Thomasfield Homes Limited

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

GMBP File: 121132

November 7, 2024

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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;
    - 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:
    - 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,

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

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).

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)
  - 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.

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.

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.

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
- 9333
- 9335
- 9357*
- 9354*
- 9364*
- 9366
- 9367*
- 9343

On Station Road

- 0014

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 non-detectable (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.

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 aquifer.

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

- 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:
  - Hydraulic conductivity of $2x10^{-4}$ 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-01)
- Typical:
  - 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^2. The following cases were estimated:

- Maximum:
  - Hydraulic conductivity of $2x10^{-4}$ 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^2). The following cases were estimated:

- Maximum:
  - Hydraulic conductivity of $2x10^{-4}$ 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.

- Hydraulic conductivity of $2x10^{-4}$ 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 $1x10^{-7}$ 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 $1x10^{-7}$ m/s (i.e., assumed value for hydraulic conductivity for the clayey 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

* 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_0) being calculated using the Sichardt equation (see Appendix H).

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)
  - Radius of Influence: 17 m
- Stormwater Management Pond Forebay
  - Radius of Influence: 13 m
- Stormwater Management Pond Deep Pool
  - 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

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 aquifer. 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.

Receptor	Potential Impacts Related to		Rationale
	Water Quantity	Water Quality	
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).

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^3/year
- Post-development: 26,603 m^3/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 aquifer 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.

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 post-development 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^3
  - Post-Development: 6,142 m^3
- Estimated Groundwater Recharge in October
  - Pre-Development: 315 m^3
  - Post-Development: 1469 m^3

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 aquifer (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).

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.

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:

1. 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.

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

<u>Erosion and Sediment Control Plan</u>

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.

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.

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:
    - Maximum 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
    - Typical dewatering rate: <7,000 L/d
        - 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:

- 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 water-taking 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.

GM BLUEPLAN ENGINEERING LIMITED
Per:

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

Matthew Long, M.Eng., P.Eng.
Senior Project Engineer

LICENSED PROFESSIONAL ENGINEER
7 Nov 2024
M. R. LONG
100228503
PROVINCE OF ONTARIO

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

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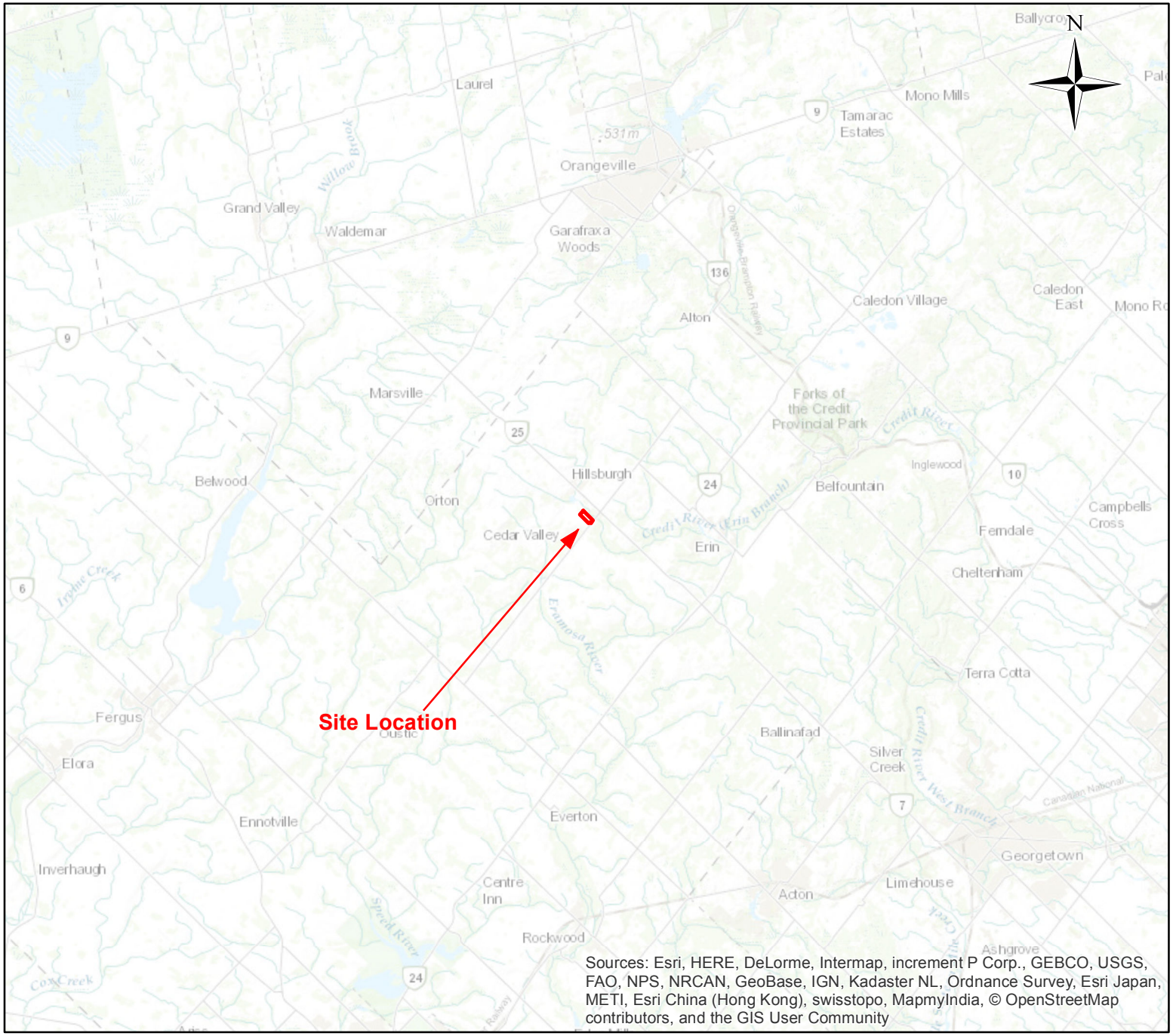
Ontario Geological Survey. 2011. 1:250,000 Scale Bedrock Geology of Ontario. Ontario Geological Survey, Miscellaneous Release, Data 126 - Rev. 1

FIGURES



Project:
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails Subdivision

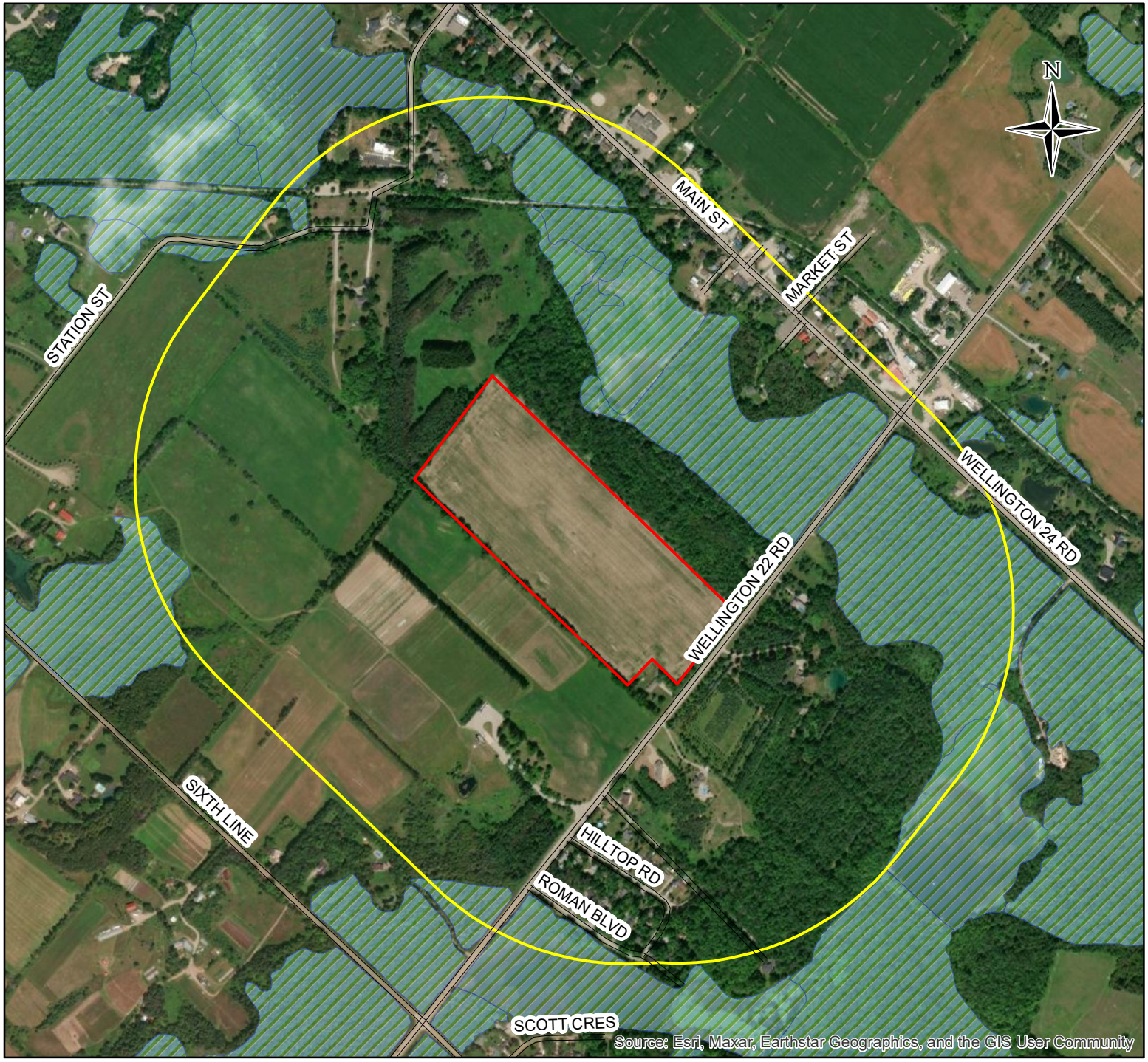
Part of Lot 23, Conc. 7
Town of Erin, ON

Site Boundary

Scale: 1: 250,000
September, 2024

Figure 1:
Site Location

BluePlan ENGINEERING



Project
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

Roads
500 m Buffer
Site Boundary
Wetlands

Scale: 1: 10,000
September 2024

Figure 2:
Site Layout

BluePlan ENGINEERING

Project
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

Site Boundary

Physiography of Southern Ontario

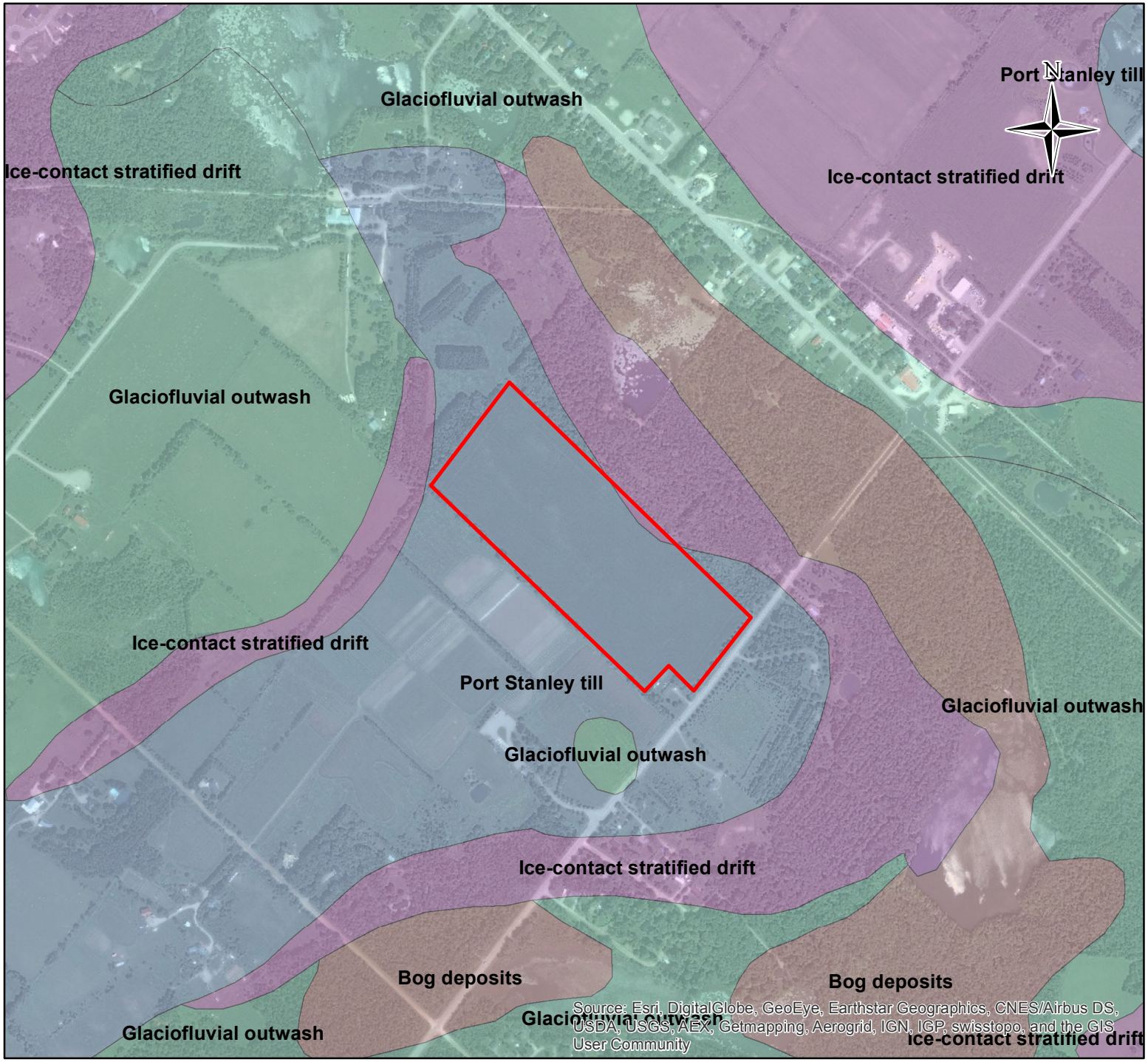
Spillways

Till Plains (Drumlinized)

