -	13	S S			OF SCHEEN	FEET
,		18-18 1 <sub>     </sub>		3 CONCRETE 4 OPEN HOLE 5 PLASTIC	. 188	0	72	-23 DEP	PLUGG	MATERIAL AN	O TYPE   CEM	ENT GROUT
,		2 2 5		1 USTEEL 2 GALVANIZED 3 GONCRETE 4 Depen Hole		72	2 77	7 FRC	OM TO 10-13 14-17		LEAD P	ACKER, ETC )
		2 []	SALTY 6 GAS	24-25 1 STEEL 2 GALVANIZED	•	, ,	<u>^ / /</u>	-30	18-21 22-25			
ļ :	,	2 []	4 LIMINERALS I	3 □ CONCRETE 4 □ OPEN HOLE 5 □ PLASTIC					26-29 30-33	80		
	71	NG TEST METHO	AIR	10 1 "	·· .30	7-18 ins			LOCATION	OF WEL	. <b>L</b>	
'	1 1	LEVEL	PUMPING	EVELS DURING 2	PUMPING RECOVERY				BELOW SHOW DISTA INDICATE NORTH B		FROM ROAD	1
	TEST	8	30 FEET 30 FE	" 30" 30"		5.37				'ه کم	725	
	UN IF FL GIVE	OWING,	3 34-41 PUMP INTAKE		OF TEST	42						/
	NECON	AMENDED PUMP	PUMP		10	6-49 5PM				Lot	24	N
	50-53						ر م	个				
		INAL ATUS	1 D WATER SUPPLY 2 OBSERVATION WE	■ □ ABANDONED, INSU LL . ■ □ ABANDONED POO 7 □ UNFINISHED		-Y	100	\	· •	3 KM_	->	İ
	OF	WELL	4   RECHARGE WELL	9 DEWATERING			12	1 -				1.1
TRANSPORT OF THE PERSON OF THE	1	ATER	2 STOCK 3 BARIGATION	# ☐ MUNICIPAL  # ☐ PUBLIC SUPPLY  # ☐ COOLING OR AIR CON	NIT ON NO			<b>&amp;</b>			151	
		USE	4   INDUSTRIAL   OTHER	* □ EUDEING OR AIR CON						i		>
-		THOD OF	1 CABLE TOOL 2 D ROTARY (CONVEN						÷		<u>﴾   ا</u> ق	
,		TRUCTIO	_	DIGGING	OTHER		DRILLERS REI	MARKS T	w.c. 60	>		8847
	1   4	E OF WELL CO	NTRACTOR	# Luči	L CONTRACTO	R'5	DATA		SI CONTRACTOR	FE	B 1 0 19	89 ''''
	TRACTOR	os go	11. 11:01-	1 19 1 19	<u> </u>		<u> </u>	INSPECTION	INSPECT			
	NTRA		TECHNICIAN  LANG	LIC	LL TECHNICIA	<u>ا ما</u>	O REMARKS	.4				
		NATURE OF T	ECHNICIAN/CONTRACTOR	SUBMISSION DATE	02 ve	89	PER M	DE			CSS.I	ES
1	M	INISTRY	OF THE ENVIRO		- IN	<del></del> _				F	ORM NO. 0506	(11/86) FORM 9

	Ministry	· .	-						Resource			
W	of the Environ	ment		WA	T	ER	W	EL	LF	₹Ę	CO	RD
Ontario		1. PRINT ONLY IN S		11	6	7099	533	10 NICI	, 003		N	0.7
COUNTY OR D	,	2. CHECK A CORRE		H. CITY, TOWN, VILLA	GE		CON	BLOCK TR	ACT. SURVEY I	TC .	ł	24
111-11			Frir	}						DATE COMPL		
			: M G		ec.	ELEVATION	, AC	BASIN COL		DAY	MO W	YROO IV
1 1	M .		15 18	11111	7,5	161	<u> </u>	131				
		MOST LC	G OF OVERBUR	R MATERIALS	DROCK	MAIERI		RAL DESCR		I	DEPTH	- FEET
GENERAL C	C	COMMON MATERIAL	Ston					<del>-</del>			FROM	24
	=   =	iravel,	<u> </u>	ري.							24	35
		Sand	Grave								35	48
Gr	. (	Clay.									48	52
	- 16	Gravel	Sand								52	11
Br		Koc K									7/	75
			<del></del>						-			
<b> </b>								<u> </u>				الحور
-												
			`							1 1	111	1 1 1
31				<u>, , ,                                </u>		<u> </u>			<u> </u>			
41	WATER	RECORD	51 CASIN	G & OPEN HC	LE RE	CORD	Z SIZ	54 E(S) OF OPEN LOT NO )	ING 3	65 1-33 DIAME	TER 34-38	75 80 LENGTH 39-40
WATER FOU	ND K	ND OF WATER	INSIDE DIAM MATER INCHES	WALL THICKNESS INCHES	DEP FRO <b>M</b>	TH - FEET	CBEE.	TERIAL AND	TYPE		DEPTH TO TOP	FEET 41-44 30
74 19	5 2 1 54		10-11 1 STEEL 2 GALVAN 3 CONCRI	IZED 12		13	S					FEET
	5-10   FR 2   SA		J 4 OPEN H	IOLE XX	0	736		PI H SET AT - F	EET	& SEAL		NT GROUT
	0-23 1		1 DSTEEL 2 GALVAN 3 CONCRI	ETE IOLE	181	15	f RQ	M T	14-17		LEAD P	ACKER, ETC )
5:	5-28 1 FR 2 SA	LTY 6 Gas	24-25 1 D STEEL 2 D GALVAN	11ZED	726	7 7	-30	18-21	22-25			
36	0-33 1  FR 2  SA	- MINERALS I	3 □ CONCR 4 □ OPEN F 5 □ PLASTI	ETE HOLE				26-29	30-33 80			2
[71]	IG TEST METHOD	AIR 10 PUMPING RAT	10	ON OF PUMPING	17-10 MINS			LOCAT	TION OF	WEL	L	
s	TATIC W	TER LEVEL 25	EVELS DURING	HOURS PUMPING	MINS		DIAGRAM BI	ELOW SHOW NDICATE N	V DISTANCES ORTH BY ARR	OF WELL	FROM ROAD A	IND
TEST	9":	22-24 15 MINUTES	1 1	MINUTES 60 MINU	TES 25-37					ر ۷	0725	/`
U IF FLO	FEET	38-41 PUMP INTAKE		AT END OF TEST	FEET 42					+		/-
UN IF FLO	MENDED PUMP T		FEET		45-49				1	~0	724	Λ/
50-53	SHALLOW (	ME DEEP SETTING	FEET RATE	" 10	GPM	1					7	, <b>V</b>
FI	NAL S4	1 K WATER SUPPLY		D. INSUFFICIENT SUP	PLY	Š		.35 K	(M		577	·
STA	ATUS WELL	2 OBSERVATION WE 3 TEST HOLE 4 RECHARGE WELL	LL 6 ABANDONE 7 UNFINISHI 9 DEWATERIN			)		• > .				
w.	55-56	1 S DOMESTIC	5 COMMERCIAL 6 MUNICIPAL			Ø	, –				4	(×1)
	ATER JSE	3   IRRIGATION 4   INDUSTRIAL	7 D PUBLIC SUPPLE  COOLING OR A	IR CONDITIONING						:	13/1	181
	57	OTHER	•. □ 8	NOT USED							3	' 9 ' 7
	THOD OF	2 X ROTARY (CONVER 3 ROTARY (REVERS	ETIONAL) 7 □ □	IAMOND ETTING					÷		3€	845
CONST	RUCTION	4   ROTARY (AIR) 6   AIR PERCUSSION	• 🗆 • Ia 🖯	RIVING GGING DOTHER		DRILLERS REM	ARKS 7	TW.C	2. 75			U+U
n NAME	OF WELL CON	TRACTOR / DA. O	hinker	WELL CONTRACT	TOR'S	OATA SOURCE	5	3 3	17"	FEB	° 1 0 19	89
CTOR	10 1 1 7 7	#1 7/.	010	0 19	_	w l	INSPECTION		INSPECTOR	· · · · · · · · · · · · · · · · · · ·		
	E OWELL T	ECHNICIAN LANG	muny	WELL TECHNICI		S TAND	- 5		1			
Sign	NATURE OF SEC	CHNICIAN/CONTRACTOR	SUBMISSION DAY	DATE	89	DW DI	<b>=</b>	1			بعد بند بندر	TC
. 1	<i>/</i> ^	Kann	DAY	MOYI	<u>~</u>	1					CSS	<u></u>

MINISTRY OF THE ENVIRONMENT COPY

CSS.ES FORM NO. 0506 (11/86) FORM 9

DIRECTION OF CONTROL STATES AND	Ministry of the		WA	TER		/ater Resourc	RECC	RD
COUNTY OR DISTRICT  TORRIGHT STORY CARD TO THE ACT OF T	· · · · · · · · · · · · · · · · · · ·		CES PROVIDED 1	6709	568	· · — ·		,    0,7
STATE   STAT		2. CHECK 🗵 CORRECT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAG	șe.	CON. E	10 14 BLOCK, TRACT_SURVEY.	ETC	1 _ 1
LOC OF OVERBURDEN AND BEDROCK MATERIALS SECRETURED STATES AND STAT	Add this at		Frin		. 0	, ,	i	
CEREAL COLOUP COMMON MICHAEL  OTHER MATERIALS  OTHER MATERIALS  CLASSING STORY  BY CLAY  SHORE		D. #/ H	1//Sbur	gh Or	BASIN CODE			
STATE CLOUP SHOWS ATTEM OTHER MATERIALS SCHOOL STATE OF THE MATERIALS SCHOOL SCHOOL STATE OF THE MATERIALS SCHOOL SCHOOL STATE OF THE MATERIALS SCHOOL SCH	1 z M		OF OVERBURDEN AND BEC	ROCK MATERI	IALS (SEE IN	STRUCTIONS)	<u> </u>	47
Br. Clay Sand  Gr. Clay Stones  Gr. Clay Stones  Br. Limestone  32 4  33 4  34 9  Br. Limestone  31 1 Water Record  Water Found  12 1 March Record  Water Found  13 1 March Record  Water Found  14 1 Water Record  Water Found  15 1 March Record  Water Found  16 1 March Record  Water Found  17 1 March Record  Water Found  18 1 March Record  Water Found  19 1 March Record  Water Found  10 March Record  10 Ma	GENERAL COLOUR	MOST						H - FEET
Sr. Clay Stones  Gr. Clay Stones  Gr. Clay Stones  Br. Limestone  32 4  72 92 16  Br. Limestone  33 16  All Water Record  And of the state of the st	Br	Clay	Stone				0	30
Br. Limestone  31  32  41  WATER RECORD  ST. Casing & Open Houe Record  St. Casing & Open Hou	Br.	Clay	Sand					32
31  WATER RECORD  AND OF WATER   Gr.	Jay	Stones	-			3 A	47	
31  32  31  31  31  31  31  31  31  31	Gr.	Clay					92	107
32  41 WATER RECORD  AND OF WATER  AND OF WA	or. L	imestone						107
32  41 WATER RECORD  AND OF WATER  AND OF WA	.*		- San					
32  41 WATER RECORD  AND OF WATER  AND ONE OF WATE			<u>*</u>		<u>.,,</u>			
The content of the				4				
The content of the			No. of the second secon					
The content of the			,					
MATER RECORD    STATUS   CASING & OPEN HOLE RECORD   SISSON WATER				البلبل				
WATER FOUND    NIND OF WATER	1 2 10 14	BECORD I	51) CASING & OPEN HO	LE RECORD	SIZE (S		65 31-33 DIAMETER 34-38	75 81
103   2   SALTY   3   SULPHUR   3   SULPHU	WATER FOUND	IND OF WATER	INSIDE WALL DIAM MATERIAL THICKNESS	DEPTH - FEET	اسا		DEPTH TO TO	
Second   S		ESH 3 DSULPHUR 4 DMINERALS	10-11   QISTEEL 12   QISTEEL 2   QISTEEL	13			· ·	FEET
Total   Feesh   30 Sulphur   1   40 Districts   5   30 Districts   1   40 Districts   1	35-18	2ESH 3 □ SULPHUR 19 ALTY 6 □ GAS	5 400PEN HOLE ./88		/	ST AT . EFFT	ATERIAL AND TYPE (CE	EMENT GROUT
2   SALTY 6   GAS   COMMENCE   22-23   COMMENCE   COMME	'   '	4 MINERALS	1 U STEEL 2 □ GALVANIZED 3 □ CONCRETE 4 \$\overline{Q}\$COPEN HOLE	939"100		10	LEAD LEAD	PACKER, ETC.)
SALTY 6   GAS   SOCK	'   '	4 MINERALS	24-25 1 STEEL 26	127 10/	7-30 18	1-21 22-25		
1   PUMP   2   BAILER   BOWN   BOWN   BAILER   BOWN   BOWN   BOWN   BAILER   BOWN	' ' ' '	RESH 4 3 MINERALS	4 □ OPEN HOLE	;	26	-29 30-33 80		
STATIC LEVEL WATER LEVEL 25 WATER LEVELS DURING 2 MATER AT END OF TEET 40 FEET 42 CLOUDY RECOMMENDED PUMP TYPE RECOMMENDED PUMP TYPE PUMP SETTING 80 FEET RATE 10 GPM STATUS 10 TEST HOLE 10 DEWATERING 10 MATER MATER 10 GPM STATUS 10 TEST HOLE 10 DEWATERING 10 MATER MATER 10 GPM STATUS 10 DEWATERING 10 MATER 10 GPM STATUS 10 DEWATERING 10 MATER 10 GPM STATUS 10 DEWATERING 10 MATER 10 MATE	[71]	AIR		MINS				
FEET FEET FEET FEET FEET FEET FEET FEET	STATIC W	END OF WATER LEV	PUMPING 2 □ RECOVERY	IN LO				DAND
IF FLOWING.  GIVE RATE  SP-41 PUMP INTAKE SET AF  SP-42 PUMP INTAKE SE		40 40 110	40 40 10	35-37				
FINAL STATUS OF WELL  S55-56  WATER  S55-56  WATER  STOCK ST	Z IF FLOWING. GIVE RATE	38-41 PUMP INTAKE SE	TAK WATER AT END OF TEST	4072	3			<del></del>
FINAL STATUS OF WELL  STATUS OF WINTERNISHED OF WELL  STATUS OF WELL  STATUS OF WELL  STATUS OF WINTERNISHED OF WELL  STATUS OF WELL  STATUS OF WATER SUPPLY  STATUS O	RECOMMENDED PUMP TY	YPE RECOMMENDED PUMP	43-45 RECOMMENDED		l Q			
STATUS OF WELL  1		Aprel	722			, s)		
OF WELL 4   RECHARGE WELL 9   DEWATERING  55:56   Q DOMESTIC 5   COMMERCIAL 2   STOCK 6   MUNICIPAL 3   IRRIGATION 7   PUBLIC SUPPLY	1	2 OBSERVATION WELL	ABANDONED POOR QUALITY	'LY	1	1	. M	
WATER 2 STOCK 6 MUNICIPAL 3 GIRRIGATION 7 PUBLIC SUPPLY	OF WELL	4   RECHARGE WELL	9 DEWATERING	_   /	January Company		7	
USF 4 INDUSTRIAL 10 COOLING OR AIR CONDITIONING 1 /V		2 STOCK 3 RRIGATION	MUNICIPAL  Public supply			•	1213	13/
OSE OTHER OTHER	USE		<del>_</del>	/Y	• .		3 1	3
METHOD 27 CABLE TOOL 0 BORING 2 ROTARY (CONVENTIONAL) 7 DIAMOND	METHOD	CABLE TOOL  ROTARY (CONVENTION	ONAL) 7 🗆 DIAMOND				0 17	رن 24.04
OF CONSTRUCTION GOTARY (REVERSE) GOTARY (AIR) GOTARY		4 🗆 ROTARY (AIR)	DRIVING	DRILLERS RE	MARKS	T.w.C.	45 20	J124
NAME OF WELL CONTRACTOR SHELL CONTRACTOR'S LICENCE NUMBER SOURCE		ITRACTOR A .	WELL CONTRACT LICENCE NUMBE	OR'S DATA SOURCE		CONTRACTOR 59-62		989 '''
O ALL OF INSPECTION IMSPECTOR	Sungh Sangle	bel thice	eg des, 33/7	O DATE OF				1
NAME OF WELL TECHNICIAN  WELL TECHNICIAN'S  LICENCE NUMBER  LICENCE NUMBER  LICENCE NUMBER		ECHNICIAN	LICENCE NUMBE	AN'S O REMAPES				
NO SIGNATURE OF TECHNICIAN/CONTRACTOR SUBMISSION DATE  WDE  CSS ES	SIGNATURE OF TEC		SUBMISSION DATE	Ca H	WDE	* 1	CSS.I	ES
MINISTRY OF THE ENVIRONMENT COPY  DAY	MINISTRY O	F THE ENVIRONI			<u></u>			

(P)	Ministry of the
Ontario	Environment
•	1. PR
	2. CH
COUNTY OR D	ISTRICT C

Ontario	1. PRINT ONLY IN	SPACES PROVIDED 11	67095	73	003  (	0,7
COUNTY OR DISTRIC	CT ,	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE		CON BLOCK, TRA	T. SURVEY. ETC	LOT (25-27)
17777		R/M				COMPLETED 48-53
		HING RC	ELEVATION	RC BASIN CODE	DAY_	14 MO 03 VR
1 1	M 10 12	17 16 24 25	16	30 31		
	MOST	OG OF OVERBURDEN AND BEDRO	CK MATERIA	GENERAL DESCRIP		DEPTH - FEET
GENERAL COLOU	COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIP	TION	FROM TO
Br.	Clay,	Stones, Sand Ledge	-5			0 40
gr ;	Clay	Stones	-	Markly By ye		10 125
18r	Kock					132 145
	Limeston					130
						4
				1 11 11		
31						
41 V	ATER RECORD	51 CASING & OPEN HOLE	RECORD	SIZE(S) OF OPENIN	G 31-33	65 75 80 DIAMETER 34-38 LENGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER	INSIDE MATERIAL THICKNESS INCHES FE	DEPTH - FEET ROM TO	MATERIAL AND TY	'PÉ	INCHES FEET    DEPTH TO TOP
130 98	T P FRESH 3 SULPHUR 14 S SALTY 4 MINERALS 6 GAS	10-11 J STEEL 12 2 GALVANIZED 3 GONGRETE	13-16	S		FEET
1	T G FRESH 3 SULPHUR 19 T SALTY 4 MINERALS 6 GAS	4 OPEN HOLE /80	$\frac{14^{3}}{20-23}$	DEPTH SET AT - FEE	т П	SEALING RECORD
	FRESH 3 SULPHUR 24 C SALTY 6 GAS	1 STEEL 2 GALVANIZED 3 DCONCRETE 4 GOPEN HOLE	. /   / _	FROM 10	14-17	AL AND TYPE (CEAD PACKER ETC.)
	FRESH 3 SULPHUR 29 2 SALTY 6 GAS	S DPLASTIC	4 /45	18-21	2-25	
	FRESH 3 SULPHUR 34 4 MINERALS  2 SALTY 6 GAS	2 GALVANIZED 3 GONCRETE 4 GOPEN HOLE 5 GPLASTIC		26-29	0-33 80	
71 PUMPING TEST	METHOD AIR 10 PUMPING RAT	16 11-14 OURATION OF PUMPING  15-16 30 17-18		LOCATI	ON OF W	/ELL
1 PUN	AP 2 BAILER  WATER LEVEL 25 END OF WATER	LEVELS DUBING	IN DI Lot I	AGRAM BELOW SHOW	DISTANCES OF W	VELL FROM ROAD AND
ا تقا	PUMPING 9-21 22-21 15 MINUTES 20-2	S 30 MINUTES 45 MINUTES 60 MINUTES		ž		<b>\</b>
	FEET 4 / FEET 47 FE		LUT23		े रु	
UN IF FLOWING GIVE RATE	GPM GPM	FEET 1 CLEAR 2 CLOUDY  ED 43-45 RECOMMENDED 46-45	K0722		1	
SHAL	RECOMMENDE PUMP  LOW DEEP SETTING	80 FEET RATE /O GPM			_	
\$0.53	54		1			0,50
FINAL STATU:	1 1 1231 11022	B ☐ ABANDONED, INSUFFICIENT SUPPLY  ELL B ☐ ABANDONED POOR QUALITY  7 ☐ UNFINISHED			00	6 6
OF WEL	L 4 D RECHARGE WELL	9 DEWATERING	<sub> </sub>	120	3	5
WATER	2 STOCK 3 STREEGATION	6 MUNICIPAL 7 PUBLIC SUPPLY		WE 140'	<u> </u>	27
USE	4   INDUSTRIAL   OTHER	COOLING OR AIR CONDITIONING  Do not used		(WW)		
METHO	D 2 CABLE TOOL 2 ROTARY (CONVEN	6 ☐ BORING NTIONAL) 7 ☐ DIAMOND		20		9
OF CONSTRUC	TION 4   ROTARY (REVERS	se) 4   JETTING 9   DRIVING				- 18072
NAME OF W	S ☐ AIR PERCUSSION	☐ DIGGING ☐ OTHER  WELL CONTRACTOR'S	DRILLERS REMAR	SE CONTRACTOR	.C 25	
	glebel theel	LICENCE NUMBER 3317	SOURCE O DATE OF INSP	<b>33</b>		EB 1 0 1989,
ON SIGNATURA	1 Hillshe	ugh Out.	SE			
NAME OF	V/Lang	well technician's Licence number 7-0158		E		
SIGNATURE	O TECHNICIAN/CONTRACTOR	DAY 10 MO 02 YRS 9	OFFIC MD	<b></b>	<u></u>	CSS.ES
	Y OF THE ENVIRON	IMENT CODY				FORM NO. 0506 (11/86) FORM 9

Ministry of the	•	•	WAT	The O		Vater Resource	REC	ORI
Enviror htario	I. PRINT ONLY IN S	SPACES PROVIDED  ECT BOX WHERE APPLICABLE	11	67095	_	6,70,03	CAN.	11 2
UNTY OR DISTRICT	Lan	TOWNSHIP, BOROUGH, C	<u>,</u>	ELEVATION	CON .	BLOCK, TRACT, SUBJECT	DATE COMPLETED DAY MO	10, 8
2 16	10 12	G OF OVERBURDE	البرب	25 28 1	30	31		
ENERAL COLOUR  (	most common material Gravel imesto	Clay	MATERIALS			L DESCRIPTION	FRO	DEPTH FEET  M .TO  D 36  B6 70
	R RECORD	51 CASING  INSIDE DIAM MATERIAL INCHES	& OPEN HOL	E RECORD  DEPTH - FEET  FROM TO	A Isrot			75 34-38 LENGTH
20-23 1	A   MINERALS	10-11  1	- /( 0 )	0 40 40 70 20-23	G1  DEPTH: FROM	SET AT FEET "	S & SEALING F	RECORD  (CEMENT GROUT LEAD PACKER, ETC
PUMPING TEST METHOD  1 PUMP 2  STATIC LEVEL  19-21  FEET  FEET  RECOMMENDED PUMP T  SHALLOW  SO-53	BAILER  ATER LEVEL 25 END OF PUMPING 22-24 15 MINUTES  28-81 PUMP INTAKE  GPM  YPE RECOMMENDIPUMP  PUMP	LEVELS DURING  1. 30 MINUTES 45 MIN  20 6 FEET WATER AT  FEET 1 2 C	15-16 30 17 HOURS 1 1 RECOVERY UTES 60 MINUTES 32-34 6 33 FEET 6 5E END OF JEST	IN DI LOT	AGRAM BEL	OCATION O	S OF WELL FROM F	CON VIII DANS
FINAL STATUS OF WELL 55-50 WATER USE	I P WATER SUPPLY 2 OBSERVATION WE 3 TEST HOLE 4 RECHARGE WELL  1 S DOCK 3 RRIGATION 4 NDUSTRIAL COTHER	S COMMERCIAL  MUNICIPAL  PUBLIC SUPPLY  COOLING OR AIR C				RO 3.	207 73 2 2	
METHOD OF CONSTRUCTION	CABLE TOOL CABLE TOOL CABLE TOOL CABLE CAB	SE)	OND ING ING OTHER WELL CONTRACTOR	DRILLERS REMÁ		T.W.C.	DATE RECEIVED	36878
NO HOW WELL	Well She Wills	enighted	WELL TECHNICIAN LICENCE NUMBER	SOURCE  DATE OF IN:	,	3 3 1 7 INSPECTOR	FEB 10	1989 SS.ES



Enviror	nment		AAM						
Ontario	1. PRINT ONLY IN S		11	670	9602	6,7,0	003	(CON.	0.7
COUNTY OR DISTRICT	2. CHECK 🔼 CORRE	TOWNSHIP, BOROUGH, CI	TY. TOWN, VILLAGE		. c	ON. BLOCK, TRAC		is it c	LOT 25-27
11-11	_	Frin					<u>V//</u>	DATE COMPLETED	23
		110	h., n = h	Ont					08 ,88
		ING	burgh	RC ELEVATION	in RC	BASIN CODE		11 111	
1 2	10 12	17 16	1 1 24	25 26					47
	LC	G OF OVERBURDE	N AND BEDR	ROCK MAT	ERIALS (SE	E INSTRUCTION	151		EPTH - FEET
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER M	ATERIALS		GEN	NERAL DESCRIP	TION	FROM	
F	Fi []							0	5
	iravel	Sand, C	lov					5	- 43
1	Rock	<del>, , , , , , , , , , , , , , , , , , , </del>	124					43	3 76
	TOCK								
36.	A A A A								
		, , , , , , , , , , , , , , , , , , ,							
200									
			· · · · · · · · · · · · · · · · · · ·						
	`	<del></del>							
* * *	·								
31				لبنا ل	بليليا	للنبال	ىلىل		
32	بنيا ليليليا	ىيا لىلىللا		لبنيال		للسيال	لللا	للسيا ك	ليا ليال
41 WATER	R RECORD	51 CASING	OPEN HOLE	E RECORD	Z	SIZE(S) OF OPENING	31	-33 DIAMETER 34	1-38 LENGTH 39-40
WATER FOUND K	CIND OF WATER	INSIDE DIAM MATERIAL	WALL THICKNESS	DEPTH - FEE		MATERIAL AND TY	PE	INC DEPTH TO	TOP 41-44 30
70 7003 1 EK FR		10-11 1 DISTEEL	112	FROM	S 31-12			OF SCREE	N FEET
75	RESH 3 DSULPHUR	5" 20 GALVANIZED 30 CONCRETE 40 OPEN HOLE	1 11		/ 61	PIL	IGGING	& SEALING R	ECORD
2 _ 5/	ALTY 6 GAS	5 PLASTIC	.188	0 4	20-23 DE	PTH SET AT - FEE	r	TERMAL AND TYPE	(CEMENT GROUT
20-23 1  FF		2 GALVANIZED 3 CONCRETE		,,,,		10-13 TO	14-17		EAD PACKER, ETC
25-28 1 [] FI 2 [] S/	4 UMINERALS	4 GOPEN HOLE 5 DPLASTIC  24-25 1 DSTEEL	26	46 7	27-30	18-21	2-25		
30-33	2 2 4	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE				26-29	10-33 80		
2 🗆 5	ALTY 6 GAS	5 D PLASTIC							
71 PUMPING TEST METHOD	I	10 1	15-16 3 17-			LOCATI	ON OF	WELL	
STATIC W	ATER LEVEL 25	EVELS DIREING	<b>≇</b> PUMPING	<u>-</u>	IN DIAGRAM	BELOW SHOW D		OF WELL FROM RO	DAD AND
P FEAST	PUMPING 22-24 15 MINUTES	30 MINUTES   45 MINU	,	+	1				
S FEET	15 HET 15 HE	15 15	12-34 15 FEET 15 FEE	11					
IF FLOWING.	38-41 PUMP INTAKE		ND OF TEST	•	/	•		52	
IF FLOWING. GIVE RATE  RECOMMENDED PUMP T				<b>□</b> '			`	[3]	
SHALLOW 50-53	PUMP SETTING	45 FEET PUMPING	/O GP	<u> </u>			•		
30-33	· · · · · · · · · · · · · · · · · · ·			<b>Ⅎ</b> ┃			Ś	7 [ [ [	12)
FINAL	1 F WATER SUPPLY 2 GBSERVATION WE	S ☐ ABANDONED, IN L S ☐ ABANDONED PO	•				4	3 3	5
STATUS OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 🔲 UNFINISHED 9 🗆 DEWATERING						30	$\mathcal{C}$
55-56	1 (3K DOMESTIC	5 COMMERCIAL  6 MUNICIPAL		] Lo	123		1	$\sim$	-
WATER	3   STOCK 3   IRRIGATION 4   INDUSTRIAL	7 PUBLIC SUPPLY  COOLING OR AIR CO	NDITIONING		CTY	RD 2	2		
USE	OTHER		NOT USED	11 60	7 22				
METHOD	CABLE TOOL	◆ □ BORIN		11				.   1	
OF	2 TK ROTARY (CONVEN	) S DETTIN	G						36825
CONSTRUCTION	4 D ROTARY (AIR) 5 D AIR PERCUSSION	• □ DRIVIN □ DIGGIN	5	DRILLERS	REMARKS	T. W. C.	50	repe	eing 36824
NAME OF WELL CON	NTRACTOR	l w	ELL CONTRACTOR	DATA		" 3"3"1		ATE RECEIVED	4000
S ADDRESS	Here Due	eng Fed.	3317		OF INSPECTION		SPECTOR	FEB 10	1989.
A P # /	1 Dielsh	eligh Det	ario.	SE					
ADBRESS J ADBRESS J A. H.	TECHNICIAN	<i>\\</i>	ELL TECHNICIAN	5 D ###	LPK S				
SIGNATURE OF TE	CHNICIAN/CONTRACTOR	SUBMISSION DATE		OFFICE	WDE			<b>~</b>	e re
K X	Caro	DAY _/O	40 02 YR	<u> </u>					S.ES



Ontario  1. PRINT ONLY IN SPACES PROVIDED  2. CHECK SCORRECT BOX WHERE APPLICABLE	6709605 67003 600N 107
COUNTY OR DISTRICT TOWNSHIP, BOROUGH CITY, TOWN VILLAGE	CON BLOCK TRACT SUBMEY, ETC LOT 23-27
	DATE COMPLETED 48-53  DAY 06 MO 09 YR88
and RC	ELEVATION RC BASIN CODE II III IV
1 2 M 10 12 17 16 24 25	26 30 31
LOG OF OVERBURDEN AND BEDRO	CENERAL DESCRIPTION DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL	FROM TO
Fill Sand Clay	4 33
Br. Limestone	33 70
OI. Limestone	
31	
32	43 54 55 65 75 80 SUFERING 31-33 DIAMETER 34-38 LENGTH 39-40
41 WATER RECORD 51 CASING & OPEN HOLE F	RECORD SIZE(S) OF OPENING 31-33 DIAMETER 34-38 LENGTH 39-40 SIZE(S) OF OPENING 31-33 DIAMETER 34-38 LENGTH 39-40 INCHES FEET
AT FEET KIND OF WATER DIAM MATERIAL THICKNESS INCHES FR	OM TO OM MATERIAL AND TYPE DEPTH TO TOP OF SCREEN  13-16  OM TO OF SCREEN  FEET
70 SALTY 6 GAS SAL	O 36 61 PLUGGING & SEALING RECORD
17-18 1 □ STEEL	DEPTH SET AT FEET MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)
2 SALTY 6 GAS 3 CONCRETE 4 GOPEN HOLE	
Z SALTY 6 GAS SALT	27-30 18-2 22-25 22-25 25-29 30-33 80
30-33 1 FRESH 3 SULPHUR 3 CONCRETE 4 OPEN HOLE 5 DPLASTIC	30-33
71 PUMPING TEST METHOD AIR PUMPING BATE 11-14 DURATION OF PUMPING 30 17-16.  1 PUMP 2 BAILER JQ GPM 16-16 30 17-16.  NISS	LOCATION OF WELL
STATIC WATER LEVEL 25 1 S PUMPING END OF WATER LEVELS DURING 1 D PERCONERY	IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW.
() 19-21 22-24 IS MINUTES 30 MINUTES 45 MINUTES 60 MINUTES	7
FEET 20 FEET 41 WATER AT END OF TEST 42	· ← 50'
FEET FEET FEET FEET FEET FEET FEET FEET	
SHALLOW . TADEEP SETTING 45 FEET PUMPING RATE 10 GPM	W K K
54	- [3]
STATUS  2 OBSERVATION WELL 6 ABANDONED POOR QUALITY 3 TEST HOLE 7 UNFINISHED	33 3 2
OF WELL 4 RECHARGE WELL 9 DEWATERING	LOT 23 V ON U
VATER  2 ☐ STOCK  3 ☐ IRRIGATION  7 ☐ PUBLIC SUPPLY  4 ☐ INDUSTRIAL  6 ☐ COOLING OR AIR CONDITIONING	
USE  4   INDUSTRIAL   COOLING OR AIR CONDITIONING  OTHER   NOT USED	20722,
METHOD  1 CABLE TOOL  2 X ROTARY (CONVENTIONAL)  7 DIAMOND	
OF   ROTARY (REVERSE)   DITTING   CONSTRUCTION   ROTARY (AIR)   DIGGING   OTHER	DRILLERS REMARKS T. W.C. 75 36838
WELL CONTRACTOR'S	DATA SE CONTRACTOR MAS 62 DATE RECEIVED 63-68 8
LICENCE NUMBER	SOURCE 3317 FEB 1 0 1989
A R. H. Weelshingh Ortans.	U U O AEMARKS
ADDRIES  ADDRIES  NAME OF NELL TECHNICIAN WELL TECHNICIAN'S LICENCE NUMBER  TO SIGNATURE OF TECHNICIAN/CONTRACTOR  SUBMISSION DATE	
SIGNATURE OF TECHNICIAN/CONTRACTOR  SUBMISSION DATE  DAY 10 MO. 02 YR 89	WDE CSS.ES
MINISTRY OF THE ENVIRONMENT COPY	FORM NO. 0506 (11 / 86) FORM S

Ontario	1. PRINT ONLY IN	SPACES PROVIDED RECT BOX WHERE APPLICABLE	11	670988	36 <u>[.7.00</u>	ZI <mark>Ç</mark> on.	1 07
COUNTY OR DISTRICT	Z. CHECK (A) CORN	TOWNSHIP, BOROUGH, CITY	Y, TOWN, VILLAGE		CON BLOCK TRACT SURV	YEY. ETC	24 24
	·	~			011	DATE COMPLETED	41.53
		P.2	ERIN (	DAT NOL	RC BASIN CODE	DAY 22 MQ 0	1 107
1 2	M 10 12	17 16 ING		26	30 31	<u> </u>	1 1 1 47
, ,		OG OF OVERBURDEN	AND BEDRO	CK MATERIAL	S (SEE INSTRUCTIONS)		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MA	TERIALS		GENERAL DESCRIPTION	DEPT FROM	H · FEET
1	FILL					0	<b>ర</b> ె
BR	CLAY	GRAVEL				5	28
GR.	CLAY	STONES				28	48
BR.	LIMESTONE					48	75-
OX	2 //// 2 // 2						
						•	
			1.47				
		\					
				1.,.11.1	.   .       1 .   .		<u> </u>
31   111	<del></del>	<del>                                     </del>			.   .		. .
1 10	TER RECORD	51 CASING &	OPEN HOLE	RECORD	SIZE(S) OF OPENING	65 31-33 DIAMETER 34-38	75 80 LENGTH 39-40
WATER FOUND AT - FEET	KIND OF WATER	INSIDE DIAM MATERIAL	WALL	DEPTH - FEET		INCHES DEPTH TO TO	
70 700 1	FRESH 3 SULPHUR  SALTY 4 MINERALS	INCHES	INCHES FR	13-16	MATERIAL AND TYPE	OF SCREEN	FEET
73	G □GAS 19 TRESH 3 □SULPHUR	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE	188	52	61 PLUGGI	NG & SEALING REC	ORD
2 [	SALTY 6 GAS	3 - PLASTIC	.188	20-23	DEPTH SET AT - FEET	HITCOIN AND TYPE ICE	MENT GROUT PACKER, ETC )
1 1 1	FRESH 3 SULPHUR 24 SALTY 6 GAS	2 GALVANIZED 3 CONCRETE	5	2 75	FROM TO 10-13 14-17		
	FRESH 3 SULPHUR 29 4 MINERALS SALTY 6 GAS	5 DPLASTIC	26	27-30	10-21 22-25		·
	FRESH 3 SULPHUR 34	2 □ GALVANIZED 3 □ CONCRETE 4 □ OPEN HOLE			26-29 30-33 8	0	
PUMPING TEST ME	SALTY 6 GAS	5 □ PLASTIC  TE 11-14 □ DURATION OF	PUMPING		LOCATION	OF WELL	
[71]	ETHOD AIR 10 PUMPING RA 2 □ BAILER		1-16 30 17-18 OURS 41NS	<u>'</u>			AND
STATIC LEVEL	PUMPING	LEVELS DURING	PUMPING  RECOVERY	IN DIA	GRAM BELOW SHOW DISTAN NE INDICATE NORTH BY		AND
TEST //s	26-	.28 29-31 3	2-34 35-37	1		25'	
9 FEE	T CO FEET CO F		FEET OO FEET		<b>6</b> —		
IF FLOWING GIVE RATE  RECOMMENDED PI	GPM	FEET	R 2 CLOUDY		\$ 1		
RECOMMENDED PL	UMP TYPE RECOMMEND PUMP W	40 FEET RECOMMENDE	/2 GPM	l N	52		1
50-53					5	1218	181
FINAL	# WATER SUPPLY 2 OBSERVATION W	S ABANDONED, INS			•	12)	13]
STATUS OF WELL	3 TEST HOLE 4 RECHARGE WELL	7 UNFINISHED  DEWATERING	4	LOT 23	براجين ماناني	<b>₹</b>	ž
	1 M DOMESTIC 2 STOCK	5 COMMERCIAL 6 MUNICIPAL		Lor		Ŭ 🖁	$C_{2}$
WATER USE	3   IRRIGATION 4   INDUSTRIAL	7 DUBLIC SUPPLY COOLING OR AIR CON		C79	RD 22		-
J 03E	OTHER		OT USED	107.0			
METHOD	CABLE TOOL CABLE TOOL CONVE	● 🗍 BORING		107 2	2	11	
OF CONSTRUCT	3   ROTARY (REVER		;			5	7337
	5 AIR PERCUSSION			DRILLERS REMARK			
NAME OF WELL	L CONTRACTOR WELL DRILL	. İLIC	LL CONTRACTOR'S ENCE NUMBER 33/7	DATA SOURCE	" 33"1 7	AUG 1 4 19	89 <b>***</b> **
ADDRESS  REPORT  ADDRESS  RAME OF WE  SIGNATURE OF							
NAME OF WE	HILLSBUR	LWI	LL TECHNICIAN'S	O REMARKS			
No Ro			CENCE NUMBER - 0/58	OFFICE		CSS	.ES
SIGNATURE O	F (ECHNICIAN/CONTRACTOR	DAY 03 M	. 08 va89	9 F	·		
MINISTRY	OF THE ENVIRON	MENT COPY				FORM NO. 050	6 (11/86) FORM 9