Scale: 1: 10,000
September, 2024

Figure 3:
Site Physiography

BluePlan ENGINEERING



Project
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

Site Boundary

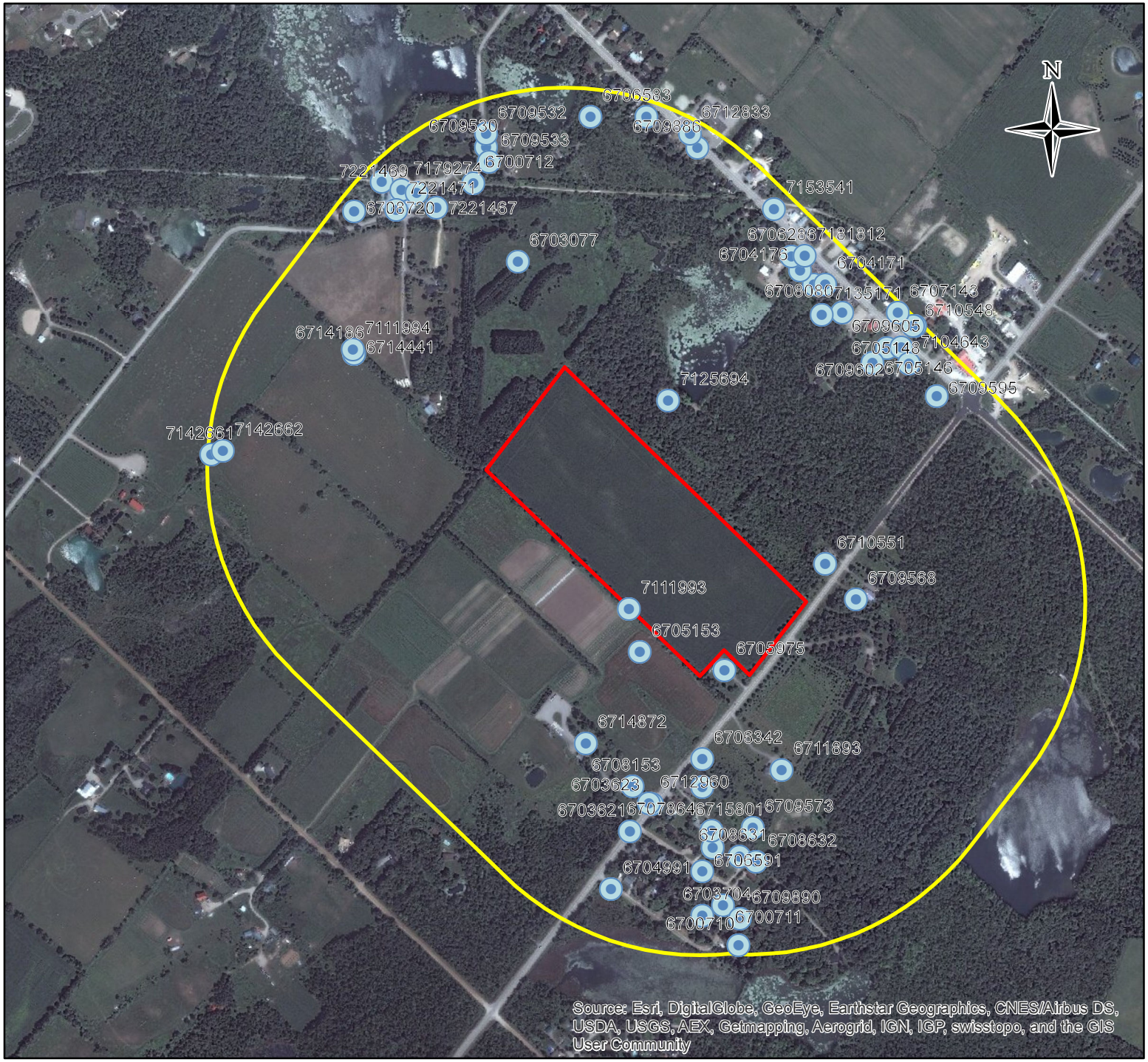
Surficial Geology of Ontario

- Bog deposits
- Glaciofluvial outwash
- Ice-contact stratified drift
- Port Stanley till

Scale: 1: 10,000
September, 2024

Figure 4:
Site Surficial Geology

BluePlan ENGINEERING



Project
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

Water Wells
500 m Buffer
Site Boundary

Scale: 1: 10,000
September, 2024

Figure 5:
Water Wells Inventory

BluePlan ENGINEERING

Project
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

- Dug Well
- Soil Samples
- Monitoring Wells
- Site Boundary

Scale: 1: 4,000
September, 2024

Figure 6:
Site Investigation Plan

BluePlan ENGINEERING

Project:
121132 / 240161
Hydrogeological Study:
Hillsburgh Trails
Subdivision

LEGEND

INFERRED GROUND WATER FLOW DIRECTION

MW-03 MONITORING/ GROUNDWATER WELL

Note: GWLs are from Sep 26, 2016

INFERRED GROUNDWATER CONTOURS AND FLOW DIRECTION
Figure No. 7

BluePlan ENGINEERING

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

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

FILE:W:\Guelph\116-2016\116103 Hillsburgh Hydrogeological\5 Work In Progress\Drafting\116103-C3D.dwg LAYOUT:FIG 9
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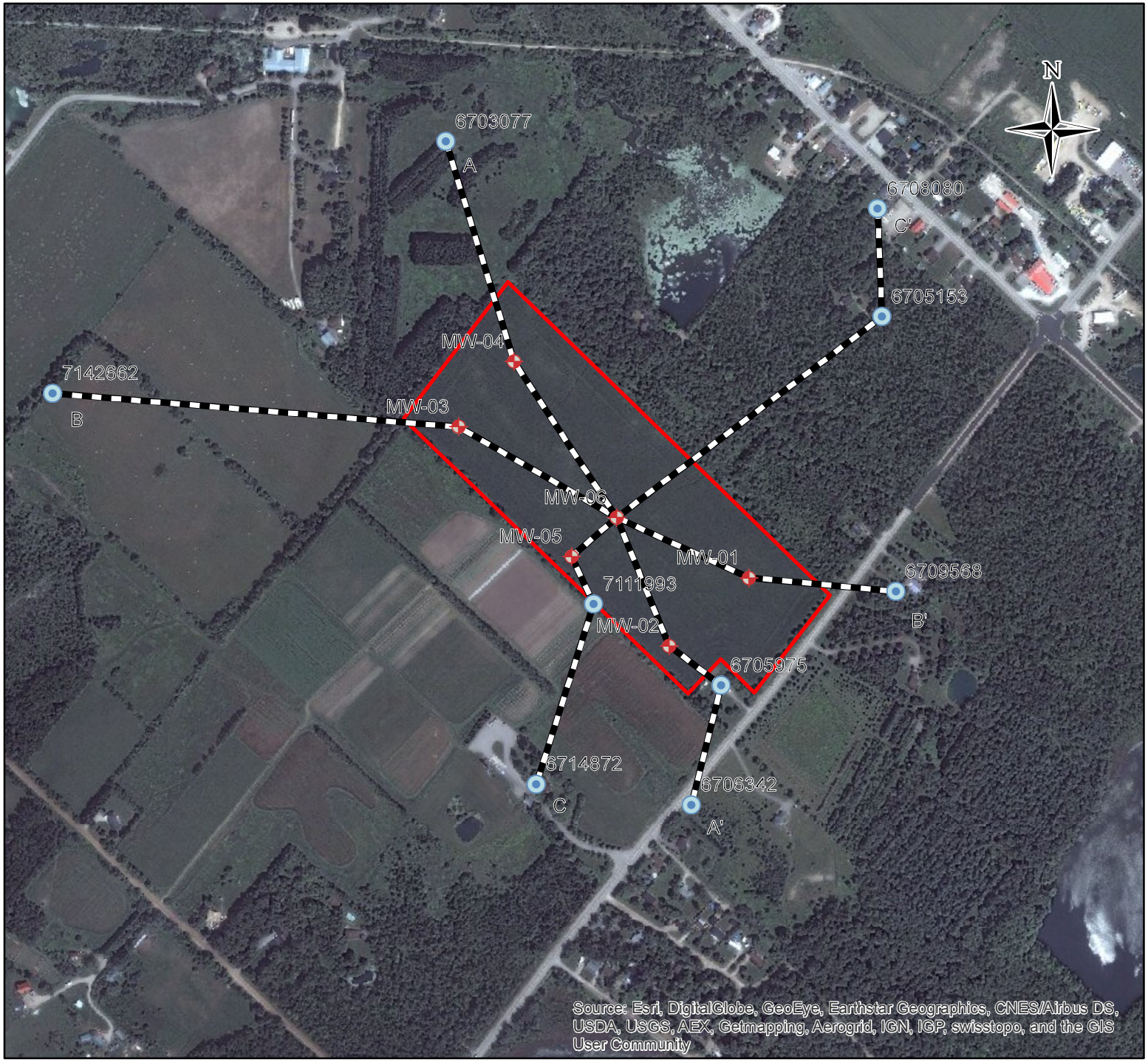


Project:
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

LEGEND

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

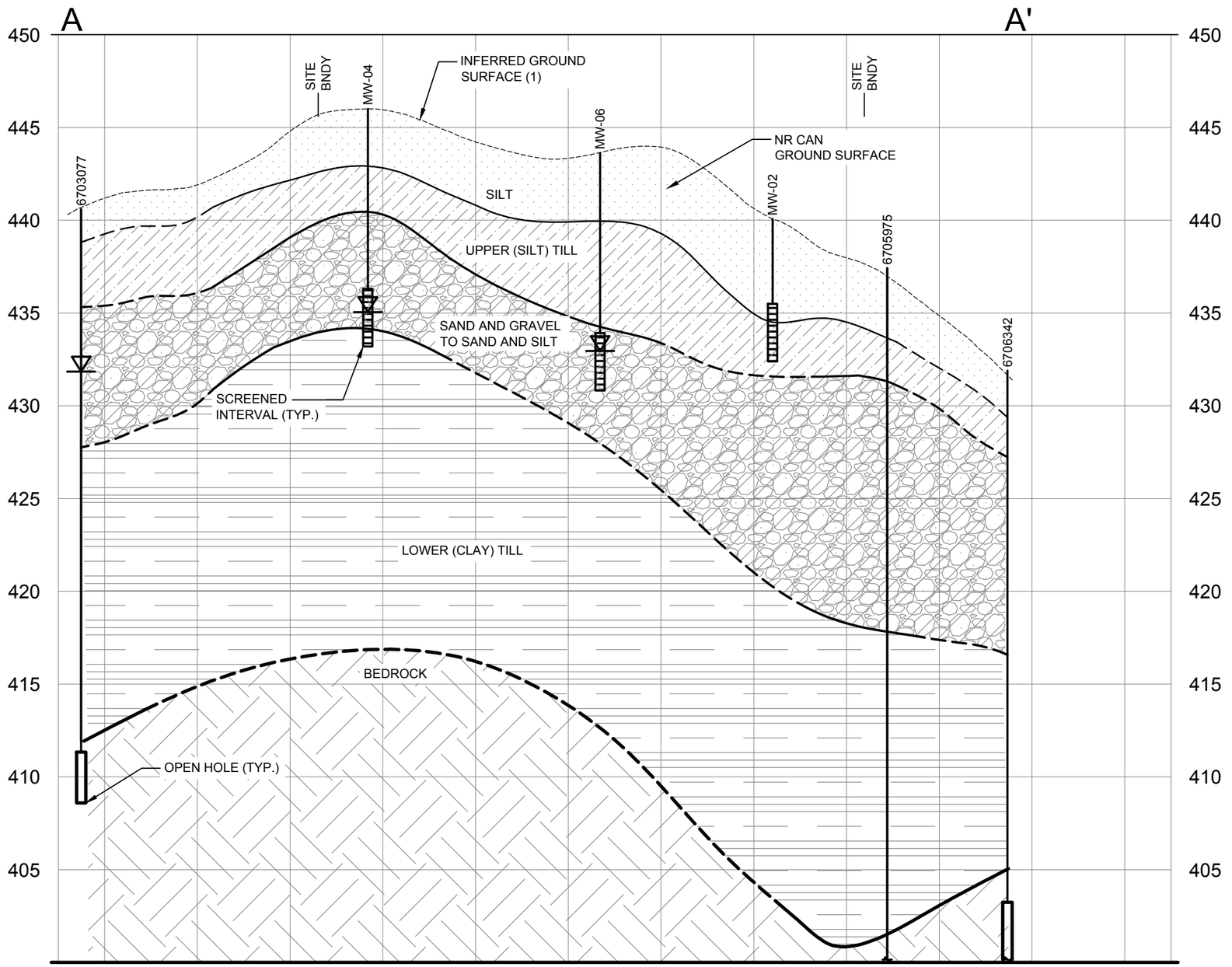
Note: GWLs are from Sep 26, 2016

August, 2024

Figure 8:
Section Key Plan

BluePlan ENGINEERING

SECTION A-A'



(1) Ground surface inferred from project survey data and Natural Resources Canada Topographic Mapping

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

HORIZONTAL 75 0 50 100 200
1:5000 (m)

VERTICAL 3 0 5 10
1:250 (m)

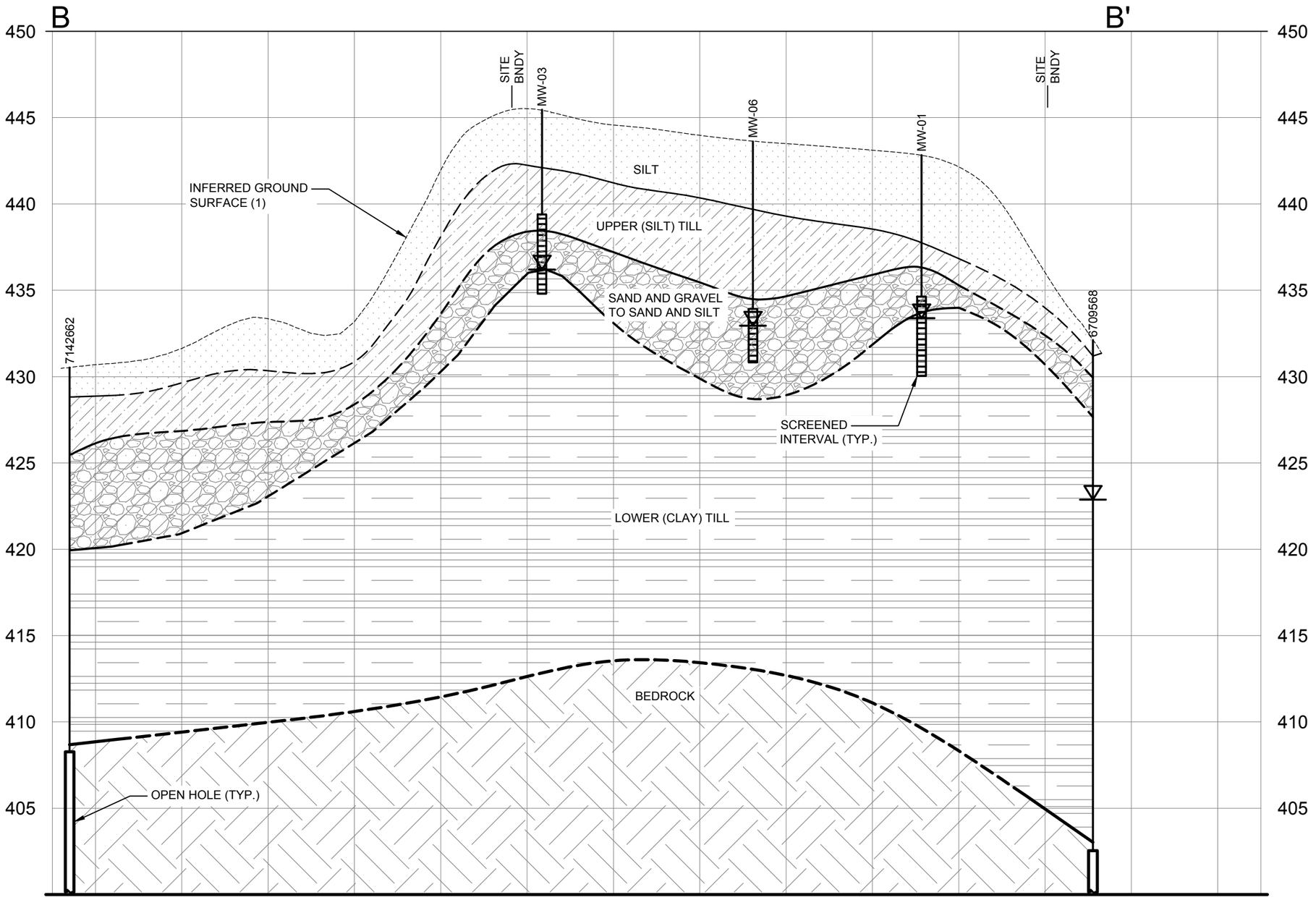
CROSS-SECTION
A-A'

Figure No. 9A

BluePlan ENGINEERING

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

SECTION B-B'



(1) Ground surface inferred from project survey data and Natural Resources Canada Topographic Mapping

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

HORIZONTAL 75 0 50 100 200
1:5000 (m)

VERTICAL 3 0 5 10
1:250 (m)

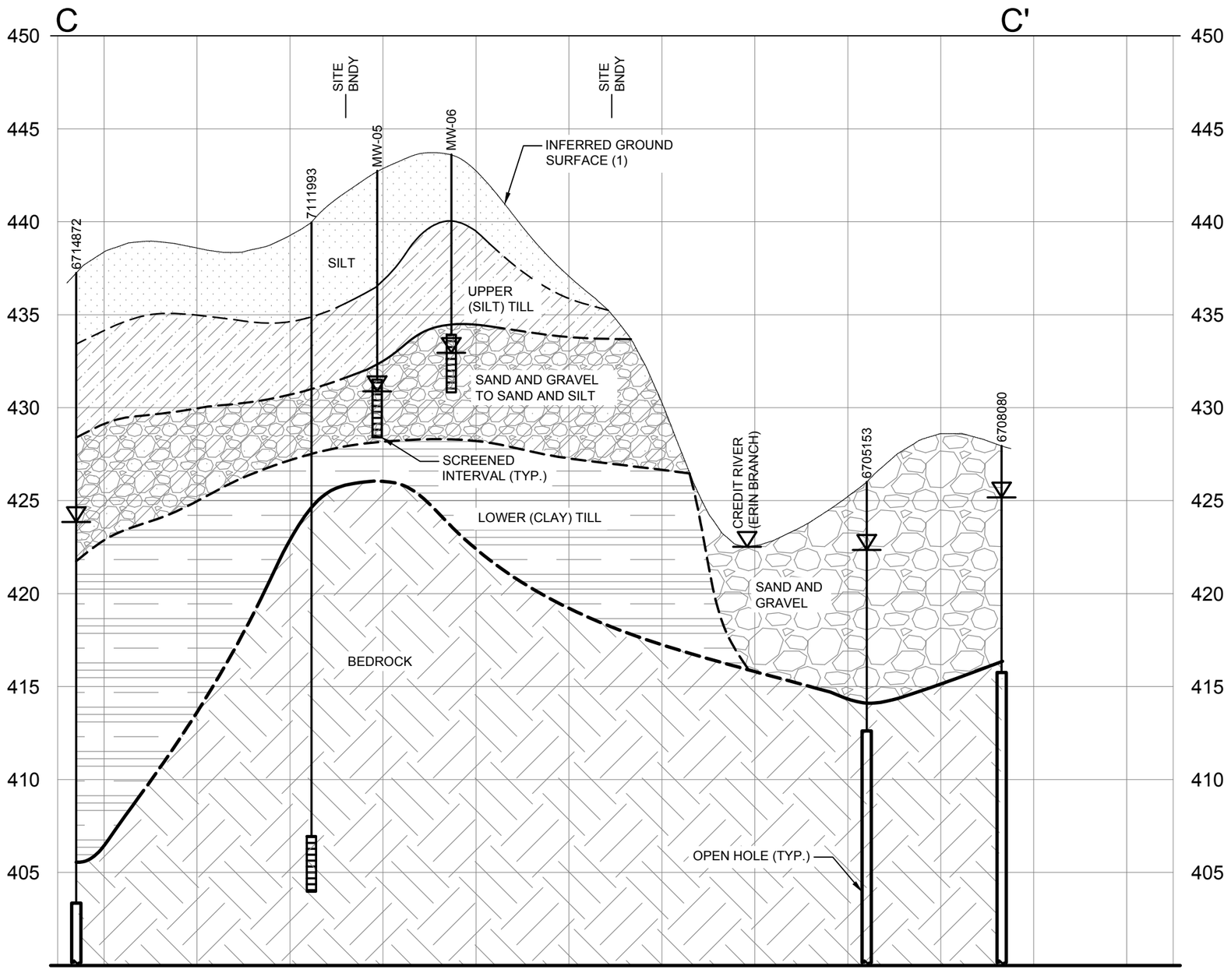
CROSS SECTION
B-B'

Figure No. 9B

BluePlan ENGINEERING

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

SECTION C-C'



(1) Ground surface inferred from project survey data and Natural Resources Canada Topographic Mapping

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

HORIZONTAL 75 0 50 100 200
1:5000 (m)

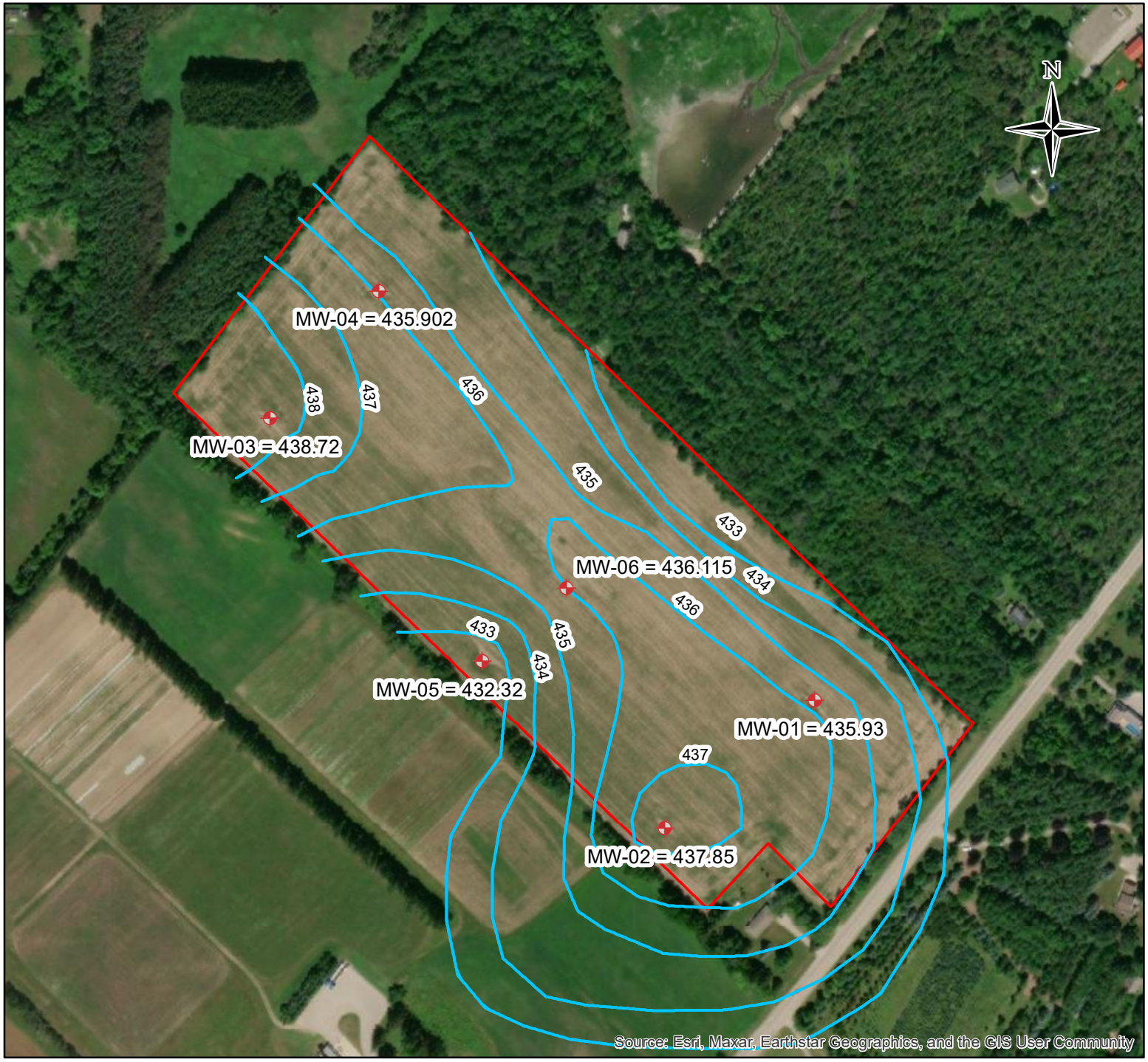
VERTICAL 3 0 5 10
1:250 (m)