Ontario	1. PRINT ONLY IN S	SPACES PROVIDED  ECT BOX WHERE APPLICABLE	11	670989	90 6.7.00	3 CON	107
COUNTY OR DISTRICT	Z. CHECK A CORR	TOWNSHIP, BOROUGH, CITY	TOWN. VILLAGE		CON BEOCK, TRACT, SUR		22
		n			<u> </u>	DATE COMPLETED	48-53
		YILL.	SBURGH	ONT.	RC. BASIN CODE	DAY_0/_ MO_0	10 v <sub>1</sub> 07
21	i 10 12 12 12 12 12 12 12 12 12 12 12 12 12	NG NG	RC.	ELEVATION	30 31	<u> </u>	1111
1 2		OG OF OVERBURDEN	AND BEDRO	CK MATERIAL	S (SEE INSTRUCTIONS)		
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MAT	TERIALS		GENERAL DESCRIPTION	FROM	PTH FEET TO
	targail		<del> </del>			0	2
R <sub>r</sub>	Sand	Gravel				2	22
Gr	Clay	Stones				22	61
R <sub>C</sub>	Limestone	0101.00				61	110
Gr. /Br.	Limestone					110	144
Gr	Limestone				, , , , , , , , , , , , , , , , , , ,	144	1 179
	ZIII O SI O II				¥ .		
			,				
			:				
34	ساليليال				لتلليبا ليل	عللسا ليلي	لا لبلا
32	14 15 21	32	<u> </u>		54	31-33 DIAMETER 34-3	75 30 32 LENGTH 39-40
41 WA	TER RECORD		OPEN HOLE	RECORD	SIZE(S) OF OPENING (SLOT NO.)	31-33 DIAMETER 34-1	1
WATER FOUND AT - FEET	KIND OF WATER	INSIDE DIAM MATERIAL INCHES	WALE THICKNESS INCHES EI	RUM TO	MATERIAL AND TYPE	DEPTH TO I OF SCREEN	TOP 41-44 30
1.	¶ FRESH 3 □SULPHUR □ SALTY 4 □ MINERALS □ GAS	10-11 1	12	13-16	L		FEET
	FRESH 3 SULPHUR 19 SALTY 6 GAS	5 DPLASTIC	. 188	0 666"	DEPTH SET AT - FEET	ING & SEALING RE	CORD
	FRESH 3 SULPHUR 24 DMINERALS G GAS	1 STEEL 2 GALVANIZED 3 GONCRETE		,	FROM 10	- MATERIAL AND TYPE LE	AD PACKER, ETC )
25-28 1 [	FRESH 3 DSULPHUR 29	5 4 BOPEN HOLE 5 PLASTIC	. 66	6" 179	18-21 22-25		
	SALTY 6 GAS  FRESH 3 SULPHUR 34  4 MINERALS	1 □STEEL 2. □ GALVANIZED 3 □ CONCRETE 4 □ OPEN HOLE			26-29 30-33	<b>80</b>	
. [	SALTY 6 GAS	5 DPLASTIC	<u> </u>				
71 PUMPING TEST ME	PUMPING RA	/ / 15	1-16 3017-18 OURS MISS		LOCATION		
STATIC LEVEL	WATER LEVEL 25 END OF WATER PUMPING	LEVELS DIRING	PUMPING RECOVERY	IN DI LOT L	AGRAM BELOW SHOW DISTA .INE INDICATE NORTH B	NCES OF WELL FROM RO Y ARROW.	AD AND
23 ×\	22-24 15 MINUTE		2-34 35-37		LOT 23 _	X5 KM	<b>→</b>
F 23 1 FEE	3 / FEET 3 / F		FEET 37 FEET D OF TEST 42		CTO RO	BD 22	1
IF FLOWING. GIVE RATE  RECOMMENDED PI	GPM GPM	PEET	AR 2 CLOUDY		10, 22		101
RECOMMENDED PI	UMP TYPE RECOMMEND PUMP SETTING	80 FEET RATE	/O GPM		,		*
\$0-53							£ 3
FINAL	1 M WATER SUPPLY 2 DBSERVATION W	*		/		\	5
STATUS OF WELL	3 TEST HOLE 4 PRECHARGE WELL	👢 🏃 7 🔲 UNFINISHED		1/1/			(a)
, s	55-56 I ST DOMESTIC	S COMMERCIAL  MUNICIPAL	•	] 'Y	· 99		1
WATER	2 STOCK 3 REGATION 4 INDUSTRIAL	7 DUBLIC SUPPLY  COOLING OR AIR COM	DITIONING	-   -	Jan 1	11 8	J. T.
1	OTHER	9 🗆 N	OT USED	121-	13	88	/]
METHOD	57   CABLE TOOL 2 E ROTARY (CONVE		D	5	, 30		11
OF CONSTRUCT	ION 4 D ROTARY (REVER	9 DRIVING	_ <i>1</i>		THE 18		57340
	S AIR PERCUSSION		G OTHER	DRILLERS REMA		S-62 DATE RECEIVED	63-68 80
	a les el Du	ilia Hel	33/7	SOURCE	33.1	7 AUG 14	
ON THE OF WE NAME OF W	Phones	0 17.7	· · · · · ·	O DATE OF INSP	NSFECTION	ORT SECOND	
NAME OF WE	ELL TECHNICIAN	LII	ELL TECHNICIAN'S CENCE NUMBER			9 /	
SIGNATURE O	Y LANG OF TEGHNICIAN/CONTRACTOR	SUBMISSION DATE	T-0158	OFFICE		CSS	S.ES
	Large	DAY 03 M	. <u>08_</u> ,89				0506 (11/86) FORM 9
MINISTRY	OF THE ENVIRO	NMENT COPY				COMM NO. C	(7.7, 30) 7 01101



Ontario	I. PRINT ONLY IN : 2. CHECK 🗵 CORR	SPACES PROVIDED ECT BOX WHERE APPLICABLE	11	67	105	48_	6,7003	CON. CON.	<u>  08</u>
COUNTY OR DISTRICT	AIC TON	TOWNSHIP, BOROUGH, CITY				CON	BLOCK, TRACT, SURVEY	ETC	23
OWNER (SURNAME FIRS	NG TON 28-47	ADDRESS 13	MAIN					DAY 9 MG	10 , 90
21	CANADA	NORTHING	161581/2		.EVATION	#c.	BASIN CODE		li ly
1 2	M 10 12	OG OF OVERBURDEN	AND REDRO	OCK N	AATERIA	1 \$ (555.1)	31		47
GENERAL COLOUR	MOST	OTHER MAT		JCK N	MATERIA		L DESCRIPTION		DEPTH - FEET
	COMMON MATERIAL			·					0 4/
	GRAUEL	SAND, CA	. 147 <u>Z 147</u>	E/R.					
BR	LIMESTO	NE							11 86
							•		
Ç.	- N							· ·	
								975	
							•	10 Sept.	
		<del></del>							
31				ينا ا		ا لىلىا		للبنيا ك	
32	14 15	1 1 1 1 1 1 32		43					75 80
41 WAT	TER RECORD		OPEN HOLE	RECO		SIZE CS ISLOT	FOF OPENING 31	ļ	34-38 LENGTH 39-40 NCHES FEET
AT - FEET	KIND OF WATER  FRESH 3 SULPHUR	INSIDE DIAM MATERIAL INCHES	THICKNESS	RUM	TO 13-16	SC RE	RIAL AND TYPE	DEPTH OF SCR	TO TOP 41-44 30
86	SALTY 4   MINERALS 6   GAS	1 Destel 2 Galvanized 3 Concrete	100		1	61	PLUCCING	9 CEALING	DECORD.
2 [	SALTY 6 GAS	4 □ OPEN HOLE 5 □ PLASTIC	.188	0	48	DEPTH S	ET AT - FEET MA	& SEALING	(CEMENT GROUT.
2 0	FRESH 3 SULPHUR 4 MINERALS SALTY 6 GAS	2 GALVANIZED 3 CONCRETE 4 DOPEN HOLE 5 DPLASTIC	4	18	86	FROM IO-	13 14-17		LEAD FACALITY. LTC.
2 0	SALTY 6 GAS	24-25 1 STEEL 26 GALVANIZED			27-30	18-	21 22-25		1 100-100
	FRESH 3 SULPHUR 34 30 4 MINERALS SALTY 6 GAS	3 □ CONCRETE 4 □ OPEN HOLE 5 □ PLASTIC				26-	29 30-33 80		
71 PUMPING TEST MET	AIR		UMPING 16 30 17-18			L	OCATION OF	WELL	
1 D PUMP  STATIC LEVEL	WATER LEVEL 25	EVELS DURING	PUMPING RECOVERY		IN DI		OW SHOW DISTANCES ICATE NORTH BY ARR		ROAD AND
TEST 19-21	PUMPING 22-24 15 MINUTES 26-2	30 MINUTES 45 MINUTES 29-31 32	60 MINUTES 35-37				11 ,		71
	18 FEET 18 FEE		OF TEST 42		1 20 00		<- 15 -	<del>&gt;</del> *o ∞	/
IF FLOWING GIVE RATE	GPM  AP TYPE RECOMMENDE	FEET	2 ☐ CLOUDÝ		,			$\uparrow$	Ν
☐ SHALLOW	PUMP	40 FEET RATE	12 GPM				KM		
50-53	54			]		1-1	12		
FINAL STATUS	1 WATER SUPPLY 2 OBSERVATION WEI 3 TEST HOLE	\$ ☐ ABANDONED, INSU LL \$ ☐ ABANDONED POOR 7 ☐ UNFINISHED				13/	13 0	1	
OF WELL	4 RECHARGE WELL	DEWATERING  5 COMMERCIAL		$\  \ $		0 <	80	,	05
WATER	2 STOCK 3 IRRIGATION	6 MUNICIPAL 7 PUBLIC SUPPLY				0	0	^	or 23
USE	4 🗍 INDUSTRIAL	COOLING OR AIR COND						人。	7 22
METHOD	57 CABLE TOOL 2 SE ROTARY (CONVEN	6   BORING TIONAL) 7   DIAMOND	\$ .					•	
OF CONSTRUCTION	3   ROTARY (REVERSE		3.4			1			88154
	5 AIR PERCUSSION	DIGGING	OTHER	! —	LLERS REMAR		DATE COMPANY	TE BEGENA	· · · · · · · · · · · · · · · · · · ·
LANG	CONTRACTOR ILIELL DRIL	1	CONTRACTOR'S NCE NUMBER 13/7	`_	DATA SOURCE		$oldsymbol{3317}$	JAN 0	8 1991 "
ADDRESS  ADDRESS  NAME OF WEL  O  SIGNATURE OF	,	IRGH ONT	<del></del>	SE OI	DATE OF INSPI	ECTION	INSPECTOR		
NAME OF WEL	L TECHNICIAN	WEL	L TECHNICIAN'S INCE NUMBER	1121	REMARKS		<u></u>		
SIGNATURE OF	TECHNICIAN/CONTRACTOR	SUBMISSION; DATE	,	OFFICE				C	SS.ES
	nan	DAY Q 7 MO.	12 yr. 90	لتا إ				FORM NO	



Ontario	1. PRINT ONLY IN SPACES PROVIDED  2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE	11	6710551	MUNICIP 6,7003	CON.	107
COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, C		co	ON. BLOCK TRACT. SURVEY	ETC	23
	D.F.	Y ¥1 H11	LSBURGH	Out	DATE COMPLETED  DAY 20 MO //	48-53
	ING	RC.	ELEVATION RC.	BASIN CODE	DAY MO 22	IV
1 2 M 10		24 25	26 30	31		
25,450,450,410	LOG OF OVERBURDE	AATERIALS		ERAL DESCRIPTION		TH - FEET
	MON MATERIAL,				FROM	10
DR. C.	LAY STONES					
GR C	LAY STONES				10	82
BR. 41.	MESTONE				82	98
			- Andrews			
			- Japan Barrisan			
			4			
31						
. 32	1 21 32	للليللل	43	54	65 31-33 DIAMETER 34-38	75 80 LENGTH 39-40
WATER FOUND KIND OF		& OPEN HOLE R	RECORD Z	IZE(S) OF OPENING SLOT NO )	INCHES	
AT - FEET	DIAM MATERIAL INCHES	THICKNESS FRO		ATERIAL AND TYPE	DEPTH TO TO	P 41-44 30
95 2 SALTY	6 GAS  3 GSULPHUR  19  3 GSULPHUR  19	100	2 86 61	PLUGGING	3 & SEALING REC	
2 SALTY	4 □ MINERALS 5 □ PLASTIC 6 □ GAS 17-18 1 □ STEEL	19	20-23 DEF	OTH SET AT . FEFT	AATERIAL AND TURE ICE	EMENT GROUT PACKER, ETC )
Z SALTY	4   MINERALS   3   CONCRETE   4   EOPEN HOLE   5   PLASTIC	_	6 98	10-13 14-17		
2 G SALTY	4 ☐ MINERALS 6 ☐ GAS 24-25 1 ☐ STEEL 2 ☐ GALVANIZE 3 ☐ SULPHUR 34 90 3 ☐ CONCRETE	2.6 D	27-30	18-21 22-25 26-29 30-33 80		
	4   MINERALS   4   OPEN HOLE   5   OPLASTIC					
71 PUMPING TEST METHOD A	ILER DUMPING RATE 11-16 DURATION O	15-16 30 17-18 HOURS		LOCATION O		
STATIC WATER LI LEVEL PUMPIN	EVEL 25 1	PUMPING RECOVERY	IN DIAGRAM I LOT LINE	BELOW SHOW DISTANCE INDICATE NORTH BY AR		AND 1
30 36	22-24 15 MINUTES 30 MINUTES 45 MINU 26-20 29-31 36 FEET 36	32-34 35-37				
	38-41 PUMP INTAKE SET AT WATER AT	END OF TEST 42				Ń
IF FLOWING. GIVE RATE  RECOMMENDED PUMP TYPE	RECOMMENDED 43-45 RECOMMEN			0	5 KM	
SHALLOW S DEE	EP SETTING 70 FEET RATE	/O <sub>GPM</sub>		<del></del>	$\longrightarrow label{}$	
I FINAI -	<del></del> -	NSUFFICIENT SUPPLY				131
ATUS 3	☐ OBSERVATION WELL 6 ☐ ABANDONED P ☐ TEST HOLE 7 ☐ UNFINISHED ☐ RECHARGE WELL ☐ DEWATERING	OOR QUALITY		14	131	131
55-56 1	DOMESTIC 5 COMMERCIAL		LOT 23		36	, o ×
WATER 3	☐ STOCK 6 ☐ MUNICIPAL ☐ IRRIGATION 7 ☐ PUBLIC SUPPLY ☐ INDUSTRIAL ■ ☐ COOLING OR AIR C	ONDITIONING		RD # 22		
57		NOT USED	L0722			-
METHOD 2	CABLE TOOL 6 BORN TO ROTARY (CONVENTIONAL) 7 DIAM ROTARY (REVERSE) 8 DIETTI	OND			1 I	8178
CONSTRUCTION 4	ROTARY (AIR)  ROTARY (AIR)  RAIR PERCUSSION DIGGI	NG	DRILLERS REMARKS	TIMIC 37	_	0110
NAME OF WELL CONTRACT	TOR	VELL CONTRACTOR'S	DATA	SI CONTRACTOR 1 53-62'	JAN 0.8.1	63-61 60
ADDRESS  R. P. I  NAME OF WELL TECHN  A O Y L  SIGNATURE OF TECHNIC	HILLSBURGH O	321/	SOURCE  SOURCE  DATE OF INSPECTION	INSPECTOR	LANUS-	991
NAME OF WELL TECHN	HILLSBURGH O	WELL TECHNICIAN'S	S REMARKS			
S SIGNATURE OF TECHNIC	IAN/CONTRACTOR SUBMISSION DA	T. 0158	OFFICE			
	71 a- DAY 29		LL		~	SS.ES



# The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

6711893

Municipality	Con.		
67003	CON	1 1 1	06
10 14	15		22 23 24

		1 2				
County or District		Township/Borough/City,	-	Con bloc	k tract survey, etc	Lot 25-27
		Address RE/	<del></del>		Date 20	12 04
			RURGH	ONT	Date 20 completed day	month year
	<u>-</u> , , ,	Northing		vation RC Basin Code		ii iv
21	M 10 12	17 18	24 25 26	30 31		47
	LOG OF C	VERBURDEN AND BED	PROCK MATERIALS	(see instructions)		Depth - feet
General colour Mos	st common material	Other materials		General description	Fr	
$R_{\mathcal{D}}$	LAY					2 15
			152 255			
GR. CA	LAY STONE	ES, SAKO,	LENGES	•		5 53
GR. C.	LAY &	BOULDER	5		<u> </u>	5 109
	IMESTON				10	9 153
	MESTON				14	7 116
					1	0 100 11 NO
GR. 211	MESTON	€			16	6 190
					-	
31   , , ,     ,		· · · · · · · · · · · · · · · · · · ·	11			
32						<del> </del>
10 14 15	21	CACING & OPEN HOL	43 E DECORD	54	65 31-33 Diameter 34-38	75 80 Length 39-40
Water found	Inside	CASING & OPEN HOL Wall	Depth - feet	Sizes of opening (Slot No.)		25.1921
at – feet Kind of V	inches	Material thickness inches	From To	Material and type	inches	at top of screen 30
Solty 4	_ IVIRIERAIS	Steel 12 Galvanized	13-16	Naterial and type	Бери	41-44
15-18 (☐ Fresh <sup>3</sup> -	☐ Sulphur 19	☐ Concrete ☐ Open hole ☐ Plastic	0 112'6	, L		feet
₂ ☐ Salty 4	☐ Gas	L Flastic	0 112 9		NG & SEALING RE	
20-23 ;  Fresh 3	U Sulpnur 24   2	Galvanized		☐ Annular space		indonment
2 □ Saity 6	Gas // 3	☐ Concrete   ☑ Open hole ☐ Plastic	11293 190	From To Ma	terial and type (Cement g	rout, bentonite, etc.)
25-28 1 Fresh 3 2 2 Salty 4	Minerals 24-25 1	Steel 26	27-30	10-13 14-17		
30-33 1 ☐ Fresh 3	Sulphur 34 60 2	☐ Galvanized ☐ Concrete		18-21 22-25		
1 4 -	∐ Minerais     4	☐ Open hole ☐ Plastic		26-29 30-33 80		
D test method	Pumping rate	Duration of numbing	1			
71 Pumping test method	GPM GPM	Duration of pumping S-18 30 Mins		LOCATION O		
Static level Water level end of pumpir	g Water levels during 12 i	Pumping 2 Recovery	In diagra	m below show distances north by arrow.	of well from road an	d lot line.
	15 minutes 30 minutes	45 minutes 60 minutes 32-34 55-37	11 .	1		
50 feet 60 feet	60 60	60 feet 60 feet	[		Ko	T 23
19-21 22-2-1  50 feet feet feet  If flowing give rate 381  GPM  Recommended pump type		Water at end of test 42	1		_	, 23
GP!/				CTY Ro	40 20	
Recommended pump type  Shallow Deep		pump rate		1 - 1	13-	
50-53	O3 feet	/O <sub>GPM</sub>	-		1.	COT 22
FINAL STATUS OF WEL	.L 54	*	7	1	5	
₁ <b>《</b> Water supply ₂ ☐ Observation well	<ul> <li>Abandoned, insufficient sup</li> <li>Abandoned, poor quality</li> </ul>	oply 9 🗍 Unfinished 10 🗎 Replacement well		4 .65 KM	37	
3 ☐ Test hole 4 ☐ Recharge well	<ul> <li>Abandoned (Other)</li> <li>Dewatering</li> </ul>			3	•	
				4		_
WATER USE  Domestic	55-56 5 Commercial	9 🗋 Not used				7
2 ☐ Stock 3 ☐ Irrigation	6 D Municipal 7 D Public supply	10 Other		3		/
4 🗍 Industrial	8 Cooling & air conditioning	~'	1 121	7 101		/
METHOD OF CONSTRU	CTION 57		10 NO	N Z		1/
Cable tool Rotary (conventional)	5 ☐ Air percussion 6 ☐ Boring	9 Driving 10 Digging	6	\ ≥		<b>'V</b>
₃ ☐ Rotary (reverse) ₄ ☐ Rotary (air)		11 Other		1 (9	1583	347
	<u> </u>		]			
Name of Well Contractor	$\overline{}$	Well Contractor's Licence No	> Data	58 Contracctor	59-62 Date received	63-68 80
	DRILLING LTI	3317	Data source	3317	JAN 1	8 1996
Address	•	$O_{ij}$	II m Date of inspection	n inspector		
Name of Well Technician	LLSBURGH	Well Technician's Licence No	Remarks			
1 ( / )	1/19	7-0158	STR			
Signature of Technician/Contract		Submission date	Remarks		C	SS.ES
		16 01 96	≥			
A. A.	1	day mo yr			0000	07/94) Front Form 9

# The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

6712833

Municipality	Con.	
67003	CON	90
10 14	15	22 23 24

County or District		Township/Borough/City/T			Con bloc	k tract survey	, etc.	J4 25-27
1,15	LLINGTON	Address RE2	GORE	ROAD	L	Date	1) [	10 98
		PUSLINICH "	ONTARIO	, NOB 2	Jo Basin Code	completed	06 day	month year
21	T 10	Northing	RC	Elevation RC	Basin Code	1_1_1_1_1	Li	17
2		OF OVERBURDEN AND BEDI	ROCK MATER		ons)		1	
General colour	Most common material	Other materials		General	description		From	Depth - feet
	TOPSOIL	FILL					0	3
· .	SAND	GRAVEL					3	16
	CLAY	STONES					16	24
	GRAVEL	SAND					24	35-
GR.	CLAY	STONES, JA	WD				35	55
BR	LIMESTONE	0,000,000					53	- 80
<u> </u>	Zime Si One							17
			·					/
								1
								1
							1	
31   , , ,	1,1,1,1,1,					<u>`</u>		
32			, <u> </u>					ال اللا
	14 15 21 51 TER RECORD 51	CASING & OPEN HOLI		Sizes of c		31-33 Diameter	34-38 L	75 80 ength 39-40°
Water found at – feet	Kind of water Inside	Material Wall thickness inches	Depth - feet From T		.,,	i	nches	feet
70 TO13 1 8	P Fresh 3 Sulphur 14 10-16 Salty 6 Gas 1/1	1 1 K Steel 12 2 Galvanized		13-16 Material a	ind type		Depth at i	op of screen 41-44
15-18 1	☐ Fresh <sup>3</sup> ☐ Sulphur <sup>19</sup>	3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	0 61	6"				feet
	☐ Salty 6 ☐ Gas ☐ Gas ☐ Sulphur 24 ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐			20-23 61	PLUGGII Annular space	NG & SEALIN	G REC€  ☐ Abando	
2 [	☐ Salty 6 ☐ Gas	3 Concrete 4 1 Open hole	616" 8	O Depth set at *	To Mai	terial and type (Ce	ment grou	, bentonite, etc.)
25-28 1 [	☐ Fresh <sup>3</sup> ☐ Sulphur <sup>3</sup> ☐ Salty <sup>4</sup> ☐ Minerals 24-29	1 0.001		27-30 18-21	14-17		-	
	☐ Fresh <sup>3</sup> ☐ Sulphur <sup>34</sup> <sup>60</sup>	2 Galvanized 3 Concrete 4 Open hole		26-29	30-33 80			
2 (	☐ Salty 6 ☐ Gas	5 Plastic						
71   Pumping test n		Duration of pumping  Hours Mins		LO	CATION O	F WELL		
	Water level 25 Water levels during	¹		iagram below show cate north by arrow.	distances o	of well from ro	ad and lo	ot line.
l	22-24 15 minutes 30 minutes 26-28 2	9-31 32-34 - 35-37		16/2	158'			1
5 feet		eet feet 6 feet Water at end of test		1-12		フも 小		/
J4 feet  If flowing give to the second of th	GPM 1	eet 💆 Clear □ Cloudy		12/0	1 5			N
1-1	pump setting	pump rate		1/300 Si 1	-  爻			IV
50-53	20 1	eet / A GPM		0 2 3	6	. 1		
FINAL STATU	apply 5 🗌 Abandoned, insufficie				<b>}</b> ` •			4
2 ☐ Observat 3 ☐ Test hole 4 ☐ Recharge	<sup>7</sup> Abandoned (Other)	lity 10 🛘 Replacement well	: :	9	)		20	7 23
	55-56		COUNT	14 3 RO	<u> </u>	22	<del></del>	
WATER USE  ¹  ☐ Domesti 2 ☐ Stock		9	( 00.07	र शि	70	<u> </u>	i	
3   Irrigation	n 7 🔲 Public supply			57			20	722
METHOD OF	CONSTRUCTION 57		il .	11/2			1	
□ Cable to	ool 5 🗌 Air percussion conventional) 6 🗎 Boring	9 Driving 10 Digging		14			100	001
3 ☐ Rotary (a	reverse) <sup>7</sup> 🗌 Diamond	11 Other		TW	<i>c 1</i>	00+	<b>T</b> 92	021
L		Well Control of the second	] [   Data	58 Contracctor	- /	59-62 Date rec	aived	63-68 80
Name of Well Conf	WELL DRILLING	Well Contractor's Licence No. 33/7	Data source	on Confecctor	17	59-62 Date rec	_	1999
Address	HILLSBURGH (		II m Date of this	pection I	nspector			
Name of Well Tech		Well Technician's Licence No.	Remarks					
Signature of Techn	L H A I G	7-0158 Submission date	Remarks			CSS.E	<b>S9</b>	
Signature of Techn	al g	day 26 mo / 2 yr 98	₹			- <del></del> -		
2 - MI	NISTER OF ENVIRONME	NT & ENERGY COPY			**:		0506 (07/5	94) Front Form 9

HTTE TO

### The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided. 6712960 Mark correct box with a checkmark, where applicable. 67003 CON 11 25-99 Con block tract survey, etc. Township/Borough/City/Town/Village County or District IFILING-TON ERIN completed LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet General description Other materials General colour From То 25 STONES 0 BROWN SAND 25 COARSE GRAVEL 5ANUS BROWN 37 42 CLAY GRE! TOTAL DEPTH 42 6"SHOE 32 CASING & OPEN HOLE RECORD 51 WATER RECORD Inside diam inches 8 Water found at - feet 45 Kind of water Material Depth at top of screen 30 and type ☐ Sulphur ☐ Minerals ☐ Gas Fresh 3
2 Salty 6 Steel
Galvanized
Concrete
Copen hole
Plastic Sulphur Minerals Gas 29 12 **PLUGGING & SEALING RECORD** 2 🗌 Salty Steel
Galvanized
Concrete
Copen hole
Plastic Sulphur Minerals Gas Annular space ☐ Abandonment ¹ ☐ Fresh Depth set at - feet 2 Salty Material and type (Cement grout, bentonite, etc.) ☐ Sulphur ☐ Minerals ☐ Gas 1 🖂 Fresh BENTONME Steel 28
2 Galvanized
3 Concrete
4 Open hole
5 Plastic 2 Saltv 27-30 Sulphur Minerals ¹ 🗌 Fresh 2 🗌 Salty Pumping test method Pumping rate **LOCATION OF WELL** GPM Pump 2 🗆 Bailer In diagram below show distances of well from road and lot line. Water level end of pumping Indicate north by arrow. 30 minutes 29-31 15 minutes 26-28 TEST 8 8 8 8 8 feet PUMPING Water at end of test If flowing give rate Pump intake set at GPM X Clear ☐ Cloudy Recommended pump type Recommended Recommended pump setting pump rate Ma Shallow ☐ Deep HillsBurg CedAR UNLLEY **FINAL STATUS OF WELL** Water supply
Observation well
Test hole
Recharge well □ Abandoned, insufficient supply □ Unfinished
□ Abandoned, poor quality □ Replacement well
□ Abandoned (Other) 8001 8 Dewatering 55-56 WATER USE ☐ Domestic
☐ Stock
☐ Irrigation 9 🔀 Not used 10 🗌 Other ..... well 4 🔲 Industria METHOD OF CONSTRUCTION 
 1 □ Cable tool
 5 □ Air percussion

 2 □ Rotary (conventional)
 6 □ Boring

 3 □ Rotary (reverse)
 7 □ Diamond

 4 ▼ Rotary (air)
 8 □ Jetting
 9 Driving
10 Digging
11 Other ... 196628 Well Contractor's Licence No ONLY FRAHAM WELL DRILLING-LTD 2336 JUN 0 9 1999 Date of inspection USE Rockwood, OwT. NOB-2KD **IISTRY** ( 1924 CSS.ES9 0506 (07/94) Front Form 9 Ministry of the Environment

# The Ontario Water Resources Act WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

6714186

Municipality 67003	CON.	 07
10 14	15	22 23 24

County or District	GTON	Township/Borough/City/To	wn/Village	Con block	tract survey,	etc.	Lot <sup>25-27</sup>
		Address HILLSBURG	H ONT			28 day	8 30 month year
21	M = M = M = M = M = M = M = M = M = M =	Northing	RC Elevation			iii	iv l_l_L
1 2		VERBURDEN AND BEDRO	24 25 26 CK MATERIALS (see i	instructions)			4
General colour	Most common material	Other materials		General description		De <sub>l</sub> From	oth - feet To
BROWN	STONES AND GRAVE	L				0	37
GRAY	CLAY AND STONES					37	61
BROWN	LIMESTONE					61	97
***							
					,		
31					نبا ليا	Ш	
32	4 15 21		43				75
	R RECORD 51	CASING & OPEN HOLE RE	CORD	Sizes of opening		34-38 Le	ngth 39-40
at - feet	Kind of water diam inches	Material thickness inches	From To	Material and type		ches Depth at to	pp of screen 3
10.7	☐ Salty 6 ☐ Gas 6 ☐ Gas	1  Steel 12 Galvanized 188 Steel 188	0 67 67	3			41-44 feet
	Fresh 3 Sulphur 19 4 Minerals	4 ☐ Open hole 5 ☐ Plastic		1 PLUGGING	& SEALING I	RECOR	RD.
	Fresh 3 Sulphur 24	1  Steel 19 2  Galvanized	20-23	Annular space Depth set at - feet		Abandor	
25.20	☐ Salty 6 ☐ Gas	3 ☐ Concrete 4 ♣ Open hole 5 ☐ Plastic	67   97	From To Mate	erial and type (Cem		
5 [	☐ Saity 6 ☐ Gas	¹ ☐ Steel <sup>26</sup> 2 ☐ Galvanized	27-30	<u> </u>	ENTONITI RILL CUT	<u>, , , , , , , , , , , , , , , , , , , </u>	A *** *
	□ Polity 4 □ Minerals	3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		26-29 30-33 80	KIDD OO.	1111	<del>3</del> 3
Pumping test n							
1 □ Pump 2	Bailer 10 GPM	Duration of pumping 15-16 17-18 Hours Mins	In diagram be	LOCATION OF elow show distances		ad and	lot line.
	Water levels during 1 = 22.24   15 minutes   30 minutes   29.31	Pumping  Recovery  45 minutes 32-34 60 minutes 35-37	Indicate north				
<u>                                     </u>	50   29   25	23   23					
If flowing give	i i	feet feet Water at end of test	٨				
Recommended	GPM feet oump type Recommended 43-45	Clear Cloudy Recommended 46-49	Λ)				
□ Shallow	pump setting 65 feet	pump rate 1 0 GPM	10	that .	1 0	<del>-</del>	**
FINAL STATU	S OF WELL 54			Hillsbug	r On	1 1	
¹ <b>X</b> Water su <sup>2</sup> ☐ Observat	ion well 6  Abandoned, poor quality	pply <sup>9</sup> ☐ Unfinished  10 ☐ Replacement well					
3 ☐ Test hole 4 ☐ Recharge		-		1			
WATER USE	55-56 5 Commercial	9 ☐ Not use	11. V.4	, 80H			
2 ☐ Stock 3 ☐ Irrigation	6 ☐ Municipal 7 ☐ Public supply	10 Other	House	* WELL 18	·.>		
4 🗌 Industrial	8 Cooling & air conditioning			xwell 18	ort.		
METHOD OF	CONSTRUCTION 57  S	<sup>9</sup> ☐ Driving					
2 Rotary (c 3 □ Rotary (re 4 □ Rotary (a	onventional) <sup>6</sup> Doring everse) <sup>7</sup> Diamond	10 Digging 11 Other				215	736
- 🗆 Hotary (a	., - □ Jetting					L 7 U	,,,,,,
Name of Well Cont		Well Contractor's Licence No.  INC 7154	Data 58 0	7154	59-62 Date receiv	ed 1 Q	2002 63-68 8
Address	ANG WELL DRILLING		Date of inspection	Inspector	- JE1	• 5	LVU[
154 PA	RK ST GODERICH ONT	Well Technician's Licence No.	Remarks	an 1. W			
KEITH L	ANG ,	T 446	Remarks	_	<b>.</b>	- A-4	_
Signature of Technology	cian/Conflictor	Submission date	N N		CSS.E	:S2	2

2 - MINISTRY OF THE ENVIRONMENT COPY

0506 (07/00) Front Form 9

Ministry of Environment and Energy

Print only in spaces provided. 6714441 67003 CON 107 Mark correct box with a checkmark, where applicable. 11 Con block tract survey, etc. Township/Borough/City/Town/Village County or District 24 ERIN WELLINGTON Date 200 3 First Name Address of Well Location 21 3 completed HILLSBURGH REST HOME HILLSBURGH ONT Basin Code Zone Northing 21 1 . . . . LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) Depth - feet Other materials Most common material General colour From 8 CLAY SILTY 0 **BROWN** 8 41 GRAVEL & STONES GRAY 41 59 CLAY & STONES GRAY BROWN LIMESTONE 59 96 96 127 GREAY LIMESTONE 31 32 CASING & OPEN HOLE RECORD Sizes of opening WATER RECORD 51 41 (Slot No.) Inside diam Wall thickness Depth - feet Water found feet Kind of water Material at - feet From То inche inches Depth at top of screen Fresh
Salty Sulphur 13-1 1 Steel 97 Minerals ☐ Galvanized ☐ Concrete 0 61 Gas .188 ☐ Open hole
☐ Plastic 1255-18 3 ☐ Sulphur 4 ☐ Minerals 61 1 🕱 Fresh **PLUGGING & SEALING RECORD** 2 Salty 61 Gas 1 Steel
2 Galvanized
3 Concrete
4 Open hole
5 Plastic 20-2 17-18 20-23 Sulphur 1 🗆 Fresh Depth set at - feet 6 127 Minerals 61 Material and type (Cement grout, bentonite, etc.) 2 Galty From Gas Sulphur Minerals 25-28 ď 6<sup>1</sup>1 BENTONITE SLURRY Steel Galvanized Concrete Open hole Plastic 24-25 27-30 2 Salty Gas DRILL CUTTINGS Sulphur Minerals 30-33 26-29 30-33 2 Salty Gas Duration of pumping LOCATION OF WELL ∩ Mins ₁ ☐ Pump 2 Baileir 15 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 PUMPING TEST 45 minutes 32-34 60 minutes 35-37 30 minutes 29 27 19-2 15 minutes 26-28 42 27 31 27 27 HILLSBURGH feet feet Water at end of te If flowing give rate Clear ☐ Cloudy GPM Recommended pump setting 60 43.45 Recommended pump type 1.5<sub>GPM</sub> ☐ Shallow ■ Deep FINAL STATUS OF WELL 54 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) <sup>9</sup> □ Unfinished
 <sup>10</sup> □ Replacement well 60tt 8 Dewatering X WATER USE 55-56 5 Commercial
6 Municipal
7 Public supply
8 Cooling & air conditioning 1 Domestic
2 Stock
3 Irrigation
4 Industrial a □ Not use well\_ 10 ☐ Other METHOD OF CONSTRUCTION 57 9 Driving
10 Digging
11 Other 5 ☐ Air percussion
6 ☐ Boring 1 ☐ Cable tool 2 Rotary (conventional)
3 Rotary (reverse)
4 Rotary (air) 254243 8 🗆 Jetting Name of Well Contractor Well Contractor's Licence No. Data ONLY APR 0 2 2003 KRITH LANG WELL DRILLING INC 7154 Date of inspection JSE

2 - MINISTRY OF ENVIRONMENT AND ENERGY COPY

Well Technician's Licenc

T 446 MINISTRY

Remarks

251 ELDON ST GODERICH ONT

Name of Well Technician

LANG

KEOTH

0506 (06/02) Front Form 9

CSS.ES3

Well Ministry of A 001807 number below) Ontario Well Record Regulation 903 Ontario Water Resources Act 9001807 Instructions for Completing Form page 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. Address of Well Location (County/District/Municipality) Township Concession 7 WELLINGTON ERIN 21 RR#/Street Number/Name City/Town/Village

HILLS BURGE Site/Compartment/Block/Tract etc. 322 WELL RO #22 GPS Reading Easting **569206** Northing 4847351 Unit Make/Model Mode of Operation: Averaged Undifferentiated GARMIN Differentiated, spe Log of Overburden and Bedrock Materials (see instructions) General Colour Most common material Other Materials General Description GRAVEL - BOULDERS BROWN CLAY FINE SAND CLAY REY Hole Diameter **Construction Record** Test of Well Yield Metres Depth Diameter Pumping test method Draw Down Recovery Inside Wall Depth Metres From То Centimetre Material Time Water Level Time Water Leve thickness diam From Metres centimetres To min Metres 6 22 0 Pump intake set at (metres) 30. 5
Pumping rate -Statio 13.8 25.3 Casing 48.7 6 16 X Steel 22.9 Fibreglass (litres/min) 4/5 Plastic Concrete 16 33.9 Duration of pumping Water Record 18.3 20.7 Galvanized Water found of Metres Kind of Water Fibreglass Final water level end 16.8 47.3m **≭**Fresh Plastic of pumpi**295.3** netres Sulphur Concrete Minerals Salty Gas Galvanized Recommended pump Other: 15.6 Steel type.
Shallow Oeel
Recommended pump Fibreglass m Fresh Sulphur Plastic Concrete 14.6 Gas Salty Minerals 5 Galvanized depth. 36.5 metres Recommended pump m Screen 10 24 Fresh Sulphur 10 rate. (litres/min 45 13.5 13.8 15 Z5. Gas Outside 15 Steel Fibreglass Slot No Other If flowing give rate 20 20 Plastic Concret After test of well yield, water was (litres/min) 25 25 Galvanized If pumping discontinued, give reason. Clear and sediment free 30 *13.8* 40 *13.8* 40 25 50 25 60 25 Other, specify No Casing or Screen 50 **X**Open hole 33.9 Chlorinated XYes No 48.7 60 13 Plugging and Sealing Record Annular space Abandonment Location of Well Depth set at - Metres | Material and type (bentonite slurry, neat cement slurry) etc Volume Placed In diagram below show distances of well from road, lot line, and building (cubic metres) ndicate north by arrow 6 BENTONITE SLURRY Method of Construction Cable Tool Rotary (air) Diamond Diaging Other Rotary (conventional) Jetting Air percussion Rotary (reverse) Boring Driving Water Use Domestic Industrial Public Supply Other Stock Commercial Not used Irrigation Municipal Cooling & air conditioning 04 01 Final Status of Well Mater Supply Unfinished Abandoned, (Other Was the well owner's in package delivered? Dewatering Abandoned, insufficient supply 04 01 Observation well ☐ Test Hole Abandoned, poor quality Replacement v Ministry Use Only Well Contractor/Technician Information Data Source 2336 Date of Inspection DD Rockwood, owt. NOB-ZKO Well Record Number 6714872 64 OH 30 0506E (09/03) Contractor's Copy Ministry's Copy Well Owner's Copy Cette formule est disponible en français

	linistry of ne Environ a <b>Form</b>		Number (Place	e sticker and print	number below)	Regulation 903		Water R	Record Resources Ac
<ul> <li>For use in the Province o</li> <li>All Sections must be com</li> <li>Questions regarding comp</li> <li>All metre measurements</li> </ul>	of Ontario pleted in pleting this shall be	full to avoid delays i s application can be reported to 1/10 <sup>th</sup>	n processing directed to	a. Further in:	structions and	l explanations are ava	ailable on 416-235	the bacl	k of this form.
Please print clearly in blue     Well Owner's Information a			mation	MUN	co		# Offiny	LC	ОТ
WELLINGTON RR#/Street Number/Name				E.F.	LIN	Site/Compa		look/Troc	
GPS Reading NAD Zone 8 3 17			7195	Jnit Make/Mo	del Mode		lifferentiated	1 🕱	Averaged
Log of Overburden and Be		other Mate			Genera	I Description		Depth	Metres
Scholar Colour Wost Common 1		PLUG DUG	<u> </u>		Cenera	- Description		From	
			17 23 23						
			7.						
			X 1 2 . X . 4 . 4		•				
						· · · · · · · · · · · · · · · · · · ·		-	
			-					<del> </del>	
Hole Diameter		Constr	uction Reco	rd		Tes	t of Well	Yield	
Depth Metres Diameter	Inside		Wall	Depth	Metres	Pumping test method	Draw D	Down	Recovery
From To Centimetres	diam centimetres	Material	thickness – centimetres	From	То	Disease in tally and at			min Metres
		4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Casing			Pump intake set at - (metres)	Static Level		-
		Steel Fibreglass Plastic Concrete				Pumping rate - (litres/min)	1		1
Water Record Water found at Metres Kind of Water		Galvanized				Duration of pumpinghrs + min	2		2
at Metres / Kind of Water		Steel Fibreglass Plastic Concrete				Final water level end of pumping	3		3
Gas Salty Minerals Other:		Galvanized				Recommended pump type.	4		4
m Fresh Sulphur Gas Salty Minerals		Steel Fibreglass Plastic Concrete				Shallow Deep	5		5
Other:		Galvanized	8			depthmetres Recommended pump			
m Fresh Sulphur Gas Salty Minerals	Outside	Steel Fibreglass	Slot No.			rate. (litres/min)	10 15		10 15
After test of well yield, water was	diam	Plastic Concrete				If flowing give rate - (litres/min)	20 25		20 25
Clear and sediment free Other, specify		Galvanized	sing or Scree	en		If pumping discontinued, give reason.	30 40		30 40
Chlorinated <b>XX</b> es No	1	Open hole	sing or scree	GII		vi da	50		50
							60		60
O 8ft GRAVEL 8 9ft BENTO (9ft 29ft GRAVEL	SAND NITE SAND	lurry, neat cement slurry) e	Volume (cubic	andonment Placed metres)	Indicate north by	Show distances of well frarrow.		ot line, an	d building.
"29ft 30ft BENTO		Construction			15	104			
Cable Tool Rotary (a Rotary (conventional) Air percu	ussion	☐ Diamond ☐ Jetting ☐ Driving		Digging Other		CMETCH TOCK		,	
Domestic Industria Stock Commer	l cial	Public Supply  Dot used Cooling & air		Other			te Well Coi	mpleted	·
	Final Sta	tus of Well				50304	2 te Delivered	006	
☐ Water Supply ☐ Recharge we☐ Observation well ☐ Abandoned, i	nsufficient s		Abandor	iea, (Other)	Was the well ow package delivere	iller 3 illionnadori	,5 Sonvered	d YYY	Y MM DD
Test Hole Abandoned, p		Replacement chnician Information	ı		Data Ca	Ministry Us			
Name of Well Contractor  KEITH LANG WELL	DRII.	1 4 m 1 4 m	Contractor's Lie	cence No.	Data Source	a	ntractor		
Business Address (street name, number 251 ELDON ST G	er, city etc.)				Dafe <b>Hack</b> ived	3112006M DD Da	te of Inspec	77	754 DD
Name of Well Technician (last name, file KETTH LANG Signature of Technician) Contractor			T 446 Submitted YYYY	icence No.	Remarks	We	ell Record N	Number	
X X QULX	Con	tractor's Copy   Min	istry's Copy	Well Owne	r's Copy 🔲	Cette f	ormule es	st dispon	ible en françai