CROSS SECTION
C-C'

Figure No. 9C

BluePlan ENGINEERING

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



Project:
121132 / 2401061
Hydrogeological Study:
Hillsburgh Trails
Subdivision

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

Monitoring Wells

Interpreted SHGWL (2024-08)

Site Boundary

Scale: 1: 4,000
September 2024

Figure 10:
Interpreted Seasonal High Groundwater Level

BluePlan ENGINEERING

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
Wells on Neighbouring 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	

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
Wells on Neighbouring Properties														
6709605	~	23	7	569770	4848060	Erin	Wellington	Domestic	Bedrock	10.1	21.3	0.3	1988	
6709530	~	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 *~ - indicates data unavailable*

Table 2: Monitoring Well Details and Water Level Observations

Well ID	Ground Elev. (m ASL)	TOC Elev. (m ASL)	Screen		Water Level 26-Sep-2016		Water Level 26-Feb-2022		Water Level 26-May-2022		Water Level 6-Jan-2023		Water Level 31-Mar-2023		Water Level 13-Jun-2024	
			Bottom Elev. (m ASL)	Length (m)	Depth (m bTOC)	Elev. (m ASL)	Depth (m bTOC)	Elev. (m ASL)	Depth (m bTOC)	Elev. (m ASL)	Depth (m bTOC)	Elev. (m ASL)	Depth (m bTOC)	Elev. (m ASL)	Depth (m bTOC)	Elev. (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

~ - 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

Table 3a: Results of Water Quality Analyses for Dissolved Metals

	Sample ID	MW-01	MW-03	MW-04	MW-05	MW-06
	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Screened 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
Parameters	**Criteria 1** **ODWS (2002) - MAC**	**Criteria 2** **ODWS (2002) - A/O**	**Concentration**				
Dissolved Aluminum (Al) (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 (Tl) (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.

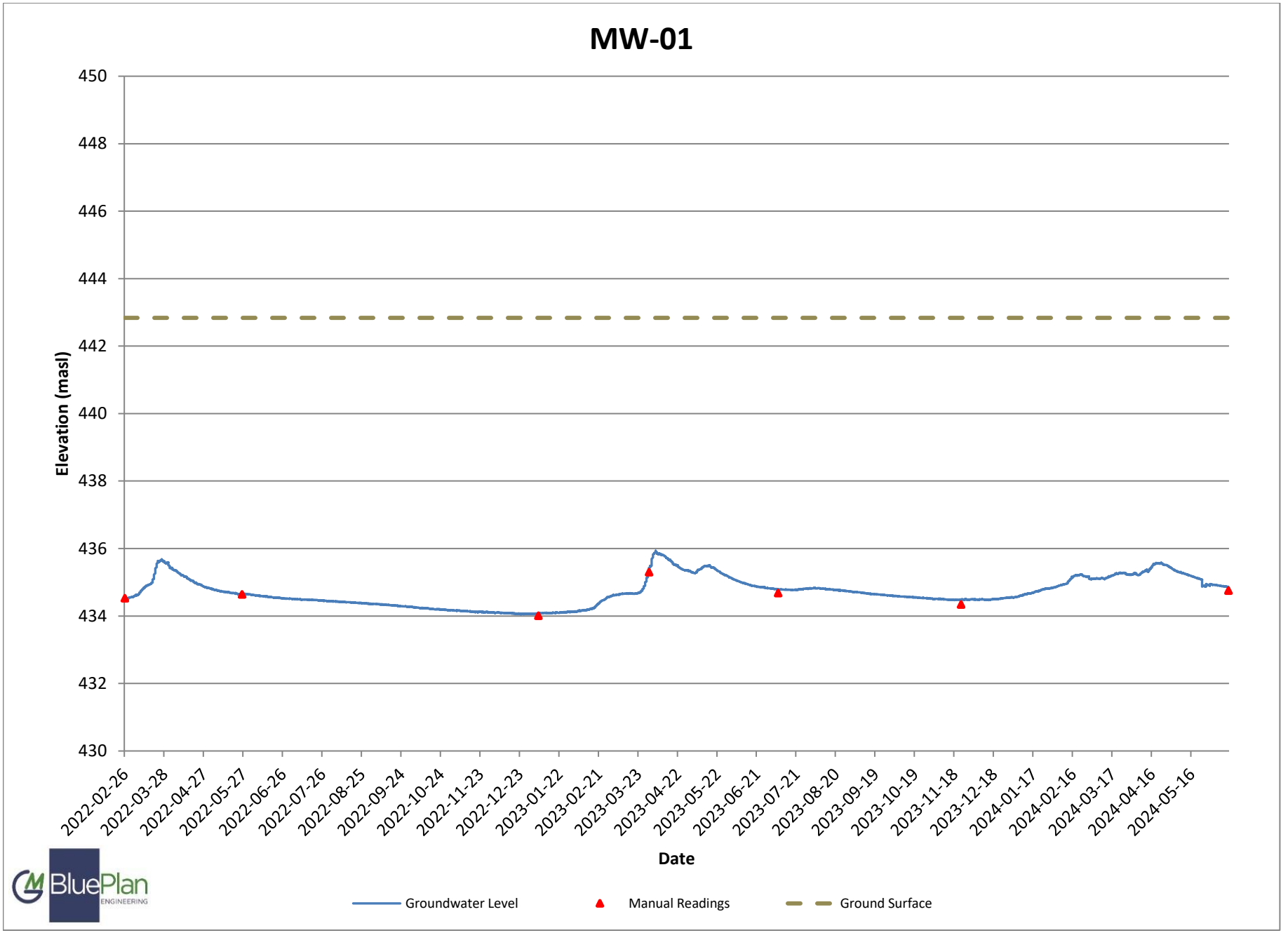
Table 3b: Results of Water Quality Analyses for Other Routine Parameters

	Sample ID	MW-01	MW-03	MW-04	MW-05	MW-06
	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Screened 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
Parameters	**Criteria 1** **ODWS (2002) - MAC**	**Criteria 2** **ODWS (2002) - A/O**	**Concentration**				
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 (Cl) (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.

CHARTS


MW-01
Elevation (masl)
450
448
446
444
442
440
438
436
434
432
430
2022-02-26
2022-03-28
2022-04-27
2022-05-27
2022-06-26
2022-07-26
2022-08-25
2022-09-24
2022-10-24
2022-11-23
2022-12-23
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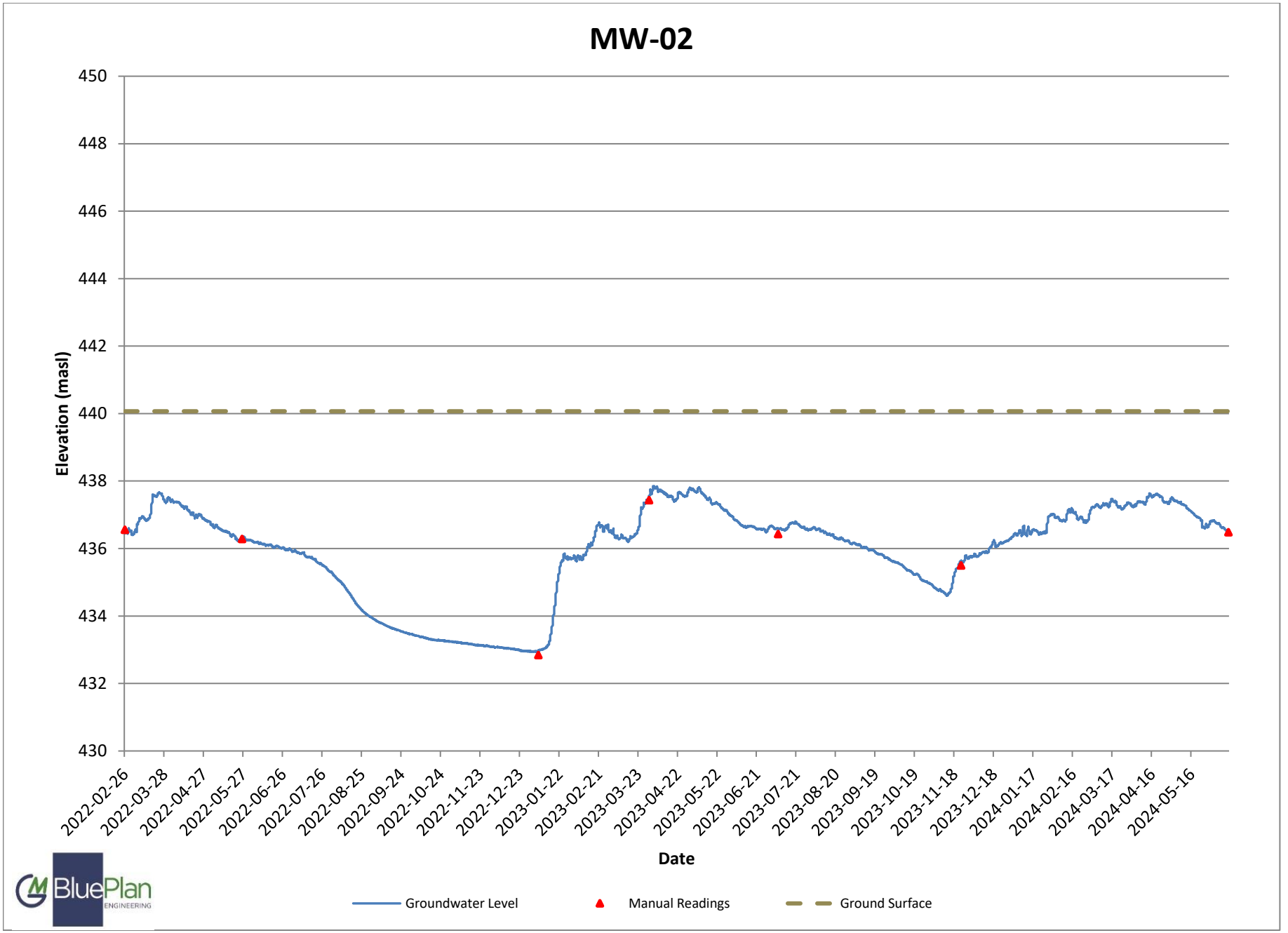
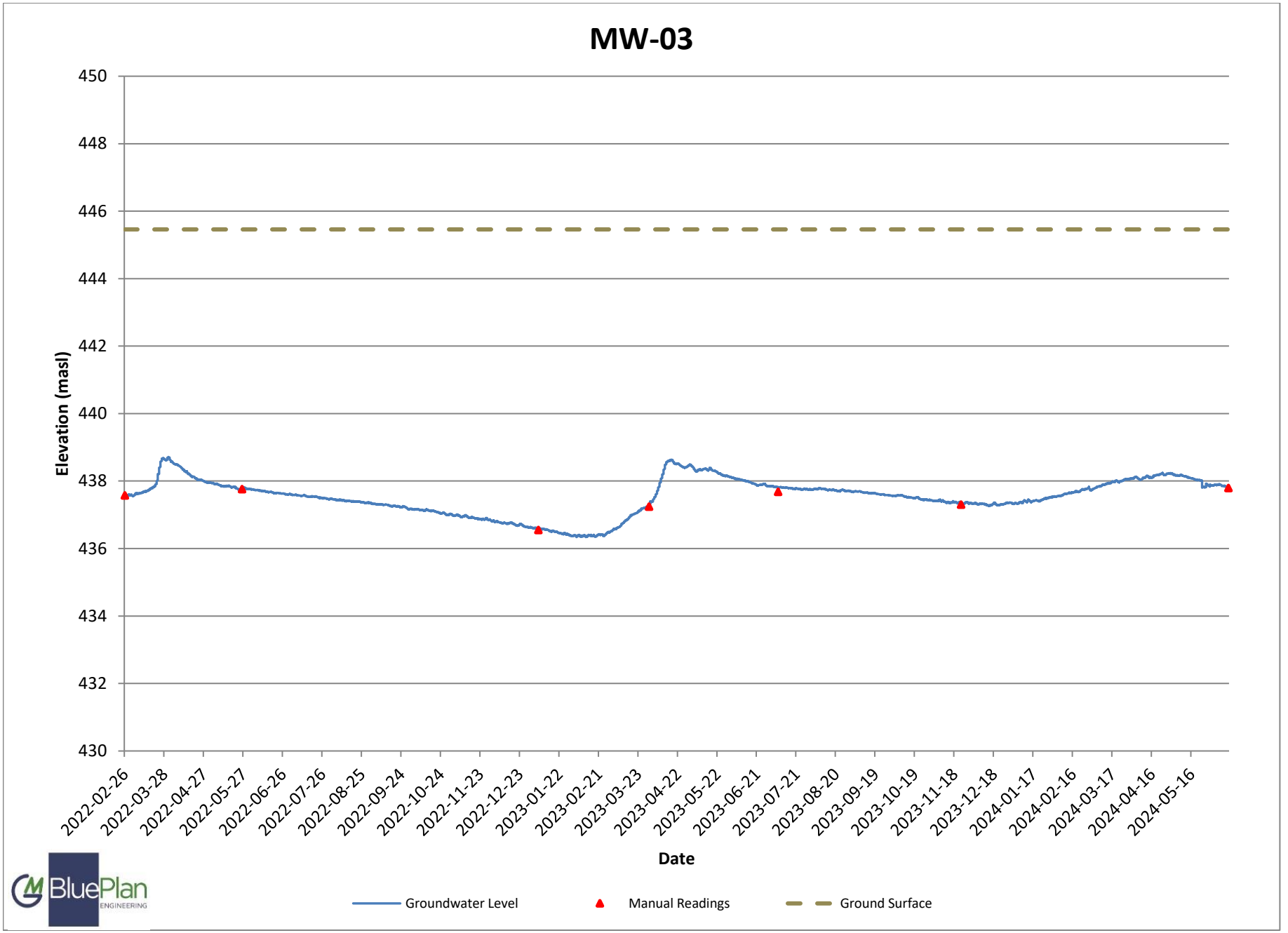
2023-04-22
2023-05-22
2023-06-21
2023-07-21
2023-08-20
2023-09-19
2023-10-19
2023-11-18
2023-12-18
2024-01-17
2024-02-16
2024-03-17
2024-04-16
2024-05-16
Date
BluePlan
ENGINEERING
Groundwater Level
Manual Readings
Ground Surface


MW-02
Elevation (masl)
450
448
446
444
442
440
438
436
434
432
430
2022-02-26
2022-03-28
2022-04-27
2022-05-27
2022-06-26
2022-07-26
2022-08-25
2022-09-24
2022-10-24
2022-11-23
2022-12-23
2023-01-22
2023-02-21
2023-03-23
2023-04-22
2023-05-22
2023-06-21
2023-07-21
2023-08-20
2023-09-19
2023-10-19
2023-11-18
2023-12-18
2024-01-17
2024-02-16
2024-03-17
2024-04-16
2024-05-16
Date
BluePlan ENGINEERING
Groundwater Level
Manual Readings
Ground Surface


MW-03
Elevation (masl)
450
448
446
444
442
440
438
436
434
432
430
2022-02-26
2022-03-28
2022-04-27
2022-05-27
2022-06-26
2022-07-26
2022-08-25
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2022-10-24
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2023-10-19
2023-11-18
2023-12-18
2024-01-17
2024-02-16
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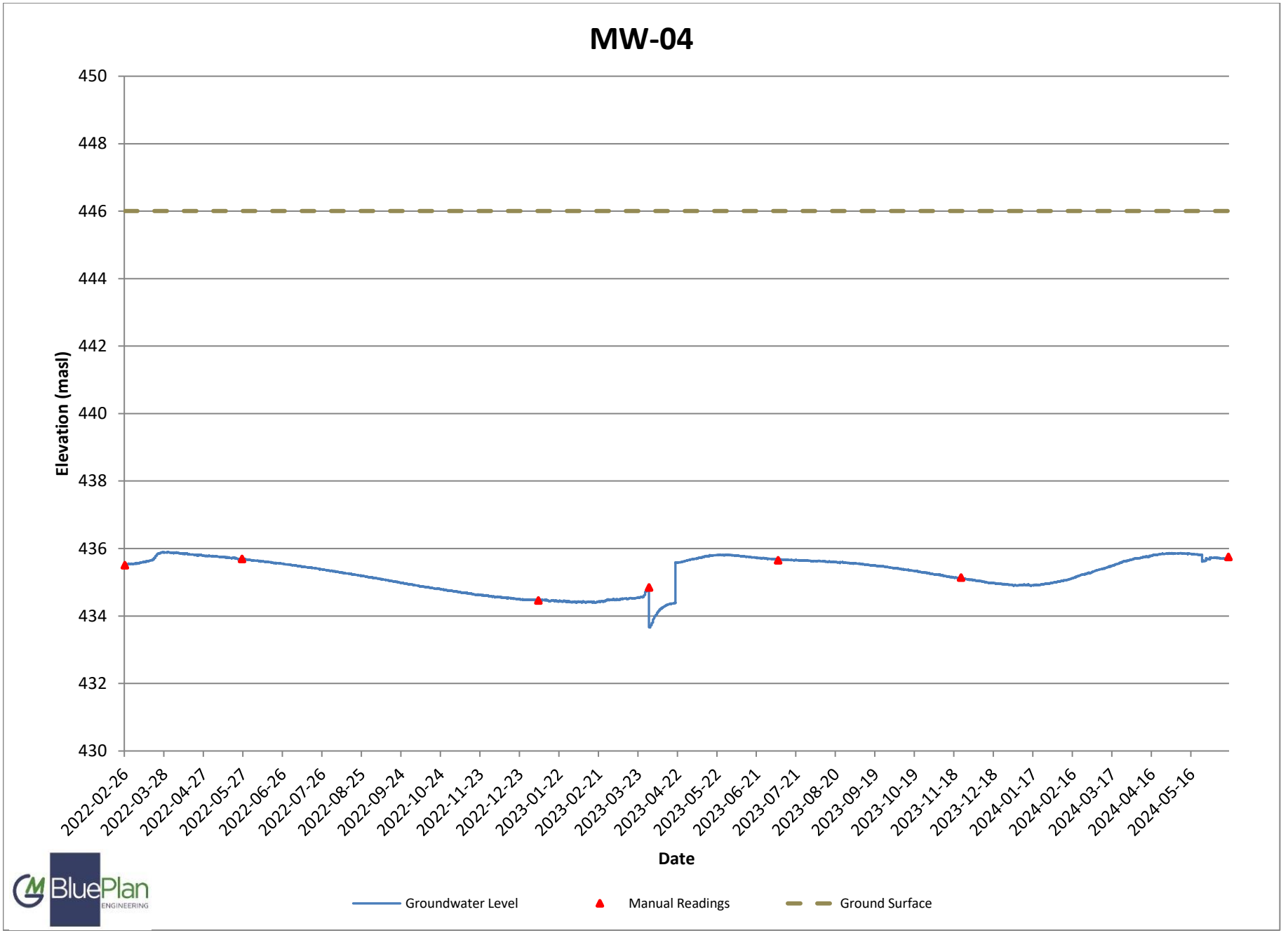
2024-05-16
Date
BluePlan
ENGINEERING
Groundwater Level
Manual Readings
Ground Surface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Elevation (masl)
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448
446
444
442
440
438
436
434
432
430
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2022-04-27
2022-05-27
2022-06-26
2022-07-26
2022-08-25
2022-09-24
2022-10-24
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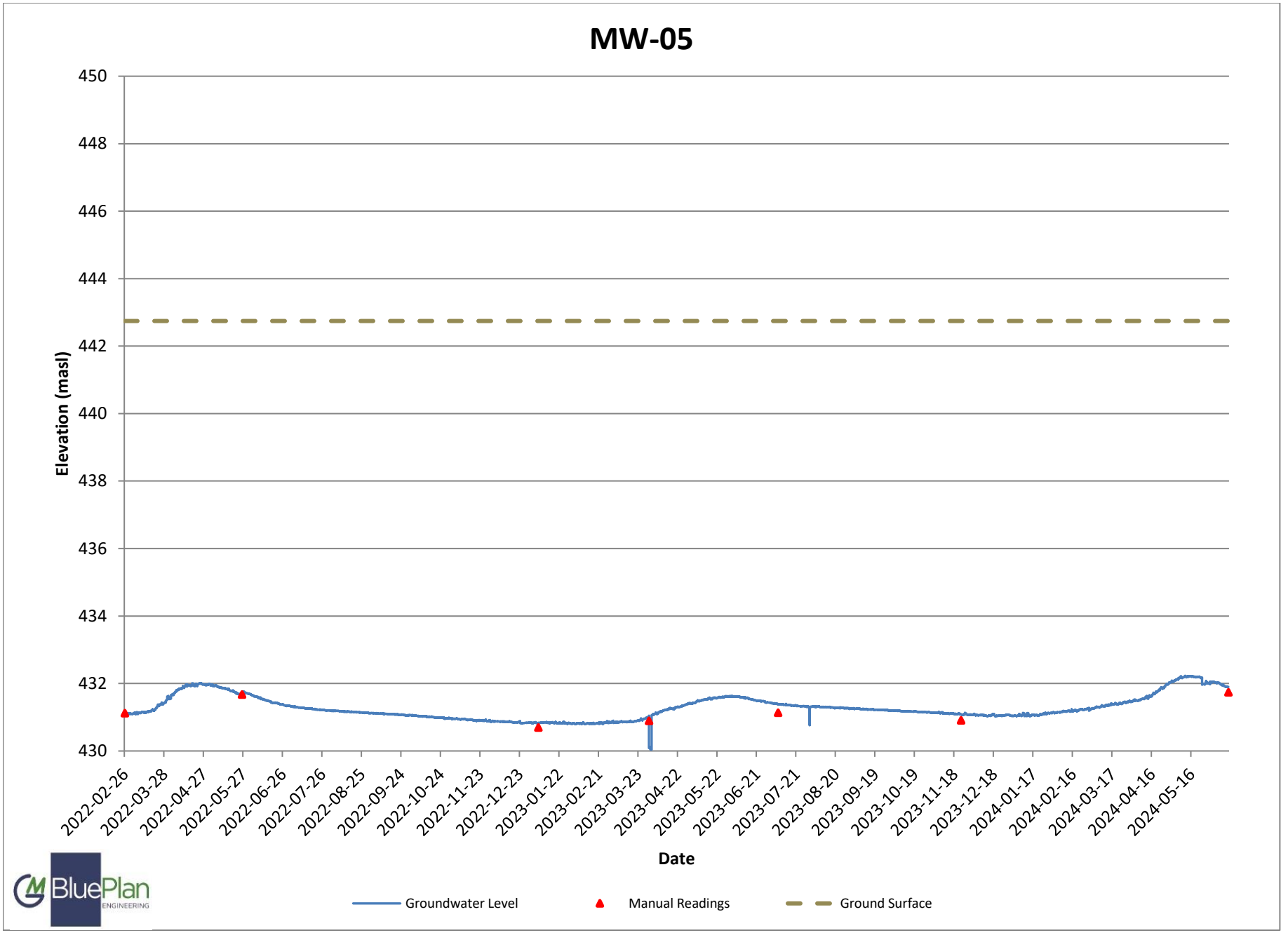
2023-11-18
2023-12-18
2024-01-17
2024-02-16
2024-03-17
2024-04-16
2024-05-16
Date
BluePlan ENGINEERING
Groundwater Level
Manual Readings
Ground Surface