0506E (11/2006)

Ministry of

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

Well Record

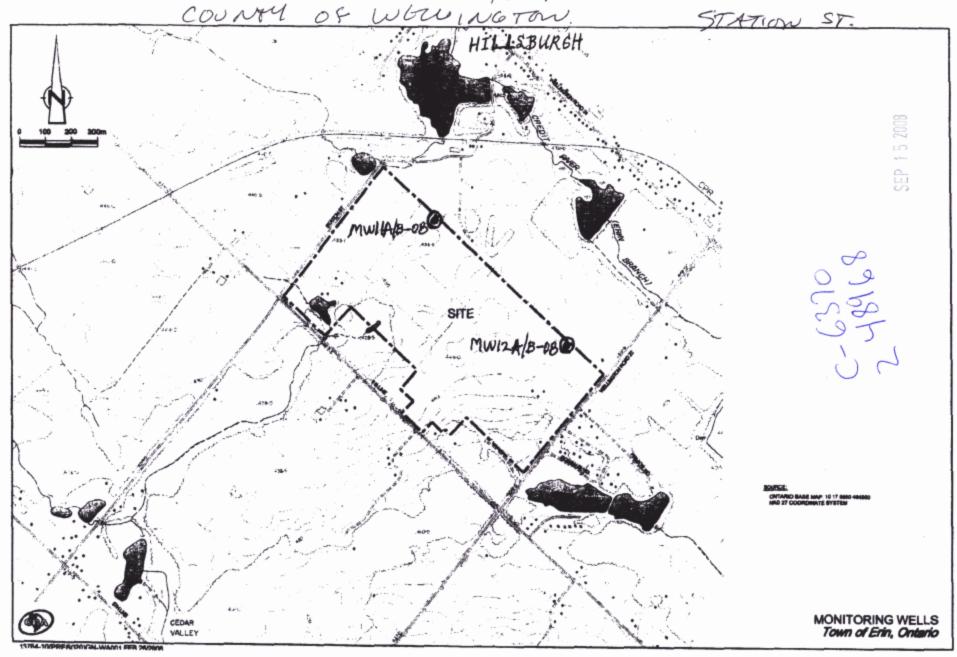
Regulation 903 Ontario Water Resources Act A 047135 A047135 ERIN 23 14 MAIN ST City/Town/Village Province Postal Code County/District/Municipality HILLSBURG Ontario WELLINGTON UTM Coordinates Zone Easting 7 8 4 Northing 4848031 GPS Unit Mal Mode of Operation: Undifferentiated X Averaged Differentiated, specify NAD 8 3 Overburden and Bedrock Materials (see instructions on the back of this form) Depth (Metres Other Materials General Description General Colour Most Common Material UPGRADE WELL HEAD ADD 1ft WELL CASING To Meet M.O.E. Standards Results of Well Yield Testing Annular Space/Abandonment Sealing Record Recovery Volume Placed Check box if after test of well yield, Draw Down Depth Set at (Metres) Type of Sealant Used (Material and Type) (Cubic Metres) Water Leve Water Level Clear and sand free (Metres) (Min) Cannot develop to sand-free Static state Leve If pumping discontinued, give reason 1 1 2 2 Pumping test method 3 3 Pump intake set at (Metres) Water Use Method of Construction 4 4 ☐ Public Cable Tool Diamond Commercial ■ Not used Pumping rate (Litres/min) Jetting Domestic Municipal Dewatering Rotary (Conventional) 5 5 ☐ Test Hole ☐ Monitoring Rotary (Reverse) Driving Livestock Cooling & Air Conditioning Rotary (Air) Digging ☐ Irrigation 10 10 Duration of pumping Air percussion Boring ☐ Industrial hrs + min Other, specify 15 15 Other, specify Final water level end of pumping Status of Well 20 20 Water Supply Observation and/or Monitoring Hole Dewatering Well Recommended pump type Replacement Well Abandoned, Insufficient Supply Alteration (Construction) 25 25 ☐ Shallow ☐ Deep Test Hole Abandoned, Poor Water Quality Other, specify Recommended pump depth 30 30 Recharge Well Abandoned, other, specify Metres Location of Well Recommended pump rate (Litres/min) 40 Please provide a map below showing: - all property boundaries, and measurements sufficient to locate the well in relation to fixed points, 50 50 - an arrow indicating the North direction If flowing give rate (Litres/min) . detailed drawings can be provided as attachments no larger than legal size (8.5" by 14") 60 60 vidigital pictures of inside of well can also be provided Hillsburg **Water Details** 14 main Water found at Depth Kind of Water -ANE Fresh Salty Sulphur Minerals Metres Gas Water found at Depth Kind of Water Metres Gas Fresh Salty Sulphur Minerals Water found at Depth Kind of Water Metres Gas Fresh Salty Sulphur Minerals Casing and Well Details Casing Used Screen Used Galvanized Steel Steel Depth of the Hole (Metres) Fibreglass Fibreglass Was the well owner's information package delivered? Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd) Plastic Plastic Wall Thickness (Metres) Concrete Concrete 2008/18/<sup>3</sup> No Casing and Screen Used Well Contractor and Well Technician Information Inside Diameter of the Casing (Metres) Open Hole Business Name of Well Contractor Well Contractor's Licence No KEITH LANG WELL DRILLING INC 7154 isinfected? Depth of the Casing (Metres) X Yes No Business Address (Street No./Name, number, RR) Municipality 251 ELDON ST GODERICH Ministry Use Only Postal Code Business E-mail Address Well Contractor No. Province z 69718 N7A 3R9 Date Received APR 225 2008 Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) Date of Inspection (yyyy/mm/dd) KEITH LANG 5|19-|524-81|59 Well Technician's Licence No. Signature of Technician Date Submitted (yyyy/mm/dd) TH 14 16



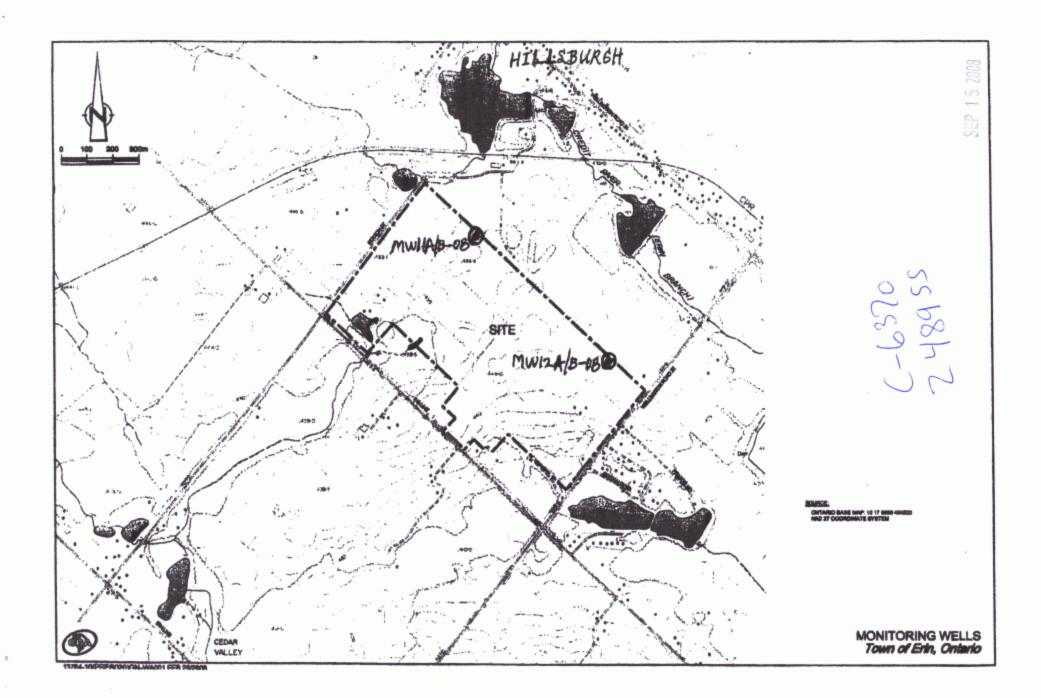
⊗ On	tario	Ministry of		A 0:	26318	' er below)	Regulation 903	3 Ontar			ecord
Instructions	for Comple	ting Form	A	020	5318	5	- Negaration ove	, oma			1 of 2
<ul><li>For use in</li><li>All Section</li><li>Questions</li><li>All metre</li></ul>	the Province as must be of regarding comeasureme	e of Ontario completed in completing the ents shall be	full to avoid delays is application can be reported to 1/10 <sup>th</sup>	ent is a perm in processine directed to	nanent legal ng. Further in the Water	I document. F	Please retain for futur d explanations are ava ment Coordinator at	ailable o 416-23	on the ba	ck of	this form.
	nt clearly in t		ink only.		MUN		Ministry Us	e Only		ОТ	
RR#/Street Num STA GPS Reading	ber/Name Tion NAD 8 3	Torv Zone Easti	ng North F 283 48	ning (47.5172	City/Town/Vi	odel Mod	Site/Compa	lifferentia	/Block/Tra	7 nct etc	
			aterials (see inst						Dept	h	Metres
General Colour	Most comm	on material	Other Ma				al Description		From		То
BREY.	5145	•	Chay, str	wo, and	ile	SINT	CE		0	)	15.3
ACY POLOSTONE			_		7.	sepno	CE		151	3	36.0
Hole Di Depth Met	res Diamete	Inside	Cons	truction Reco	ord Depth	Metres	Tes Pumping test method	Drav	ell Yield w Down Vater Level		ecovery Water Leve
	3 25			centimetres	From	То	Pump intake set at -	min	Metres	min	Metres
	.0 13			Casing			(metres)	Static Level			
Water F		-5	Steel Fibreglass  Plastic Concrete  Galvanized	90440	0	33	Pumping rate - (litres/min)	2	34	2	
Water found at Metres	Kind of Water		Steel Fibreglass				hrs + mir				
/5 m ≱Fr Gas Sa Other:	resh Sulphi alty Minera	11	Plastic Concrete Galvanized				of pumering metree	Ů h	T.A	4	Γ,
	resh Sulphi	11	Steel Fibreglass Plastic Concrete Galvanized				Shallow Deep Recommended pump depth. metres	5		5	
	resh Sulphi			Screen			Recommended pump	10		10	
Gas S	alty Minera	als Outside	Steel Fibreglass	Slot No.			rate. (litres/min)	15		15	
Other: After test of well 7	teld water was	diam	Plastic Concrete		33	36	If flowing give rate - (litres/min)	20		20	
Clear and sedi		15.7	Galvanized	10	23	30	If pumping discontin-	30		30	
Other, specify			No C	asing or Scr	een		ued, give reason.	40		40	
Obligation of the Communication		Open hole				11	50		50		

Other, sp	necify		No Caein	g or Screen		ued, give reason.	40	40	
Office, sp	pooliy		NO Casili	g or octeen			50	50	
Chlorinated	Yes	No Ope	en hole						
							60	60	
	Pluggi	ng and Sealing Record	Annular space	ce Abandonment		Locati	on of Well		
Depth set at	- Metres Ma	terial and type (bentonite slurry, n	eat coment slumy) etc	Volume Placed	In diagram below	show distances of w	rell from road, lot	line, and bui	ilding.
From	To			(cubic metres)	Indicate north by	arrow.			
0	33	BENTONITE	GROUT	,90	A1.	10.1	0 00	,	
		, , , , , ,	7,00		116	112A/	15-08		
					1 /				
		Method of Const							
Cable Too		Rotary (air)	Diamond	Digging					
	onventional)	Air percussion	Jetting	Other					
Rotary (re	everse)	Boring	Driving						
		Water Use	1						
Domestic		Industrial	Public Supply	Other					
Stock		Commercial	Not used				D-t- W-II C	lated	
Irrigation		Municipal	Cooling & air cond	ditioning	Audit No.	48968	Date Well Comp	YYYY	MM DD
		Final Status of					Data Dallacad		02 21
Water Su	Library Contraction	Recharge well		Abandoned, (Other)		vner's information d? Yes <b>X</b> No	Date Delivered	YYYY	MM DD
Observati		Abandoned, insufficient supply	Dewatering		package delivere	di les Muo			
Test Hole	e/	Abandoned, poor quality	Replacement well			Ministry	Use Only		
NI	II Contractor	Well Contractor/Technici		ntractor's Licence No.	Data Source	miniotry	Contractor		
Name of Wel	_		Well Col	6370	Data dource				
Purcipose Ad	drage (street	name, number, city etc.)		0310	Date Received	1000/ 181 00	Date of Inspection	n yyyy no	MM DD
200 AU	- CAAA	name, number, city etc.)	01#1 R1	ESLAN	Date Neceived	YYYY MM DD	Date of mapeces	"	MM DD
Name of We	II Technician	(last name, first name)		chnician's Licence No.	Remarks	1.0 7010	Well Record Nu	mher	
NOU		OBCNT.	Won Too	411	Remarks		Well Record No.	muei	
1	Technician/C		Date Subr	mitted YYYY MM DD					
Sidnature of				TYYY MM DD					
signature of	4	nn	/	2008 02 21					

hots 23 + 24. CMCCSSION 7 TOWN OF GNIN. COUNTY OF WOWLNGTON. STATION ST.



Instruction	s for Completin		nment	g Number (Place	6317		Regulation 903		nrio Water	Reso	ecord ources Act
<ul> <li>All Section</li> <li>Question</li> </ul>	ons <b>must</b> be com ns regarding com	pleted in f pleting this		in processing be directed to	g. Further i	nstructions an	Please retain for futur id explanations are ava ment Coordinator at	ailable 416-2	on the ba		this form.
Please p	orint clearly in blue	e or black			MUN		Ministry Use	Only		LOT	
				· · · · · · · · · · · · · · · · · · ·							
RR#/Street Nu	INGTON Imber/Name ION ST. NAD Zon 8 3	e Eastin			G-NI City/Town/Vi E-N Unit Make/M MAGGI	llage J / / odel Mod	Site/Compa	ifferenti	t/Block/Tra	7 act etc	
	rburden and Be	drock Ma	aterials (see inst	ructions)					Dep	th	Metres
General Colour			Other Ma		_		al Description		Fro	m	To 19.8
GREY.	DOLOSTON	VE	Chay, gans	8	SINT T	<		19,		32.0	
Hole	Diameter		Cons	truction Reco	rd		Tes	t of W	Vell Yield		
	letres Diameter	Inside		Wall	Depth	Metres	Pumping test method	Dra	aw Down		ecovery
From	7.8 25	diam centimetres	Material	thickness centimetres	From	То	-		Water Level Metres	Time min	Water Level Metres
	32.0 13			Casing			Pump intake set at - (metres)	Static Level			
17.0	12.0 / 3		Steel Fibreglass  Plastic Concrete	0.1111		20	Pumping rate - (litres/min)	1		1	
	r Record	5	Galvanized	5440	0	29	Duration of pumping	2	RU	12	
Water found at Metres	Kind of Water Fresh Sulphur		Steel Fibreglass Plastic Concrete				Final water level end	g	0	3	
Gas Other:	Salty Minerals		Galvanized				Recommended pump	-4,	/ T A	4 -	_
m Gas	Fresh Sulphur Salty Minerals		Steel Fibreglass Plastic Concrete				Recommended pump	5	NA	5	0 .
Other:	· · · · <u>·</u> · · · ·		Galvanized	Screen			depthmetres Recommended pump	10		10	
The second secon	Fresh Sulphur Salty Minerals	Outside	Steel Fibreglass	Slot No.			rate. (litres/min)	15		10	
	I yield, water was	diam	Plastic Concrete	10	29	32	If flowing give rate - (litres/min)	20		20	
Other, speci		5.7	Galvanized No C	(D)			If pumping discontin- ued, give reason.	30 40		30 40	
Chlorinated			Open hole	admig or dore	-		1	50		50	
	Plugging and Sea	ling Reco	rd 🕻 Annula	r space   Ab	andonment	-	Location	60	II.	60	
Depth set at - M			lurry, neat cement slurry	Volume	Placed metres)	In diagram belo	w show distances of well fr	_		and bui	lding.
	The second secon	ONIT	6 BROU		90		1W 1) A/	8	- 0	8	,
			Construction								
Cable Tool Rotary (conv		ussion	Jetting Driving		Other						
Domestic	☐ Industria	I	Public Supp	ily 🗌	Other						
Stock Irrigation	Commer Municipa	ıl	The second of th	ir conditioning		Audit No	18055 Dat	e Well	Completed	γ.	MM DD
Water Supply			Unfinished	Abandor	ned, (Other)	Was the well or	wner's information Dat	e Deliv		M.	MM DD
Observation of Test Hole			pply Dewatering Replacemen	nt well		package delivere			2	-	
Name of Well Co		ractor/Tec	hnician Informatio		cence No.	Data Source	Ministry Use	only otractor			
Nou Business Addres	PNIUN is (street name, number	er. city etc.)		6370	2	Date Received	-YYQX MM DO Dat	e of Ins	spection y	YYY	MM DD
Name of Well Te	CNANKS chnician (last name, fin ROBEM	ST. (		911	3MV icence No.	Remarks	5 2008		rd Number		00
Signature of Tec X 0506E (09/03)	hnician/Contragor	Copfe	1	a Submitted 77777 2008 inistry's Copy [	MM DD 2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	er's Copy	Cette fo	ormule	e est dispoi	nible e	en français



Ministry of the Environment

Well Tag No.

A077208

Well Record

Regulation 903 Ontario Water Resources Act

Pa	a	3		,	٧f		

#93	Well Location (Street Nu	,	2		Eq.N	PT. 23		ession 7		
County/Dis	trict/Municipality			С	ity/Town/Village	0.50.005	Ontario		Postal	Code
	inates Zone Easting	1	rthing		Iunicipal Plan and Suble	ot Number	Other		701	5) 40
	8 3 1 7 5 6 9 5				ed (any instructions as the	a hards of this form!		101333		\$200 BOOK STATE
General Co		non Material	iment Sea		er Materials	General Description		Depth (m/ft)		
Buse	K TOP S	n).							From	2
$\sim$		01		5	NES			-	2	43
Daw				010	AVEL					65
OPas.		1		GR	AVEL				t3	
BBa		1 -							Zc	69
TOROU		かっていい				LARGE FRACTURE			29	72
BROW	n hime	STONE							72	82
							locas	- = 2	82	+-1.
				- 1						
			(	0/4"	CASNO L	RIVE SHOE				
marita		Annular S		HERIT		Results of W	_	_	D-	
From	et at ( <i>m/ft)</i> To	Type of Seal (Material and			Volume Placed (m³/ft³)	After test of well yield, water was:	Time Wate	_		Water Level
0	20 0	wick (	2	_	90 GAL.	Other, specify	1	n/ft)	(min)	(m/ft)
	~	00.01				If pumping discontinued, give reason:	Static Level 1	7		(E
							1 1	7.6	1	(7.5
						Pump intake set at (m/ft)	2 1-	7.6	2	17.3
						Pumping rate (Vmin / GPM)		7.6	3	170
_	nod of Construction			Well Us	MADE VINCENTIAL PROPERTY.	25		1	4	1-(,
Cable To	ol Diamono Conventional) Jetting	Pub Don		Commer  Municipa	_	Duration of pumping		1.	-	
Rotary (F	Reverse) Driving	Live		Test Hol		hrs + min		7.6	5	
☐ Boring ☐ Air percu	□ Digging	☐ Irriga		Cooling (	& Air Conditioning	Final water level end of pumping (m/ft)	10	1.7	10	
Other, sp	pecify Reacy Am	□ Othe	er, specify_			If flowing give rate (I/min-/ GPM)	15 17	8	15	
HERE	Construction R		9	4-00	Status of Well		20 19	2,	20	
Inside Diameter	Open Hole OR Material (Galvanized, Fibreglass.	Wall Thickness	From	(m/ft)	Water Supply Replacement Well	Recommended pump depth (m/ft)		8	25	
(cm/in)	Concrete, Plastic, Steel)	(cm/in)	FION		Test Hole	Recommended pump rate			30	
614	STEEL	.(88)	+2	69	Recharge Well  Dewatering Well	(Vmin / GPM)	10			
61/4	Hons		69	82	Observation and/or Monitoring Hole	Well production (I/min / GPM)	40 18	3	40	
,					Alteration	Disinfected?	50 18	3	50	
					(Construction) Abandoned,	Yes No	60 18	8	60	
RESIDE	Construction R	ecord - Scree	en		Insufficient Supply Abandoned, Poor	Map of W	ell Location			
Outside Diameter	Material	Slot No.	Depth	(m/ft)	Water Quality	Please provide a map below following		the ba	ck.	
(cm/in)	(Plastic, Galvanized, Steel)	OIDT 140.	From	То	Abandoned, other, specify	How, ;	N 3			
					[] O"	Went of the second	八色			
					Other, specify	Q 42. 11	(11.11			
HERRIER	Water De	tails		Н	ole Diameter	1 7 2 (8)	Hily	SBU	RGC	-
20	d at Depth Kind of Wate		Untested	Depti From	h (m/ft) Diameter To (cm/in)	11440 ) (3	) 開			
	d at Depth Kind of Wate		Untested		20 10"	1				
	(ft) Gas Other, spe		Ontested			COUNTY RD.	1 1	#	22	-
	d at Depth Kind of Wate		Untested	20	82 614"		11			
(m	/ft) Gas Other, spe						124			
Business Na	Well Contractor	or and Well 1	122012121	Wol	ion   Contractor's Licence No.		[7]			
1.1.	1 1- 1	Dinei		-10 V	1663		131			
Business Address (Street Number/Name) M				-	nicipality	Comments:	[3]			
RRHS GUELPH					TELL MOTON		101			
Province Postal Code Business E-mail Address  ONT- NI 146 J2 handowelldr: lling@bo					ebellates	Well owner's Date Package Delivere		Ministr	y Use	Only
Bus.Telepho	ne No. (inc. area code) Na	me of Well Te	echnician (	ast Name, F	rst Name)	information package		No.Z	95	1/0
219	7630239	+ lance	7 \$	31124	Culturalities	delivered Date Work Completed		140		
VVeii Technici	an's Licence No. Signature	or Lectinician	and/or Co	mtractor Date		No 200602 JUL 1 6 2009				009
0506E (12/200	17)		Ministry's Copy  No DOGO BRECEIVED  Received  O Queen's Printer for C							

Ministry of the Environment

Well Tag No. (P 73292 A 073292

Well	Record
------	--------

Regulation 903 Ontario Water Resources Act

Page

			Township				Concession				1		
County/District/M		) N		(	ERIN  City/Town/Vil	lage		24	Provin		Postal	Code	AND MAKE
TM Coordinates	WELLINTO		484811	0 1	Municipal Pla	an and Subl	ot Number		Onta	ario			
NAD   8   3													
General Colour	d Bedrock Mater	non Materia	AMOUNT OF STREET		er Materials			eral Description	nun			th (m/ft)	
BROWN	SILTY CI	AY GR	AVEL								From 0	8ft	
GRAY	GRAVEL										8ft	52ft	-
GRAY	LIMESTON	ľΕ									52ft	65ft	
													1
		Annula						Results of We	II Yiel	d Testing	Design		
Depth Set at (m From T	n/ft)	Type of Se. (Material ar				Placed //ft³)	After test of well yield  X Clear and sand	THE RESERVE AND ADDRESS OF THE PARTY OF THE		Water Leve		ecovery Water Level	
0 5	4ft BENT	ONITE	SLURR	Y			Other, specify_ If pumping discontinu	and also seems	(min) Static	(m/ft) 8ft	(min)	(m/ft)	
							ii puriping disconditu	led, give reason.	Level 1		1		
							Pump intake set at (	(m/ft)	2		2		
							30ft Pumping rate (Vmin.)	(0010	3		3		
Method of Construction     Well Use       Cable Tool     □ Diamond     □ Public     □ Commercial			cial Not used		1 (GPM)	4		4		The same			
Rotary (Conven	tional)	Do Do	omestic vestock	☐ Municipa	al 🗆	Dewatering Monitoring	Duration of pumping 2 hrs + 0	min	5	9ft	5	8ft	-
Boring	Digging	☐ Irri	igation	Control of the Contro	& Air Conditio		Final water level end	of pumping (m/ft)	10		10		-
Air percussion Other, specify_			dustrial her, <i>specify</i> _				10ft If flowing give rate (li	/min / GPM)	15		15		-
Inside Ope	Construction R	ecord - Cas		n ( <i>m/ft</i> )	Status Water S	of Well			20		20		
Diameter (Gah	vanized, Fibreglass, crete, Plastic, Steel)	Thickness (cm/in)	From	То	Replace	ment Well	Recommended pum 20ft		25	10f1	25		
6½ s	tge1	.188	0	54ft	Recharg	ge Well	Recommended pure (Vmin / GPM) 1.0	p rate ) g p m	30		30		
oion o	pen hole		54ft	65ft	Dewater  Observa	tion and/or	Well production (l/mi		40		40		
					Monitorir  Alteratio (Constru	n	Disinfected?		50	100	50		
					Abando	THE PARTY OF THE P	Yes No		60	10ft	60		
Outside	Construction R Material	ecord - Scre		( <i>m/ft</i> )	Abandor Water C	ned, Poor	Please provide a map	Map of We below following i			ack.		
Diameter (cm/in) (Plasti	ic, Galvanized, Steel)	Slot No.	From	То	Abandor Specify							1	)
					Other, s	necify		RAFAL	GA	R	./	\(^{\lambda}\)	
								RD		/	116	Ce-	
	Water Det epth Kind of Water	Fresh	Untested		ole Diamet h (m/ft)	er Diameter						-3BC	,
	Gas Other, spe		Untrated	From	To 54ft	(cm/in) 8.75i	n   S	GAS S	co				,
(m/ft)	Gas Other, spe	cify		54ft	65ft	6in		GAS S	TAI	TON	1		
	epth Kind of Water Gas Other, spe		Untested	3410									
	Well Contracto	-	Technicia					House	KWE				
	Well Contractor LANG WELL	DRILI	LING I		7154	Licence No.		. See	WE				
	(Street Number/Na ON ST GOD		ONT	Mur	nicipality		Comments:						
ovince	Postal Code N7A3R9	-	E-mail Add	ress									1901 198
s.Telephone No.	(inc. area code) Na	me of Well T	echnician (L	ast Name, F	irst Name)		information	Package Delivered		Audit No.	try Use	Telephone State	
	ence No. Signature	KEITH	LANG				delivered Date V	Y Y M M D	D	Z	097	054	
	Signature					3.1	20	09 10 10		nen	- 0		
T\$4	46	Tal	M.	Y	YYYM	MDD	No YY	09 10 10 Y Y M M C	D	Received	0 3 7	00944	

0506E (12/2007)

Ministry of

### A 090694

Well Record

or Print Below) the Environment Regulation 903 Ontario Water Resources Act Measurements recorded in: Metric Imperial A090694 Page Well Owner's Information First Name Last Name / Organization E-mail Address ☐ Well Constructed NESTLE WATERS CANADA by Well Owner Mailing Address (Street Number/Name) 460 Phillip St. Schlumberger Water Sewices, Suite 101 Municipality Province Postal Code Telephone No. (inc. area code) % Schlum berger Water Services WATERLOO ON N2L5J25197461798 Well Location Address of Well Location (Street Number/Name)
9313 Sideroad 24 Erin - Station Concession 24 Erin Town County/District/Municipality City/Town/Village Postal Code Province Wellington
UTM Coordinates | Zone | Easting Hillsburg Ontario Northing Municipal Plan and Sublot Number Other NAD 8 3 1 7 5 6 8 5 3 5 4 8 4 7 8 6 8 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (##/ft) Most Common Material Other Materials General Description From To Black Topsoil 0 1 Silty sand 11 Gravel, boulders Med. sand 35 17' Brown Clay 36 35 Annular Space Results of Well Yield Testing Depth Set at (ex/ft) Type of Sealant Used (Material and Type) Volume Placed (m³/ft³) After test of well yield, water was: Recovery Draw Down Time | Water Leve Clear and sand free Time Water Level Other, specify 36' (m/ft)(min) (m/ft)24' Sand Static If pumping discontinued, give reason: 24' Bentonite chips Leve 1 1 Pump intake set at (m/ft) 2 2 3 3 Pumping rate (I/min / GPM) Method of Construction Well Use Cable Tool Diamond 4 4 Public Commercial Not used Duration of pumping Rotary (Conventional) Jetting ☐ Domestic Municipal | Dewatering 5 Rotary (Reverse) Driving hrs + min 5 Livestock ☐ Monitoring Test Hole Boring ☐ Digging ☐ Irrigation Final water level end of pumping (m/ft) 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 Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) Inside Depth (m/ft) ☐ Water Supply Wall Recommended pump depth (m/ft) Thickness Replacement Well 25 25 From To (em/in) Test Hole 2" Recommended pump rate (Vmin / GPM) Plastic- PVC 5ch.40 0 35 Recharge Well 30 30 Dewatering Well 40 40 Observation and/or Monitoring Hole Well production (Vmin / GPM) 50 50 Alteration Disinfected? (Construction) 60 X Yes No 60 Abandoned, Insufficient Supply Construction Record - Screen Map of Well Location Abandoned, Poor Outside Water Quality Depth (AM/ft) Please provide a map below following instructions on the back. Material (Plastic, Galvanized, Steel) Diamete (ens/in) Abandoned, other, From To specify 211 10 Plastie-PVC 25' 35 Other, specify Water Details Hole Diameter Depth (mx/ft) Water found at Depth Kind of Water: Kresh Untested From To 25'-35' (m/ft) Gas Other, specify (cm/in) 11 36' Water found at Depth Kind of Water: Fresh Untested 0 6 (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. Davidson Well Drilling Limited 1 7 3 Business Address (Street Number/Name) Municipality Comments 147 North Street W. MINGHAM Province, Postal Code Business E-mail Address ON NOG2WD infoddavidsondrilling.com Well owner's Date Package Delivered Ministry Use Only Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) Audit No. 2 109934 Well Technician's Licence No. Signature of Fechnician and/or Contractor Date Submitted YYYMMD Date Work Completed Yes MAR 2 9 2010 T1156 20091226 No 2001120

Ministry's Copy

Ministry of A 090695 or Print Below) Well Record the Environment Regulation 903 Ontario Water Resources Act asurements recorded in: ☐ Metric ☐ Imperial A090695 Page Well Owner's Information Last Name / Organization E-mail Address ☐ Well Constructed NESTLE WATERS CANADA by Well Owner failing Address (Street Number/Name) Municipality Province Postal Code Telephone No. (inc. area code) % Schlumberger Water Services, 460 Phillip st. WATERLOO ON N2L5J25197461798 Suite 101 Well Location Address of Well Location (Street Number/Name) Township 9313 Sideroad 24 Erin-Station St. 24 Erin Town City/Town/Village Hillsburgh County/District/Municipality Province Postal Code Wellington Ontario UTM Coordinates Zone Easting Northing Municipal Plan and Sublot Number Other NAD 8 3 /17 5 6 8 5 5 6 4 8 4 78 7 5 Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) General Colour Most Common Material Depth (mt/ft) Other Materials General Description From Topsoil 11 0 Sitty sand 17 Med sand 17' Gravel, boulders 35' Clay Brown Boulders, gravel 35 73 Brown Limestone 171 73 Annular Space Results of Well Yield Testing Depth Set at (m/ft) Type of Sealant Used (Material and Type) After test of well yield, water was Volume Placed Recovery Time Water Level Clear and sand free Time Water Level 12 bgs. 171 131 Sand Other, specify (min) (m/ft) i bg. 131 Bentonite chips 128 Static If pumping discontinued, give reason: 1281 Groutwell 8 bgs. 900 Level Bentonite chips 1 1 90' 73 18 bgs, Pump intake set at (m/ft) 0' 2 2 73' H bgs. Groutwell 3 3 Pumping rate (I/min / GPM) Method of Construction Well Use 4 Cable Tool 4 Diamond Public Commercial Not used Rotary (Conventional) Duration of pumping Domestic Dewatering Jettina ■ Municipal 5 5 hrs + Rotary (Reverse) Driving Livestock Test Hole ☐ Monitoring Boring Final water level end of pumping (m/ft) ☐ 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 Inside Open Hole OR Material Depth (ww/t) Wall ■ Water Supply Recommended pump depth (m/ft) (Galvanized, Fibreglas Concrete, Plastic, Stee Thicknes (cm/in) Replacement Well 25 25 (cm/in) From To Test Hole 6" Recommended pump rate (Vmin / GPM) 0, .188" 73 Recharge Well 30 30 Dewatering Well Open Hole 73' 171 40 40 Observation and/or Well production (Vmin / GPM) Monitoring Hole 2" Plastic 50 50 Alteration Sch. 40 170 (Construction) 60 60 Yes No Abandoned, Insufficient Supply Construction Record - Screen Map of Well Location Abandoned, Poor Outside Diameter (ea/in) Please provide a map below following instructions on the back. Material (Plastic, Galvanized, Steel) Depth (m/f) Water Quality Slot No. Abandoned, other, To specify 1500 B 10 Sch. 40-PVC 140 170 Other, specify Water Details Hole Diameter Water found at Depth Kind of Water: X Fresh Untested Depth (m/ft) Diameter (am/in) 140~ \70 (ant) Gas Other, specify 83/4" 73' Water found at Depth Kind of Water: Fresh Untested 0 (m/ft) Gas Other, specify 171' 73' 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 Davidson Well Drilling Limited 1737 Business Address (Street Number/Name) 141 North Street W. Comments: WINGHAM Province Postal Code Business E-mail Address NO G 2 W D into Adavidsondrilling.com DN Well owner's information Date Package Delivered Ministry Use Only Bus. Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name)

5 1 9 3 5 7 1 9 6 0 REAVIE GARY Audit No. 2 109935 Bus Telephone No. (inc. area St.) | St. | 9 | 3 | 5 | 7 | 1 | 9 | 6 | 0 | REAVIE GARY

Well Technician's Licence No. Signature of Technician and/or Contractor Date Submitted package delivered YYYYMMD Date Work Completed Yes 20091204 20091221 MAR 2 9 2010 0506E (12/2007) Ministry's Copy

Ministry of the Environment Well Tag No. (Pla 84720

A 084720 Regulation 903 Ontario Water Resources Act

Well Record

Measurements recorded in: Metric Imperial Lot 24 Address of Well Location (Street Number/Name) Concession ERIN County/District/Municipality Province City/Town/Village Postal Code WELLINGTON Ontario VTM Coordinates | Zone | Easting | 569543 Northing 4848308 Municipal Plan and Sublot Number Other Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form) Depth (m/ft) General Colour Most Common Material Other Materials General Description From 0 8ft SILTY SAND CLAY BROWN 8ft BROWN GRAVEL SAND 32ft CLAY & STONES 32ft 50ft GRAY 50ft 68ft GRAY LIMSTONE Annular Space Results of Well Yield Testing Type of Sealant Used (Material and Type) Volume Placed (m³/ft³) After test of well yield, water was: Depth Set at (m/ft) Recovery Draw Down Time Water Level X Elear and sand free Time Water Level 0 51ft BENTONITE SLURRY (min) Other, specify (m/ft) (min) (m/ft) 12ft Static If pumping discontinued, give reason: Level 1 Pump intake set at (m/ft) 40 f t 2 2 3 3 Pumping rate (I/min / GPM) 10gpm Method of Construction Well Use 4 4 ☐ Diamond ☐ Jetting Cable Tool Public Commercial ■ Not used Duration of pumping Domestic Rotary (Conventional) Municipal Dewatering 19ft hrs + 14ft 5 min 5 Rotary (Reverse) Driving ☐ Test Hole Livestock ■ Monitoring Boring Digging ☐ Irrigation Cooling & Air Conditioning Final water level end of pumping (m/ft) 13ft 22ft 10 Air percussion
Other, specify Industrial 24ft 23ft 12ft Other, specify 15 15 If flowing give rate (Vmin / GPM) Construction Record - Casing Status of Well 24ft 20 20 X Water Supply Depth (m/ft) Inside Open Hole OR Material Recommended pump depth (m/ft) 40 f t Wall (Galvanized, Fibreglass, Concrete, Plastic, Steel) Replacement Well (cm/in) 25 25 From To Test Hole Recommended pump rate 51ft Recharge Well (Vmin/GPM) 10gpm, 30 30 64 steel .188 0 Dewatering Well 40 40 6in 68ft open hole 51ft Observation and/or Well production (I/min / GPM) Monitoring Hole 50 50 Alteration Disinfected? (Construction) 12ft 24ft 60 X Yes No 60 Abandoned, Insufficient Supply Construction Record - Screen Map of Well Location Abandoned, Poor Outside Please provide a map below following instructions on the back. Depth (m/ft) Material (Plastic, Galvanized, Steel) Water Quality Slot No. Abandoned, other, TRAIL (cm/in) specify Other, specify TRAFALBAR asi Water Details Hole Diameter Water found at Depth Kind of Water: TFresh Untested 65 ft (m/ft) Gas Other, specify From To (cm/in) PARKING 0 51ft 8.75in Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify 51ft 68ft 6in 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 Well Contractor's Licence No. KEITH LANG WELL DRILLING INC 7154 Business Address (Street Number/Name) Municipality Comments: 251 ELDON ST GODERICH ONT Province ONT Postal Code N7A3R9 Business E-mail Address Well owner's Date Package Delivered Ministry Use Only information Audit No. Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name, First Name) KEITH LANG YYY MMDDD 9236 Date Work Completed n's Licence No. Signature of Technician and/or Contractor Date Submitted Well Technici XYes T446 2010 8 8 7 2010 YYYYMMDD □ No 0508E (2007/12) © Queen's Printer for Ontario, 2007 Ministry's Copy

How can we help yo

Search

<u>contact us Français</u> <u>Popular +</u>

#### **Trending Now**

- Ontario Public Service careers
- OSAP: Ontario Student Assistance Program
- Government services
- Outdoors Cards, Licences and Draws
- Renew a licence plate sticker
- Change the address on identification cards
- Driving and Roads

### Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue.

### Recommended for you

How to use a Ministry of the Environment map

Technical documentation: Metadata record

Go Back to Map

#### Well ID

Well ID Number: 7179274 Well Audit Number: *C16734* Well Tag Number: *A115238* 

This table contains information from the original well record and any subsequent updates.

#### **Well Location**

Address of Well Location	
Township	ERIN TOWNSHIP
Lot	024
Concession	CON 07
County/District/Municipality	WELLINGTON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 568876.00 Northing: 4848342.00
<b>Municipal Plan and Sublot Number</b>	
Other	_

#### Overburden and Bedrock Materials Interval

### Annular Space/Abandonment Sealing Record

Depth	Depth	Type of Sealant Used	Volume
From	To	(Material and Type)	Placed

### Method of Construction & Well Use

Method of Construction Well Use

#### **Status of Well**

### **Construction Record - Casing**

Inside	Open Hole or material	Depth	Depth
Diameter	Open note or material	From	To

#### **Construction Record - Screen**

Outside Diameter Material Pepth Depth From To

#### Well Contractor and Well Technician Information

Well Contractor's Licence Number: 6607

### **Results of Well Yield Testing**

After test of well yield, water was
If pumping discontinued, give reason
Pump intake set at
Pumping Rate
<b>Duration of Pumping</b>
Final water level
If flowing give rate
Recommended pump depth
Recommended pump rate
Well Production
Disinfected?

#### Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

#### **Water Details**

Water Found at Depth Kind

#### **Hole Diameter**

Depth From		Diameter
rrom	10	

Audit Number: C16734

Date Well Completed: January 31, 2012

Date Well Record Received by MOE: February 14, 2012

Updated: February 8, 2016

Rate Rate

Share<u>facebook</u> twitter Print

Tags

- Environment and energy, Drinking water,

- Environment maps,
- Well water



**Glen Murray** 

Minister of the Environment and Climate Change

Ministry of the Environment and Climate Change

#### **Contact Us**

Contact us by phone

#### Follow Us

Find us on Facebook

Follow us on Twitter twitter

Follow us on YouTube YouTube

Follow us on Flickr flickr

Follow us on Tumblr tumblr

#### **Topics**

- Arts and culture
- Business and economy
- Driving and roads
- Education and training
- Environment and energy
- Government
- Health and wellness
- Home and community
- Jobs and employment
- <u>Law and safety</u>
- <u>Laws</u>
- Rural and north
- Taxes and benefits
- Travel and recreation

#### ABOUT ONTARIO

- privacy
- accessibility
- terms of use

© Queen's Printer for Ontario, 2012-16



Ministry of the Environment

Measurements recorded in: Metric Imperial

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

A121079

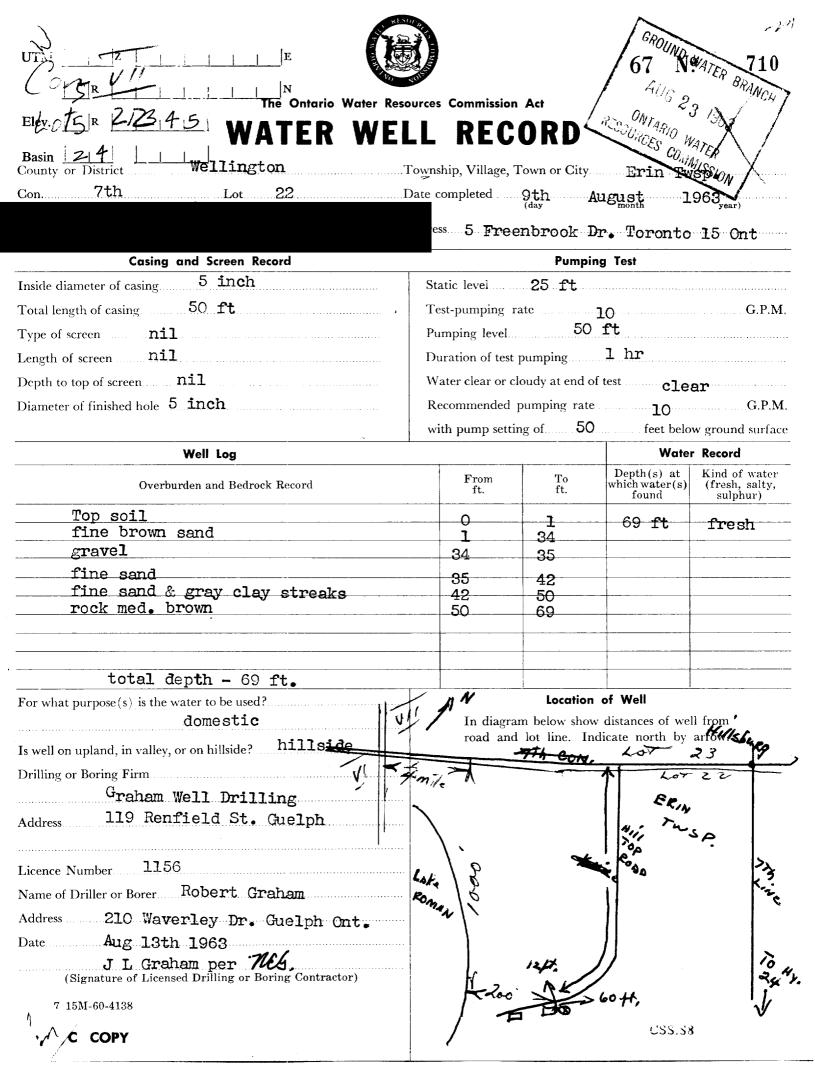
Well	Record
------	--------

Regulation 903 Ontario Water Resources Act Page / of /

Country of Victor   Country   Coun					
Unitario Continues Care April 19 Not	Address of Well Location (Street Number/Name)	Township	Lot O	Concessio	(1)
Unitario Continues Care April 19 Not	30 Trafalgar Koad			Province	Postal Code
MOD IS 3 O STORD IN 1 O 341 34 1 O O ST.  Order burden and Bedrock Basterials Automorphic State In the Control of the Control	County/District/Municipality		ah		
Contract Court   Month Corronn Manifest   Month Contract Manifest		١ .		Other	
Meditod of Construction   Page   Pa	NAD 8 3 08 0 08 1 0 3 4 3 4 7 0 3 8				
DIG OUT BOILTON OF WELL PIT WELD ON SEASON TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE SOLD TO BE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE					
DIG OUT BOILTON OF WELL PIT WELD ON SEASON TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE SOLD TO BE SOLD TO BE FILL STALL PITLESS ADAPTOR USE SOLD TO BE  11)611 1)86	PADE		A Paragraphic Annual Control of the		
SALE INSTAL PITLESS ADAPTAR  2" DIDLYAR SPACE MITTLE BEATTON'TE  BOTH OF THE STALE PROPERTY OF THE STALE PROPERY OF THE STALE PROPERTY OF THE STALE PROPERTY OF THE STALE PROPER	U U U				
SALE INSTAL PITLESS ADAPTAR  2" DIDLYAR SPACE MITTLE BEATTON'TE  BOTH OF THE STALE PROPERTY OF THE STALE PROPERY OF THE STALE PROPERTY OF THE STALE PROPERTY OF THE STALE PROPER	DIG OUT BOTTOM OF WELL PIT	WELDON 1	DEW 6 CASING V	SIN6	
Annual Spoce  Deam Set of (77)  New York Charles (107)  Page 15 Scalan User  Deam Set of (77)  New York Charles (107)  Page 25 Scalan User  Deam Set of (77)  New York Charles (107)  New York Charles	SXL BELL IDSTALL PITLES	SS ADAPTOR	USE SOLD TOBE	FUL	
Annual Spoce  Deam Set of (77)  New York Charles (107)  Page 15 Scalan User  Deam Set of (77)  New York Charles (107)  Page 25 Scalan User  Deam Set of (77)  New York Charles (107)  New York Charles	2" AUNULAR SPACE WITH B	ENTOUTE	DSTALL PEW WEL	CAP	la de la companya de
Annular Space  Depth Set at (not)   Type of Sesion Load   Volume Piccod (not)   Type of Sesion Load   Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak water vas.   Depth Once   Control of Make Set of total yeak   Control of	HYDIKUI TO EXISTING 1/4"	OW LINE	BACKFILL WELL VI	TWITE	
Construction   Cons	SURWINGS BUILD TAPER	CHLODINA	TE WELL SUSTE	<b></b>	
Depth Set it (ruling)   Type of Sealart Mode   Press   Volume Phases   Press				3,000	
Depth Set it (ruling)   Type of Sealart Mode   Press   Volume Phases   Press					
Status of Well   Stat		Values Disease			
Tpurpring discriminated, give reasons   Sure   D 64   1   1   2   2   2   2   2   2   2   2	==p::=::: \ / / }		Clear and sand free	Time Water Lev	el Time Water Level
Mathod_of Construction		AAAAAA		Static	n i
Method of Construction	ABOX-		n paniping and a same and great		
Method of Construction	See Ma	and the contract of	Pump intake set at (m/ft)		
Method of Construction			, , ,		
Cable Tool   Converting   Commercial   Montage   Commercial   Mont	Method of Construction Well U	50	Pumping rate (I/min / GPM)		
Recommended pump depth (m/h)   15   15			Duration of pumping		
Industrial   Other, specify   Other, s	Rotary (Reverse) Driving Livestock Test H	ole	NAMES		
Construction Record - Casing   Status of Well   Indicate   Casing   Casin		g & Air Conditioning	Filial Water lever end or pumping (miny	10	
Inside   Open Hole Off Material   Depth (m/ll)   Water Supply   Replacement Well   Recommended pump depth (m/ll)   25   25   25   25   25   25   25   2			If flowing give rate (I/min / GPM)	15	15
Diameter   Converter   Conve			Recommended pump depth (m/ft)	20	20
Recharge Well   Dewatering   Dewatering Well   Dewatering Well   Dewatering Well   Dewatering		,	NAME OF THE PROPERTY OF THE PR	25	25
Well production (l/min/GPM)   40   40   40   40   40   40   40   4	6" STEEL -188 +2'+("	Recharge Well		30	30
Alteration   Construction Record - Screen   Abandoned, Insufficient Supply Abandoned, Poor Water Quality   Abandoned, Poor Water Quality   Abandoned, other, specify   Plastic, Galvanized, Steel)   Slot No.   Depth (m/tl)   Abandoned, other, specify   Abandoned, other, specify   Diministry   Abandoned, other, specify   Abandoned, other	11 120 - 17 3		Well production (Vmin / GPM)	40	40
Construction Record - Screen Outside Diameter Diameter (Plastic, Galvanized, Steel) Slot No.  Water Details Water Doubles   Short No.   Depth (m/fl)   Diameter (m/fir)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested   Untested (m/fl)   Gas   Other, specify   Water found at Depth (ind of Water:   Fresh   Untested   Unteste		1		50	50
Construction Record - Screen  Outside Dameler (cm/in) (Plastic, Galvanized, Sleel) Slot No. Depth (m/it)   Abandoned, Poor Water Quality   Abandoned, other, specify   Aba		1 '		60	60
Depth (m/ft)   Calvanized, Steel   Slot No.   Depth (m/ft)   Abandoned, other, specify   Depth (m/ft)   Abandoned, other, specify   Depth (m/ft)   Calvanized, Steel   Slot No.   Prom   To   Abandoned, other, specify   Depth (m/ft)   Depth (m/ft	Construction Record - Screen	NAME			
Water Details	Diameter Slot No.	Water Quality	<b>A</b>		back.
Other, specify   Water Details   Hole Diameter   Water found at Depth Kind of Water:   Fresh   Untested   Clark   From   To   Comments   From   From   To   Comments   From   From   To   Comments   From   To   From   To   Comments   From   To		i tunno	- Acceptant and a state of the	Charles and a second se	Australia con Colombia de California de Cali
Water found at Depth   Kind of Water:   Fresh   Untested   Depth   (m/ft)   Gas   Other, specify   Water found at Depth   Kind of Water:   Fresh   Untested   From   To   (cm/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   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 and Well Technician Information   Well Contractor   Well Contractor   Well Contractor   Well Contractor   Well Contractor   Well Contractor   Technician   Contractor   Well Contractor   Date Package Delivered   Well Contractor	Other, specify			650' <del>-</del>	
Water found at Depth   Kind of Water:   Fresh   Untested   Diameter   From   To   Comments   From   To   From   To   Comments   From   To   From   To   From   To   From   To   From   To   From   To   Comments   From   To   To   From   To   To   From   To   To   Fro			•	A CONTRACTOR OF THE PARTY OF TH	TOACAICAD
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  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  Business Name of Well Contractor  Province Postal Code Business E-mail Address  Ont NoBito Unicosmiticatus Usern Compackage Delivered (mormation)  Business Raddress (Street Number/Name)  Province Postal Code Business E-mail Address  Ont NoBito Unicosmiticatus Usern Compackage Delivered (mormation)  Business Raddress (No Date Vork Completed Very Co		······································	W 080 08. 103		RA.
Water found at Depth   Kind of Water:   Fresh   Untested	(m/ft) Gas Other, specify	To (cm/in)			77+ Hallich bernangen
Water found at Depth Kind of Water: Fresh Untested (m/ft) Gas Other, specify    Well Contractor and Well Technician Information					
Well Contractor and Well Technician Information  Business Name of Well Contractor  Smith Work (Custers of Table 1)  Business Address (Street Number/Name)  Province Postal Code Postal Code Business E-mail Address  Comments: 5" Detuch Well Located  No Business E-mail Address  Well owner's Information  Well owner's Information  Well owner's Information  Well owner's Information  Date Package Delivered  Well owner's Information  Well owner's Information  Date Work Completed  Yes  Well owner's Information  Date Work Completed  Yes  MAY 3 0 2012  Received				ì	
Business Name of Well Contractor  Business Address (Street Number/Name)  Province  Postal Code  Business E-mail Address  Ont  Business E-mail Address  Date Package Delivered  Information  Business E-mail Address  Informati			22 SIDE AD	1	AILLO DI LO
Business Address (Street Number/Name)  P.O. Box 787  Province  Postal Code  Business E-mail Address  Ont  Bus. Telephone No. (inc. area code)  Name of Well Technician (Last Name, First Name)  Well Technician's Licence No. Signature of Technician and Contractor Date Submitted  T 3 4 6  Municipality  Comments: 5" D E tued D Well Loc ATE D  No Well owner's information package delivered information package delivered Date Work Completed  No Date Work Completed  MAY 3 0 2012  Received					
Business Address (Street Number/Name)  Province Postal Code Business E-mail Address  Ont Bus. Telephone No. (inc. area code) Name of Well Technician (Last Name, Fiks Name)  SIABLE SUMMING.  Well owner's Information package delivered delivered Date Work Completed  Well owner's Information package delivered Date Work Completed  Well owner's Information package delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Information package Delivered Date Work Completed  Well owner's Date Package Delivered Date Only Information package Delivered Date Work Completed  Well owner's Date Package Delivered Date Only Information package Delivered Date Work Completed  Well owner's Date Package Delivered Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Information package Date Only Informat	Smith water Sustans Inc	7407	The state of the s		
Province Postal Code Business E-mail Address  Ont No B   TO   Lic & Smut Locate Superior Compacting    Bus. Telephone No. (inc. area code)   Name of Well Technician (Last Name, Fire Name)    SI 19 8 3 3 3 0 00   Signature of Technician and of Contractor Date Submitted    Well owner's information package delivered    Well owner's information package    Well o	Business Address (Street Number/Name)				XATEO
Bus. Telephone No. (inc. area code)  Name of Well Technician (Last Name, Fire Name)  SIMON  Well Technician's Licence No. Signature of Technician and or Contractor Date Submitted  T 3 4 6  Audit No.  Z 1 5 1 5 7 8  MAY 3 0 2012  Received			<u> </u>		
Well Technician's Licence No. Signature of Technician and Contractor Date Submitted  T 3 4 6 Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed  No Date Work Completed	Ont NOBITO julicosmitivati	Bysten, com	information	Audit No.	istry Use Only
Well Technician's Licence No.   Signature of Technician and of Contractor   Date Submitted   T   3   4   6   No 20 12 05 19   Received   Receiv	Bus. Telephone No. (mc. area code) Name of Veil Technician (Last N	e, i neuriamo)	Date Work Completed		151578
	Well Technician's Licence No. Signature of Technician and/or Contractor D	Date Submitted	Yes	- 0	MAY 3 0 2012
	0506E (2007/12) © Queen's Printer for Onterior, 2007	<u>くり(1 人   のち   17   9</u> Ministry's Copy		NA Legence	

Onta	ario Ministry of the Environment	Well			and/or Print Below)	Regulatio	on 903 Ontario	Water Res	•
Measurements	da language de la companya de la companya de la companya de la companya de la companya de la companya de la co	! <u> </u>	4 1129	338	Abundon	1	<u> </u>	age \	_ of
Well Owner's	s Information   Last Name / Organiz	ration			E-mail Address			<u> </u>	
First Name	Nestle L		: Con	acb	www.	Nestle	order co		Constructed ell Owner
	(Street Number/Name)	Prince Texas	Municipality		Province	Postal Cod	e Teleph	one No. (inc.	
	Brack Road Sout	th	Oue	PH	004	N146	H9519		9462
Well Location	n Location (Street Number/Name)		Tavaabia			Lot	Conco	763	
- Antonio	Station (Street Number/Name)	4	Township	to us	ERIN	LOI	Conce	ssion	
County/District/N			City/Town/V				Province	Posta	I Code
	Minston				sburgh		Ontario	NO	8120
UTM Coordinates		iteach a de	Municipal P	lan and Sub	lot Number		Other		
NAD 8 3	3 1 7 See held See and Bedrock Materials/Abandonment	below/							
General Colour			<b>cord</b> ( <i>see insi</i> Other Material		T	eral Descriptio	- Ain J	Der	oth ( <i>m/ft</i> )
veil # 1				1	1	rai Descriptio	- Aboundo	K From	To
MIN I	0 1 1	. \$	FROM	TO	ve11 # 2		*		
	Bendonte		0	3.66		entoni	***************************************	0	3.75
***************************************	clean perstone		3.60	530	clean	s Peas	10006	3.75	5-15
static	level 3,56 m				static	leval		3,70	<b>N</b>
	East NG	Ama	thing		_				
Cac	and the second			<i>(</i> ^		Soil S	er jednessortfingsgebe		Shirt H
_6pS	568903	4648	8337	GP	5 <i>5</i> (	-8877		48	48340
				***************************************					
								3 7 3-4-25-7	
	Annular Space				F	Results of W	ell Yield Test	ing	
Depth Set at (n	m/ft) Type of Sealant Use To (Material and Type)	∍d		e Placed o³/ft³)	After test of well yield,		Draw Dow		ecovery
	(маселагали туре)	<u> </u>		r/11°)	☐ Clear and sand fi☐ Other, <i>specify</i>	ree	Time Water (min) (m/n)		Water Level (m/ft)
					If pumping discontinue	d. give reason:	Static	y (min)	(17811)
	constructed k	O YC	thes				Level		
					Abandon		1	1	
Seattatil sean Agin.	Land Indexed in				Pump intake set at (n	n/ft)	2	2	
<b>NO. 41</b>		AND TO STANDING SAME OF THE STANDING			Pumping rate (I/min / 0	GPM)	3	3	
Cable Tool	of Construction	Well L				31 (VI)	4		
Rotary (Conven		☐ Comm		Not used Dewatering	Duration of pumping		4	4	
Rotary (Reverse		☐ Test H	lole 🔲	Monitoring		nin	5	5	
☐ Boring ☐ Air percussion	☐ Digging ☐ Irrigation ☐ Industrial		g & Air Condition		Final water level end of	pumping (m/ft)	10	10	
Other, specify_	Abandon Dither, speci	$f_y$ $H$ loc	andlon	•	If flowing give rate (I/m	in / CDM)	15	15	
	Construction Record - Casing		Status	of Well	in nowing give rate (i///	iiii 7 Grivij			
	en Hole OR Material Wall De vanized, Fibreglass, Thickness	epth ( <i>m/ft</i> )	☐ Water S		Recommended pump	depth (m/ft)	20	20	
	crete, Plastic, Steel) (cm/in) From	То	Replace				25	25	
Scm P	UC .		Recharg		Recommended pump (I/min / GPM)	rate	30	30	
			Dewate	1			40	40	***************************************
			Observa Monitori		Well production (I/min ,	/ GPM)	40	40	
14240)	ucted by Other	₽S.	Alteration (Constru		Disinfected?		50	50	
			☐ Abando	, ,	☐ Yes ☐ No		60	60	
	Construction Record - Screen		50001 <b>8</b>	ent Supply ned, Poor		Man of We	II Location		
Outside Diameter	Material De	pth ( <i>m/ft)</i>	Water C	luality	Please provide a map b			ne back.	
(cm/in) (Plastic	c, Galvanized, Steel) Slot No. From	То	Abandoi specify	ned, other,					A
eans.	tructed by Other		Not le	aumed					
	Tractor by Office	3	Other, s						
							المار	2001	N
Vater found at De	Water Details  epth Kind of Water: Fresh Unteste		Hole Diamete				stat		
	epth Kind of Water:	From	oth ( <i>m/ft)</i> To	Diameter (cm/in)			( k	cocci	
	epth Kind of Water: Fresh Unteste	ed ed							Dher
	Gas Other, specify		1 10		351			Tr	afalger Road
	epth Kind of Water: ☐ Fresh ☐ Unteste	tones	ructed	by	A 22 3W				Room
(m/ft) 🔲 G	Gas Other, specify		other	'S	X727MEX	441			
ucinosa Nasa	Well Contractor and Well Technici	this subjection of party of publications			#2 #1				
usiness Name of \			ell Contractor's L	icence No.	Character to the control of the cont				
	Street Number/Name)	5 6	(U)		Comment				
	Mono Centre Roco		inicipality	$\parallel$	Comments:				
rovince	Postal Code Business E-mail Ac	dress	Lorise a						
<i>tuc</i>	LI9W6V7 Ontarious	aderioel	1/Cmlla	etamili	Well owner's Date Pac	kage Delivered	Min	istry Use C	)nlv
us.Telephone No. (i	(inc. area code) Name of Well Technician	(Last Name,	First Name)		information package		Audit No.		·····y
5 (9 9 4 2	14251 VanOoste	in Ka	eN .		delivered Date Wor	Y M M D	<u> </u>	:1598	373
8 $ \mathcal{S} $	ence No. Signature of Technician and/or C			$_{r+},$	∐ Yes				
	Queen's Printer for Ontario, 2007	a	OHNO	the same of the sa	MNO DIDI	4048	2 Received	<u> 1UN 0 5</u>	2014
(====) W W			Ministry	's Copy				and the Tele	

Ontario Ministry of the Environment Well T	ag No. (Place Sticker and/		n 903 Ontario	<b>Vell R</b> Water Reso	
Measurements recorded in: ☑ Metric ☐ Imperial	- Abandonment		Pa	i	of
Well Owner's Information				28 P. F. B. S. B.	
First Name   Last Name / Organization   Nestle Wakes Care	vada	E-mail Address  Www . Nestlewater	s · C1		onstructed II Owner
Mailing Address (Street Number/Name)	Municipality	Province Postal Code	Telepho	ne No. (inc. a	area code)
101 Brack Rd S	Guelph	ON N1146	49519	7630	1462
Well Location Address of Well Location (Street Number/Name)	Township	Lot	Conces	sion	
15 Station Street Number/Name)		wn of Gin 25	0011000	7	
County/District/Municipality	City/Town/Village		Province	Postal	
UTM Coordinates   Zone , Easting , Northing	Hillsburgh Municipal Plan and Sublot N	Number	Ontario Other	IV O	3/20
NAD 8 3 1 7 5 6 8 8 6 6 4 8 4 8 3 0 6	The state of the s				
Overburden and Bedrock Materials/Abandonment Sealing Rec	cord (see instructions on the ba			Dont	b (65)(4)
	Other Materials	General Description	<b>1</b> , 277 - 27 - 1	From	h <i>(m)</i> ft) To
[Fill				0	1.5
bentomt e				1.5	21.05
Dea stone				21.05	23.15
bentonite				23.15	26.65
Dea stone				26.65	31-18
bentonite				31.18	35.60
Det Stone				35.60	38.45
hd Sime					
			er de la companya de la companya de la companya de la companya de la companya de la companya de la companya de		
Annular Space		Results of W	ell Yield Testi	ng	(0)-0
Depth Set at (m/ft) Type of Sealant Used		After test of well yield, water was:	Draw Down	n Re	covery
From To (Material and Type)		☐ Clear and sand free ☐ Other, <i>specify</i>	Time Water L		Vater Level (m/ft)
		pumping discontinued, give reason:	Static Level 6-72		
constructed by others			1	•	
	<u>  (4</u>	)andon ec Pump intake set at (m/ft)			
			2	2	
Method of Construction Well U	Jse P	umping rate (I/min / GPM)	3	3	
Cable Tool Diamond Public Comm		Duration of pumping	4	4	
□ Rotary (Conventional)     □ Jetting     □ Domestic     □ Munici       □ Rotary (Reverse)     □ Driving     □ Livestock     □ Test H	par Dewatering	hrs + min	5	5	
A	· 1	inal water level end of pumping (m/ft)	10	10	
☐ Other, specify Alvan doned ☐ Industrial ☐ Other, specify Alvan doned ☐ Other, specify Alvan Doned ☐ Other, specify Alvan Doned ☐ Other, specify Alvan Done ☐ Other, specify Alvan Doned ☐ O	ried	flowing give rate (I/min / GPM)	15	15	
Construction Record - Casing	Status of Well		20	20	
Inside Open Hole OR Material Wall Depth (m/ft) Diameter (Galvanized, Fibreglass, Thickness	☐ Water Supply ☐ Replacement Well	ecommended pump depth (m/ft)	2-1		
((m)in) Concrete, Plastic, Steel) (cm/in) From To	☐ Test Hole	ecommended pump rate	25	25	
10.5 steel		min / GPM)	30	30	
	☐ Observation and/or ₩	/ell production (I/min / GPM)	40	40	
	Monitoring Hole  Alteration	sinfected?	50	50	
	(Constituction)	Yes No	60	60	
Construction Record - Screen	Insufficient Supply Abandoned, Poor	Map of We	II Location		
Outside Diameter / Plastic Calvanized Steel) Slot No. Depth (m/ft)	Water Quality Ple	ease provide a map below following		e back.	
(Cm/in) (Plastic, Galvanized, Steel) Slot No. From To	Abandoned, other, specify			1	
constructed by others	Not required		StationSt		
	Other, specify				
	tole Diameter				
	oth ( <i>m/ft</i> ) Diameter To ( <i>cm/in</i> )				
(min) Gas Other, specify	(1)		Trafa	lgar Ro	
Water found at Depth Kind of Water: ☐ Fresh ☐ Untested Construction (m/ft) ☐ Gas ☐ Other, specify	edd by ofters		The second second	0	
Water found at Depth Kind of Water: Fresh Untested					
(m/ft) Gas Other, specify		X€ 77m →			
Well Contractor and Well Technician Informa Business Name of Well Contractor   We	tion ell Contractor's Licence No.	III			
Ontario Water Well Services	4 0 1 1 1				
Business Address (Street Number/Name) Mu	n : 11	mments:			
	4 Cen w	ell pit removed by ou	ners		
Province Postal Code Business E-mail Address  ON L9 W6 V7 Ontario Water Well a	a hollmal ra Wa	all owner's Date Package Delivered	Na:-	istry Use C	inly
Bus.Telephone No. (inc. area code) Name of Well Technician (Last Name,	First Name) Info	ormation charge believe et	Audit No.		
S 1 9 9 4 2 4 2 5 1 Unobsten KEN	deli	vered Data Work Completed	'베 Z	1598	372
Nell Technician's Licence No. Signature of Technician and/or Contractor Dat		Yes 201404			2014
0506E (2007/12) © Queen's Printer for Ontario, 2007	Ministry's Copy	10101110110	24 E	<b>~</b> • •	



50	E 3		· · · · • · ·	1 m
UTM Z E		} :	67 N	711
5 R The Ontario Water Re	esquirces Commission	n Act		
Elev. 5 R 1/348 WATER WE				
Rasin 24 1   Wazhal			/	
,	Township, Village,	Town or Čity.	/	sp.
Con. #7 Pt. of Lot #22	Date completed	15th (day	May ]	.966 year)
	dress R R #	l Hillsb	urgh <b>Ontar</b>	io.
Casing and Screen Record		Pumpi	ng Test	
Inside diameter of casing 5 inch	Static level	10 ft		
Total length of casing 54 ft	Test-pumping	rate 10	*** ******	G.P.M.
Type of screen nil	Pumping level.	4.0	ft	*************************
Length of screen nil	Duration of test	pumping	la hours	
Depth to top of screen nil	Water clear or o			
Diameter of finished hole nil	Recommended	pumping rate	10	G.P.M.
	with pump sett	ing of 60	feet bele	ow ground surface
Well Log				r Record
Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
fine brown sand gravel brown	28	28 34	130'	fresh
fine sand , gray clay	34	52		
light brown rock	52	97		
dark brown rock dark gray rock	97 116	116		
dari graj 100k	110	130		
total -130 ft.				
For what purpose(s) is the water to be used?		loomica	of Well	74
domestic - cottages(summer)	In diagra	m helow show	distance of we	II from
Is well on upland, in valley, or on hillside? upland	road and	lot line. Inc	distance of we	zrow.
Drilling or Boring Firm	LOT 23	3 4	Vok /	ShyRox
Graham Well Drilling	40T ZZ	- 1.25	15M	7-1
110 Ponfield St.	- · ·	- 60010		
Address Guelph, Ont.			<u>t</u>	
Licence Number 2076	/.	#	7	
Name of Driller or Borer Sames Hawkins		ام	<b>/</b> 2	
Address Eramosa Rd Guelph Ont.		ROPA		
Date June 28th 1966	05 -	\ \ \ \ \ \ ,	<b>'</b> /	
Date  June 28th 1966  J L Graham per 766  (Signature of Licensed Drilling or Boring Contractor)	SPRINGE	-		- Fo'
Form 7 15M-60-4138				ERIN
OWRC COPY			0	SS.S8

The Ontario Water Re  Every 4/18/14/2/5 WATER WE  Basin 24 County of District WEAL ING TON  Con. VI Lot 24	LL REC	CORD	ERIN (HILLS & MAR	12 (UREH)
	dress H/	KKSBU	P G H	
Total length of casing Type of screen Length of screen Depth to top of screen Diameter of finished hole  Well Log  Overburden and Bedrock Record  GRAVEL & SAND  BIGGNA IMESTO WE	Test-pumping Pumping level. Duration of tes	rate 50 t pumping cloudy at end of pumping rate	of test Clase  e  feet bel	G.P.M. ow ground surface er Record Kind of water
For what purpose(s) is the water to be used?  DoMISSTIC  Is well on upland, in valley, or on hillside?  Drilling or Boring Firm  ADCO DRIAGNO  Address  HILLS BURGH  Licence Number  1955  Name of Driller or Borer  Address  Name of Driller or Borer  Address  OWELPH  (Signature of Licensed Drilling or Boring Contractor)  Form 7 15M-60-4138  OWRC COPY	road and	ım below shov	of Well v distances of we dicate north by	arrow.

17 5690710 16 1426 CODES 24 The Ontario Water Resources Commission Act
WATER WELL RECORD

County or District COZKATICGFON	Township, Village	, Town or City	ERIN	,
Con. VII Lot 2 4	Date completed	5 (day	April	1968
Owner MORRETTES LTD (print in block letters)				- ,
Casing and Screen Record			ng Test	
Inside diameter of casing 4	Static level	29 1	<u> </u>	
Total length of casing 96 #1				G.P.M
Type of screen  Length of screen  Depth to top of screen		31		·····
Length of screen	Duration of tes	st pumping	1 h	
	Water clear or	cloudy at end of	f test CLEP	<b>7</b> /
Diameter of finished hole				G.P.M
	with pump set	ting of 6	5 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)
CLAY - ROCKS GRAVEL LAYER	es o	70	103 tl	FRESH
BROWN LIMESTONE-CLAY LAY	ERS 70 94	105		FRE
		F.O.S.		
For what purpose(s) is the water to be used? House		Location	of Well	
DOMESTIC	In diagra		distances of wel	l from
Is well on upland, in valley, or on hillside? LPLAND	road and	d lot line. Ind	licate north by	arrow.
Drilling or Boring Firm LADCO DRILLING				
Hillsburg R. R. M.	1/		The state of the s	<i>Y</i>
Address	Ì		a Ry Det	75
			5	00.70
Licence Number 2987		2		
Name of Driller or Borer THOMAS LANG		4		
Address Hillsburg RR #			<u>ہ</u>	oT 2
Date 9,24 5/68				24
(Signature of Licensed Drilling or Boring Contractor)		Y		
Form 7 15M-60-4138				
OWRC COPY		11		SS.S8



The Ontario Water Resources Commission Act

## WATER WELL RECORD

	401/162
6	<b>与</b>

	Water management in Ontario 1. PRINT ONLY IN SPACE	CES PROVIDED  BOX WHERE APPLICABLE		67036	21	MUNICIP.	23 C	bN 1	07
	COUNTY OR DISTRICT WELL INGTON	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	•	3	CON.	BLOCK, TRACT, S	URVEY, ETC.		22 23 24 LOT 25-27
				, K	DH/		DATE CO	OMPLETED  Mo. /2	48-53
		146970 5	<u>⊁ /7</u> ic.  ∕2	ELEVATION 75	RC.	BASIN CODE	DAY# L	MO	YR Joy
Y	LOG	OF OVERBURDEN AND BEDR			30	31			47
	GENERAL COLOUR MOST COMMON MATERIAL	OTHER MATERIALS			GENER	AL DESCRIPTION		DEPTH FROM	TO
	BROWN CLAY	CLAY + STON	Æ.	S				0	12
	SANOYGRAUE	<u> </u>						12	16
		CLAY *BOULDE	R	<u> </u>				16	60
ļ	GREY LIMESTONE							60	/×2
Ì	BROWN LIMESTON							155	163
	GREY LIMESTON					e.		162	123
-									
-									
}							•	;	
(I	31 00/2605/12 1 00/6	1/19/1 0060205/13/	1 la	42626		वराग्डान्यरह	J B	762 1013	
Ç	32 0/17 3/2/5	32	43			4	65		75 80
$\bigcirc$	WATER RECORD STATE SEED SEED SEED SEED SEED SEED SEED SE	51 CASING & OPEN HOL		ECORD  -FEET	Z SIZE(S	) OF OPENING NO.)		METER 34-38	LENGTH 39-40
4	7/7010-13 1 RESH 3 SULPHUR 14 2 SALTY 4 MINERAL	10-11 1 STEEL 12	ROM	TO 13-16	MATER U	RIAL AND THE		DEPTH TO TOP OF SCREEN	41-44 80
	1 FRESH 3 SULPHUR 19 2 SALTY 4 MINERAL	GALVANIZED  3 CONCRETE  4 OPEN HOLE	)	0067		LUGGING	& SE	ALING RI	ECORD
-	20-23 1 FRESH 3 SULPHUR 24	13/18 1 STEEL 19	フ	20-23		ET AT - FEET	MATERIAL AN	ID TYPE (CE	MENT GROUT, PACKER, ETC.)
}	2 SALTY 4 MINERAL  25-28 1 FRESH 3 SULPHUR 29	3. CONCRETE 4. OPEN HOLE 24-25 1 STEEL 26		0/73	10-			,	
-	2 SALTY 4 MINERAL  30-33 1 FRESH 3 SULPHUR 34 80 2 SALTY 4 MINERAL	2 ☐ GALVANIZED 3 ☐ CONCRETE			26-		P		
	71 PUMPING TEST METHOD 10 PUMPING RATE	4 OPEN HOLE	1 [			DCATION	OF WE		
ľ	STATIC WATER LEVEL 25	GPM 0 15-16 / 5 17-18 MINS.	-		IAGRAM BELO	DW SHOW DISTANC	ES OF WELL F		
-	LEVEL PUMPING  19-21 22-24 15 MINUTES 26-28	30 MINUTES 45 MINUTES 29-31 45 MINUTES 35-37		~	EME. INDIC	ATE NORTH BI AR	KOW.		
	FEET FEET FEET FEET FEET FEET FEET FEET	030 FEET 030 FEET 030 FEET		' <i>\</i> (			120-		
	GPM.  RECOMMENDED PUMP TYPE RECOMMENDED	FEET CLOUDY  43-45 RECOMMENDED 46-49					50 6		
1	SHALLOW DEEP SETTING 050	PUMPING OLO GPM.			J				
L							28M-	VII	
	FINAL STATUS  STATUS  WATER SUPPLY  OBSERVATION WELL  J DIST HOLE	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED							=
F		5 COMMERCIAL						VI	
	WAIEK 3   RRIGATION	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING				, at		LOT LOS	
	OTHER .	9 NOT USED				23		رو ہو	
İ	METHOD  OF    Cable tool   2 motary (convention)   1 motary (convention)   2 motary (reverse)   3 motary (reverse)	6 ☐ BORING AL) 7 ☐ DIAMOND 8 ☐ JETTING							
	DRILLING  4   ROTARY (AIR)  5   AIR PERCUSSION	9 DRIVING	ופח	LLERS REMARKS	e.	11			
Ī	NAME OF WELL CONTRACTOR	(N)	$\equiv$	DATA SOURCE /		NTRACTOR 59-6	2 DATE RECEIVE	0370	63-68 80
	LADED DRILL ADDRESS HILLSburg R.	D # 1	ONLY	DATE OF INSPEC		3346 INSPECTOR	/	~,.~ <u>*,</u> ,.~,	
	NAME OF DRILLER OR BORER	LICENCE NUMBER	USE	14/7	/70	1//	_)		
	SIGNATURE OF CONTRACTOR	SUBMISSION DATE	OFFICE						_
L	OWRC COPY	DAY 11 MO. HAR YRI97	٥٥		<del></del>		4	USS 58	ħ
(	OWRG COPY //								

### **WATER WELL RECORD**

Water management in Ontario 1. PRINT ONLY IN SPA	ACES PROVIDED  T BOX WHERE APPLICABLE	6703	623   MUNICIP.	3 CAN	1 97
COUNTY OR DISTRICT WELLINGTON	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	,	CON., BLOCK, TRACT, SL	IRVEY, ETC.	LOT 25-27
	ILLSBURG		RAHI	DATE COMPLETED	48-53 2 vp 6 9
	147020 S	ELEVATION	RC BASIN	<u> </u>	IV P
LOC	G OF OVERBURDEN AND BEDR	5 26	VLS (SEE INSTRUCTIONS)		47
GENERAL COLOUR COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	DEPT FROM	H - FEET
BROWN CLAY				0	18
	CLAY + POCKS			18	5%
GREY CLAY	ISC.			57	68
BROWN LIMESTONE				8.7	83
GREY LIMESTON				148	
BROWN LIMESTON	~			165	178
GREY LIMESTON	1E			178	194
				*	
(31) barradas III basid		0083205	0148615	11 ansistanst	
32 Q1784/15 Q194	32	43	54	65	75 80
WATER RECORD WATER FEET KIND OF WATER		DEPTH - FEET	SIZE(S) OF OPENING (SLOT NO.)		LENGTH 39-40
019/- 2 SALTY 4 MINERAL	10-11 1 STEEL 12	ROM TO	MATERIAL AND ROSE	DEPTH TO TOP OF SCREEN	41-44 80
1 FRESH 3 SULPHUR 19	2 GALVANIZED 3 CONCRETE 4 OPEN HOLE	0087		& SEALING R	ECORD
1 FRESH 3 SULPHUR	17-18 1 STEEL 19 2 GALVANIZED	0/94	DEPTH SET AT - FEET	MATERIAL AND TYPE (CE	EMENT GROUT, PACKER, ETC.)
2 SALTY 4 MINERAL 25-28 1 FRESH 3 SULPHUR 25-28 1 A SULPHUR	3 ☐ CONCRETE 4 1	27-30	10-13 14-17		
2 SALTY 4 MINERAL  30-33 1 FRESH 3 SULPHUR 34 80	2 GALVANIZED 3 CONCRETE		26-29 30-33 80		
2 SALTY 4 MINERAL	4 OPEN HOLE		100471011		
STATIC WATER LEVEL 25	GPM 15-16 3 0 17-18 HOURS 1 PUMPING	IN DI	LOCATION  AGRAM BELOW SHOW DISTANCE	S OF WELL FROM ROAD AND	
LEVEL PUMPING WATER L	2 ☐ RECOVERY	LOT	LINE. INDICATE NORTH BY ARR	OW.	
FEET FEET FEET FEET FEET FEET FEET FEET	30 MINUTES 45 MINUTES 60 MINUTES 35-37 FEET FEET FEET FEET	W	State of the state		
GIVE RATE	AT WATER AT END OF TEST 42  FEET 1 CLEAR 2 CLOUDY				
RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING	O FEET RECOMMENDED 46-49 PUMPING GPM.		<u> </u>	•	
50-53 _ 006.0 GPM./FT. SPECIFIC	CAPACITY		* 13	°20	
FINAL STATUS  1 WATER SUPPLY 2 OBSERVATION WELL 3 TEST HOLE	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ HINEINGUED		37	, pr	
OF WELL 4 RECHARGE WELL  55-56 1 DOMESTIC	7 UNFINISHED		1 1 1 1 1 1 1 1	*	VIII
WATER  2 STOCK 3 REGISTION	5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY				
USE 0 / 4 □ INDUSTRIAL □ OTHER	8 ☐ COOLING OR AIR CONDITIONING  9 ☐ NOT USED			1	1
METHOD  1 CABLE TOOL 2 ROTARY (CONVENTION	6 ☐ BORING IAL) 7 ☐ DIAMOND		107	LOT -	
OF 3 ROTARY (REVERSE)  DRILLING 4 ROTARY (AIR)  5 AIR PERCUSSION	8 D JETTING 9 D DRIVING			2 -	
NAME OF WELL CONTRACTOR	LICENCE NUMBER	DRILLERS REMARKS		DATE RECEIVED	63-68 80
DADRESS DRILL	1NG 3423	SOURCE DATE OF INSPECT	33/6	160370	D Q
NAME OF DRILLER OR BORER,	LICENCE NUMBER		/70 //	0	
SIGNATURA OF CONTRACTOR	SUBMISSION DATE	OFFICE (			
o Hoy Tang	DAY 7 MO /2 YR.69	9		<u> </u>	7
OWRC OPY	,		- <del></del>		

-- USS.38

The Ontario Water Resources Commission Act ATER WELL RECORD 67037047 6 7 003 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE CK TRACT, STRYEY, ETC Erin Twsp. (plen 519 Wellington (Roman Lake) DATE COMPLETED 48 DA 05 horncliffe Pk.Br. Apt 815 1340 24 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) 17<sub>most</sub> 4846820 OTHER MATERIALS 5694*00* DEPTH - FEET GENERAL COLOUR GENERAL DESCRIPTION COMMON MATERIAL то top soil 0 1 fine dand 1 28 brown sand & clay gravel 28 40 stones prown clay 40 52 lt brown rock 52 80 dk brown rock 80 115 dk grey rock 128 115 total depth - 128 ft GOOT 193 1 1 1 10028 108 1 1 1 10040 1009 105111 10052 100512 1 10115 1020 1 1 10128 1230 31 32 10 14 15 21 32 43 54 54 55 SIZE(S) OF OPENING (SLOT NO.)