MW-05
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448
446
444
442
440
438
436
434
432
430
Elevation (masl)
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2022-05-27
2022-06-26
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2022-08-25
2022-09-24
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2024-01-17
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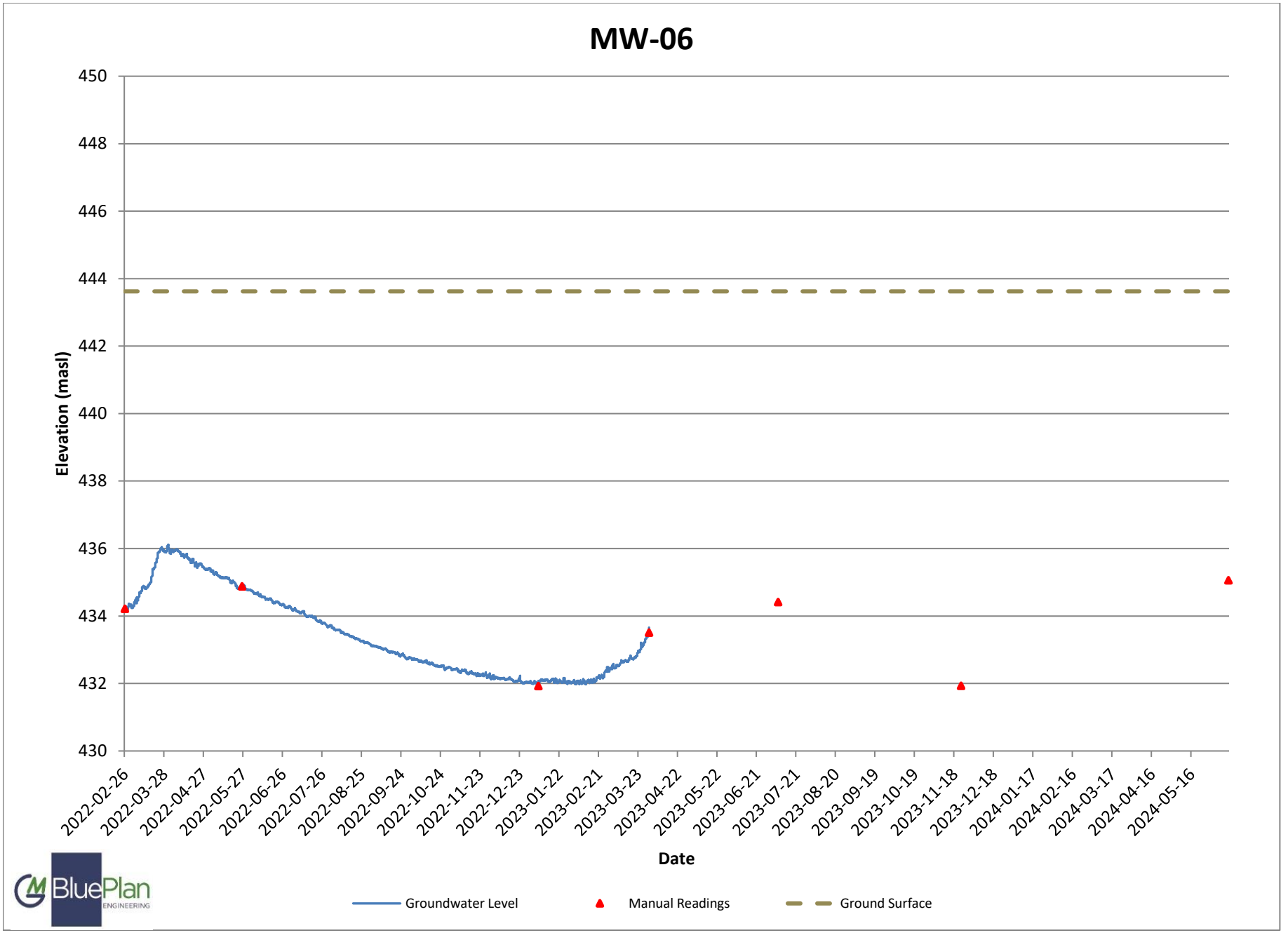
Date
BluePlan
ENGINEERING
Groundwater Level
Manual Readings
Ground Surface


MW-06
Elevation (masl)
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448
446
444
442
440
438
436
434
432
430
2022-02-26
2022-03-28
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2022-05-27
2022-06-26
2022-07-26
2022-08-25
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2023-11-18
2023-12-18
2024-01-17
2024-02-16
2024-03-17
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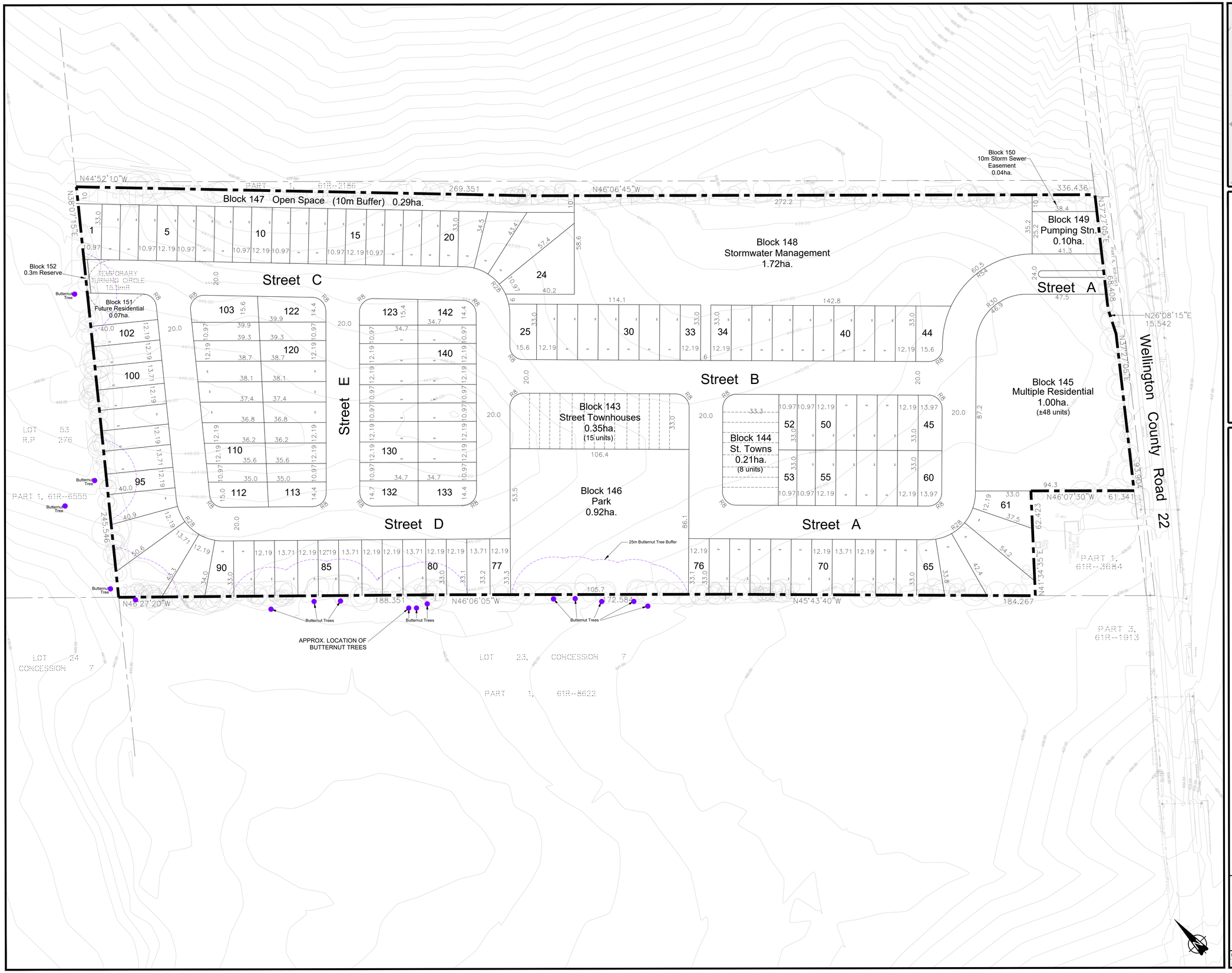
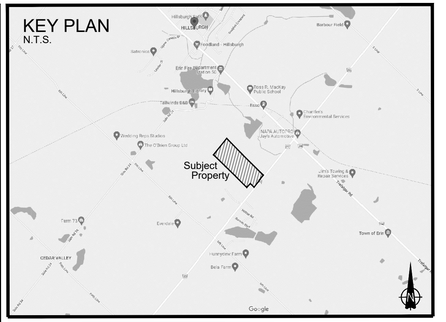
Date
BluePlan
ENGINEERING
Groundwater Level
Manual Readings
Ground Surface

APPENDIX A:
DRAFT PLAN





DRAFT PLAN OF SUBDIVISION

Part of Lot 23, Concession 7
(Geographic Township of Erin)
Town of Erin
Wellington County

9354 Wellington County Road 22

LAND USE SCHEDULE

DESCRIPTION	LOTS/BLKS.	UNITS	AREA (ha.)
Single Detached Residential	1-142	142	6.39
Street Townhouses	143,144	24	0.56
Multiple Residential	145	±48	1.00
Park	146		0.92
Open Space	147		0.29
Stormwater Management	148		1.72
Pumping Station	149		0.10
10m Sewer Easement	150		0.04
Future Residential	151	1	0.07
0.3m Reserve	152		0.00
Roads			3.05
Total		±215	14.14

NOTES

1. TOPOGRAPHIC SURVEY PREPARED BY VAN HARTEN SURVEYING INC., DECEMBER 2021

ADDITIONAL INFORMATION

(UNDER SECTION 51(17) OF THE PLANNING ACT)

INFORMATION REQUIRED BY CLAUSES a,b,c,d,e,f,g,j and l ARE AS SHOWN ON THE DRAFT PLAN.
h) Municipal water supply
i)
k) All sanitary and storm sewers as required

OWNER'S CERTIFICATE

I AUTHORIZE THE GSP GROUP INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION TO THE COUNTY OF WELLINGTON.

THOMASFIELD HOMES LIMITED — October 27, 2022 DATE

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN.

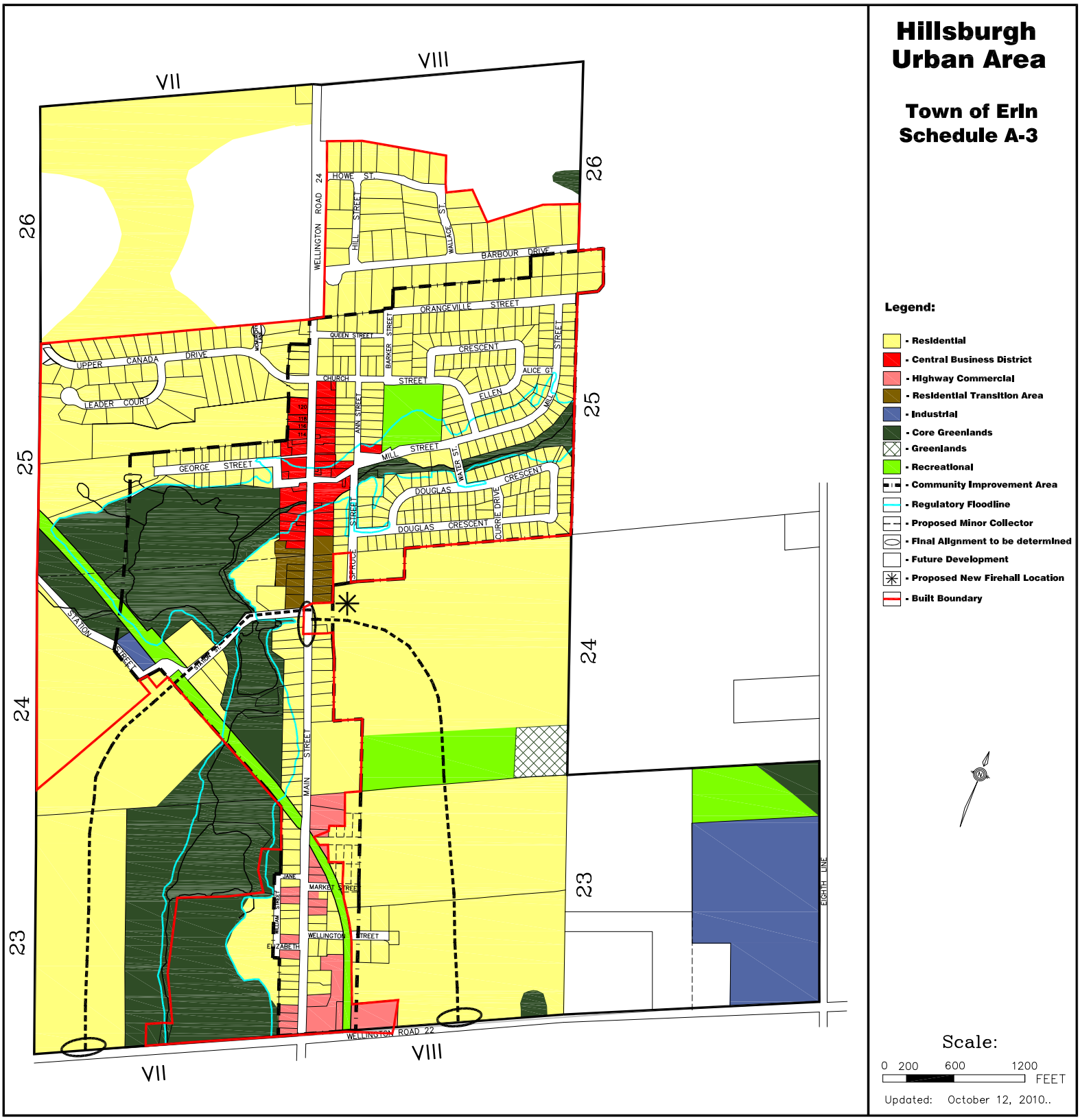
JAMIE LAWS, O.L.S.
Van Harten Surveying Inc. — October 19, 2022 DATE

GSP group
PLANNING I URBAN DESIGN I LANDSCAPE ARCHITECTURE
gspgroup.ca

REVISIONS
March 8, 2023

Date: February 16, 2023	Drawn By: S.L.	Dwg. File Name:dp20200c.dwg
Scale: 1:1,000 metric	Project No.: 20200	

APPENDIX B:
ZONING MAP



Hillsburgh Urban Area

Town of Erin Schedule A-3

Legend:

- Residential
- Central Business District
- Highway Commercial
- Residential Transition Area
- Industrial
- Core Greenlands
- Greenlands
- Recreational
- Community Improvement Area
- Regulatory Floodline
- Proposed Minor Collector
- Final Allgnment to be determined
- Future Development
- Proposed New Firehall Location
- Built Boundary

Scale:

0 200 600 1200 FEET

Updated: October 12, 2010..

APPENDIX C:
MECP WATER WELL RECORDS

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

6708631

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Town	VII	22

[redacted] RR1 Hillsburgh, Ont.

DATE COMPLETED: DAY 17 MO 09 YR 86

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Clay, Sand & Gravel			0	12
Br.	Clay,	Stones		12	22
Gr.	Clay,	Stones		22	68
Br.	Rock			68	120
Gr/Br.	Rock			120	180

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
177	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	73
5	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		73	180
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN (FEET):

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☐ BAILER — Air	15 GPM	2 HOURS ___ MINS

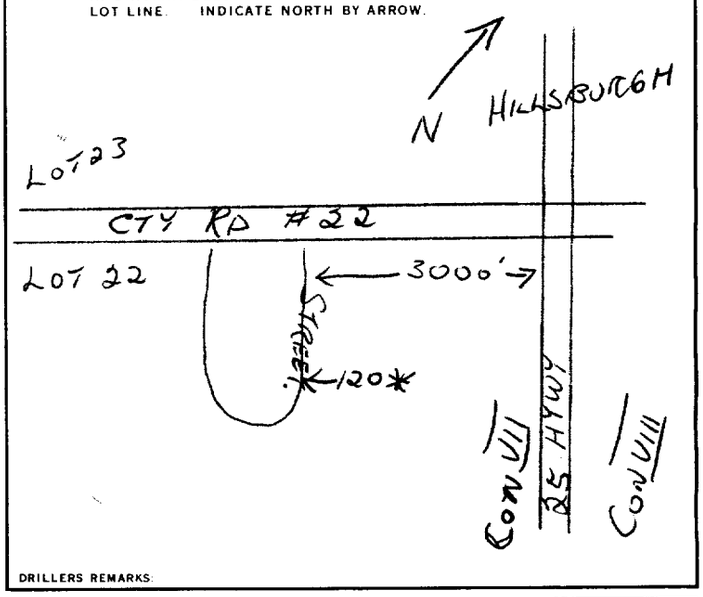
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
25 FEET	35 FEET	35 FEET	35 FEET	35 FEET	35 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	85 FEET	10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF DRILLING

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

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Lang Well Drilling Ltd	3317
ADDRESS: RR1 Hillsburgh Ont.	
NAME OF DRILLER OR BORER: Roy Lang	LICENCE NUMBER: 3317
SIGNATURE OF CONTRACTOR: R. Lang	SUBMISSION DATE: DAY 29 MO. 12 YR. 86

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
		130187

DATE OF INSPECTION: | INSPECTOR:

REMARKS:

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 — 6708632 — MUNICIP — CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Erin	VII	22
[redacted]	HILLSBURGH ONT.	DATE COMPLETED DAY 05 MO 12 YR 86	

RING — RC — ELEVATION — RC — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Br.	Clay,	Stones, Sand		0	22
Gr.	Clay,	Stones		22	66
Br.	Rock			66	117
Gr/Br	Rock			117	175

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
173 175	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	70
5"	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		70	175
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 6 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 10 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

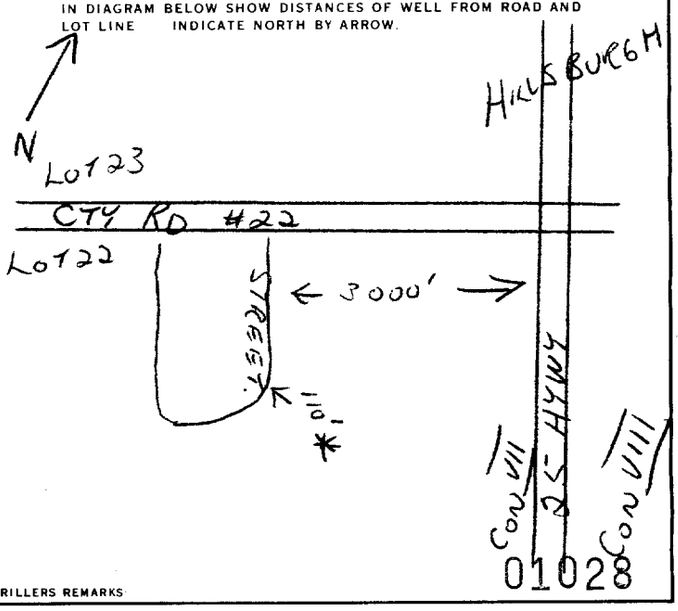
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
28 FEET	34 FEET	34 FEET	34 FEET	34 FEET	34 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	80 FEET	10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF DRILLING

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Langwell Drilling Ltd. — LICENCE NUMBER: 3317
ADDRESS: RR1 Hillsburgh Ontario.
NAME OF DRILLER OR BORER: Roy Lang — LICENCE NUMBER: 3317
CONTRACTOR
SUBMISSION DATE: DAY 29 MO 12 YR 86

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR — DATE RECEIVED: 130187
DATE OF INSPECTION — INSPECTOR
REMARKS

CSS.ES

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11

6708720

MUNICIP | CON.

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON. BLOCK, TRACT, SURVEY, ETC.: 7
LOT: 24
DATE COMPLETED: DAY 18 MO Sept. YR 86
ADDRESS OF WELL LOCATION: [redacted] RR1 Hillsburg.
RC. | ELEVATION | RC. | BASIN CODE | I | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH FEET FROM	DEPTH FEET TO
BR.	FILL			0	3
BLK. BR.	MUCK			3	6
BR.	C. GRAVEL	STONES		6	30
BR.	CLAY	ROCKS		30	64
GR.	ROCK			64	85
BR.	ROCK			85	140

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
125-140	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH FEET FROM	DEPTH FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	67
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		67	140
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	11 GPM	2 HOURS 00 MINS

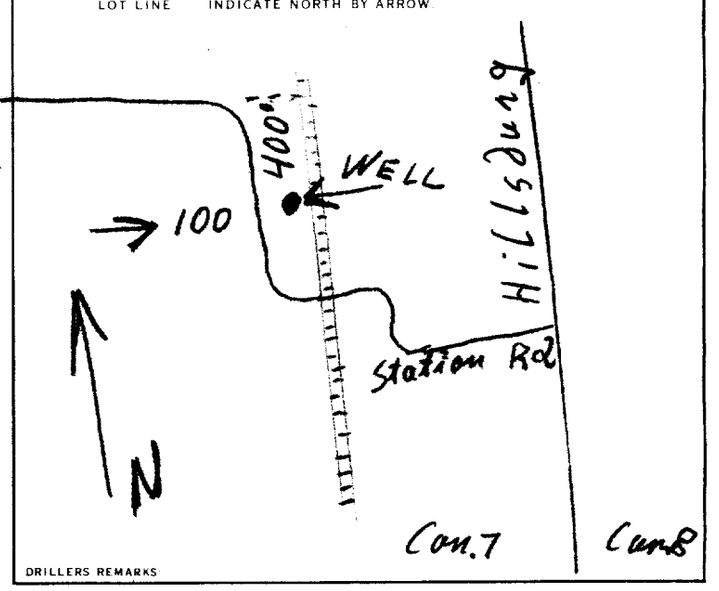
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☐ PUMPING 2 ☒ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
15 FEET	21 FEET		15 FEET	15 FEET	15 FEET	15 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	30 FEET	1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
V OR V SHALLOW DEEP	35 FEET	10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Rudy's WELL DRILLING — LICENCE NUMBER: 2332
ADDRESS: RR1 Hillsburg
NAME OF DRILLER OR BORER: Rudy GARBOTZ — LICENCE NUMBER: 2332
SIGNATURE OF CONTRACTOR: Rudy Garbotz — SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | DATE RECEIVED: 290487
DATE OF INSPECTION | INSPECTOR
REMARKS: CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 — 6709530 — MUNICIP 67093 — CON. GAN — 07

COUNTY OR DISTRICT: [redacted] — TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Erin — CON., BLOCK, TRACT, SURVEY, ETC.: VII — LOT 24

Hillsburgh Ont.

DATE COMPLETED: DAY 15 MO 09 YR 88

NG | RC | ELEVATION | RC | BASIN CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
	Gravel	Sand		0	47
	Clay			47	52
	Gravel			52	79
Br.	Rock			79	100

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER		
85 100	1 ☒ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS	
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS	
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS	
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS	
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS	

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
5"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	80'10"
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		80'10"	100
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: 12 GPM — DURATION OF PUMPING: 8 HOURS 30 MINS

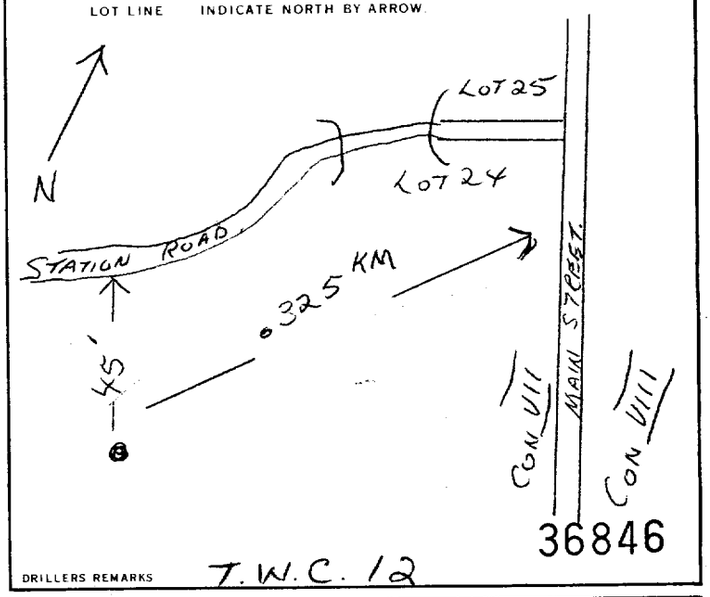
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
30 FEET	60 FEET	60 FEET	60 FEET	60 FEET	60 FEET

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

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP — RECOMMENDED PUMP SETTING: 75 FEET — RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C. 12

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY — 2 ☐ OBSERVATION WELL — 3 ☐ TEST HOLE — 4 ☐ RECHARGE WELL — 5 ☐ ABANDONED, INSUFFICIENT SUPPLY — 6 ☐ ABANDONED, POOR QUALITY — 7 ☐ UNFINISHED — 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lang Well Drilling Ltd. — WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.1 Hillsburgh Ont.