MATERIAL AND TYPE DIAMETER WATER RECORD 51 CASING & OPEN HOLE RECORD WALL THICKNESS INCHES KIND OF WATER MATERIAL MATERIAL AND TYPE 00950-13 00950-13 1 FRESH 2 ☐ SALTY STEEL 2 GALVANIZED 4 MINERAL .188 0 0052 120 F 3 SULPHUR
4 MINERAL 1 □ FRESH 3 CONCRETE 61 PLUGGING & SEALING RECORD 2 SALTY 4 OPEN HOLE DEPTH SET AT - FEET 1 □ STEEL (CEMENT GROUT, LEAD PACKER, ETC.) MATERIAL AND TYPE 1 🗆 FRESH 3 SULPHUR 2 GALVANIZED 2 🗌 SALTY 4 MINERAL ☐ CONCRETE 0128 4 OPEN HOLE 1 T FRESH 3 T SULPHUR 1 T STEEL 22-25 2 🗌 GALVANIZED 1 | FRESH 2 | SALTY 3 SULPHUR 30-33 3 ☐ CONCRETE 4 MINERAL LOCATION OF WELL 2 BAILER 0010 15-16 \_HOURS 1 D PUMP 00 MINS IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD NO RTL WATER LEVEL 1 D PUMPING TEST WATER LEVELS DURING 2 RECOVERY 11/ 15 MINUTES 26-28 30 MINUTES 29-31 MINUTES 45 MINUTES 32-34 012 032 Hildspa 1 CLEAR 2☐ CLOUDY Co. Rd. 22 RECOMMENDED PUMP SETTING RECOMMENDED PUMP TYPE ☐ SHALLOW TOEEP 040 FEET PUMP 000.5 GPM./FT. SPECIFIC CAPACITY WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY **FINAL** 6 ABANDONED, POOR QUALITY OBSERVATION WELL **STATUS** 150 3 TEST HOLE 7 UNFINISHED LAKe OF WELL 4 - RECHARGE WELL DOMESTIC 5 COMMERCIAL Ruman WATER OI 6 MUNICIPAL 3 IRRIGATION 7 D PUBLIC SUPPLY USE 4 | INDUSTRIAL COOLING OR AIR CONDITIONING 1100 FT. □ OTHER 9 D NOT USED CABLE TOOL 6 DBORING **METHOD** ROTARY (CONVENTIONAL)

ROTARY (REVERSE) 8 🗌 JETTING 4 TROTARY (AIR)
5 AIR PERCUSSION DRILLING .9 DRIVING DRILLERS REMARKS: ONLY 130770 GRAHAM WELL DRILLING 2406 2406 R R # 2 Guelph Ont LICENCE NUMBER REMARKS OFFICE. James Hawkins

J L Graham por

SUBMISSION DATE

DAY\_\_\_

2 MO. June YR. 70



### The Ontario Water Resources Commission Act

# WATER WELL RECORD 40 P/16 E

CONTROL CALLS  INCOME AND SERVICE TO THE CONTROL OF		Water management i	i <b>n Ontario</b> 1. PRINT ONLY IN SI 2. CHECK ⊠ CORRE	PACES PROVIDED CT BOX WHERE APPLICABLE	6/047	MUNICIP. 67.00	3 (Cal	W I	1 102
LOG OF OVERBURDEN AND BERROCK MATERIALS LINE INTERCORDS  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  GREATINE SECRETOR  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  STORE MATERIALS  GREATINE SECRETOR  G				TOWNSHIP, BOROUGH, CITY, TOWN, VILLAG	E	CON., BLOCK, TRACT, SUR	VEY, ETC.		22 23 24 LOT 25-27
ICO OF OVERBURDEN AND BERROCK MATERIALS (SEE BISHUCHOS)  COMUNITY MATERIALS  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS  BROWN LIMES TONG  GRANEL & BOULDERS		OWNER (SURNAME F	1RST) 28-47	ADDDECC		np#1	DATE COM	PLETED O/	48-53
COO OF OVERBURDEN AND BEDROCK MATERIALS OR INSTRUCTIONS  STATE CONTROL AND CONTROL MILES.  ORIGINAL CROSS CONTROL MILES.  OR				MG MACIE	RC. ELEVATION	RC. BASIN CODE	DAY / 5	_ мо <b></b> М	₩ 7R. 22
SCHOOL STORES OF STATES OF			10		25 26	30 31		20.50	47
SPANUE STATE  SP	`	GENERAL COLOUR	MOST		ROCK MATERI			DEPTH	- FEET
BROWN AIMESTANG  TO ANALY STATUS  TO WATER RECORD  TO ANALY STATUS  TO STATUS			i			GENERAL DESCRIPTION			то
32 WASTER RECORD  AT WATER RECORD  THE CONTROL OF STATE OF THE CONTROL OF THE CON			OHAVEL	4 WOULDERS				0	18
32 WASTER RECORD  AT WATER RECORD  THE CONTROL OF STATE OF THE CONTROL OF THE CON		BROWN	LIMEST	nn/r				38	85-
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING									00
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING									
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING									
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING		1146					~		
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING	09								
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING	`	2							
A   WATER RECORD   STOCK SING O'REN HOLE RECORD   STOCK SING									
ATTEMPT   WATER RECORD   STOCK SING & OPEN HOLE RECORD   WATER RECORD   STOCK SING & OPEN HOLE RECORD   WATER RECORD   WATER SING   W								*	*
WATER RECORD  SON OF MASE  WATERIAL PROMISES  SON OF MASE  WATERIAL PROMISES  SON OF WASE  SON OF WASE  WATERIAL PROMISES  SON OF WASE  SON OF WASE  WATERIAL PROMISES  SON OF WASE  SON OF WASE  SON OF WASE  WATERIAL PROMISES  SON OF WASE  SON OF W	4		8 111113   1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	615					
Section   Color   Co	ا 1⁄	1 2 10	14 15	32	43	54 OPENING	65		
Continue   Continue				INSIDE		(SLOT NO.)		INCHES	4
Converte   Converte	ļ		SALTY 4 MINERAL	INCHES INCHES F	FROM TO	0		DEPTH TO TOP	41-44 80
SALTY A MARRIAL    SOLID CONTROL   SOLID CONTR	-	15-18	FRESH 3 - SULPHUR 19	CONCRETE 3 □ CONCRETE	7 62		& SEAL	ING RE	
## PROPRESS   SULPHUR   SALE	-	'	FRESH 3 SULPHUR 24	77-18 1 STEEL 19		DEPTH SET AT - FEET		VPE (CEM	ENT GROUT,
Process   State   St	ł	25-28 1	FRESH 3 SULPHUR 29	4 DEPEN HOLE	2 0085				
Polymone Test Method   10   Polymone AARE   11-14   DUMATION OF PRUMPING   15-16   1	-	30-33	FRESH 3 SULPHUR 34 80	2 GALVANIZED	27-30				
TOTATION OF WELL  STATIC  STAT	_ آامر				1				
SENDON WATER LEVELS DURING ASSOCIATE AND MINUTES AS MIN				na meta	IN			1100.47	
South   Sout		N LEVEL	END OF WATER PUMPING	2 RECOVERY	LOT	LINE. INDICATE NORTH BY ARROY	V.	W ROAD AND	
WATER SUPPLY TO LONGE OF LINE SUPPLY SO ABANDONED, INSUFFICIENT SUPPLY SO ABANDONED, POOR QUALITY  STATUS OF WELL  STATUS OF W		O FEET	0/5 FEET 0/5 FEET	15 29-31 0/5 32-34 0/5 FEET					
RECOMMENDED PLANE TYPE STANLOW DEEP SETTING S FEET PATE STATUS OF WELL  WATER SUPPLY 1 OBSERVATION WELL 3 TEST HOLE OF WELL  WATER STATUS OF WELL  STATUS OF W		GIVE RATE		T AT WATER AT END OF TEST 42					
FINAL STATUS OF WELL  STATUS O		RECOMMENDED PUM	P TYPE RECOMMENDED	43-45 RECOMMENDED 46-49 PUMPING		<b>1</b>		•	
STATUS OF WELL  STATUS OF WELL	L	50-53	06.7 GPM./FT. SPECIFIC	0070		20	<b>√</b>	* i'	
OF WELL    4   RECHARGE WELL						8	\	//× 12	
WATER USE    Took 6   MINICIPAL   G   MINICIPA		OF WELL	4  RECHARGE WELL	7 UNFINISHED		ંડ	· 💥		
USE			2 DOMESTIC	6 MUNICIPAL		/	// ``		
METHOD OF OF DRILLING    CONTENTIONAL   CONVENTIONAL   OF DIAMOND   OF DRILLERS (CONVENTIONAL   OF DIAMOND   OF DRILLER OF BORER    CONTENT   CONVENTIONAL   OF DRILLER OF BORER   CONTENT   OF DIAMOND   OF DRILLER OF BORER   OF DRILLER O			/ 4 ☐ INDUSTRIAL	8 COOLING OR AIR CONDITIONING				`	
OF DRILLING    SOURCE   -		57 1 CABLE TOOL	6 [] BORING						
DRILLERS REMARKS:  DATA SOURCE		OF	FOTARY (REVERSE)	8 🛘 JETTING					
ADDRESS OF A CAT AND SOURCE SO			5 AIR PERCUSSION		DRILLERS REMARK				
NAME OF DRILLER OR BORER  SIGNATURE OF CONTRACTOR  SUBMISSION DATE  DAY  MO  CSS.S8  WI		<b>≃</b> <i>j</i> .		LLING 3316	DATA	58 CONTRACTOR 59-62 I	T40	272	63-68 80
NAME OF DRILLER OR BORER  SUBMISSION DATE  DAYMOYR  LICENCE NUMBER  33 / 7  W II  CSS.S8  P / W II	H	ADDRESS /	SQUACH	PP=1					7
SIGNATURE OF CONTRACTOR  SUBMISSION DATE  DAYMOYR  CSS.S8  WI		NAME OF DRILLER	OR BORER	1	REMARKS:			Р	1
	10	SIGNATURE OF CO	NTRACTOR	SUBMISSION DATE	DFFIC		CSS.S		
	L_	OWRC	OPY AND	MOYR					<u> </u>



# The Ontario Water Resources Commission Act WATER WELL RECORD

	Water management i	n Ontario 1. PRINT ONLY IN S	SPACES PROVIDED 11	16704	175 1 MUNICIP.	CON.	
	COUNTY OR DISTRICT	2. CHECK X CORRE	TOWNSHIP, BOROUGH, CITY, TOWN, VILI	•	175 - 6701 10 10 10 10 10 10 10 10 10 10 10 10 10 1	14 15 }	22 23 2
24 -	OWNER (SURNAME FI	LING TON RST) 28-47	ERIN	- 3	7	SURVEY, ETC.	02 3 25-27
	The County of Land	28-47	ADDRESS		DOF	DATE COMPLETED	72 -
			HING	RC. ELEVATION	RC BASIN CODE	DAY A MO	PS YR //
Ţ			14/14/00	$\frac{7}{25}$ $\frac{1900}{26}$			47
`		Most	OG OF OVERBURDEN AND BE	DROCK MATERI	ALS (SEE INSTRUCTIONS)		÷
	GENERAL COLOUR	COMMON MATERIAL	OTHER MATERIALS		GENERAL DESCRIPTION	D FROI	EPTH - FEET M TO
		GRAVEL	+ BOULDERS			0	40
	BROWN	LIMESTON	+ BOULDERS VE VE			40	111
	GREY	LIMESTON	VI=			116	140
					and the second second		7 7 0
ļ	(a) (b)						
	*						
					· · · · · · · · · · · · · · · · · · ·		
	31 10040	سما المناننا	d				
ſ	32 4040	<u> </u>	16/15 1 1 10/4/03/15TI				
 /[i	10	14 15 21	32	43	54	65	75 80
$\bigcup$	WATER FOUND	R RECORD KIND OF WATER	51 CASING & OPEN HO	LE RECORD  DEPTH - FEET	SIZE(S) OF OPENING (SLOT NO.)	31-33 DIAMETER 34-	38 LENGTH 39-40
a	13 7 APA 13	ERESH 3 SULPHUR 14	DIAM. MATERIAL THICKNESS INCHES	FROM TO	MATERIAL AND TYPE	INCH DEPTH TO TO OF SCREET	OP 41-44 80
	15-18	SALTY 4 MINERAL	1 Treel 12 2 GALVANIZED 2 205	0 3 3-16	8		FEET
l	2 🗆 9	FRESH 3 SULPHUR 19 SALTY 4 MINERAL	4 OPEN HOLE	0057	61 PLUGGING	& SEALING	RECORD
		FRESH 3 SULPHUR 24 SALTY 4 MINERAL	17-18 1 STEEL 19 2 GALVANIZED	20-23	DEPTH SET AT - FEET FROM TO		(CEMENT GROUT, EAD PACKER, ETC.)
f	25-28 1 r	FRESH 3 SULPHUR 29	04 3 CONCRETE 4 OPEN HOLE	0140	10-13 14-17		
$\mid$	30-33	SALTY 4 MINERAL  FRESH 3 SULPHUR 34 80	24-25 1 ☐ STEEL 26 2 ☐ GALVANIZED	27-30	18-21 22-25		
لح		SALTY 4 MINERAL	3 ☐ CONCRETE 4 ☐ OPEN HOLE		26-29 30-33 80		
	71 PUMPUNG TEST METHO	DD 10 PUMPING RATE  2  BAILER OOI C	11-14 DURATION OF PUMPING 15-16 () 17-		LOCATION	OF WELL	
1	STATIC	WATER LEVEL 25	GPM 15-16 OO 17- HOURS OO MIN	-  IN D	IAGRAM BELOW SHOW DISTANCE	S OF WELL FROM ROAD AN	ND .
- [ 1	LEVEL 19-21	PUMPING I	2 ☐ RECOVERY	-	LINE. INDICATE NORTH BY AR	cow.	
	UZ Z FEET	$24^{\circ}$			,		
	Z IF FLOWING, GIVE RATE	38-41 PUMP INTAKE SET	WATER AT END OF TEST	2		1	
:	RECOMMENDED PUMP	TYPE RECOMMENDED	43-45 RECOMMENDED 46-4	<b>⊿</b>	1/31		
	50-53 C)	DEEP SETTING	FEET PUMP GPI	<u> </u>	(3)	_	
_	54	25. QGPM./FT. SPECIFIC		<u> </u>	13/	x N	
1	FINAL STATUS	1. WATER SUPPLY 2 OBSERVATION WELL 3 TEST HOLE	5 ABANDONED, MINSUFFICIENT SUPPLY 6 ABANDONED, POOR QUALITY		·*	/xa	
-	OF WELL	4  RECHARGE WELL	7 UNFINISHED		-4.28.	<b>*</b> * * *	
	WATER	2 DOMESTIC	5 COMMERCIAL 6 MUNICIPAL		٠,	*	
	USE Of		7 D PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING				
L		OTHER	9 NOT USED				
	METHOD	2 ROTARY (CONVENTION	6 D BORING 7 DIAMOND		,		
	OF DRILLING	3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR)	8 [] JETTING 9 [] DRIVING				
L		5 AIR PERCUSSION		DRILLERS REMARKS	3:		
9	NAME OF WELL CON		LICENCE NUMBER	DATA SOURCE	58 CONTRACTOR 59-62	110272	63-68 80
) T	ADDRESS	CO DRILLI	NG 3316	O DATE OF INSPECT			
4		SEUR6 H	LICENCE NUMBER	2 2, /// REMARKS:	, 72_	1	2
Z		LANG	33/7	1 1 1			Р 🗦
S		RACTOR	SUBMISSION DATE  DA 22 MODEC YR 7/	OFFICE		CSS.S8	WI
	OWRC CO	DPY	II.				
	- TING CO	J1" i					



Water management in On	tario 1. PRINT ONLY IN SP. 2. CHECK X CORREC	ACES PROVIDED T BOX WHERE APPLICABLE	11	0/041/8	67.00	3 CAN	22 23 24
COUNTY OR DISTRICT	1010 -011	TOWNSHIP, BOROUGH,		3	CON., BLOCK, TRACT, SUR	EVEY, ETC.	023
VV ISLA	INGTON			O,	2 ± 1	DATE COMPLETED	) La 711
		/2	LSBURG	ELEVATION	RC BASIN CODE	DAY MO	YR.
		<u> </u>	24 25	26	30 21		47
	LO	G OF OVERBURD	EN AND BEDRO	OCK MATERIAL	LS (SEE INSTRUCTIONS)	DE	EPTM - FEET
GENERAL COLOUR	COMMON MATERIAL		MATERIALS		GENERAL DESCRIPTION	FROM	y/ to.
	RAVEL		DERS			0	- <del>*</del> /
BROWN !	LIMESTON	VE		,		41	140
GREY X	IMESTONE	<u> </u>					770
		· ·					
					1	*	
	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			·			
	11113 1 011	701511101	40215		<u> </u>		
32 10 10	4 15 21	51 CASING &	OPEN HOLE	43 BECORD	SIZE(S) OF OPENING (SLOT NO.)	65 31-33 DIAMETER 34	75 80 4-38 LENGTH 39-40
	RECORD KIND OF WATER	INSIDE MATERIAL	WALL [	EPTH - FEET	₩ WATERIAL AND TYPE	DEPTH TO	ICHES FEET
01381413		INCHES 1 STEEL	INCHES FR	OM TO	SCE	OF SCRE	EEN F <u>ee</u> t
15-18 1 FI	RESH 3 SULPHUR 19	Ž □ ŠALVANIZ 3 □ CONCRETI 4 □ OPEN HO		0064	61 PLUGGING	& SEALING	RECORD
2 S	ALTY 4   MINERAL	17-18 1   STEEL 2   GALVANIZ	19	20-23	DEPTH SET AT - FEET FROM TO	MATERIAL AND TYPE	(CEMENT GROUT, LEAD PACKER, ETC.)
2 🗆 S.	29	04 3 CONCRETI	E LE	0140	10-13 14-17		
2 🗆 S	ALTY 4 MINERAL  RESH 3 SULPHUR 34 B	24-25   STEEL 2   GALVANIZ 3   CONCRET		27-30	18-21 22-25 26-29 30-33 80	<b>o</b>	
2 5	ALTY 4 MINERAL	4 OPEN HO	LE				
71 PUMPING TEST METHO	DD 10 PUMPING RATE		15-16 3 0 17-18 HOURS 3 MINS.		LOCATION DIAGRAM BELOW SHOW DISTANCE		AND
STATIC LEVEL	WATER LEVEL 25 END OF WATE PUMPING	R LEVELS DURING	1 C UMPING 2 □ RECOVERY	LOT	LINE. INDICATE NORTH BY AR	ROW.	
19-21	22-24 15 MINUTES	30 MINUTES 45 MII	2 <sup>32-34</sup> 02 4 <sup>35-37</sup>			2	
Z IF FLOWING,	FEET PUMP INTAKE	۸ ۱ ۱	FEET FEET END OF TEST 42		111		
GIVE RATE  RECOMMENDED PUMP	GPM.  TYPE RECOMMENDED PUMP	FEET	LEAR 2 CLOUDY				
SHALLOW 50-53	DEEP SETTING OF	FEET RATE	O8 GPM.		TI'	Lot 2	3
	WATER SUPPLY		INSUFFICIENT SUPPLY		6		+ -2
FINAL STATUS	2 OBSERVATION WE				- X	r\	0.55
OF WELL	4 RECHARGE WELL  56 DOMESTIC	5 COMMERCIAL			Cara a	· <b>X</b>	
WATER USE O	2 STOCK 3 IRRIGATION	6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR	CONDITIONING				
USE 07	4   INDUSTRIAL   OTHER		NOT USED				V
METHOD	1 CABLE TOOL 2 ROTARY (CONVEN		OND				
OF DRILLING	3 ROTARY (REVERS						
NAME OF WELL CO	5 AIR PERCUSSION		LICENCE NUMBER	DRILLERS REMAR	58 CONTRACTOR 59	-62 DATE REC VEN 2 7	63-68 80
5 LAD	co DAI	KING	3316	SOURCE DATE OF INSPE	1 3316		
VY HILL	SBURGI	4 RR	#/	2 2, / REMARKS:	1/172		
NAME OF DRILLER	OR BORER	G	33/7				P 3
SIGNATURE OF CO	NTRACTOR	DA 27	MO DEC YR7/	OFFICE		CSS.S8	Wi
OWRC (	OPY /						<u> </u>

**OF** 

### MINISTRY OF THE ENVIRONMENT

40P/16E

	e Ontario water Kesc		
WATER	WELL	RECO	RD

6704921 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE WELLINGTON ERIN 1372 24 MAR 20, 1975 LOG OF OVERBURDEN AND BEDROO MOST COMMON MATERIAL OTHER MATERIALS GENERAL DESCRIPTION FROM STONES GRAVEL BROWN GREY LIMESTONE QQX4 051/2/11 12/40626 11 12/742V5 111 1111 111 111 111 WATER RECORD 51 CASING & OPEN HOLE RECORD KIND OF WATER MATERIAL AND TYPE FRESH 3 SULPHUR
SALTY 4 MINERAL STEEL GALVANIZED **1205** FRESH SALTY 3 SULPHUR 3 CONCRETE 61 **PLUGGING & SEALING RECORD** - FEET (CEMENT GROUT. 1 FRESH 3 | SULPHUR GALVANIZED SALTY 8001 1. FRESH 3 🗌 SULPHUR 1 STEEL
2 GALVANIZED 4 MINERAL 1 🗌 FRESH 3 SULPHUR 3 CONCRETE LOCATION O,F 2 BAILER PUMPING
RECOVERY STATIC IN DIAGRAM BELOW SHE LOT LINE. INDICATE 2 CLOUDY 010.0 5 ABANDONED. INSUFFICIENT SUPPLY FINAL OBSERVATION WELL ■ ABANDONED, POOR QUALITY **STATUS** 3 TEST HOLE
4 RECHARGE WELL 7 🗆 UNFINISHED OF WELL DOMESTIC

DOMESTIC

REGATION 5 COMMERCIAL
6 MUNICIPAL WATER PUBLIC SUPPLY USE 9 🗆 NOT USED GABLE TOOL ROTARY (CONVENTIONAL) ROTARY (REVERSE) ROTARY (AIR) 6 [ BORING METHOD 7 | DIAMOND 8 | JETTING DRILLING OFFICE USE ONLY DRILLING 3316 18 UL 74 SBURGH REMARI CSS.S& THE ENVIRONMENT COPY FORM 7

### MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act WELL RECORD 40 P/16 E 67003 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE NSHIP, BOROUGH, CITY, TOWN Wellington Erin Township con. DATE COMPLETED OŹ 74 RR#1 HILLSBURG, Ontario 846868 1350 MAR 20, 1975 49 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST GENERAL COLOUR OTHER MATERIALS DEPTH - FEET COMMON MATERIAL GENERAL DESCRIPTION FROM то well pit 0 5 Brown clay stones 5 20 Grav 20 28 Brown rock soft 28 82 Total Depth 82 ft. 10,005 1021 1 1 100,2016105 1/21 100,28121051/21 1 10082161261 1 1 1 1 1 0 14 15 21 54 32 WATER RECORD 51 SIZE(S) OF OI **CASING & OPEN HOLE RECORD** SCREEN WATER FOUND AT - FEET KIND OF WATER DEPTH FEET WALL THICKNESS INCHES MATERIAL AND TYPE FROM то 1 T FRESH 3 SULPHUR
2 SALTY 4 MINERAL DEPTH TO TO OF SCREEN M82 STEEL GALVANIZED 14 -**85** 003 .188 0 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL CONCRETE 61 **PLUGGING & SEALING RECORD** 4 OPEN HOLE DEPTH SET AT . FEET 1 STEEL ☐ FRESH <sup>3</sup> ☐ SULPHUR 008 04 <sup>2</sup> 🔲 GALVANIZED 4 MINERAL SALTY 82 35 CONCRETE 3 🗆 SULPHUR FRESH OPEN HOLE 2 SALTY 4 MINERAL ☐ STEEL 1 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 26-29 ☐ CONCRETE 30-33 LOCATION OF WELL 0000 1 D PUMP IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. D PUMPING WATER LEVELS DURING 2 TRECOVERY Hillsburg PUMPING TEST 15 MINUTES MINUTES 32-34 DM 26-28 00 **2** 002 FEET FEET FEET WATER AT END OF TEST 2 CLOUDY RECOMMENDED PUMP SETTING 025 ¥. ☐ SHALLOW 00 10 GPM. / FT. SPECIFIC CAPACITY 100 y WATER SUPPLY

OBSERV 5 ABANDONED, INSUFFICIENT SUPPLY FINAL OBSERVATION WELL 6 ABANDONED POOR QUALITY Bount **STATUS** ☐ TEST HOLE 7 UNFINISHED OF WELL 4 | RECHARGE WELL T DOMESTIC WATER () ☐ STOCK
☐ IRRIGATION 6 MUNICIPAL INDUSTRIAL COOLING OR AIR CONDITIONING ☐ OTHER 9 | NOT USED CABLE TOOL 6 ☐ BORING **METHOD** CABLE TOOL

CONVENTIONAL)

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CONVENTIONAL

CO 7 🗆 DIAMOND OF 8 🗍 JETTING DRILLINĞ DRIVING DRILLERS REMARKS ICENCE NUMBER CONTRACTOR 2<u>33</u>( 2336 R.H. GRAHAM WELL DRILLING 502 DATE OF INSPECTION USE Waverley Drive, GUELPH, Ont. REMARKS OFFICE DAY 19 2 W١ MINISTRY OF THE ENVIRONMENT COPY FORM 7 07-091

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act **VELL RECOR** 67.003 CON MELLINGTON DAY\_/6 233 MAR 02, 1977 5 1385 24 GENERAL DESCRIPTION GENERAL COLOUR CLAY- GRAVEL 41 0 Rock 80 RROWN 32 51) CASING & OPEN HOLE RECORD WATER RECORD WATER FOUND AT . FEET KIND OF WATER 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL .188 56 2 GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL **PLUGGING & SEALING RECORD** 0056 OPEN HOLE 1 FRESH 3 SULPHUR 24
2 SALTY 4 MINERAL 2 GALVANIZED 3 CONCRETE
4 OPEN HOLE 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 STEEL
2 GALVANIZED I FRESH 3 SULPHUR
2 SALTY 4 MINERAL CONCRETE LOCATION OF WELL 15-16 17-18 MINS
1 PUMPING
2 RECOVERY 0020 1 Y PUMP 2 D BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM LOT LINE. INDICATE NORTH BY ARROW. b2 0 O 32-34 OZ O3 008 FEET Holling 2> 父ひ PUMP SETTING 035 OOL. 7 GPM. / FT. SPECIFIC CAPACITY **FINAL** 2 D OBSERVATION WELL 6 ABANDONED, POOR QUALITY STATUS 3 TEST HOLE
4 RECHARGE WELL 7 UNFINISHED OF WELL 1 DOMESTIC 5 COMMERCIAL 6 MUNICIPAL

D PUBLIC SUPPLY 2 STOCK
3 RRIGATION **WATER** 4 🗌 INDUSTRIAL NDITIONING OTHER CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL
CABLE TOOL 6 D BORING METHOD ? DRILLING ADCO DRILLING OFFICE USE CSS S8 WΙ THE ENVIRONMENT COPY

# INIFI LINGTON 6705148

MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

40 P/16R
----------

L RECOR ER WEI 67003 CON 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE TRACT, SURVEY, ETC LSBURGH MAR 02, 1977 233 24 1390 4847875 MOST COMMON MATERIAL GENERAL DESCRIPTION GENERAL COLOUR OTHER MATERIALS FROM 42 CLAY 0 GRAVEL 55 CLAY 42 LAYERS Rock BROWN 60 55 Rock BROWN 10 14 15 21 32 43 43 54 54 65 75 SIZÉ(S) OF OPENING
(SLOT NO.)

MATERIAL AND TYPE 32 CASING & OPEN HOLE RECORD 51 41 WATER RECORD TER FOUND AT - FEET DEPTH TO TO! OF SCREEN то 059 10-13 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 X STEEL 0 \$ Z 🗍 GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE
4 OPEN HOLE **PLUGGING & SEALING RECORD** DEPTH SET AT - FEET MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) I ☐ STEEL 2 ☐ GALVANIZED 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 60 57 CONCRETE
OPEN HOLE 0060 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 25-28 22-25 1 🗆 STEEL 2 GALVANIZED 30-33 80 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL CONCRETE OPEN HOLE DO/S LOCATION OF WELL 02 15-16 00 17 M 1 PUMP 2 D BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER LEVEL END OF PUMPING 1 Y PUMPING STATIC WATER LEVELS DURING 2 RECOVERY 32-34 0/5 015 28 015 29-31 015 015 FEET FLOWING. 35 RECOMMENDED 43-45 RECOMMENDED PUMP SETTING D 3 5 FEET RATE OMMENDED PUMP TYPE SHALLOW DEEP OOL. 3 GPM. / FT. SPECIFIC CAPACITY NAL OBSERVATION WELL
TEST HOLE 6 ABANDONED, POOR QUALITY TUS 7 UNFINISHED 3 TEST HOLE
4 RECHARGE WELL WELL 1 X DOMESTIC 5 COMMERCIAL 6 MUNICIPAL STOCK IRRIGATION ... PUBLIC SUPPLY OTHER C COOLING OR AIR CONDITIONING 9 NOT USED 6 BORING
7 DIAMOND
8 JETTING
9 DRIVING י סק IG DRILLERS REMARKS 15Q774 OFFICE USE ONLY DRILLING LSBURGH REMARKS DY LANG **CSS S8** WΙ JUNE 12

OF THE ENVIRONMENT COPY

#### MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act L RECORD WEL 67003 CON 2. CHECK X CORRECT BOX WHERE APPLICABLE FER, 6705153 569288 4847292 1440 24 MAR 02, 1977 233 GENERAL COLOUR MOST COMMON MATERIAL OTHER MATERIALS DEPTH - FEET GENERAL DESCRIPTION FROM 39 GRAVEL - SAND BROWN +GREY MOCK 165 D039 142865 0165626 0 14 15 21 32 43 41 WATER RECORD 51 **CASING & OPEN HOLE RECORD** KIND OF WATER 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL P164 GALVANIZED 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 3 CONCRETE 4 OPEN HOLE 61 **PLUGGING & SEALING RECORD** I STEEL DEPTH SET AT - FEET 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 0/65 2 GALVANIZED 3 CONCRETE 4 OPEN HOLE 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL 1 STEEL 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL CONCRETE 30-33 LOCATION OF WELL 15-16 17-18 MINS 1 A PUMPING 2 RECOVERY MPUMP 2 | BAILER 0010 IN DIAGRAM BELOW SHOW DUSTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE ORTH BY ARROW. WATER LEVELS DURING PUMPING TEST TES 60 Mins 35-34 0/8 FEI 112 35 24 PUMP SETTING 35 ODI. T GPM. / FT SPECIFIC CAPACITY 1 WATER SUPPLY **FINAL** 5 ABANDONED, INSUFFICIENT SUPPLY OBSERVATION WELL TEST HOLE 6 ABANDONED POOR QUALITY **STATUS** 3 TEST HOLE 4 RECHARGE WELL 7 UNFINISHED OF WELL 1 DOMESTIC 2 STOCK 3 IRRIGATION 6 MUNICIPAL WATER 7 D PUBLIC SUPPLY USE O INDUSTRIAL ☐ COOLING OR AIR CONDITIONING ☐ OTHER 9 🗆 NOT USED CABLE ROTAR ROTAR ROTAR ROTAR A GRAP 6 D BORING **METHOD** CONVINTENT DETTING DRIVING DRILLING 3316 5073 DATE OF INSPECT OFFICE USE **CSS S8** WI THE ENVIRONMENT COPY

FORM 7

07-091

### MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

40P/16E

ER WELL-RECORD 67003 2. CHECK S CORRECT BOX WHERE APPLICABLE 6705612 ER WELLINGTON DATE COMPLETE YILL SBURGH ONT. LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST COMMON MATERIAL GENERAL COLOUR DEPTH - FEET GENERAL DESCRIPTION 45 GRAVEL SAND-BOULDERS CLAY CLAY -GRIZY 60 BROWN Rock DOHS 1112813 1006020512 0135626 32 41 WATER RECORD 51 **CASING & OPEN HOLE RECORD** DEPTH - FEET KIND OF WATER 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 11307 0080 .188 134 2 GALVANIZED FRESH 3 SULPHUR
SALTY 4 MINERAL 3 Q CONCRETE 61 **PLUGGING & SEALING RECORD** 4 DOPEN HOLE ! STEEL DEPTH SET AT - FEET FRESH 3 SULPHUR 2. MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) 2 | GALVANIŽED FROM 3 CONCRETE
4 OPEN HOLE FRESH 3 SULPHUR
SALTY 4 MINERAL 1 STEEL 18-21 22-25 2 🔲 GALVANIZED 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL CONCRETE 30-33 4 T OPEN HOLE 6848 LOCATION OF WELL 0009 ☐ PUMP 2 💹 BAILER 00 IN DIAGRAM BELOW SHOW DISTANCES OF LOT LINE. INDICATE NORTH BY ARROW 1 EXPUMPING WATER LEVELS DURING 2 - RECOVERY TES 60 MINUTES 32-34 6 3 5-37 PUMPING TEST 30 MINUTES 45 MINUTES 035 1 CLEAR PUMP 5 OOO. 8 GPM. / FT. SPECIFIC CAPACITY WATER SUPPLY S ABANDONED, INSUFFICIENT SUPPLY **FINAL** OBSERVATION TEST HOLE 6 ABANDONED, POOR QUALITY
7 UNFINISHED OBSERVATION WELL **STATUS** OF WELL 4 | RECHARGE WELL DOMESTIC 5 COMMERCIAL DISCK
INCREASION
INCREASION
OTHER 6 MUNICIPAL **WATER** PUBLIC SUPPLY USE O COOLING OR AIR CONDITIONING 9 | NOT USED CABLE TOOL ?

ROTARY (CONVENT)

ROTARY (REVERSE)

ROTARY AR 5 D BORING METHOD OF 8 | JETTING **DRILLING** DRILLERS REMARKS 2°20875 ONLY DPILLING 3316 USE ( word ch BURGH OFFICE

WI

CSS.S8



## MINISTRY OF THE-ENVIRONMENT The Ontario Water Resources Act

	002	~	WE		_ RE	ÎC,	ORD	*		//EK
ontario 	1. PRINT ONLY IN S 2. CHECK 🗵 CORRE	PACES PROVIDED  CT BOX WHERE APPLICABLE  TOWNSHIP, BOROUGH, C	11 TOWN, VILL		0 3 3 7 3 "	CON., I	BLOCK, TRACT, SURVEY	13		22 23 2 07 25-27
UNTY OR DISTRICT	,	FRIN					7	DATE COMPLE		<b>62</b> 3
		P	#/	41	115 BU	RGI		DAY 29	_ мо.	YR. 2:
		4.	7260	\$	1435	<b>\$</b>	BASIN CODE			
2	M 10 12	G OF OVERBURDI	EN AND BEI	OROCK	MATERIALS	S (SEE IN	STRUCTIONS)			
NERAL COLOUR	MOST COMMON MATERIAL	OTHER !	MATERIALS			GENERA	L DESCRIPTION		DEPTH FROM	TO
ROWN	CLAY								O	5~
71, 0	SANO - (	GRAVEL			-				<u> </u>	10
	CLAY	_							20	20
	GRAVEL	- SANO -			-				65	123
REY		STONES-	SAN	<del>'0</del>	4 94	RS			123	185
BROWN	Rock									
ROWN +	D					<del></del>			185	19.
BLACK REY +	Pock									
BROWN	LIMESTONE	<u> </u>							195	22
REY	LIMESTON	T							228	23
						0 -	10.000	20 - 1	20101	
			20 05	<u> </u>	2065 11/12	205	012320512	MO 018	55/00/10	
-70	14 15 21	32	35215		3	SIZE	54 S) OF OPENING	65 31-33 DIAME	TER 34-38	75 LENGTH 3
WA	TER RECORD	INSUE	& OPEN HO		PTH - FEET	<u>                                    </u>	T NO.)	•	INCHES	41-44
AT - FEET	FRESH 3 SULPHUR 14	DIAM. MATERIAL INCHES	INCHES	FROM	13-16	SCRI			OF SCREEN	FEE
	SALTY 4   MINERAL   19   SULPHUR 19	2 GALVANI 3 CONCRE	TE 1700	0	0127	61	PLUGGIN	G & SEAL	ING REC	ORD
2275 2	☐	17-18 1 STEEL 2 GALVAN	19	#	79235	DEPTH	SET AT - FEET	MATERIAL AND	TYPE LEAD	IENT GROUT, PACKER, ETC.
2	SALTY 4 MINERAL  FRESH 3 SULPHUR 29	3 CONCRE	TE	12.		<u></u>	0-13 14-17			
2	SALTY 4 MINERAL	24-25 1 STEEL 2 GALVAN	26 IZED		27-30		8-21 22·25 6·29 30-33 80			
30-33 1 2	☐ FRESH 3 ☐ SULPHUR <sup>34</sup> ☐ SALTY 4 ☐ MINERAL	3 CONCRE								
PUMPING TEST M	· · · · · · · · · · · · · · · · · · ·	0 0/	15-16	17-18 MINS.			LOCATION			
STATIC	WATER LEVEL 25 WATER	LEVELS DURING	1 PUMPING 2 RECOVERY	MINS.	IN DIA LOT L		LOW SHOW DISTANC IDICATE NORTH BY	ES OF WELL ARROW.	FROM ROAD	AND
IS OS O	PUMPING -21 22-24 15 MINUTE	5-28 083-31 08		35-37 FEET					4	_
	FEET SHEET SALES	FEET FEET	FEE O	FEET 42					12	1
IF FLOWING. GIVE RATE  RECOMMENDED	<b>GPM</b> .	7 661	CLEAR 2 C	46-49					CAB AC	
RECOMMENDED SHALL	OW DEEP PUMP	110 FEET PUM	0/0	<b>GPM</b> .			ø	,	10	
50-53	GPM./FT.:	SPECIFIC CAPACITY		_			150/10 € 7	5 mi 9	31	
FINAL STATUS	1 WATER SUPPLY 2 OBSERVATION 1 3 TEST HOLE			UPPLY	24			<u>*                                    </u>		
OF WELL	L 4   RECHARGE WEL	_ کر ۱								-
WATER	55-56   DOMESTIC 2   STOCK 3   IRRIGATION	5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY		į			_		11-	1
USE	4   INDUSTRIAL   OTHER	8 COOLING OR AT						VII	1	
	57 1 D, CABLE TOOL	6 [] BC					•			
METHO! OF	3 G ROTARY (REVE	RSE) 8 🗆 JE	TTING						•	
DRILLIN	S AIR PERCUSSION				DRILLERS REMA	RKS:		63 DATE DESCRI	VFDa = =	B G 63
1 1 1 -	ELL CONTRACTOR	PIL LING	LICENCE NUM		DATA SOURCE	58	3216	62 DATE REGE	103	76 "
ADDRESS		0.	04/		<b>I ա</b>   հ∧	PECTION 3	1 INSPECTO	,		
ADDRESS NAME OF DE			LICENCE NUN	IBER	REMARKS	7 31	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<del>t  </del>		P
	OPEONTRACTOR /	SHAMISSION	DATE	<u> </u>	OFFICE			CSS.S8		WI
1	You Lan	DAY 29	MO FIPA.	yr. <u>2</u> \$	0			~ US.58	FO	RM 7 MOE

FORM 7 MOE 07-091

#### MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act WELL RECORD 40P/16E 6706041. 67003 CON 2. CHECK 🗵 CORRECT BOX WHERE APPL WELL. Hillsdung MAIN ST. LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL COLOUR GENERAL DESCRIPTION FROM BLACK FILL 5 0 Brown CRAVEL CLAY - STONES MULTI COLOUR ROCK- ROCK PEPPELS - SOMPSTONE Riges 17 BROWN 00051801111 00176110512 0045 261248 0052624111 WATER RECORD 51 CASING & OPEN HOLE RECORD KIND OF WATER 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL 0047 .188 2 GALVANIZED 3 CONCRETE 1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL PLUGGING & SEALING RECORD 4 🗹 OPEN HOLE DEPTH SET AT - FEET I T STEEL 1 | FRESH 3 | SULPHUR 2 2 | SALTY 4 | MINERAL 2 GALVANIZED 905J 3 CONCRETE 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL ☐ STEEL 2 GALVANIZED 1 | FRESH 3 | SULPHUR 2 | SALTY 4 | MINERAL 3 CONCRETE 4 [] MINERAL LOCATION OF WELL IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. Sidenoad 6/029-31 0 1032-34 0 1035-3 FEET PUMP DET SETTING 0 2 5 FEET WATER SUPPLY OBSERVATION **FINAL** OBSERVATION WELL 6 ABANDONED, POOR QUALITY STATUS TEST HOLE 7 🗆 UNFINISHED OF WELL RECHARGE WELL 5 COMMERCIAL 6 MUNICIPAL DOMESTIC 2 STOCK 3 RRIGATION WATER PUBLIC SUPPLY USE(') COOLING OR AIR CONDITIONING 9 NOT USED ☐ INDUSTRIAL OTHER sidenood 6 DBORING 1 CABLE TOOL

2 PROTARY (CONVENTIONAL)
3 ROTARY (REVERSE)
4 ROTARY (AIR)

DRILLING

Hills Burg

9 DRIVING

METHOD (

**OF** DRILLING O

WI

CSS.S8

#### MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

## 40P/16F

[ [ ]	e Olliano Maiei Nesoc	JICCS ACI	
WATER	WELL	RECO	RD

67003 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK S CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH MAIN ST. HillsBurg. LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL DESCRIPTION MOST COMMON MATERIAL GENERAL COLOUR 0 15 C. GRAVEL - STONES BROWN 18 15 C. SAND BROWN C. GRAVEL - STONES - SAND BROWN 31 SoapstonE - Rock WHILE 48 SogrestonE BROWN ROCK LAVERED Rock REY 105 BROWN ROCK Rock GREY 60/563112 60/8610 603/163/11208 60HOLKB26 60HOLKB26 60HB226H87H 6105226 10 14 15 21 21 32 43 SIZE(S) OF OPENING CASING & OPEN HOLE RECORD SCREEN WATER RECORD 51 KIND OF WATER DEPTH TO TO FRESH 3 SULPHUR
2 SALTY 4 MINERAL 0 4062 ./88 2 GALVANIZED
3 CONCRETE **PLUGGING & SEALING RECORD** ¹ ☐ FRESH ³ ☐ SULPHUR 61 OPEN HOLE 2 SALTY 4 MINERAL - FEET ☐ STEEL 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 2 GALVANIZED
3 CONCRETE 0105 OPEN HOLE 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 22.25 ☐ STEEL 30-33 1 | FRESH 3 | SULPHUR 3 CONCRETE 4 | MINERAL LOCATION OF WELL 2 D BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. WATER LEVEL END OF PUMPING 0/0" O10 26-28 40 2 CLOUDY PUMP 0 30 GPM./FT. SPECIFIC CAPACITY WATER SUPPLY
OBSERVATION WELL 5 ABANDONED, INSUFFICIENT SUPPLY **FINAL STATUS** 1 TEST HOLE 7 UNFINISHED OF WELL - RECHARGE WELL 1 DY DOMESTIC 5 COMMERCIAL 6 MUNICIPAL D PUBLIC SUPPLY WATER 3 | IRRIGATION COOLING OR AIR CONDITIONING 22 Side road 4 🔲 INDUSTRIAL OTHER 9 🔲 NOT USED CABLE TOOL
CONVENTIONAL
CONVENTIONAL
CONVENTIONAL 6 D BORING METHOD / 7 DIAMOND 3 | ROTARY (REVEN.
4 | ROTARY (AIR)
5 | AIR PERCUSSION B D JETTING DRILLING 9 DRIVING 250177 Rudy & WELL DRILLING OFFICE USE ONLY 2332 Hillsburg 2332 CSS.58 WΙ

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

## MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act AAATED AAEL L DECOL

40P/16F

Z. CHECK ORRECT BOX WHERE APPLICABLE  TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE  TOWNSHIP, BOROUGH, CITY, TOWNSHIP, BOROUGH, CITY, TOWNSHIP, BOROUGH, CITY, TOWNSHIP, BOROUGH, CITY, TOWNSHIP, BOROUGH, CITY, TOW	107 25.27 107 25.27 022
MAIN ST, HILLSBURGH ONT DAY -	IPLETED 48-53
	7 12 71
3.47.1.00 \qquad \qquad \qquad \qquad \qquad \qquad \qquad \qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq	YRYR
LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)	DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL OTHER MATERIALS GENERAL DESCRIPTION	FROM TO
BROWN CLAY - STONES-GRAVEL	0 8
BROWN CLAY - STONES	8 20
GREY CLAY - STONES -SAND BROWN ROCK	20 88
BRIDER POSK	88 /38
GREYIBR LIMESTONE	150 301
	130 006
	20
	- (10.17)
31) COOBLOSIA	06215
WATER RECORD 51 CASING & OPEN HOLE RECORD Z SIZE(S) OF OPENING 31-33 DIAME	75 80 TER 34-38 LENGTH 39-40
WATER FOUND KIND OF WATER INSIDE MATERIAL THICKNESS FROM TO MATERIAL AND TYPE	INCHES   FEET
10-13 1 FRESH 3 SULPHUR 14 10-11 1 STEEL 12 2 GALVANIZED	OF SCREEN FEET
15-16 1 FRESH 3 SULPHUR 19 04" 3 CONCRETE 2 SALTY 4 MINERAL 4 OPEN HOLE -188 0 61 PLUGGING & SEAL	ING RECORD
20-23 1 FRESH 3 SULPHUR 24 17-18 1 STEEL 19 20-23 DEPTH SET AT - FEET MATERIAL AND TO SALVANIZED FROM TO	TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
25-28 1 FRESH 3 SULPHUR 25 4 QOPEN HOLE 94 0206 10-13	
30-33 ,	
2 SALTY 4 MINERAL 4 OPEN HOLE	
71 ) PUMP Z BAILER 00/0 GPM 0 2 15-16 00 17-18 LOCATION OF WEL	
STATIC LEVEL 25 WATER LEVELS DURING 2 RECOVERY  STATIC LEVEL PUMPING 2 RECOVERY  STATIC LEVEL STATE LEVELS DURING 2 RECOVERY	FROM ROAD AND
19-21 22-24 15 MINUTES 30 MINUTES 45 MINUTES 60 MINUTES 50-26-26 29-31 32-34 35-37 10 12 13 12 13 13 13 13 13 13 13 13 13 13 13 13 13	X
IF FLOWING. 38-41 PUMP INTAKE SET AT WATER AT END OF TEST 42	
FEET FEET FEET FEET FEET FEET FEET FEET	
SHALLOW DEEP SETTING SETTING GPM GPM	
FINAL 54 1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY	
STATUS  STATUS	2 2
55-56 1 DOMESTIC 5 COMMERCIAL	<b>#</b>
WATER    Z	*
OTHER 9 NOT USED	
METHOD  1 CABLE TOOL 6 BORING 2 ROTARY (CONVENTIONAL) 7 DIAMOND	5 87
OF 3 ROTARY (REVERSE) B DETTING DRILLING 4 ROTARY (AIR) 9 DRIVING	(8)
NAME OF WELL CONTRACTOR  LICENCE NUMBER  DATA - SR CONTRACTOR - SA CONTRACTOR	1. 1°
> SOURCE SOURCE	903 6 63.68 80
ADDRESS  ADDRESS  NAME OF DRILLISBURGH ONT.  LICENCE NUMBER  SOURCE  SOURCE  SOURCE  SOURCE  DATE OF INSPECTION  INSPECTION  INSPECTOR  REMARKS:  REMARKS:	
ADDRESS  ADDRESS  NAME OF DRILLER OR BORER  NAME OF DRILLER OR BORER  NAME OF DRILLER OR BORER  SIGNATURE OF CONTRACTOR  SUBMISSION DATE  SUBMISSION DATE	Р
[ A) // C29 20	WI
MINISTRY OF THE ENVIRONMENT COPY	FORM 7 MOE 07-091

## 8

## MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act

40P/16E

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED **67**06583 67.00.3 2. CHECK 🗵 CORRECT BOX WHERE APPLICABLE LINGTON VII DATE COMPLETED LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) GENERAL COLOUR OTHER MATERIALS DEPTH - FEET COMMON MATERIAL ROCKS TOP SOIL 0 3 SAMO STONES SAND 17 JAND GRAVEL 30 17 STONES 30 GREY CLAY 45 60 GA LIMESTO 60 68 0003 1/2102 1 0007 1281/21 1 0017 128 1 1 1 0030 1/1/38 0045 0517 WATER RECORD 51) CASING & OPEN HOLE RECORD : MATERIAL MATERIAL AND TYPE DEPTH TO TOP OF SCREEN 3 SULPHUR 0063 3 🗍 SULPHUR 4 🗎 MINERAL 1 FRESH -188 3 CONCRETE 0 61 PLUGGING & SEALING RECORD 2 SALTY 4 ☐ OPEN HOLE - FEET 1 STEEL 1 FRESH 3 SULPHUR MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) Z GALVANIZED 4 MINERAL 3 CONCRETE
4 OPEN HOLE 63 0068 3 SULPHUR 1 | FRESH 4 MINERAL 1 STEEL
2 GALVANIZED 2 SALTY 18-2 22-25 ₁ ☐ FRESH 3 ☐ SULPHUR . □ CONCRETE 26-29 30-33 2 SALTY A | MINERAL LOCATION OF WELL 2 D BAILER 03 15-16 60 17-18 WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW. PUMPING RECOVERY WATER LEVELS DURING PUMPING TEST 15 MINUTES 30 MINUTES 025 FEET 025 FEET PUMP INTAKE 2 ☐ CLOUDY RECOMMENDED PUMP TYPE RECOMMENDED PUMP SETTING PUMP SETTING OAO FEET GPM./FT. SPECIFIC CAPACITY ☐ SHALLOW DEEP 0010 •€*375≦* WATER SUPPLY
OBSERVATION 5 ABANDONED, INSUFFICIENT SUPPLY FINAL OBSERVATION WELL BANDONED POOR QUALITY **STATUS** TEST HOLE

RECHARGE WELL , UNFINISHED OF WELL DOMESTIC STOCK 5 COMMERCIAL MUNICIPAL WATER ☐ IRRIGATION PUBLIC SUPPLY USE D 4 - INDUSTRIAL . COOLING OR AIR CONDITIONING OTHER 9 NOT USED CABLE TOOL 6 BORING **METHOD** 2 ROTARY (CONVENTI 3 ROTARY (REVERSE) ROTARY (CONVENTIONAL) 7 DIAMOND OF DRILLING 2 . DRIVING S AIR PERCUSSION DATE RECEIVED 50178 33/7 ONLY ELL DRILLING LTD OFFICE USE ILISBURGH P WI CSS S8 MINISTRY OF THE ENVIRONMENT COPY FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

40P/16E

## WELL RECOR

6706591-67.003 CON 2. CHECK S CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY, TOWN, DAY 25 YR.**2** LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS CLAY STONES STONES 35 76 IMESTONE Black 127 Brown White 4 60/56/05/2 0035265/2 0076/205/2 0/106/5 1 0/2/62465 0/38/826 61626261774 0175RV5 019NVS80 SIZE(S) OF OPENING
(SLOT NO)

MATERIAL AND TYP

O WATER RECORD 51 **CASING & OPEN HOLE RECORD** MATERIAL MATERIAL AND TYPE FRESH 2 SALTY 4 [] MINERAL 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 ☐ CONCRETE 0 0160 . 188 **PLUGGING & SEALING RECORD** 61 2 SALTY 1 STEEL
2 GALVANIZED DEPTH SET AT - FEET MATERIAL AND TYPE ICEMENT GROUT.
LEAD PACKER, ETC.) 1 FRESH 3 SULPHUR Z 🗌 SALTY 4 MINERAL 3 CONCRETE 1600191 ■ OPEN HOLE 1 FRESH 3 SULPHUR 1 STEEL
2 GALVANIZED 4 MINERAL 18-2 22-25 , 🗌 FRESH 3 SULPHUR CONCRETE 4 MINERAL LOCATION OF WELL PUMP 2 | BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FRO WATER LEVEL END OF PUMPING PUMPING RECOVERY FEET 045 FEET LOT 23 RECOMMENDED PUMP TYPE KΩ SHALLOW DEEP LOT 22 WATER SUPPLY
OBSERVATION WELL 5 ABANDONED, INSUFFICIENT SUPPLY FINAL ■ ABANDONED, POOR QUALITY **STATUS** , UNFINISHED OF WELL TEST HOLE DOMESTIC STOC" S COMMERCIAL 6 MUNICIPAL **WATER** 3 | IRRIGATION 7 D PUBLIC SUPPLY USE O . INDUSTRIAL . COOLING OR AIR CONDITIONING OTHER 9 D NOT USED CABLE TOOL
ROTARY (CONVENTIONAL)
ROTARY (REVERSE) **METHOD** 7 DIAMOND OF **DRILLING** 5 AIR PERCUSSION 33/7 0 50178 HILLSBURGH ONI CSS.58 ١W FORM 7 MOE 07-091 MINISTRY OF THE ENVIRONMENT COPY

## The Ontario Water Resources Act

FORM NO. 0506--4--77

ATER WELL RECO 6707143 1 PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE TRACT, SURVEY, ETC TOWNSHIP, BOROUGH, CITY, TO OUNTY OR DISTRICT WELLINGTON DATE COMPLETED 04 MOORE WILF 21 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) DEPTH -GENERAL DESCRIPTION MOST COMMON MATERIAL FROM GENERAL COLOUR 30 GRAVEL-CLAY ROC SROWN 31 10 14 15 21 32 43 54 54 CASING & OPEN HOLE RECORD 51 WATER RECORD KIND OF WATER MATERIAL AND TYPE FRESH 3 SULPHUR 2 SALTY 4 MINERAL 2 🗌 GALVANIZED 188 010050 PLUGGING & SEALING RECORD 1. FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE 61 4 D OPEN HOLE DEPTH SET AT - FEET MATERIAL AND TYPE 1 🗍 STEEL 1 FRESH 3 SULPHUR 2
2 SALTY 4 MINERAL FROM 2 GALVANIZED
3 CONCRETE 5010082 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 4 M OPEN HOLE 24-25 1 STEEL 2 GALVANIZED 30-33 80 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 3 CONCRETE Z 🗌 SALTY OPEN HOLE LOCATION OF WELL "**DD** 17-11 2 BAILER IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE INDICATE NORTH BY ARROW. PUMPING RECOVERY WATER LEVEL END OF PUMPING 22-24 15 MINUTES HILLDBURGH. 32-34 C/8 FEET RECOMMENDED PUMP TYPE 040 FEET SETTING 1 NGTON 1 WATER SUPPLY
2 OBSERVATION V 5 ABANDONED, INSUFFICIENT SUPPLY FINAL 6 ABANDONED, POOR QUALITY
7 UNFINISHED **STATUS** 3 TEST HOLE
4 RECHARGE WELL OF WELL DOMESTIC STOCK .01 23 5 COMMERCIAL 6 MUNICIPAL WATER 7 D PUBLIC SUPPLY 3 | IRRIGATION 8 COOLING OR AIR CONDITIONING
9 NOT USED USE O 4 | INDUSTRIAL ☐ OTHER 6 D BORING I T CABLE TOOL 1 CABLE TOOL
2 M ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE)
4 ROTARY (AIR)
5 AIR PERCUSSION METHOD 7 DIAMOND OF 2 DRILLING 2 DRILLERS REMARKS **15**0180 OFFICE USE ONLY 15/1980 CSS.SS

MINISTRY OF THE ENVIRONMENT COPY

The Ontario Water Resources Act

40 P-16

FORM NO. 0506-4-77 FORM

### WATER WELL RECORD

6707864 . PRINT ONLY IN SPACES PROVIDED 2. CHECK X CORRECT BOX WHERE APPLICABLE TOWNSHIP, BOROUGH, CITY. HillsBurg. 47050 LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS MOST COMMON MATERIAL GENERAL COLOUR OTHER MATERIALS GENERAL DESCRIPTION 2 Top Soil 0 1370wn Clay Stones 32 92 32 Rock 145 BRUUN 205 O 000 21802 | 003260512 | 009220512 | 01456128518 0205 2121573 | | 32 41 **WATER RECORD** (51) **CASING & OPEN HOLE RECORD** SCREEN KIND OF WATER MATERIAL 953 1 ★ FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 🛣 STEEL 2 🔲 GALVANIZED -205 04 0 6094 1 FRESH 3 SULPHUR
2 SALTY 4 MINERAL 1 CONCRETE **PLUGGING & SEALING RECORD** STEEL
GALVANIZED
CONCRETE MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) 1 FRESH 3 SULPHUR 2
2 SALTY 4 MINERAL FROM 104 0205 A POPEN HOLE

1 D STEEL

2 D GALVANIZED 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 3 🗆 CONCRETE 30-33 80 OPEN HOLE LOCATION OF WELL 0008 1 🏂 PUMP 2 🗆 BAILER WATER LEVEL END OF PUMPING 22-1 1 D PUMPING
2 PRECOVERY WATER LEVELS DURING PUMPING TEST 05233405253 70 0.5 KM FINAL 2 OBSERVATION WELL . ABANDONED POOR QUALITY **STATUS** 3 TEST HOLE 7 UNF NISHED Well Well  $\Box$ **OF WELL** 4 | RECHARGE WELL 1 1 DOMESTIC S COMMERCIAL 2 STOCK
3 IRRIGATION . MUNICIPAL \_ Lat 22 WATER PUBLIC SUPPLY LOT 21 USE Of 4 [] INDUSTRIAL ■ ☐ COOLING OR AIR CONDITIONING ■ □ NOT USED OTHER 6 BORING **METHOD** 2 7 ROTARY (CONVENTIONAL)
3 ROTARY (REVERSE) 7 DIAMOND ■ □ JETTING A D ROTARY (AIR)

B D AIR PERCUSSION 9 DRIVING DRILLING 2332 OFFICE USE ONLY ady swell Drilling 2332 Hillsburg 2332 **CSS.S8** you but

The Ontario Water Resources Act

40 P-16

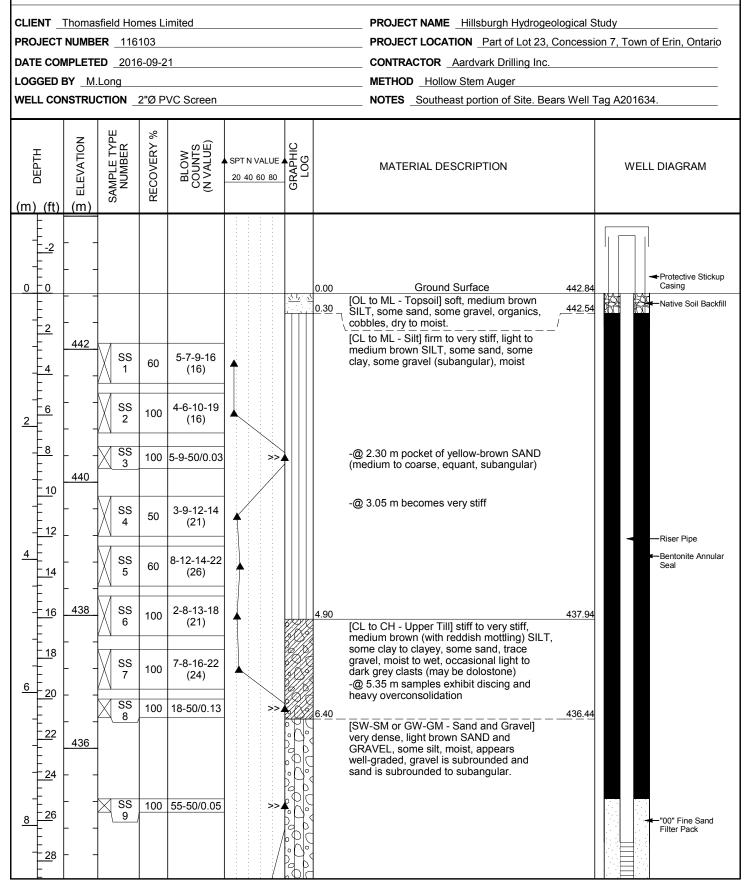
of t Env	he vironment		*.	• .	WA	T	ER	WE	ELLF	REC	OR	
Ontario ———	2. CH	IINT ONLY IN SP	ACES PROV		(1)		6708(		67.003		1	02
Wellingto			1	n Twp.	Y. TOWN VILLAG	E			BLOCK, TRACT, SURVEY, E	15	02.	3.,
OWNER (SURNAME FIL SHELL CANA		28-47 * <del>[2]) -</del>		ADDRESS	- *** 7.7 -		~	l.	D	ATE COMPLETED	PT 41-53	23
(21)		5696	501	MORTHING 48.47	19 a a	AC.	ELEVATION	RC.	M3B 3K4	DAY MO	TN	83.
	M 10		<u>-</u> -	/ERBURDEN	24	<u>اڳ</u>	7,700	<u> </u>	47		<u> </u>	1 1
GENERAL COLOUR	MOST COMMON MA			OTHER MA		HUC	KMATERIA			<u> </u>	DEPTH - FEET	
	Topsoil							GENERA	L DESCRIPTION	FRO		
	Gravel		Boulo	lers			Hard				0 1 3	1
Lt.Brown	Broken	limestor	ne Si	nale			Soft			3		
Brown	Limesto	ne				***	ledi	lum hard	1	3		
Dk.Brown	Limesto	ne					Medi	lum hard	1	7		
					7.11						3	
											<u> </u>	
											Civine of Landson	
31 0001	1 02	19032	1113	73 0030	KISTITIK	51 10	079616	18 73 h	1926156573	<u> </u>	1 1 1	
32	14 15			سپالتا								
WAT	ER RECORD		51)	CASING & (	PEN HOLE			SIZE(S) (	OF OPENING 31-33	DIAMETER 34	75 -38 LENGTH	39-40
AT - FEET	FRESH 3 SUL		NSIDE DIAM NCHES	MATERIAL	WALL THICKNESS INCHES	DEPT FROM	H - FEET	MATERIA	L AND TYPE	DEPTH TO OF SCREEN	TOP 41-44	FEET 30
<del>102</del> ' □	SALTY 4 MIN	IERAL	_ 2	STEEL 12	100	0	0040 -39-6	S			FEET	,
2 0	SALTY 4 MIN	IERAL	4	☐ CONCRETE ☐ OPEN HOLE ☐ STEEL 19	.188		20-23	61 DEPTH SET	PLUGGING &			
2 -	FRESH 3 SUL SALTY 4 MIN	ERAL	5	☐ GALVANIZED ☐ CONCRETE		<b>3</b> 9 <b>-</b> 6	0102	FROM 10-13	10 MATER		CEMENT GROUT AD PACKER, ETC 1	1
2	FRESH 3 SUL SALTY 4 MIN		24-25 1	OPEN HOLE  STEEL  26			27-30	18-21	22-25			
	FRESH 3 SUL SALTY 4 MIN		3	☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE				26-29	30-33 80			
PUMPING TEST METH		UMPING RATE		DURATION OF PU		1		LO	CATION OF V	VELL		
STATIC	WATER LEVEL 25		920 GPM		00 17-18 S UM PING		IN DIAC		SHOW DISTANCES OF		AD AND	
LEVEL 19-21	PUMPING 22-24	15 MINUTES 3	O MINUTES	45 MINUTES	60 MINUTES		LOT LII	NE INDICA	RTE NORTH BY ARROW.			
FEET IF FLOWING	010 FEET 0	FEET C	<b>71</b> 0	010	O10 FEET			1		#	SBURGH	
GIVE RATE	GPM		25 FEE	. ~	2 ☐ CLOUDY		1	1		1116		- 1
RECOMMENDED PUMP	PU	ECOMMENDED IMP TTING	25 FEET	PUMPING	0020 GPM			٨.			A	
50-53						]		PKO	PERTY LINE			
FINAL STATUS	I D WATER	ATION WELL	□ AB/	ANDONED, INSUFF ANDONED POOR (	ICIENT SUPPLY			CVC	J2 MAIN HILLS BU			]
OF WELL	3 TEST HO	GE WELL	7 [] UN	FINISHED				STATION	GATE HOUSE	RESIDEN	CE)	
WATER A	1 D DOMEST 2 □ STOCK 3 □ IRRIGAT	•	COMME.  MUNICI PUBLIC	PAL				on GR		48' -		
USE U	4   INDUSTI	RIAL .		G OR AIR CONDIT				BESID House	- /		(25)	
METHOD	7 CABLE 1			BORING					RTY LINE	<del></del>		
OF DRILLING 2	3 G ROTARY			7 ☐ DIAMOND ■ ☐ JETTING ■ ☐ DRIVING				PKOKE				
	5 AIR PER		•	DRIVING		DRI	LLERS REMARKS		CON VII		Con	깯
Davidso	ntractor n Well Di	cilling	Limit		1737	7	DATA SOURCE	58 CONTE	-	CEIVED A 7	0.4	•0
ADDRESS	, Wingham					E ONLY	DATE OF INSPECT		737 INSPECTOR	2 1	84	$\dashv$
NAME OF DRILLER G. Reav	OR BORER	., onear			ICE NUMBER	E USE	REMARKS (	13/84			KIN	$\dashv$
SIGNATURE OF COM	_	0	SUBI	MISSION DATE		FFICE				<i>į</i> • •	QQ 00	
MAINING	Jane.	d se	DAY		Nov. <sub>YR.</sub> 83	·[ō	ch	ingd	from 6	70 7780	SS S8	
IVIIIVISTEL	Y OF THE E	ハンコロへがか	IENIT C	NDV						runm NU. U	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ovi /

garantan ayan kalan da ayan kalan da ayan da a	2 <del></del>	The Ontar	io Water Resources	Act
Ministry of the	WAT	ER W		ECORD
Environment Ontario  I. PRINT ONLY IN SPACES PROVIDED	[1]	6708153	MUNICIP	CON.
2. CHECK 🗵 CORRECT BOX WHERE APPLI			10 14 CON . BLOCK TRACT, SURVEY ETC	15 22 23 74 LOT 25-27
1) 11: 1- E	in	NOB 120	VII DAT	E COMPLETED 48-53
	21 Hills	burgh	C. BASIN CODE	у <u>9</u> мо <u>5</u> ук. <b>8</b>
1 2 months M 10 12 17 18	24 25		31	47
MOST	HE MATERIALS		EE INSTRUCTIONS)	DEPTH - FEET
GENERAL COLOUR COMMON MATERIAL	HEI MATERIALS			FROM TO
Grey Clave Stone	clay Lay			10 35
Br. Limestone				35 100
DK. Br. Rock				100 115
Grey Rock				1/3 /37
Br. Kock		(Br. Lo		150 180
Grey Limestone		Or. LO	u <sub>l</sub> ui y	
	*			
	11	8		
31				
32	\	43	54	65 75 80 DIAMETER 34-38 LENGTH 39-40
		RECORD DEPTH FEET OM TO	ISLOT NO )	INCHES FEET
WATER FOUND KIND OF WATER INSIDE ON MAT INCHES  10-13   FRESH 3   SULPHUR   10-11   STE	ERIAL THICKNESS FR	OM TO 5	MATERIAL AND TYPE	DEPTH TO TOP 41-44 30 OF SCREEN
15-18 1   FRESH 3   SULPHUR 19	LVANIZED	0 40 6	1 PLUGGING &	SEALING RECORD
20-23 1 FRESH 3 SULPHUR 24 17-18 1 STE	EEL 19 /		FROM TO	RIAL AND TYPE (CEMENT GROUT)  LEAD PACKER, ETC.)
25-24 1 FRESH 3 SULPHUR 29 25-24 1 SALTY 4 MINERAL 25-25 1 STI STI		0 180	10-13 14-17	
30-33 I	LVANIZED NCRETE EN HOLE		26-29 30-33 80	
	RATION OF PUMPING	2880	LOCATION OF	WELL
STATIC END OF WATER LEVEL 25 WATER LEVELS DURING	3 15-16 17-18 HOURS MINS		BELOW SHOW DISTANCES OF	F WELL FROM ROAD AND
, LEVEL PUMPING	2 RECOVERY  45 MINUTES 60 MINUTES 32-34 35-37	/3/	11/	
	FEET 75 FEET	2	19 X	/ N
GPM FEET 1  RECOMMENDED PUMP TYPE RECOMMENDED 43-45 REC	COMMENDED 46-49	$C_0$	C	
SHALLOW TO DEEP SETTING 100 FEET RAI	TE 75 GPM		5	,
I PINAI I TA	ONED, INSUFFICIENT SUPPLY		800 -	\$
STATUS  2 DBSERVATION WELL 6 ABANDO 3 D TEST HOLE 7 DUNFINI OF WELL 4 D RECHARGE WELL	SHED POOR QUALITY SHED		·	2 Lot 23
55-56       DOMESTIC   5     COMMERCIA			C74 1	0 # 22
WATER 3 GIRRIGATION 7 PUBLIC SUF	PRLY R AIR CONDITIONING  9			人0722
57 1 CABLE TOOL	BORING		<b>.</b> 	\$
OF 3 CROYARY (REVERSE)	DIAMOND JETTING DRIVING		٠.	
5 AIR PERCUSSION	LICENCE NUMBER	DRILLERS REMARKS	58 CONTRACTOR 59-62 DAT	RECIVED A Season and
E Langlet Dieling L		SOURCE  DATE OF INSPECTION		1 04 85
5 MODAL 11 in a l	", Ort.			<u>,                                     </u>
NAME OF DRIVER OR BORER  SIGNATURE OF CONTRACTOR  SUBMISS	LICENCE NUMBER  3317	REMARKS  REMARKS  REMARKS  REMARKS	<i>38</i> , ne	
Day are, DAY_	9 mo 5 yr. 89	<u> </u>	· <del></del>	CSS.ES
MINISTRY OF THE ENVIRONMENT	COPY		•	FORM NO. 9500-4-77 FORM 7

APPENDIX D: BOREHOLE LOGS

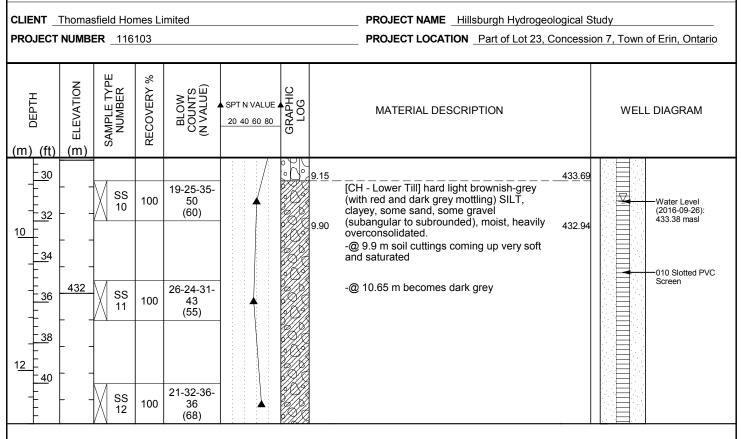
PAGE 1 OF 2







PAGE 2 OF 2



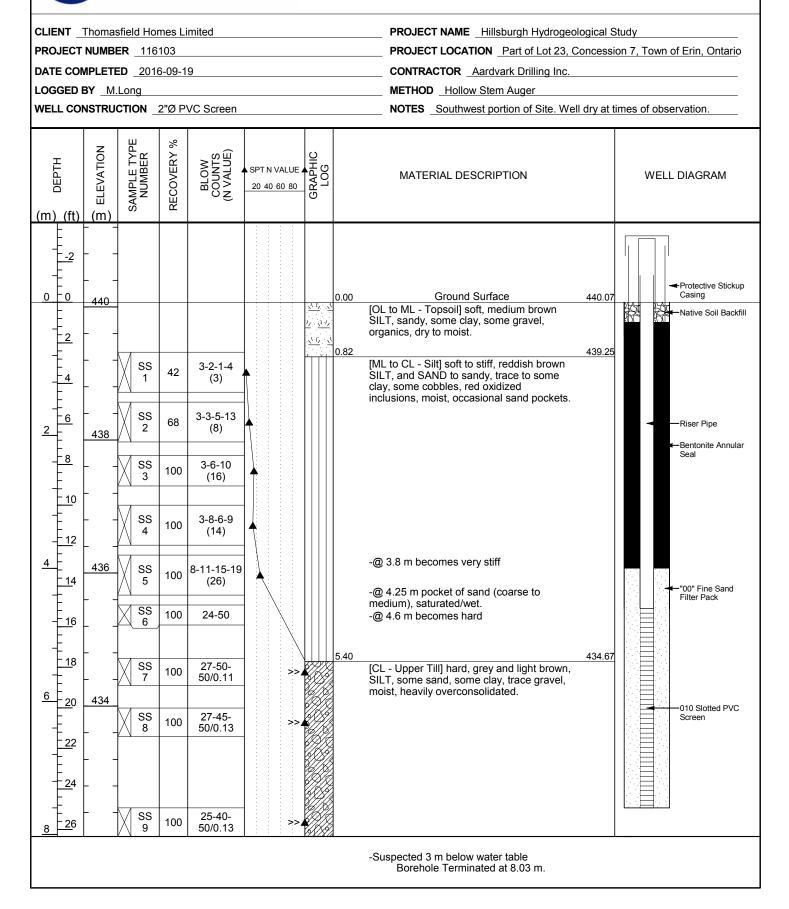
-Suspected to be approximately 3 m below water table

Borehole Terminated at 12.80 m.

## M BluePlan ENGINEERING

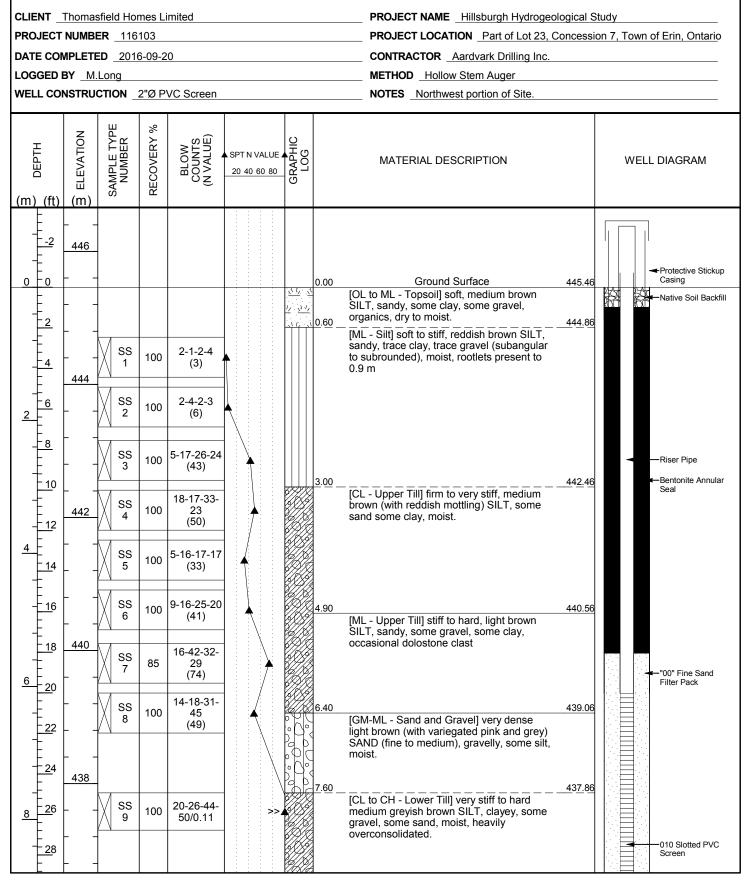
#### **MONITORING WELL ID: MW-02**

PAGE 1 OF 1



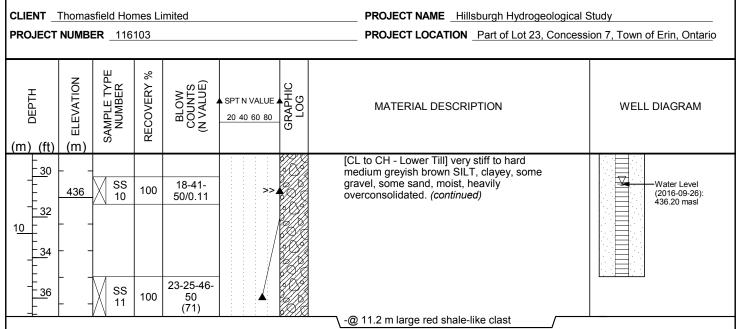
PAGE 1 OF 2







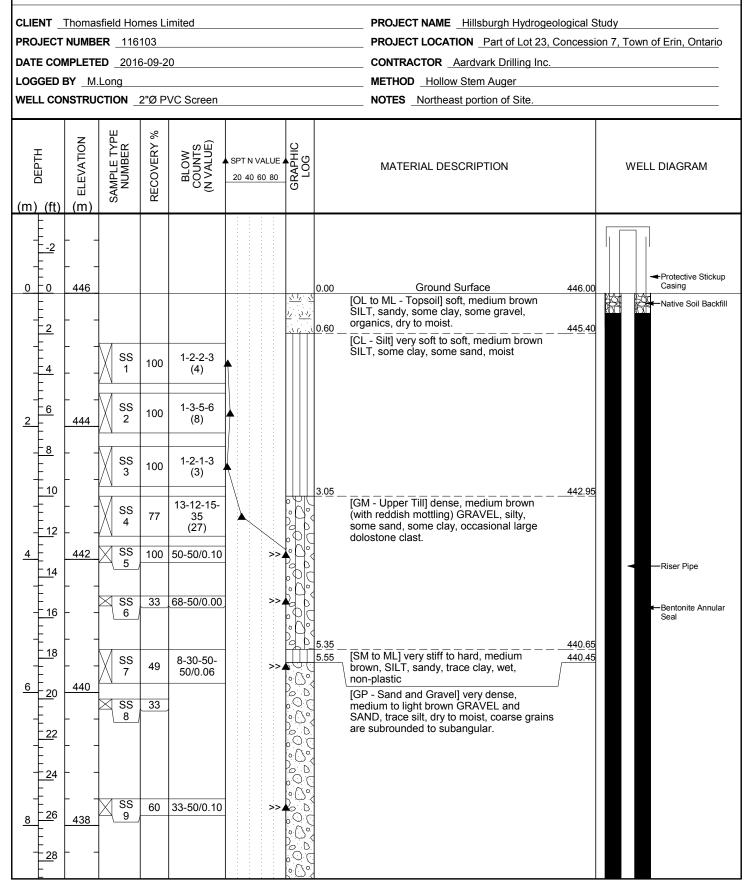
PAGE 2 OF 2



-Greater than 3 m into heavily overconsolidated clay till Borehole Terminated at 11.25 m.

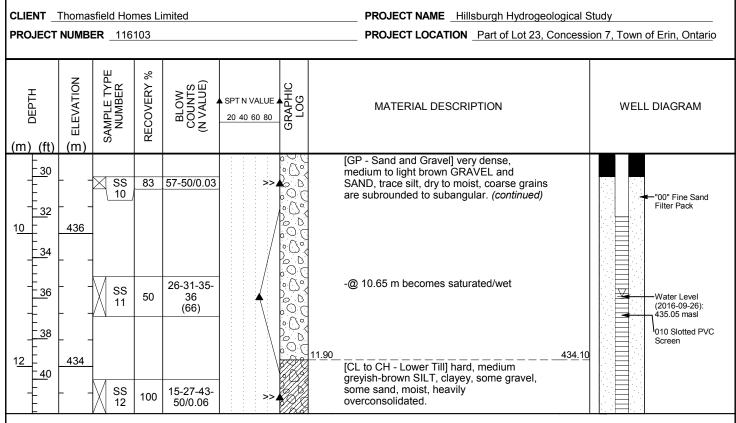
PAGE 1 OF 2







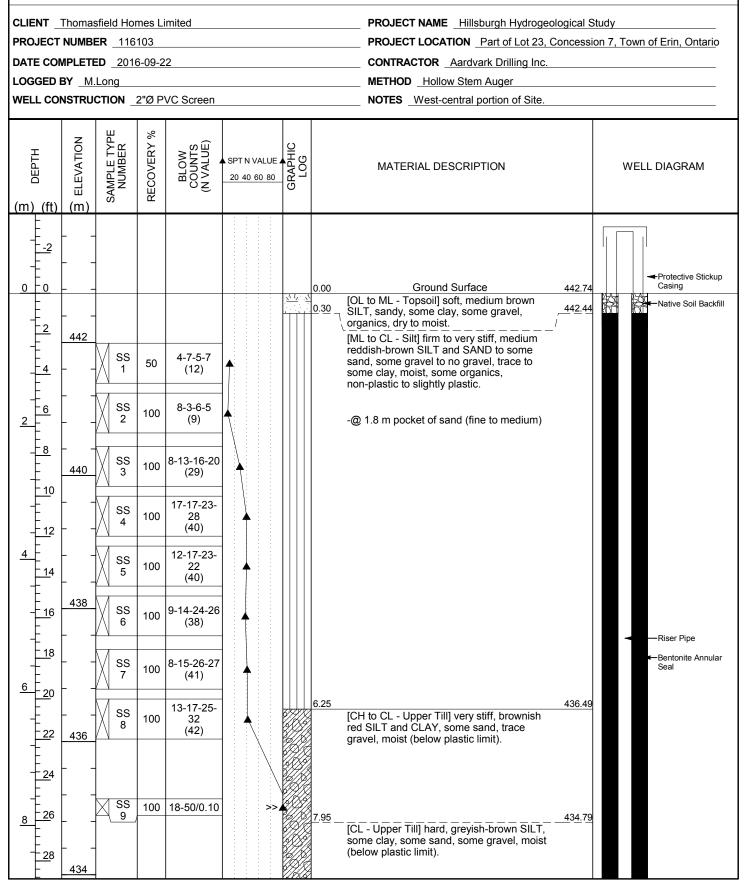
PAGE 2 OF 2



-Suspected 1.5 m below water table Borehole Terminated at 12.71 m.

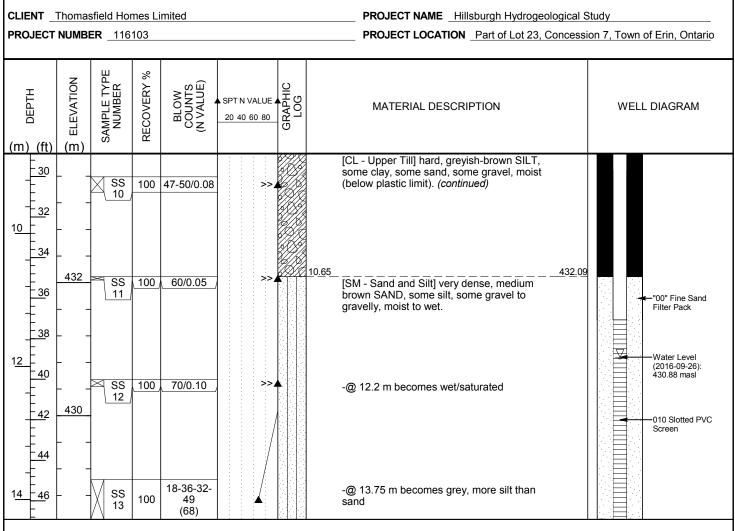
PAGE 1 OF 2







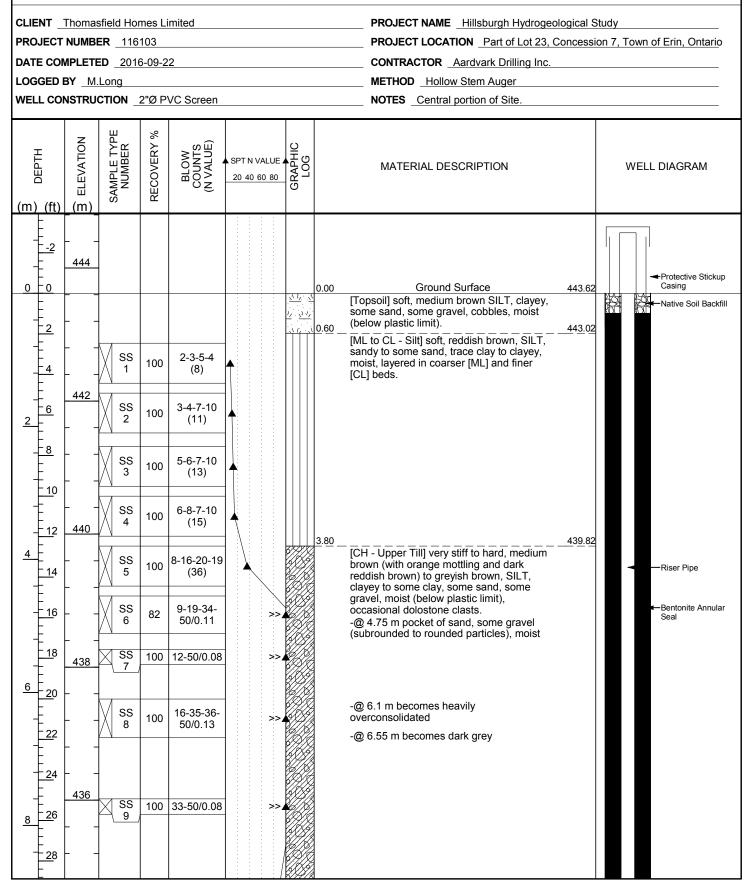
PAGE 2 OF 2



-Suspected 2 m below water table Borehole Terminated at 14.30 m.

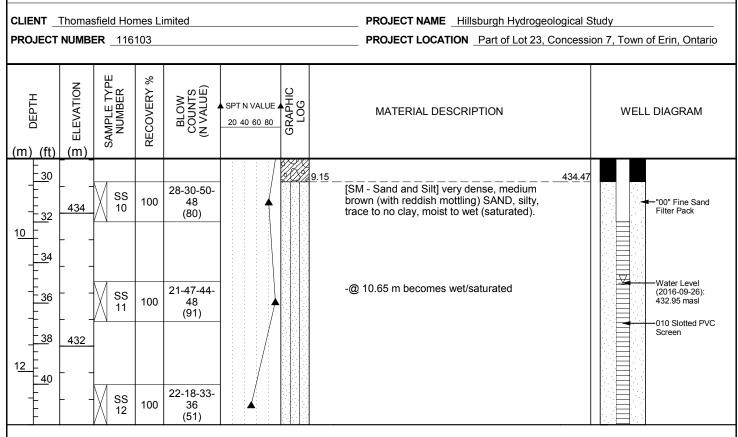
PAGE 1 OF 2







PAGE 2 OF 2



-Suspected 2 m below water table Borehole Terminated at 12.80 m. APPENDIX E: RESPONSES FROM DOOR-TO-DOOR WELL SURVEY





September 19, 2016

Our File: 116103

Re: Proposed Residential Subdivision
Hillsburgh, ON
Private Water Supply Well Inventory

Dear Owner/Occupant:

On behalf of Thomasfield Homes Ltd., we are requesting you complete the attached survey regarding your private water supply. This information is being requested in order to support the approvals process for a residential development that is proposed for a property south of Hillsburgh, ON (Part of Lot 7, Concession 23).

Information obtained from this local survey is requested to ensure that the proposed use of on-site sewage systems (i.e. septic tanks and tile beds) will not influence the water quality in the neighboring wells. We ask that you please complete the enclosed form to the best of your ability and return it to GM BluePlan using the self-addressed and postage paid envelope enclosed.

We would appreciate if the form was completed and returned by September 30, 2016. If you have any questions regarding the water supply well inventory please contact Matthew Long at GM BluePlan, 519-824-8150 (extension 1274). You can also email <a href="matt.long@gmblueplan.ca">matt.long@gmblueplan.ca</a>.

Personal information collected through this process will only be used by GM BluePlan for the purposes noted above, including submission to the Ministry of the Environment and Climate Change (MOECC). We will not collect, use, or disclose your personal information without your consent. By providing us with your personal information for the purposes listed above, you consent to our collection, use, and disclosure of the information for those purposes only. You may refuse or withdraw your consent at any time by contacting the undersigned.





Your cooperation and time are greatly appreciated.

Yours truly,

#### GM BLUEPLAN ENGINEERING LIMITED

Per:

Matt Long, M.Eng., P.Eng.



#### WELL INFORMATION REQUEST FORM

### STEP 1 – GENERAL INFORMATION Name of Owner: Name of Occupant: Phone Number of Own Lot/Concession: LOT 23, CONCESSION Fire Number (if applicable): 9354 MAILING ADDRESS: PROPERTY ADDRESS: 9354 WELLINGTON RD. 22 RR#1 HILLSBURGH SAME ONT. NOBIZO E-mail address: STEP 2 – WELL CONSTRUCTION DETAILS Please provide as much of the following information as possible regarding the well(s) on your property. If you have more than one well, please indicate information as pertains to each well: Date Constructed: APR. 29/75 Contractor: ROY LANG DRILLING. Type of Well (please check): Drilled Dug Original Well Depth: 235 FEET Well Diameter: 4 IN CH Type of well/source of water (please check): Bedrock Overburden Name of past property owner(s): Well usage: Domestic Irrigation Livestock Other: MOE Well Number: 1. Have you ever had any water supply quantity or water quality issues in the past? If so please describe: (frequency, duration, appearance, odour, taste, etc.) LOTS OF WATER - SOMETIMES ODOUR IF NOT USED FOR A WHILE 2. Do you have a copy of the well record provided by the drilling contractor: YES NO

(if possible, please provide a copy of the well record)

NO				DOLLAR STREET	All and
	Y Dega.				www.Thu
STEP 3 –	P				
Please provide the name	and signature of the marge		4 . J 41 C	1 1	
riease provide the name	and signature of the perso	on who comple	tea this for	m below:	
Flease provide the hame	and signature of the perso	on who comple	eted this for	m below:	
Flease provide the name	and signature of the perso	on who comple	eted this for	m below:	
	and signature of the person		ted this for	m below:	
	and signature of the perso	(Signature)	ted this for		
(Name – Please print)	and signature of the perso	(Signature)	P STA LA		

PLEASE RETURN THE FORM TO GM BLUEPLAN IN THE ENCLOSED SELF-ADDRESSED POSTAGE-PAID ENVELOPE, FAX TO 519-824-8089 OR VIA EMAIL TO matt.long@gmblueplan.ca

#### RECEIVED

SEP 2 2 7016

GM BluePlan Engineering

#### WELL INFORMATION REQUEST FORM

### Name of Owner: Name of Occupar Phone Number of Lot/Concession: LOT 22 CON 7 Fire Number (if applicable): MAILING ADDRESS: PROPERTY ADDRESS: MAD WEB@ Sympatico.ca E-mail address: STEP 2 – WELL CONSTRUCTION DETAILS Please provide as much of the following information as possible regarding the well(s) on your property. If you have more than one well, please indicate information as pertains to each well: Date Constructed: HUQUS 1 Contractor: Type of Well (please check): Drilled Dug Original Well Depth: \_\_\_ 9' feet Well Diameter: Type of well/source of water (please check): Bedrock Overburden Name of past property owner(s): \_ Well usage: Domestic Irrigation Livestock Other: MOE Well Number: 1. Have you ever had any water supply quantity or water quality issues in the past? If so please describe: (frequency, duration, appearance, odour, taste, etc.) 2. Do you have a copy of the well record provided by the drilling contractor: YES NO (if possible, please provide a copy of the well record)

NOT APPLICAble

STEP 1 – GENERAL INFORMATION

//	0	
	No. 1	r a-Nar 3
TEP 3 –		1000
lease provide the name	e and signature of the person wh	o completed this form below:
1000		

PLEASE RETURN THE FORM TO GM BLUEPLAN IN THE ENCLOSED SELF-ADDRESSED POSTAGE-PAID ENVELOPE, FAX TO 519-824-8089 OR VIA EMAIL TO matt.long@gmblueplan.ca



#### WELL INFORMATION REQUEST FORM

#### STEP 1 – GENERAL INFORMATION

Name of Owner:	83
Name of Occupant:	П
Phone Number of O	l
Lot/Concession: Lot 23 CONCESSION 7	H-
Fire Number (if applicable): 9364	<u>١</u> .
MAILING ADDRESS:  9364 WELLING TON RD 22  R. R. F. I. HILLS BURGH  ENTARIO NOBIZO	
E-mail address:	
THE STATE OF STATE OF THE STATE	
STEP 2 – WELL CONSTRUCTION DETAILS	
STEF 2 - WELL CONSTRUCTION DETAILS	
Please provide as much of the following information as possible regarding the well(s) on you property. If you have more than one well, please indicate information as pertains to each well:  Date Constructed:	r
Contractor:	<b>C</b>
Type of Well (please check): Drilled Dug Dug	700
Original Well Depth:	
Well Diameter:	
Type of well/source of water (please check): Bedrock Overburden	
Name of past property owner(s):	
Well usage: Domestic Irrigation Livestock Other:	
MOE Well Number:	
1. Have you ever had any water supply quantity or water quality issues in the past? If so please	
describe: (frequency, duration, appearance, odour, taste, etc.)	
	_
	_

i file me hader -	Enre es dene	
P3-		
	1 1 - 4 - 1 4h in Comm	halann
se provide the name and signature of the	ne person who completed this form	below:
se provide the name and signature of the	ne person who completed this form	below:
		below:
se provide the name and signature of the name – Please print)	ne person who completed this form (Signature)	below:

PLEASE RETURN THE FORM TO GM BLUEPLAN IN THE ENCLOSED SELF-ADDRESSED POSTAGE-PAID ENVELOPE, FAX TO 519-824-8089 OR VIA EMAIL TO matt.long@gmblueplan.ca

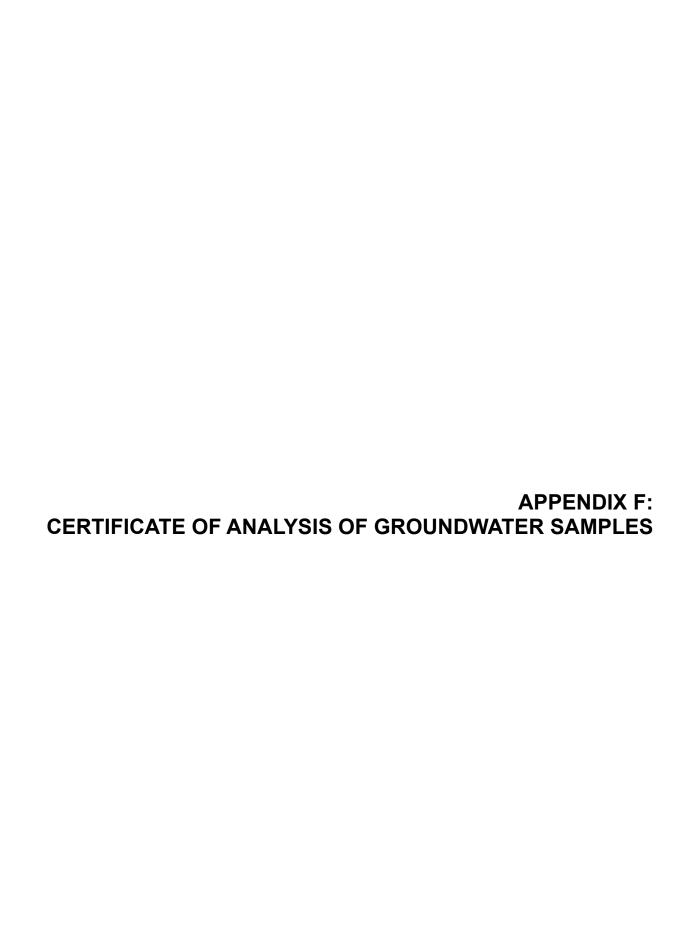
#### WELL INFORMATION REQUEST FORM

STEP 1 – GENERAL INFORMATION

(if possible, please provide a copy of the well record)

### Name of Owner: Name of Occupant: Phone Number of Ow Cone 7 Lot/Concession: Lot 22 Fire Number (if applicable): 936 PROPERTY ADDRESS: **MAILING ADDRESS:** 9367 Wellington Ed22\_ E-mail address: gillian, joyco @ Me, Com STEP 2 – WELL CONSTRUCTION DETAILS Please provide as much of the following information as possible regarding the well(s) on your property. If you have more than one well, please indicate information as pertains to each well: Date Constructed: Type of Well (please check): Drilled Dug Dug Original Well Depth: 107 FL Well Diameter: Type of well/source of water (please check): Bedrock Overburden Name of past property owner(s): Well usage: Domestic Irrigation Livestock Other: 12 Tonna MOE Well Number: 1. Have you ever had any water supply quantity or water quality issues in the past? If so please describe: (frequency, duration, appearance, odour, taste, etc.) 120 2. Do you have a copy of the well record provided by the drilling contractor: YESX NO

Control (All Property Company of the Control of the Control of the Control of	A THE RESERVE OF THE PARTY OF T
A Company of the Comp	
TEP 3 –	STANCE SHOW OF STANCE OF STREET, THE STANCE OF
lease provide the name and signature of t	the person who completed this form below:
	E a carried and some district
	p
1.77.75.6	
	field the discount of the
	Parting and the second
ADDRESSED POSTAGE-PAID ENVE	O GM BLUEPLAN IN THE ENCLOSED SELF- LOPE, FAX TO 519-824-8089 OR VIA EMAIL TO ng@gmblueplan.ca
. They go (PM a half and and account winger	en anticomortal generalista con tolorica de povenes.
	fi matkatawa in ilizay na amiranam wada ay ta an
	SSPI WAT Someon





Your Project #: 116103 Your C.O.C. #: 576723-01-01

#### Attention: Matt Long

GM BluePlan Engineering Limited 650 Woodlawn Rd W Block C, Unit 2 Guelph, ON N1K 1B8

Report Date: 2016/10/04

Report #: R4189649 Version: 1 - Final

# **CERTIFICATE OF ANALYSIS**

MAXXAM JOB #: B6K7932 Received: 2016/09/27, 16:00

Sample Matrix: Water # Samples Received: 5

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	<b>Laboratory Method</b>	Reference
Alkalinity	4	N/A	2016/09/29	CAM SOP-00448	SM 22 2320 B m
Alkalinity	1	N/A	2016/09/30	CAM SOP-00448	SM 22 2320 B m
Carbonate, Bicarbonate and Hydroxide	5	N/A	2016/09/30	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2016/09/29	CAM SOP-00463	EPA 325.2 m
Chloride by Automated Colourimetry	4	N/A	2016/09/30	CAM SOP-00463	EPA 325.2 m
Conductivity	4	N/A	2016/09/29	CAM SOP-00414	SM 22 2510 m
Conductivity	1	N/A	2016/09/30	CAM SOP-00414	SM 22 2510 m
Dissolved Organic Carbon (DOC) (1)	5	N/A	2016/09/28	CAM SOP-00446	SM 22 5310 B m
Hardness (calculated as CaCO3)	5	N/A	2016/09/29	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2016/09/29	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2016/10/04	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	5	N/A	2016/09/30		
Anion and Cation Sum	5	N/A	2016/09/30		
Total Ammonia-N	5	N/A	2016/09/30	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	5	N/A	2016/09/30	CAM SOP-00440	SM 22 4500-NO3I/NO2B
рН	4	N/A	2016/09/29	CAM SOP-00413	SM 4500H+ B m
рН	1	N/A	2016/09/30	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	1	N/A	2016/09/29	CAM SOP-00461	EPA 365.1 m
Orthophosphate	4	N/A	2016/09/30	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	5	N/A	2016/09/30		
Sat. pH and Langelier Index (@ 4C)	5	N/A	2016/09/30		
Sulphate by Automated Colourimetry	1	N/A	2016/09/29	CAM SOP-00464	EPA 375.4 m
Sulphate by Automated Colourimetry	4	N/A	2016/09/30	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	5	N/A	2016/09/30		

# Remarks:

Maxxam Analytics has performed all analytical testing herein in accordance with ISO 17025 and the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act. All methodologies comply with this document and are validated for use in the laboratory. The methods and techniques employed in this analysis conform to the performance criteria (detection limits, accuracy and precision) as



Your Project #: 116103 Your C.O.C. #: 576723-01-01

#### Attention: Matt Long

GM BluePlan Engineering Limited 650 Woodlawn Rd W Block C, Unit 2 Guelph, ON N1K 1B8

Report Date: 2016/10/04

Report #: R4189649 Version: 1 - Final

# **CERTIFICATE OF ANALYSIS**

MAXXAM JOB #: B6K7932 Received: 2016/09/27, 16:00

outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.

Maxxam Analytics is accredited for all specific parameters as required by Ontario Regulation 153/04. Maxxam Analytics is limited in liability to the actual cost of analysis unless otherwise agreed in writing. There is no other warranty expressed or implied. Samples will be retained at Maxxam Analytics for three weeks from receipt of data or as per contract.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

- \* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
- (1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
- (2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

#### **Encryption Key**

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Ashton Gibson, Project Manager Email: AGibson@maxxam.ca Phone# (905) 817-5700

\_\_\_\_\_\_

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **RCAP - COMPREHENSIVE (WATER)**

Maxxam ID		DDM152		DDM153			DDM154		
		2016/09/26		2016/09/26			2016/09/26		
Sampling Date		14:30		15:20			15:05		
COC Number		576723-01-01		576723-01-01			576723-01-01		
	UNITS	MW-01	QC Batch	MW-03	RDL	QC Batch	MW-04	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	6.66	4677843	5.20	N/A	4677843	6.19	N/A	4677843
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	130	4677849	180	1.0	4677849	220	1.0	4678864
Calculated TDS	mg/L	360	4677788	290	1.0	4677788	350	1.0	4677788
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.1	4677849	1.7	1.0	4677849	2.1	1.0	4678864
Cation Sum	me/L	5.15	4677843	4.95	N/A	4677843	6.10	N/A	4677843
Hardness (CaCO3)	mg/L	200	4678855	200	1.0	4678855	290	1.0	4678855
Ion Balance (% Difference)	%	12.8	4678856	2.45	N/A	4678856	0.780	N/A	4678856
Langelier Index (@ 20C)	N/A	0.286	4677845	0.559		4677845	0.817		4677845
Langelier Index (@ 4C)	N/A	0.0380	4677846	0.310		4677846	0.569		4677846
Saturation pH (@ 20C)	N/A	7.67	4677845	7.46		4677845	7.18		4677845
Saturation pH (@ 4C)	N/A	7.92	4677846	7.70		4677846	7.43		4677846
Inorganics	•								
Total Ammonia-N	mg/L	0.35	4681381	0.38	0.050	4681381	0.18	0.050	4681381
Conductivity	umho/cm	700	4680293	500	1.0	4680293	600	1.0	4681613
Dissolved Organic Carbon	mg/L	1.6	4680488	3.5	0.20	4680488	1.1	0.20	4680488
Orthophosphate (P)	mg/L	<0.010	4682737	<0.010	0.010	4682737	<0.010	0.010	4682737
рН	рН	7.95	4680295	8.01		4680295	8.00		4681612
Dissolved Sulphate (SO4)	mg/L	68	4682748	53	1.0	4682748	11	1.0	4682748
Alkalinity (Total as CaCO3)	mg/L	140	4680287	180	1.0	4680287	220	1.0	4681610
Dissolved Chloride (CI)	mg/L	77	4682750	16	1.0	4682750	19	1.0	4682750
Nitrite (N)	mg/L	0.084	4681631	0.042	0.010	4681636	0.223	0.010	4681990
Nitrate (N)	mg/L	5.14	4681631	1.19	0.10	4681636	13.2	0.50	4681990
Nitrate + Nitrite (N)	mg/L	5.22	4681631	1.23	0.10	4681636	13.5	0.50	4681990
Metals	•	•	•	•	3	•	•	3	•
Dissolved Aluminum (Al)	ug/L	12	4687330	6.7	5.0	4681575	11	5.0	4681575
Dissolved Antimony (Sb)	ug/L	0.53	4687330	0.81	0.50	4681575	<0.50	0.50	4681575
Dissolved Arsenic (As)	ug/L	<1.0	4687330	<1.0	1.0	4681575	<1.0	1.0	4681575
Dissolved Barium (Ba)	ug/L	110	4687330	110	2.0	4681575	88	2.0	4681575
Dissolved Beryllium (Be)	ug/L	<0.50	4687330	<0.50	0.50	4681575	<0.50	0.50	4681575
Dissolved Boron (B)	ug/L	89	4687330	47	10	4681575	19	10	4681575
Dissolved Cadmium (Cd)	ug/L	<0.10	4687330	<0.10	0.10	4681575	<0.10	0.10	4681575
Dissolved Calcium (Ca)	ug/L	43000	4687330	52000	200	4681575	80000	200	4681575
Dissolved Chromium (Cr)	ug/L	<5.0	4687330	<5.0	5.0	4681575	<5.0	5.0	4681575
Dissolved Cobalt (Co)	ug/L	<0.50	4687330	<0.50	0.50	4681575	0.53	0.50	4681575
RDL = Reportable Detection Limit	• —					· ·			· · · · · · · · · · · · · · · · · · ·

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

N/A = Not Applicable



GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **RCAP - COMPREHENSIVE (WATER)**

	DDM152		DDM153			DDM154		
	2016/09/26 14:30		2016/09/26 15:20			2016/09/26 15:05		
	576723-01-01		576723-01-01			576723-01-01		
UNITS	MW-01	QC Batch	MW-03	RDL	QC Batch	MW-04	RDL	QC Batch
ug/L	<1.0	4687330	2.3	1.0	4681575	1.1	1.0	4681575
ug/L	<100	4687330	<100	100	4681575	<100	100	4681575
ug/L	<0.50	4687330	<0.50	0.50	4681575	<0.50	0.50	4681575
ug/L	23000	4687330	18000	50	4681575	22000	50	4681575
ug/L	18	4687330	66	2.0	4681575	110	2.0	4681575
ug/L	17	4687330	12	0.50	4681575	4.5	0.50	4681575
ug/L	<1.0	4687330	1.2	1.0	4681575	1.5	1.0	4681575
ug/L	<100	4687330	<100	100	4681575	<100	100	4681575
ug/L	20000	4687330	13000	200	4681575	4700	200	4681575
ug/L	<2.0	4687330	<2.0	2.0	4681575	<2.0	2.0	4681575
ug/L	3600	4687330	3800	50	4681575	4800	50	4681575
ug/L	<0.10	4687330	<0.10	0.10	4681575	<0.10	0.10	4681575
ug/L	14000	4687330	12000	100	4681575	4800	100	4681575
ug/L	190	4687330	190	1.0	4681575	210	1.0	4681575
ug/L	<0.050	4687330	<0.050	0.050	4681575	<0.050	0.050	4681575
ug/L	<5.0	4687330	<5.0	5.0	4681575	<5.0	5.0	4681575
ug/L	0.69	4687330	1.1	0.10	4681575	0.55	0.10	4681575
ug/L	1.3	4687330	0.83	0.50	4681575	0.64	0.50	4681575
ug/L	8.6	4687330	6.8	5.0	4681575	6.1	5.0	4681575
	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	2016/09/26   14:30   576723-01-01   UNITS   MW-01   ug/L   <1.0   ug/L   <0.50   ug/L   23000   ug/L   18   ug/L   17   ug/L   <1.0   ug/L   <100   ug/L   20000   ug/L   20000   ug/L   20000   ug/L   <0.10   ug/L   4000   ug/L   14000   ug/L   190   ug/L   <0.050   ug/L   <5.0   ug/L   <5.0   ug/L   1.3	2016/09/26   14:30	2016/09/26 14:30       2016/09/26 15:20         576723-01-01       576723-01-01         UNITS       MW-01       QC Batch       MW-03         ug/L       <1.0	2016/09/26	2016/09/26 14:30         2016/09/26 15:20         2016/09/26 15:20           576723-01-01         576723-01-01         QC Batch         MW-03         RDL         QC Batch           ug/L         <1.0	2016/09/26	2016/09/26   14:30   2016/09/26   15:20   576723-01-01   576723-01-01   576723-01-01   576723-01-01   576723-01-01

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **RCAP - COMPREHENSIVE (WATER)**

Maxxam ID		DDM155		DDM156		
Sampling Date		2016/09/26		2016/09/26		
		15:25		14:45		
COC Number		576723-01-01		576723-01-01		
	UNITS	MW-05	QC Batch	MW-06	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	7.11	4677843	5.91	N/A	4677843
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	4678864	240	1.0	4678864
Calculated TDS	mg/L	390	4678865	320	1.0	4678865
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.2	4678864	2.3	1.0	4678864
Cation Sum	me/L	6.91	4677843	5.93	N/A	4677843
Hardness (CaCO3)	mg/L	320	4678855	290	1.0	4678855
Ion Balance (% Difference)	%	1.47	4678856	0.180	N/A	4678856
Langelier Index (@ 20C)	N/A	0.831	4677845	0.859		4677845
Langelier Index (@ 4C)	N/A	0.582	4677846	0.610		4677846
Saturation pH (@ 20C)	N/A	7.18	4677845	7.14		4677845
Saturation pH (@ 4C)	N/A	7.43	4677846	7.39		4677846
Inorganics						
Total Ammonia-N	mg/L	0.098	4681381	<0.050	0.050	4681381
Conductivity	umho/cm	660	4680293	560	1.0	4680293
Dissolved Organic Carbon	mg/L	1.8	4680488	0.99	0.20	4680488
Orthophosphate (P)	mg/L	<0.010	4682737	<0.010	0.010	4680680
рН	рН	8.01	4680295	8.00		4680295
Dissolved Sulphate (SO4)	mg/L	89	4682748	12	1.0	4680681
Alkalinity (Total as CaCO3)	mg/L	230	4680287	240	1.0	4680287
Dissolved Chloride (Cl)	mg/L	25	4682750	15	1.0	4680675
Nitrite (N)	mg/L	0.013	4681636	<0.010	0.010	4681636
Nitrate (N)	mg/L	<0.10	4681636	5.54	0.10	4681636
Nitrate + Nitrite (N)	mg/L	<0.10	4681636	5.54	0.10	4681636
Metals			•			
Dissolved Aluminum (Al)	ug/L	<5.0	4681575	5.3	5.0	4681575
Dissolved Antimony (Sb)	ug/L	<0.50	4681575	<0.50	0.50	4681575
Dissolved Arsenic (As)	ug/L	<1.0	4681575	<1.0	1.0	4681575
Dissolved Barium (Ba)	ug/L	92	4681575	63	2.0	4681575
Dissolved Beryllium (Be)	ug/L	<0.50	4681575	<0.50	0.50	4681575
Dissolved Boron (B)	ug/L	23	4681575	<10	10	4681575
Dissolved Cadmium (Cd)	ug/L	<0.10	4681575	<0.10	0.10	4681575
Dissolved Calcium (Ca)	ug/L	80000	4681575	79000	200	4681575
Dissolved Chromium (Cr)	ug/L	<5.0	4681575	<5.0	5.0	4681575
Dissolved Cobalt (Co)	ug/L	<0.50	4681575	<0.50	0.50	4681575

QC Batch = Quality Control Batch

N/A = Not Applicable



GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **RCAP - COMPREHENSIVE (WATER)**

Maxxam ID		DDM155		DDM156		
Sampling Date		2016/09/26 15:25		2016/09/26 14:45		
COC Number		576723-01-01		576723-01-01		
	UNITS	MW-05	QC Batch	MW-06	RDL	QC Batch
Dissolved Copper (Cu)	ug/L	<1.0	4681575	<1.0	1.0	4681575
Dissolved Iron (Fe)	ug/L	<100	4681575	<100	100	4681575
Dissolved Lead (Pb)	ug/L	<0.50	4681575	<0.50	0.50	4681575
Dissolved Magnesium (Mg)	ug/L	29000	4681575	22000	50	4681575
Dissolved Manganese (Mn)	ug/L	120	4681575	20	2.0	4681575
Dissolved Molybdenum (Mo)	ug/L	9.3	4681575	0.96	0.50	4681575
Dissolved Nickel (Ni)	ug/L	<1.0	4681575	<1.0	1.0	4681575
Dissolved Phosphorus (P)	ug/L	<100	4681575	<100	100	4681575
Dissolved Potassium (K)	ug/L	4700	4681575	1100	200	4681575
Dissolved Selenium (Se)	ug/L	<2.0	4681575	<2.0	2.0	4681575
Dissolved Silicon (Si)	ug/L	5500	4681575	6100	50	4681575
Dissolved Silver (Ag)	ug/L	<0.10	4681575	<0.10	0.10	4681575
Dissolved Sodium (Na)	ug/L	8800	4681575	3200	100	4681575
Dissolved Strontium (Sr)	ug/L	210	4681575	160	1.0	4681575
Dissolved Thallium (TI)	ug/L	<0.050	4681575	<0.050	0.050	4681575
Dissolved Titanium (Ti)	ug/L	<5.0	4681575	<5.0	5.0	4681575
Dissolved Uranium (U)	ug/L	1.8	4681575	0.33	0.10	4681575
Dissolved Vanadium (V)	ug/L	<0.50	4681575	1.0	0.50	4681575
Dissolved Zinc (Zn)	ug/L	<5.0	4681575	<5.0	5.0	4681575

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch



**Test Description** 

GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **TEST SUMMARY**

Maxxam ID: DDM152 Sample ID: MW-01

Collected:

2016/09/26

2016/09/27

Matrix: Water

Shipped:

**Received:** 2016/09/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4680287	N/A	2016/09/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4677849	N/A	2016/09/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	4682750	N/A	2016/09/30	Alina Dobreanu
Conductivity	AT	4680293	N/A	2016/09/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4680488	N/A	2016/09/28	Anastasia Hamanov
Hardness (calculated as CaCO3)		4678855	N/A	2016/09/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4687330	N/A	2016/10/04	Cristina Petran
Ion Balance (% Difference)	CALC	4678856	N/A	2016/09/30	Automated Statchk
Anion and Cation Sum	CALC	4677843	N/A	2016/09/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4681381	N/A	2016/09/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4681631	N/A	2016/09/30	Chandra Nandlal
рН	AT	4680295	N/A	2016/09/29	Surinder Rai
Orthophosphate	KONE	4682737	N/A	2016/09/30	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4677845	N/A	2016/09/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4677846	N/A	2016/09/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4682748	N/A	2016/09/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	4677788	N/A	2016/09/30	Automated Statchk

 Maxxam ID:
 DDM153
 Collected:
 2016/09/26

 Sample ID:
 MW-03
 Shipped:

Matrix: Water Received:

Instrumentation Batch Extracted Date Analyzed Analyst

Alkalinity	AT	4680287	N/A	2016/09/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4677849	N/A	2016/09/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	4682750	N/A	2016/09/30	Alina Dobreanu
Conductivity	AT	4680293	N/A	2016/09/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4680488	N/A	2016/09/28	Anastasia Hamanov
Hardness (calculated as CaCO3)		4678855	N/A	2016/09/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4681575	N/A	2016/09/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	4678856	N/A	2016/09/30	Automated Statchk
Anion and Cation Sum	CALC	4677843	N/A	2016/09/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4681381	N/A	2016/09/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4681636	N/A	2016/09/30	Chandra Nandlal
рН	AT	4680295	N/A	2016/09/29	Surinder Rai
Orthophosphate	KONE	4682737	N/A	2016/09/30	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4677845	N/A	2016/09/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4677846	N/A	2016/09/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4682748	N/A	2016/09/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	4677788	N/A	2016/09/30	Automated Statchk



GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **TEST SUMMARY**

Maxxam ID: DDM154 Sample ID: MW-04

**Collected:** 2016/09/26 Shipped:

Matrix: Water

**Received:** 2016/09/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4681610	N/A	2016/09/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4678864	N/A	2016/09/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	4682750	N/A	2016/09/30	Alina Dobreanu
Conductivity	AT	4681613	N/A	2016/09/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4680488	N/A	2016/09/28	Anastasia Hamanov
Hardness (calculated as CaCO3)		4678855	N/A	2016/09/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4681575	N/A	2016/09/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	4678856	N/A	2016/09/30	Automated Statchk
Anion and Cation Sum	CALC	4677843	N/A	2016/09/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4681381	N/A	2016/09/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4681990	N/A	2016/09/30	Chandra Nandlal
рН	AT	4681612	N/A	2016/09/30	Surinder Rai
Orthophosphate	KONE	4682737	N/A	2016/09/30	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4677845	N/A	2016/09/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4677846	N/A	2016/09/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4682748	N/A	2016/09/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	4677788	N/A	2016/09/30	Automated Statchk

Maxxam ID: DDM155 **Collected:** 2016/09/26 Sample ID: MW-05 Shipped:

2016/09/27 Matrix: Water Received:

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4680287	N/A	2016/09/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4678864	N/A	2016/09/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	4682750	N/A	2016/09/30	Alina Dobreanu
Conductivity	AT	4680293	N/A	2016/09/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4680488	N/A	2016/09/28	Anastasia Hamanov
Hardness (calculated as CaCO3)		4678855	N/A	2016/09/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4681575	N/A	2016/09/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	4678856	N/A	2016/09/30	Automated Statchk
Anion and Cation Sum	CALC	4677843	N/A	2016/09/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4681381	N/A	2016/09/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4681636	N/A	2016/09/30	Chandra Nandlal
Н	AT	4680295	N/A	2016/09/29	Surinder Rai
Orthophosphate	KONE	4682737	N/A	2016/09/30	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4677845	N/A	2016/09/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4677846	N/A	2016/09/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4682748	N/A	2016/09/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	4678865	N/A	2016/09/30	Automated Statchk



Matrix: Water

GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

# **TEST SUMMARY**

Collected: 2016/09/26 Shipped: Maxxam ID: DDM156 Sample ID: MW-06

**Received:** 2016/09/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	4680287	N/A	2016/09/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	4678864	N/A	2016/09/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	4680675	N/A	2016/09/29	Alina Dobreanu
Conductivity	AT	4680293	N/A	2016/09/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	4680488	N/A	2016/09/28	Anastasia Hamanov
Hardness (calculated as CaCO3)		4678855	N/A	2016/09/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	4681575	N/A	2016/09/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	4678856	N/A	2016/09/30	Automated Statchk
Anion and Cation Sum	CALC	4677843	N/A	2016/09/30	Automated Statchk
Total Ammonia-N	LACH/NH4	4681381	N/A	2016/09/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	4681636	N/A	2016/09/30	Chandra Nandlal
рН	AT	4680295	N/A	2016/09/29	Surinder Rai
Orthophosphate	KONE	4680680	N/A	2016/09/29	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	4677845	N/A	2016/09/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	4677846	N/A	2016/09/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	4680681	N/A	2016/09/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	4678865	N/A	2016/09/30	Automated Statchk



GM BluePlan Engineering Limited Client Project #: 116103 Sampler Initials: MRL

# **GENERAL COMMENTS**

Sample DDM152-01	: Elevated ion	balance result wa	as confirmed by	re-analysis.
------------------	----------------	-------------------	-----------------	--------------

Results relate only to the items tested.



## **QUALITY ASSURANCE REPORT**

GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

4680287	Parameter Alkalinity (Total as CaCO3) Conductivity	Date	% Recovery	QC Limits	_					
	, ,		,	QC LIIIIIS	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4600000	Conductivity	2016/09/30			95	85 - 115	<1.0	mg/L	0.84	25
4680293	Conductivity	2016/09/30			100	85 - 115	<1.0	umho/cm	2.7	25
4680295	рН	2016/09/30			102	98 - 103			0.83	N/A
4680488	Dissolved Organic Carbon	2016/09/28	105	80 - 120	103	80 - 120	<0.20	mg/L	0.32	20
4680675	Dissolved Chloride (CI)	2016/09/29	NC	80 - 120	103	80 - 120	<1.0	mg/L	0.30	20
4680680	Orthophosphate (P)	2016/09/29	105	75 - 125	101	80 - 120	<0.010	mg/L	NC	25
4680681	Dissolved Sulphate (SO4)	2016/09/29	NC	75 - 125	96	80 - 120	<1.0	mg/L	0.81	20
4681381	Total Ammonia-N	2016/09/30	92	80 - 120	102	85 - 115	<0.050	mg/L	NC	20
4681575	Dissolved Aluminum (AI)	2016/09/29	103	80 - 120	102	80 - 120	<5.0	ug/L		
4681575	Dissolved Antimony (Sb)	2016/09/29	108	80 - 120	103	80 - 120	<0.50	ug/L		
4681575	Dissolved Arsenic (As)	2016/09/29	106	80 - 120	101	80 - 120	<1.0	ug/L	NC	20
4681575	Dissolved Barium (Ba)	2016/09/29	103	80 - 120	103	80 - 120	<2.0	ug/L	1.1	20
4681575	Dissolved Beryllium (Be)	2016/09/29	109	80 - 120	105	80 - 120	<0.50	ug/L		
4681575	Dissolved Boron (B)	2016/09/29	105	80 - 120	102	80 - 120	<10	ug/L	NC	20
4681575	Dissolved Cadmium (Cd)	2016/09/29	108	80 - 120	103	80 - 120	<0.10	ug/L	NC	20
4681575	Dissolved Calcium (Ca)	2016/09/29	NC	80 - 120	102	80 - 120	<200	ug/L	0.61	20
4681575	Dissolved Chromium (Cr)	2016/09/29	105	80 - 120	103	80 - 120	<5.0	ug/L	NC	20
4681575	Dissolved Cobalt (Co)	2016/09/29	104	80 - 120	101	80 - 120	<0.50	ug/L		
4681575	Dissolved Copper (Cu)	2016/09/29	102	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
4681575	Dissolved Iron (Fe)	2016/09/29	105	80 - 120	101	80 - 120	<100	ug/L	NC	20
4681575	Dissolved Lead (Pb)	2016/09/29	103	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
4681575	Dissolved Magnesium (Mg)	2016/09/29	NC	80 - 120	99	80 - 120	<50	ug/L	0.75	20
4681575	Dissolved Manganese (Mn)	2016/09/29	106	80 - 120	103	80 - 120	<2.0	ug/L	1.4	20
4681575	Dissolved Molybdenum (Mo)	2016/09/29	109	80 - 120	103	80 - 120	<0.50	ug/L		
4681575	Dissolved Nickel (Ni)	2016/09/29	103	80 - 120	101	80 - 120	<1.0	ug/L		
4681575	Dissolved Phosphorus (P)	2016/09/29	108	80 - 120	111	80 - 120	<100	ug/L		
4681575	Dissolved Potassium (K)	2016/09/29	106	80 - 120	102	80 - 120	<200	ug/L	NC	20
4681575	Dissolved Selenium (Se)	2016/09/29	108	80 - 120	101	80 - 120	<2.0	ug/L		
4681575	Dissolved Silicon (Si)	2016/09/29	106	80 - 120	104	80 - 120	<50	ug/L		
4681575	Dissolved Silver (Ag)	2016/09/29	107	80 - 120	103	80 - 120	<0.10	ug/L		
4681575	Dissolved Sodium (Na)	2016/09/29	103	80 - 120	99	80 - 120	<100	ug/L	1.9	20



# QUALITY ASSURANCE REPORT(CONT'D)

GM BluePlan Engineering Limited

Client Project #: 116103 Sampler Initials: MRL

			Matrix	Spike	SPIKED	BLANK	Method	Blank	RP	D
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4681575	Dissolved Strontium (Sr)	2016/09/29	106	80 - 120	101	80 - 120	<1.0	ug/L		
4681575	Dissolved Thallium (TI)	2016/09/29	104	80 - 120	100	80 - 120	<0.050	ug/L		
4681575	Dissolved Titanium (Ti)	2016/09/29	104	80 - 120	100	80 - 120	<5.0	ug/L		
4681575	Dissolved Uranium (U)	2016/09/29	103	80 - 120	102	80 - 120	<0.10	ug/L		
4681575	Dissolved Vanadium (V)	2016/09/29	104	80 - 120	101	80 - 120	<0.50	ug/L		
4681575	Dissolved Zinc (Zn)	2016/09/29	103	80 - 120	101	80 - 120	<5.0	ug/L	NC	20
4681610	Alkalinity (Total as CaCO3)	2016/09/30			97	85 - 115	<1.0	mg/L	1.2	25
4681612	рН	2016/09/30			102	98 - 103			1.1	N/A
4681613	Conductivity	2016/09/30			101	85 - 115	<1.0	umho/cm	0.24	25
4681631	Nitrate (N)	2016/09/30	83	80 - 120	95	80 - 120	<0.10	mg/L	0.069	25
4681631	Nitrite (N)	2016/09/30	106	80 - 120	109	80 - 120	<0.010	mg/L	NC	25
4681636	Nitrate (N)	2016/09/30	93	80 - 120	94	80 - 120	<0.10	mg/L	NC	25
4681636	Nitrite (N)	2016/09/30	107	80 - 120	108	80 - 120	<0.010	mg/L	NC	25
4681990	Nitrate (N)	2016/09/30	98	80 - 120	97	80 - 120	<0.10	mg/L	NC	25
4681990	Nitrite (N)	2016/09/30	108	80 - 120	107	80 - 120	<0.010	mg/L	NC	25
4682737	Orthophosphate (P)	2016/09/30	102	75 - 125	101	80 - 120	<0.010	mg/L	NC	25
4682748	Dissolved Sulphate (SO4)	2016/09/30	NC	75 - 125	103	80 - 120	<1.0	mg/L	0.28	20
4682750	Dissolved Chloride (Cl)	2016/09/30	NC	80 - 120	105	80 - 120	<1.0	mg/L	1.3	20
4687330	Dissolved Aluminum (AI)	2016/10/04	105	80 - 120	103	80 - 120	<5.0	ug/L		
4687330	Dissolved Antimony (Sb)	2016/10/04	107	80 - 120	100	80 - 120	<0.50	ug/L		
4687330	Dissolved Arsenic (As)	2016/10/04	104	80 - 120	98	80 - 120	<1.0	ug/L		
4687330	Dissolved Barium (Ba)	2016/10/04	NC	80 - 120	99	80 - 120	<2.0	ug/L		
4687330	Dissolved Beryllium (Be)	2016/10/04	107	80 - 120	103	80 - 120	<0.50	ug/L		
4687330	Dissolved Boron (B)	2016/10/04	104	80 - 120	103	80 - 120	<10	ug/L		
4687330	Dissolved Cadmium (Cd)	2016/10/04	103	80 - 120	99	80 - 120	<0.10	ug/L		
4687330	Dissolved Calcium (Ca)	2016/10/04	NC	80 - 120	101	80 - 120	<200	ug/L		
4687330	Dissolved Chromium (Cr)	2016/10/04	102	80 - 120	99	80 - 120	<5.0	ug/L		
4687330	Dissolved Cobalt (Co)	2016/10/04	100	80 - 120	97	80 - 120	<0.50	ug/L	0.97	20
4687330	Dissolved Copper (Cu)	2016/10/04	103	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
4687330	Dissolved Iron (Fe)	2016/10/04	101	80 - 120	98	80 - 120	<100	ug/L		
4687330	Dissolved Lead (Pb)	2016/10/04	95	80 - 120	95	80 - 120	<0.50	ug/L		



# QUALITY ASSURANCE REPORT(CONT'D)

**GM BluePlan Engineering Limited** 

Client Project #: 116103 Sampler Initials: MRL

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RPI	)
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4687330	Dissolved Magnesium (Mg)	2016/10/04	NC	80 - 120	100	80 - 120	<50	ug/L		
4687330	Dissolved Manganese (Mn)	2016/10/04	NC	80 - 120	98	80 - 120	<2.0	ug/L		
4687330	Dissolved Molybdenum (Mo)	2016/10/04	109	80 - 120	100	80 - 120	<0.50	ug/L		
4687330	Dissolved Nickel (Ni)	2016/10/04	99	80 - 120	98	80 - 120	<1.0	ug/L		
4687330	Dissolved Phosphorus (P)	2016/10/04	109	80 - 120	101	80 - 120	<100	ug/L		
4687330	Dissolved Potassium (K)	2016/10/04	104	80 - 120	99	80 - 120	<200	ug/L		
4687330	Dissolved Selenium (Se)	2016/10/04	101	80 - 120	99	80 - 120	<2.0	ug/L		
4687330	Dissolved Silicon (Si)	2016/10/04	108	80 - 120	104	80 - 120	<50	ug/L		
4687330	Dissolved Silver (Ag)	2016/10/04	92	80 - 120	97	80 - 120	<0.10	ug/L		
4687330	Dissolved Sodium (Na)	2016/10/04	NC	80 - 120	99	80 - 120	<100	ug/L		
4687330	Dissolved Strontium (Sr)	2016/10/04	NC	80 - 120	100	80 - 120	<1.0	ug/L		
4687330	Dissolved Thallium (TI)	2016/10/04	95	80 - 120	95	80 - 120	<0.050	ug/L		
4687330	Dissolved Titanium (Ti)	2016/10/04	108	80 - 120	108	80 - 120	<5.0	ug/L		
4687330	Dissolved Uranium (U)	2016/10/04	103	80 - 120	99	80 - 120	<0.10	ug/L		
4687330	Dissolved Vanadium (V)	2016/10/04	105	80 - 120	98	80 - 120	<0.50	ug/L		
4687330	Dissolved Zinc (Zn)	2016/10/04	100	80 - 120	99	80 - 120	<5.0	ug/L		

N/A = Not Applicable

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

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

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

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

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 2x that of the native sample concentration).

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (one or both samples < 5x RDL).



GM BluePlan Engineering Limited Client Project #: 116103

Sampler Initials: MRL

# **VALIDATION SIGNATURE PAGE**

The analytic	cal data and all QC contain	ed in this report were	reviewed and valid	lated by the followi	ng individual(s).	
Cuistin	Camere					
Cristina Carr	riere, Scientific Services					

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

2	(Xam	Maxxam Analytics Internat 6740 Campobello Road, M	ional Corporatio lississauga, On	tario Canada L5	N 2LB Tel (905) 817	5700 Toll-free 800	-563-6266 Fax	(905) 817-5777	www.maxxam.ca	3					Asht	on Gibs	on	Page of
	IN.	VOICE TO:		31 10 1		REPO	RT TO:					PROJECT	INFORMATION:				11111111111	y:
y Name:	#1067 GM Blue	Plan Engineering Limi	ted 🔭	Comp	any Name:		10			Quotation	#.	B4786		C 25		26V.793		Bottle Order #:
n:	Joe Rotondi			Attent	0.0 - 14 1	.ong		Tel.		P.O. #:							X1.005	1 10 100 100 111 1111
8		Rd W Block C, Unit 2		Addre	55					Project.		116103			ABH	· EN	V-265	576723 Project Manager
	Guelph ON N1K (519) 824-8150		) 924 9090		(510)	824-8150 x127	4 -			Project Na	ime;	Pills	burgh		_	TIME I		
	jrotondi@gamsb	Fax. (519	0) 024-0009	Tel: Email		oung@gmblue			@gmbluep	Site # Sampled E	3v	MR	L		= (K	11111111	C#576723-01-01	Ashton Gibson
E PEC		G WATER OR WATER	INTENDED									(PLEASE BE	SPECIFIC)				Turnaround Time (TAT) I	
E REC	SUBMITTED	ON THE MAXXAM DRIN	KING WAT	ER CHAIN O	FCUSTODY								-	1.5		Panular (S	Please provide advance notice t Standard) TAT:	for rush projects
Regulat	tion 153 (2011)	Ot	her Regulation	15	Special	Instructions	circle):									100000000000000000000000000000000000000	ed if Rush TAT is not specified).	
	Res/Park Medius		Sanitary Sewe			110	Se ci				*		7			SOURCE STATE	T = 5-7 Working days for most tests	/
2 [	Ind/Comm Coarse Agri/Other For RS		Storm Sewer B	lylaw			ples fg /	92.59						١,		Please note: days - contac	Standard TAT for certain lests such as it your Project Manager for details.	BOD and Dioxins/Furans an
3		PWQO	inicipality				eld Filtered (please	at a						-2		C4000000000000000000000000000000000000	ic Rush TAT (if applies to entire sub	
		fother C	Smal 5		_		Aeta Aeta	фио						-		Date Require	ed:Ti	Time Required
	Include Criteri	ia on Certificate of Analy	sis (Y/N)? _				B 6	9				.01				# of Bottles		(call lab for #)
Samp	ole Barcode Label	Sample (Location) Iden	ntification	Date Sample	d Time Sampled	Matrix		P.C.							-	# or positive	Thurst igces	nents
		MIINI		2016	111.7-	GW	/	/								4	to sedime no	ires our
		MW-01		0926	, 14:30	)	V	V				-		-	-	1	to sedime no	-
		MW-03		2016	15:20	GW	/									4		
		11000					1	/							-	11	4	
		MW-04		2016	15:05	GVV	1	1								4	4	
				7016		- GW »	/									4		
		MW-05		092	15:25	GVV ,	1	1								T		
		MW-04 MW-05 MW-06		201600	6 14:45	GW	1								Selection.	11		
		MW-06		2	6 14:45	GVV		1							15	4	V	
						GW									16.0		"0	
						GVV									*			100
							6.	· · · · ·	+7							1		
							18.5	. 1								03.27		
								- 97										
																	<u> </u>	51
																	X1 **	
											1981							1
																		£
	, ,																-	
120	· RELINQUISHED BY: (	- Committee of the Comm		Y/MM/DD)	Time		/ED BY: (Signa			e: (YY/MM/		Time	# jars us not sub	ed and mitted	Time Sen	eiting	Laboratory Use Only	Custody Seal Yes
UR	My Ma	ttlong	16/0	9/27 8	3.55 700	wi. 6. 14 7	ANVIR	STN44	20	4/29/2	7	16:00	)		i ime den	amve Te	emperature (°C) on Receipt	Present
C						0				6 06							1/1/+	Intact (

Maxxam Analytics International Corporation o/a Maxxam Analytics

APPENDIX G: RESULTS OF GRAIN SIZE ANALYSES



Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
1260 - 2nd Avenue E., Unit 1 Owen Sound, ON N4K 2J3
Phone 519-376-1805 Fax 519-376-8977 www.GMBluePlan.ca

# **PARTICLE SIZE ANALYSIS**

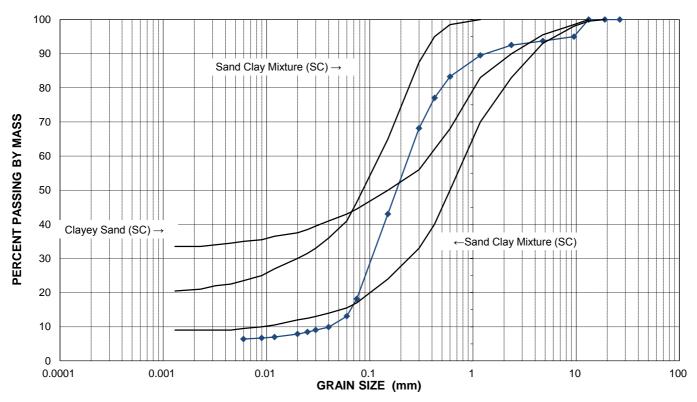
PROJECT: Hillsburgh Hydrogeological FILE NO.: 116103 LOCATION: Hillsburgh LAB SAMPLE NO.: S-2337A

CLIENT: Thomasfield Homes SAMPLE DATE: September 26, 2016

SOIL TYPE: Silty Sand SAMPLED BY: ML

GRAPH #: 8 - Clayey Sands, Sand-Clay Mixtures SOURCE: GS1 @ 0.3m

## PARTICLE SIZE DISTRIBUTION



<b>←</b>		FINE	MEDIUM	COARSE	FINE	COARSE
CLAY	SILT		SAND		GR	AVEL
SIEVE SIZE	PERCENT PASSING	НҮІ	DROMETER		PERCE	NT PASSING
PARTICLE DIA. (mm)	SAMPLE	PAF	RTICLE DIA. (mm)		SA	AMPLE
26.5	100.0		0.0600			13.1
19	100.0		0.0400			9.9
13.2	100.0		0.0300			9.0
9.5	95.0		0.0250			8.4
4.75	93.7		0.0200			7.9
2.36	92.5		0.0120			7.0
1.180	89.5		0.0090			6.7
0.600	83.3		0.0060			6.4
0.425	77.0		0.0045			
0.300	68.1		0.0032			
0.150	43.0		0.0023			
0.075	18.2		0.0013			

 $D_{10}$ : 0.04 mm  $D_{60}$ : 0.25 mm Cu: 6.3

Coefficient of Permeability: 1.6 x 10<sup>-3</sup> cm/sec "T" Time: 12 - 18 mins/cm

Comments:



Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA 1260 - 2nd Avenue E., Unit 1 Owen Sound, ON N4K 2J3 Phone 519-376-1805 Fax 519-376-8977 www.GMBluePlan.ca

# **PARTICLE SIZE ANALYSIS**

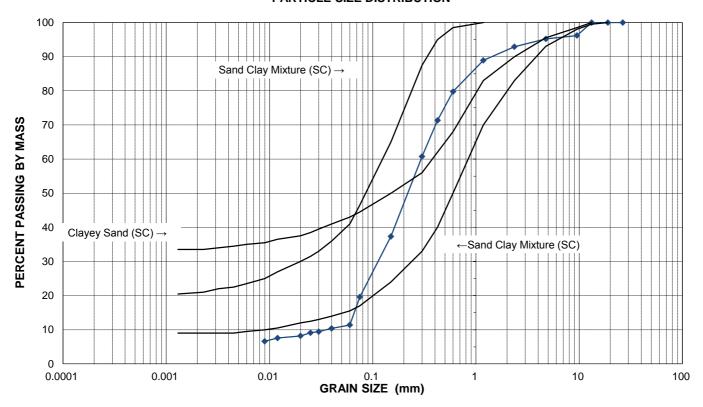
Hillsburgh Hydrogeological PROJECT: 116103 FILE NO.: Hillsburgh LAB SAMPLE NO.: S-2337B LOCATION:

CLIENT: **Thomasfield Homes** SAMPLE DATE: September 26, 2016

SOIL TYPE: Silty Sand SAMPLED BY: ML

GRAPH#: 8 - Clayey Sands, Sand-Clay Mixtures SOURCE: GS2 @ 0.3m

# PARTICLE SIZE DISTRIBUTION



<u>←</u>		FINE	MEDIUM COARSE	FINE	COARSE		
CLAY	SILT		SAND	GR	AVEL		
SIEVE SIZE	PERCENT PASSING	НҮ	DROMETER	PERCE	NT PASSING		
PARTICLE DIA. (mm)	I SAMPLE		PARTICLE DIA. (mm)				
26.5	100.0		0.0600		11.4		
19	100.0		0.0400		10.4		
13.2	100.0		9.4				
9.5	96.2		0.0250		9.1		
4.75	95.2		0.0200	8.2			
2.36	92.9		0.0120	7.6			
1.180	88.9		0.0090		6.6		
0.600	79.8		0.0060				
0.425	71.3		0.0045				
0.300	60.8		0.0032				
0.150	37.3		0.0023				
0.075	19.6		0.0013				

D<sub>10</sub>: 0.04 0.3 mm 7.5 mm D<sub>60</sub>: Cu: 1.6 x 10 <sup>-3</sup>

cm/sec

"T" Time: 12 - 18 mins/cm

**Comments:** 

**Coefficient of Permeability:** 



Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
1260 - 2nd Avenue E., Unit 1 Owen Sound, ON N4K 2J3
Phone 519-376-1805 Fax 519-376-8977 www.GMBluePlan.ca

# **PARTICLE SIZE ANALYSIS**

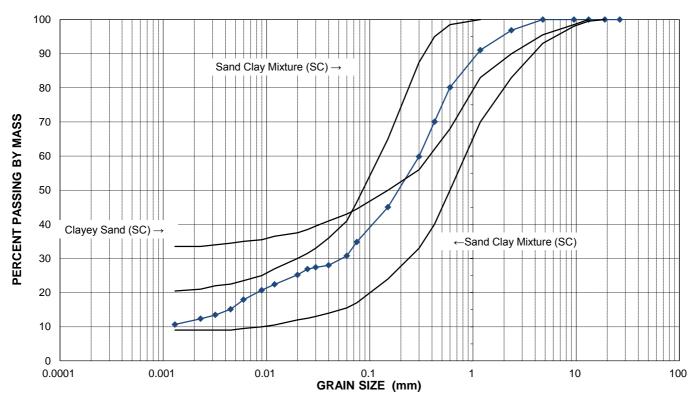
PROJECT: Hillsburgh Hydrogeological FILE NO.: 116103 LOCATION: Hillsburgh LAB SAMPLE NO.: S-2337C

CLIENT: Thomasfield Homes SAMPLE DATE: September 26, 2016

SOIL TYPE: Silty Sand and a little Clay SAMPLED BY: ML

GRAPH #: 8 - Clayey Sands, Sand-Clay Mixtures SOURCE: GS3 @ 0.3m

## PARTICLE SIZE DISTRIBUTION



←		FINE	MEDIUM	COARSE	FINE	COARSE	
CLAY	CLAY SILT				GRAVEL		
SIEVE SIZE PARTICLE DIA.	PERCENT PASSING		DROMETER RTICLE DIA.		PERCE	NT PASSING	
(mm)	SAMPLE	1 6	(mm)		S	AMPLE	
26.5	100.0		0.0600			30.8	
19	100.0		0.0400			28.0	
13.2	100.0		0.0300	27.4			
9.5	100.0		0.0250	26.9			
4.75	100.0		0.0200		25.2		
2.36	96.9		0.0120			22.4	
1.180	91.1		0.0090			20.7	
0.600	80.1		0.0060			17.9	
0.425	70.1		0.0045			15.1	
0.300	59.9		0.0032			13.5	
0.150	45.0		0.0023			12.3	
0.075	34.8		0.0013			10.7	

 $D_{10}: 0.001 \ mm \qquad D_{60}: 0.3 \ mm \qquad Cu: 300$ 

Coefficient of Permeability: 1 x 10 <sup>-6</sup> cm/sec "T" Time: 38 - 50 mins/cm

**Comments:** D10 is an interpolated value.



Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
1260 - 2nd Avenue E., Unit 1 Owen Sound, ON N4K 2J3
Phone 519-376-1805 Fax 519-376-8977 www.GMBluePlan.ca

# **PARTICLE SIZE ANALYSIS**

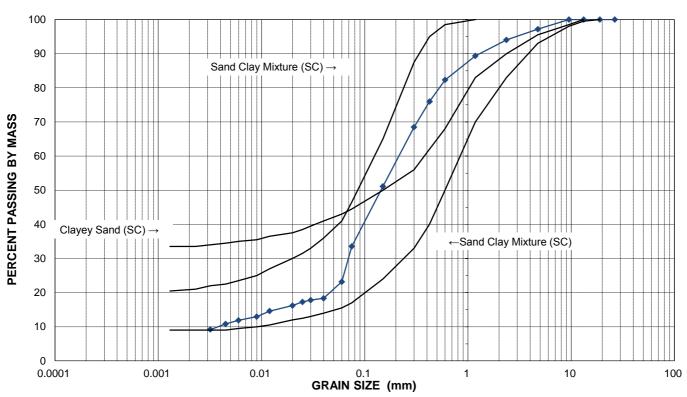
PROJECT: Hillsburgh Hydrogeological FILE NO.: 116103 LOCATION: Hillsburgh LAB SAMPLE NO.: S-2337D

CLIENT: Thomasfield Homes SAMPLE DATE: September 26, 2016

SOIL TYPE: Silty Sand and a little Clay SAMPLED BY: ML

GRAPH #: 8 - Clayey Sands, Sand-Clay Mixtures SOURCE: GS4 @ 0.3m

## PARTICLE SIZE DISTRIBUTION



←	<b>←</b>			COARSE	FINE	COARSE	
CLAY	SILT		SAND		GR	RAVEL	
SIEVE SIZE	PERCENT PASSING	НҮ	DROMETER		PERCE	NT PASSING	
PARTICLE DIA. (mm)	SAMPLE	PAI	RTICLE DIA. (mm)	SAMPLE			
26.5	100.0		0.0600			23.2	
19	100.0		0.0400		18.3		
13.2	100.0		0.0300	17.8			
9.5	100.0		0.0250	17.3			
4.75	97.2		0.0200		16.2		
2.36	94.0		0.0120			14.6	
1.180	89.3		0.0090			13.0	
0.600	82.3		0.0060		11.9		
0.425	76.0		0.0045	10.8			
0.300	68.5		0.0032	9.2			
0.150	51.1		0.0023				
0.075	33.5		0.0013				

Coefficient of Permeability: 1.6 x 10<sup>-5</sup> cm/sec "T" Time: 36 - 46 mins/cm

Comments:

APPENDIX H: CONSTRUCTION DEWATERING ESTIMATES

Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

Description of Project: Construction of a residential development including servicing and construction of a stormwater management facility.

#### **Description of Conceptual Model for Dewatering Estimation:**

All scenarios assumed to be unconfined flow. Radius of Influence determined by Sichart equation.

**Dimensions for Servicing Trenches** 

Length = 30 m Width = 3 m

Deepest Servicing Excavation (MH36A) = 436.0 masl

**Dimensions for SWM Pond Forebay** 

Area = 700 sq. m (approx.) Radius of Equivalent well = 15 m Bottom of pond elevation = 436.3 masl

Dimensions for SWM Pond Outlet Deep Pool

Perimeter = 585 sq. m (approx.) Radius of Equivalent well = 13.6 m Bottom of pond elevation = 435.35 masl

**Dimensions of Sanitray Pumping Station** 

Perimeter = 120 m (approx.) Radius of Equivalent well = 19.1 m Bottom of SPS excavation = 431.0 masl

#### **Maximum Flow Scenario**

#1 Dewatering for Servicing : Flow to Finite Trench model

Static Groundwater Level = 435.9 masl (SHGWL at MW-01)

Base of Excavation = 436.0 masl (in vicinity of sanitary manhole MH36A)
Target Drawdown = 0.4 masl (includes 0.5 m buffer below base of excavation)

Initial Saturated Thickness = 2.0 m (Lower Till layer at 433.7 masl)

Hydraulic conductivity =  $2x10^{-4}$  m/s (factor of safety of 2 applied to assumed K for sand and gravel, some silt unit  $K = 1x10^{-4}$  m/s)

#2 Dewatering for SWM Pond Forebay: Flow to Well model

Static Groundwater Level (H) = 436.1 masl (SHGWL at MW-06)

Base of Excavation (h) = 436.3 masl

Target Drawdown (H-h) = 0.3 masl (includes 0.5 m buffer below base of excavation)

Impermeable Layer = 428 masl (interpreted from Sections B-B' and C-C')

Effective Initial Saturated Thickness (H) = 1.5 m (maximum of 5 times drawdown)

Hydraulic conductivity = 2x10<sup>-4</sup> m/s (factor of safety of 2 applied to assumed K for sand and gravel, some silt unit

 $K = 1x10^{-4} \text{ m/s}$ 



Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

#3 Dewatering for SWM Pond Deep Pool: Flow to Well model

Static Groundwater Level (H) = 435.9 masl (SHGWL at MW-01)

Base of Excavation (h) = 435.30 masl

Target Drawdown (H-h) = 1.1 masl (includes 0.5 m buffer below base of excavation)

Impermeable Layer = 433 masl (interpreted from Sections B-B' and C-C')

Initial Saturated Thickness (H) = 2.9 m

Hydraulic conductivity = 2x10<sup>-4</sup> m/s (factor of safety of 2 applied to assumed K for sand and gravel, some silt unit

 $K = 1x10^{-4} \text{ m/s}$ 

#4 Dewatering for Sewage Pumping Station: Flow to Well Model

1) Sand & Gravel Static Groundwater Level (H) = 434 masl (based on Figure 10: Interpreted SHGWL)

Base of Excavation (h) = 431 masl (based on Site Plan)

Target Drawdown (H-h) = 3.5 m (includes 0.5 m buffer below base of excavation)

Initial Saturated Thickness (H) = 2.5 m (assumes that sand gravel extends down to 431.5 masl)

Hydraulic conductivity = 2x10<sup>-4</sup> m/s (factor of safety of 2 applied to assumed K for sand and gravel, some silt unit

 $K = 1x10^{-4} \text{ m/s}$ 

2) Lower Till Static Groundwater Level (H) = 434 masl (based on Figure 10: Interpreted SHGWL)

Base of Excavation (h) = 431 masl

Target Drawdown (H-h) = 1 m (includes 0.5 m buffer below base of excavation)

Hydraulic conductivity =  $1x10^{-7}$  m/s (assumed for the Lower Till)

#### **Typical Flow Scenario**

#1 Dewatering for Servicing:

Typical service elevations across site are well above SHGWL. Dewatering is expected to be nil.

#2 and #3 Dewatering for SWM Pond:

Groundwater levels for much of the year are below the proposed service elevations.

#4 Dewatering for SPS

Based on the interpreted groundwater level contours and Sections B-B' and C-C', groundwater is expected to be encountered within the Lower Till unit for much of the year. As such, dewatering will be limited to the Lower Till unit only in the typical flow scenario.



Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

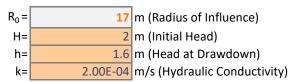
#### **MAXIMUM DEWATERING SCENARIO**

# #1 - Dewatering for Servicing

Radius of Influence

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$



Aquifer Type:
Calculation Approach:
Governing Equation:

Unconfined (Water Table)

Flow to Finite Trench

$$Q = \pi k \; \frac{(H^2 - h^2)}{\ln \frac{R_o}{r_w}} + x k \; \frac{(H^2 - h^2)}{L}$$

Q=	76,210	L/d (Dewatering Flow)
x=	30	m (Length of Trench)
k=	2.00E-04	m/s (Hydraulic Conductivity)
H=	2	m (Initial Head)
h=	1.6	m (Head at Drawdown)
L=	17	m (Distance to "Source")
$R_0 =$	17	m (Radius of Influence)
r <sub>w</sub> =	1.5	m (Radius of Well or System)

3/9



(A)

**Project:** Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

# **MAXIMUM DEWATERING SCENARIO (ctd.)**

## #2 - Dewatering for Stormwater Management Pond Forebay

## Radius of Influence

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$

$R_0 =$	13	m (Radius of Influence)
H=	1.5	m (Initial Head)
h=	1.2	m (Head at Drawdown)
k=	2.00E-04	m/s (Hydraulic Conductivity)

**Aquifer Type:** 

Calculation Approach:

**Governing Equation:** 

Unconfined (Water Table)

Flow to Well

$$Q = \pi k \; \frac{(H^2 - h^2)}{\ln \frac{R_{o'}}{r_w}}$$

Q=	71,571	L/d (Dewatering Flow)	(B)
k=	2.00E-04	m/s (Hydraulic Conductivity)	
H=	1.5	m (Initial Head)	
h=	1.2	m (Head at Drawdown)	
R <sub>0'</sub> =	28	m (Radius of Influence, $R_0$ plus $r_{\rm w}$ due to relative size of excavation)	
r <sub>w</sub> =	15	m (Radius of Well or System)	



**Project:** Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

# **MAXIMUM DEWATERING SCENARIO (ctd.)**

#3 - Dewatering for Stormwater Management Pond Outlet Deep Pool

## Radius of Influence

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$

$R_0 =$	47	m (Radius of Influence)
H=	2.9	m (Initial Head)
h=	1.8	m (Head at Drawdown)
k=	2.00E-04	m/s (Hydraulic Conductivity)

**Aquifer Type:** 

Calculation Approach:

**Governing Equation:** 

Unconfined (Water Table)

Flow to Well

$$Q = \pi k \; \frac{(H^2 - h^2)}{\ln \frac{R_{o'}}{r_w}}$$

Q=	188,522	L/d (Dewatering Flow)	(C)
k=	2.00E-04	m/s (Hydraulic Conductivity)	
H=	2.9	m (Initial Head)	
h=	1.8	m (Head at Drawdown)	
R <sub>0'</sub> =	60	m (Radius of Influence, $R_0$ plus $r_{\rm w}$ due to relative size of excavation)	
r <sub>w</sub> =	13.6	m (Radius of Well or System)	



**Project:** Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

# **MAXIMUM DEWATERING SCENARIO (ctd.)**

#4 - Dewatering for Sanitary Sewer Pumping Station

## 1) Contribution from Sand and Gravel

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$

R <sub>0</sub> =	106	m (Radius of Influence)
H=	2.5	m (Initial Head)
h=	0	m (Head at Drawdown)
k=	2.00E-04	m/s (Hydraulic Conductivity)

**Aquifer Type:** 

Calculation Approach:

Governing Equation:

Unconfined (Water Table)

Flow to Well

$$Q = \pi k \; \frac{(H^2 - h^2)}{ln \frac{R_{o'}}{r_w}}$$

Q=	180,479	L/d (Dewatering Flow)	(C)
k=	2.00E-04	m/s (Hydraulic Conductivity)	
H=	2.5	m (Initial Head)	
h=	0	m (Head at Drawdown)	
R <sub>0'</sub> =	125	m (Radius of Influence, $R_0$ plus $r_{\rm w}$ due to relative size of excavation)	
r <sub>w</sub> =	19.1	m (Radius of Well or System)	



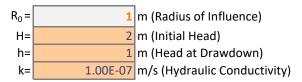
Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

# 1) Contribution from Lower Till

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$



Aquifer Type:

Calculation Approach:

Governing Equation:

Unconfined (Water Table)

Flow to Well

$$Q = \pi k \; \frac{(H^2 - h^2)}{ln \frac{R_{o'}}{r_w}}$$

Q=	560	L/d (Dewatering Flow)
k=	1.00E-07	m/s (Hydraulic Conductivity)
H=	1	m (Initial Head)
h=	0	m (Head at Drawdown)
R <sub>0'</sub> =	20	m (Radius of Influence, $R_{\rm 0}$ plus $r_{\rm w}$ due to relative size of excavation)
r <sub>w</sub> =	19.1	m (Radius of Well or System)

7/9



**Project:** Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

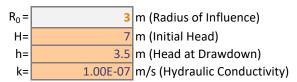
# TYPICAL DEWATERING SCENARIO (ctd.)

## #4 - Dewatering for Sanitary Sewer Pumping Station

# 1) Contribution from Lower Till

Sichart

$$R_o = 3000(H - h)\sqrt{k}$$



**Aquifer Type:** 

Calculation Approach:

**Governing Equation:** 

**Unconfined (Water Table)** 

Flow to Well

$$Q = \pi k \; \frac{(H^2 - h^2)}{ln \frac{R_{o\prime}}{r_w}} \label{eq:Q}$$

Q=	6,224	L/d (Dewatering Flow)
k=	1.00E-07	m/s (Hydraulic Conductivity)
H=	7	m (Initial Head)
h=	3.5	m (Head at Drawdown)
R <sub>0'</sub> =	22	m (Radius of Influence, $R_0$ plus $r_{\rm w}$ due to relative size of excavation)
r <sub>w</sub> =	19.1	m (Radius of Well or System)

8/9



**Project:** Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 Engineer/Technician: MRL/AF

Excavation	Maximum Expected (L/D)	Typical Expected (L/D)	
Sanitary Sewer Construction		-	
(near MH36A, MH21A,			
MH22A, MH23A)	76,210	0	Line A
Construction of SWM Forebay			
	71,571	0	Line B
Construction of SWM Deep			
Pool	188,522	0	Line C
Construction of SPS	181,039	6,224	Line D

Maximum Estimated Groundwater Flow*	261,000 L/day	= (Line B + Line C)
Expected Typical Groundwater Flow**	7,000 L/day	= Line D

<sup>\*</sup>Based on the assumption that construction of the SPS, SWM Pond and site servicing will not be concurrent.



<sup>\*\*</sup>Under most conditions, excavations are expected to be well above groundwater levels, except at the SPS.

APPENDIX I: MONITORING AND MITIGATION PLAN FOR CONSTRUCTION DEWATERING

# **Table I1: DEWATERING MONITORING PLAN**

	Number	Activity	Frequency or Schedule	Location	Threshold**	Threshold ID†
ng	P0	Groundwater Level Monitoring	Once before dewatering.	All monitoring wells on-site.	Groundwater level exceeds historical range of measurements.	P0.1
Pre-Construction Monitoring	P1	Private Well Monitoring Program: Water Quality	Once before dewatering.	9357 County Road 22 (conditional upon consent to monitoring)	N/A. Baseline monitoring only.	N/A
	P2	Private Well Monitoring Program: Water Level	2 weeks before Start: Install Dataloggers Within week before Start: Check loggers and download data	9357 County Road 22 (conditional upon consent to monitoring)	N/A. Baseline monitoring only.	N/A
Monitoring During and Post-Construction	D1	Inspect Erosion and Sediment Control Facilities	Daily during dewatering	All applicable facilities.	Evidence of erosion along the overland flow path between discharge point and receiver (e.g. wetland area).  Evidence of damage or	D1.1
	D2	Inspect Discharge Water	Daily during dewatering	At discharge point.      At receiver (e.g. municipal drain).	other equipment deficiency.  Evidence of sheen, odour, globules or other characteristics which may indicate impacted water.	D2.1
	D3	Field Monitoring of Turbidity	Daily during dewatering	<ol> <li>Any point along route between discharge area and receiver.</li> <li>Receiver (i.e. surface water body), upgradient of point of entry of discharge.</li> </ol>	Turbidity of discharge exceeds turbidity of receiver by more than 8 NTU.	D3.1
	D4	Sampling of Discharge (unfiltered water)	Once at startup. Once monthly thereafter.	Any point along flow route between the discharge area and the receiver.	Any parameter exceeds corresponding PWQO.	D4.1
	D5	Measurement of Dewatering Volume	Daily during dewatering.	At discharge point or on discharge line	Exceeds permitted value (400,000 L/d requested)	D5
	D6	Private Well Monitoring Program: Water Quality	During Construction: Once per two months.  Post-Construction Once per 6 months for one year.	9357 County Road 22 (conditional upon consent to monitoring)	Water quality indicates significant change from baseline samples and exceedance of Ontario Drinking Water Quality Standards.	D6.1
	D7	Complaint Received from Resident	Upon receipt of complaint.	At the residence involved.	N/A	D7.1

 $<sup>\</sup>ensuremath{^{**}}$  In the event that a threshold is exceeded, proceed with mitigation activities.



<sup>†</sup>If a threshold is reached or exceeded, then consult the contingency plan (Section 7.2 and next page) according to the matching Threshold ID. PWQO - Provincial Water Quality Objectives

# Table 12: DEWATERING MITIGATION PLAN GENERAL AND CONTINGENCY MITIGATION ACTIVITIES

ſ	Mitigation Type	Threshold ID	Mitigation Measures*
	Erosion and Sediment Control Plan	N/A	Implement an E&SC plan according to OPSS.MUNI 805 and 518. See Section 7.2.1 of report.
General	Intake Points Restriction of Contaminating Activities	N/A N/A	Sumps to be constructed as filtered sumps. Wellpoints to be installed, developed and tuned to minimize generation of sediment. See Section 7.2.1 of report.  Avoid refueling of equipment or storage of fuels within 30 m of the SWM Pond during construction or any excavations along Street A between MH32A and County Road 22.
	Re-Assess Construction Dewatering Requirements	P0.1	□ The Engineer shall review the construction dewatering calculations to ensure that the quantities will not exceed the quantity allowed under the applicable approval (e.g., EASR) and to ensure that the proposed mitigation measures remain applicable.  □ If the revised calculations/assessment indicate a need to revise the approval and/or mitiation strategies, those changes shall be undertaken by the Engineer and, where applicable, implemented by the Contractor (e.g., erosion and sediment control structures).
	Inspect Erosion and Sediment Control Facilities	D1.1	☐ Repair or replace equipment as necessary to restore proper function of erosion and sediment control system.
	Inspect Discharge Water	D2.1	□ Immediately report observations to Contract Administrator (i.e., GMBP). □ If the observation is related to turbid/cloudy water or sediment-laden water, conduct an inspection of erosion and sediment control features (including dewatering sumps) and rectify any deficiencies. Conduct another field turbidity test. If problem persists and cannot be immediately rectified, discontinue dewatering if safe to do so. □ If the observation is related to a potential chemical impact (e.g. fuel), then stop dewatering immediately. Dewatering shall not continue until GMBP has undertaken an investigation and determined a revised approach for dewatering.
Contingency	Field Monitoring of Turbidity	D3.1	□ Immediately report exceedance to Contract Administrator (i.e., GMBP). □ Conduct an inspection of erosion and sediment control features (including dewatering sumps) and rectify any deficiencies. □ Provide additional sediment control measures according to OPSS.MUNI 805 and/or 518 to provide additional sediment capture and prevent erosion. □ Conduct another field turbidity test. If problem persists and cannot be immediately rectified, discontinue dewatering if safe to do so.
	Sampling of Discharge	D4.1	□ Follow D3.1 above
	Dewatering Volume	D5.1	□ Immediately report exceedance to Contract Administrator (i.e., GMBP). □ If the exceedance appears to be due to a temporary occurrence (e.g. recent rainstorm) continue dewatering. □ If the exceedance appears to be persistent, reduce the size of excavation to minimize the amount of dewatering required. If this is not feasible, cease dewatering until the PTTW can be amended, or until other approval to proceed is provided by the MECP.
	Private Well Monitoring Program: Water Quality	D6.1	□ Immediately report exceedance to Contract Administrator (i.e., GMBP). □ Contractor to provide alternate source of water to the resident until dewatering concludes. □ GMBP to conduct an investigation of the potential impacts and recommend remedial action, if applicable. □ GMBP to complete a follow up investigation (i.e., water level measurement and/or sampling) after the completion of dewatering to ensure that water supply has been restored to pre-construction condition.
	Complaint Received from Resident	D7.1	□ Immediately report exceedance to Contract Administrator (i.e., GMBP). □ GMBP to conduct an investigation of the potential impacts. □ Contractor to provide alternate source of water to the resident until dewatering concludes. □ GMBP to complete a follow up investigation (i.e., water level measurement and/or sampling) after the completion of dewatering to ensure that water supply has been restored to pre-construction condition.

<sup>\*</sup> Note: this is not the entire mitigation plan. Please refer to Hydrogeological Study report, Section 7 for additional details.