NAME OF WELL TECHNICIAN: ROY LANG — WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang — SUBMISSION DATE: DAY 10 MO 02 YR 89

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 3317 — DATE RECEIVED: FEB 10 1989

DATE OF INSPECTION — INSPECTOR

REMARKS: WDE — CSS.ES

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 — 6709532 — MUNICIP 6,7,0,0,3 — CON. C,O,N, — 0,7

COUNTY OR DISTRICT: Wellington
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Erin
CON., BLOCK, TRACT, SURVEY, ETC.: VII
LOT: 24
DATE COMPLETED: DAY 16 MO 09 YR 88
[redacted]
RC — ELEVATION — RC — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
~~Brn~~	Gravel	Stones		0	25
	Sand	Gravel		25	49
Gr.	Clay			49	53
	Gravel	Sand		53	70
Br.	Rock			70	77

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
73 TO 77	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	72
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		72	77
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

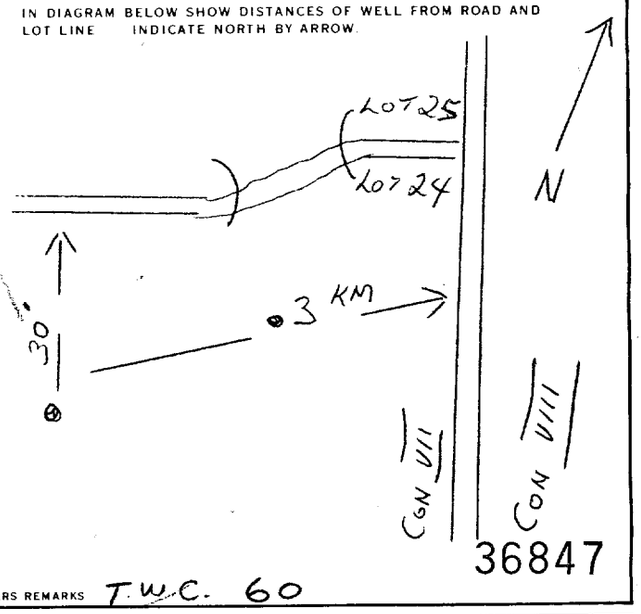
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 10 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

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

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 65 FEET
RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



36847

DRILLERS REMARKS: T.W.C. 60

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY — 2 ☐ OBSERVATION WELL — 3 ☐ TEST HOLE — 4 ☐ RECHARGE WELL — 5 ☐ ABANDONED, INSUFFICIENT SUPPLY — 6 ☐ ABANDONED, POOR QUALITY — 7 ☐ UNFINISHED — 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lagueux Well Drilling Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 3317
ADDRESS: R.R.#1 Hillsburgh Ont.
NAME OF WELL TECHNICIAN: ROY LANG
WELL TECHNICIAN'S LICENCE NUMBER: T-0158
SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang
SUBMISSION DATE: DAY 10 MO 02 YR 89

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 3317 — DATE RECEIVED: FEB 10 1989
DATE OF INSPECTION — INSPECTOR
REMARKS
WDE
CSS.ES

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 | 6709533 | MUNICIP 6703 | CON. CON | 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	Erin	VII	24

DATE COMPLETED: DAY 14 MO 09 YR 88

RNG | RC. | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Gravel,	Stones		0	24
	Sand			24	35
	Sand,	Gravel		35	48
Gr.	Clay,			48	52
	Gravel	Sand		52	71
Br.	Rock			71	75

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER	
74 to 75	1 ☒ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY	3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	726
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		726	75
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: 10 GPM

DURATION OF PUMPING: 1 HOURS 30 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
29 FEET	38 FEET	38 FEET	38 FEET	38 FEET	38 FEET

IF FLOWING, GIVE RATE: GPM

PUMP INTAKE SET AT: FEET

WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

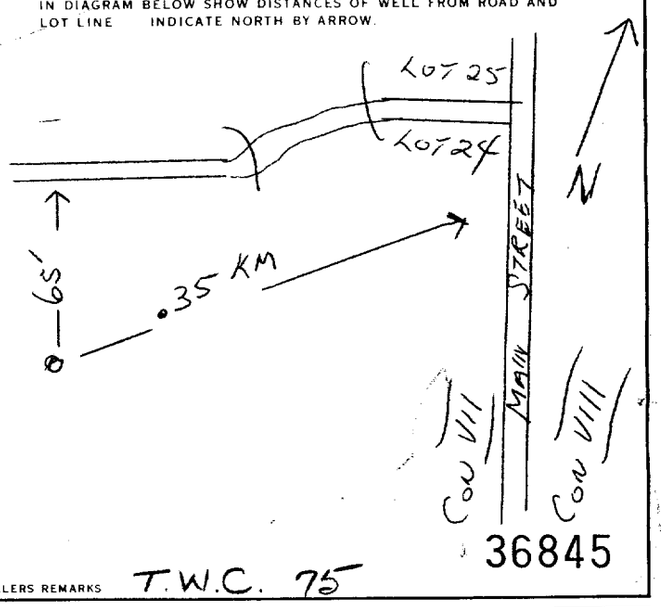
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

RECOMMENDED PUMP SETTING: 65 FEET

RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C. 75

36845

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED; 9 ☐ DEWATERING

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lang Well Drilling Ltd — WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.#1 Hillsburgh Ont

NAME OF WELL TECHNICIAN: ROY LANG — WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R Lang — SUBMISSION DATE: DAY 10 MO. 02 YR. 89

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED FEB 10 1989

DATE OF INSPECTION | INSPECTOR

REMARKS: WDE

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

6709568

MUNICIP 67903 CON. CON 07

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

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Erin	VII	22

DATE COMPLETED: DAY 08 MO 07 YR 86

[redacted] R.R.#1 Hillsburgh Ont

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Br	Clay	Stone		0	30
Br.	Clay	Sand		30	32
Gr.	Clay	Stones		32	47
Gr.	Clay			47	92
Br.	Limestone			92	107

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
103 TO 105	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	93'9"
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		93'9"	107
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: GPM — 1

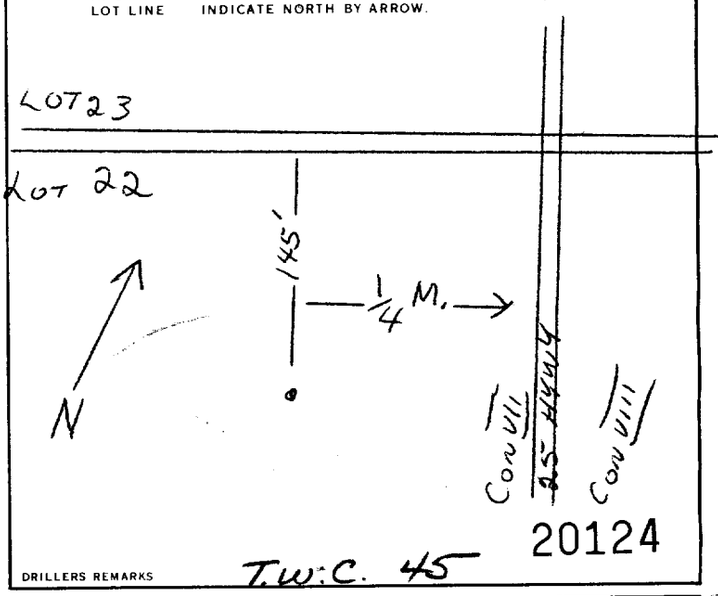
DURATION OF PUMPING: HOURS 30 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
27 ~~27~~ FEET	40 FEET	15 MINUTES: 40 FEET	30 MINUTES: 40 FEET	45 MINUTES: 40 FEET	60 MINUTES: 40 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY	
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP	RECOMMENDED PUMP SETTING: 80 FEET	RECOMMENDED PUMPING RATE: 10 GPM	

LOCATION OF WELL

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



20124

DRILLERS REMARKS: T.W.C. 45

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Long Well Drilling Ltd. — WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: RR#1 Hillsburgh Ont.

NAME OF WELL TECHNICIAN: Roy Lang — WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang — SUBMISSION DATE: DAY 10 MO 02 YR 89

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OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 3317 — DATE RECEIVED: FEB 10 1989

DATE OF INSPECTION — INSPECTOR

REMARKS: WDE — CSS.ES

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

6709573

MUNICIP 67003 CON CON 07

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

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON	BLOCK, TRACT, SURVEY, ETC	LOT	DATE COMPLETED
[redacted]	ERIN	VII		22	DAY 14 MO 03 YR 88

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Br.	Clay,	Stones, Sand Ledges		0	40
Gr.	Clay,	Stones		40	69
Br.	Rock			69	132
Gr.	Limestone			132	145

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
130 TO 145	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	74
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		74	145
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☐ BAILER AIR	10 GPM	1 HOURS 30 MINS

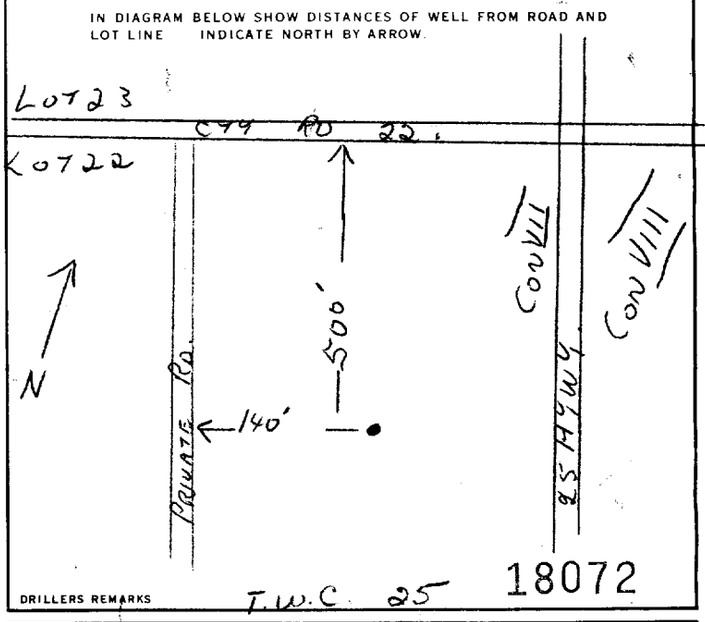
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
33 FEET	47 FEET	47 FEET	47 FEET	47 FEET	47 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	80 FEET	10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C 25

18072

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Laughlin Drilling Ltd. | WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.1 Hillsburgh, Ont.

NAME OF WELL TECHNICIAN: Roy Lang | WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang | SUBMISSION DATE: DAY 10 MO 02 YR 89

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED FEB 10 1989

DATE OF INSPECTION | INSPECTOR

REMARKS: WDE

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 | 6709595 | MUNICIP 67003 | CON. CON | 07

COUNTY OR DISTRICT: Wellington
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Erin
CON., BLOCK, TRACT, SURVEY, ETC.: VII
LOT: 23
DATE COMPLETED: DAY 25 MO 10 YR 88
[redacted]
RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Gravel	Clay		0	36
Br.	Limestone			36	70

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
60 TO 70	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	40
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC		40	70
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

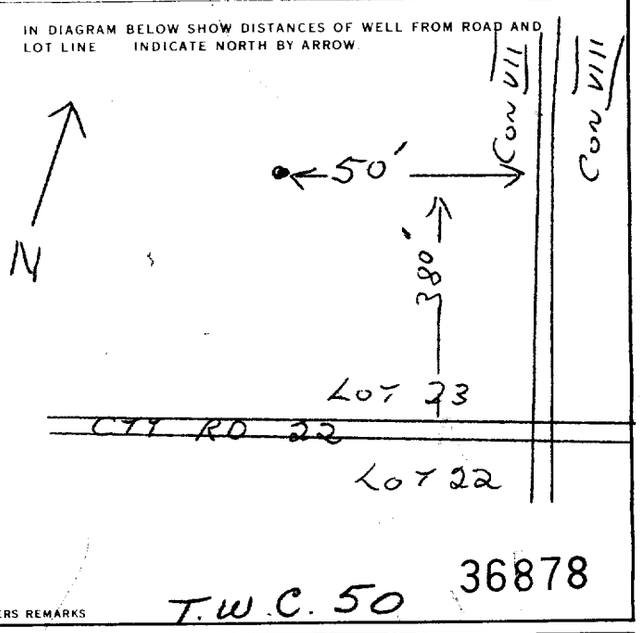
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 10 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
1 FEET	6 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	6 FEET	6 FEET	6 FEET	6 FEET

IF FLOWING GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 40 FEET
RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C. 50 36878

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Langwell Drilling Ltd
WELL CONTRACTOR'S LICENCE NUMBER: 3317
ADDRESS: R.R.1 Millbrigh Ont.
NAME OF WELL TECHNICIAN: ROY LANG
WELL TECHNICIAN'S LICENCE NUMBER: T-0158
SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang
SUBMISSION DATE: DAY 10 MO 02 YR 89

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED FEB 10 1989
DATE OF INSPECTION | INSPECTOR
REMARKS
WDE
CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 | 6709602 | MUNICIP 6,7,0,0,3 | CON. CON | 0,7

COUNTY OR DISTRICT: [redacted]
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Erin
CON. BLOCK, TRACT, SURVEY, ETC: VII
LOT: 23
DATE COMPLETED: DAY 17 MO 08 YR 88
[redacted] Ilsburgh Ont.
BASIN CODE:

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Fill			0	5
	Gravel,	Sand, Clay		5	43
Br.	Rock			43	76

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
70 TO 75	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	46
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		46	76
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

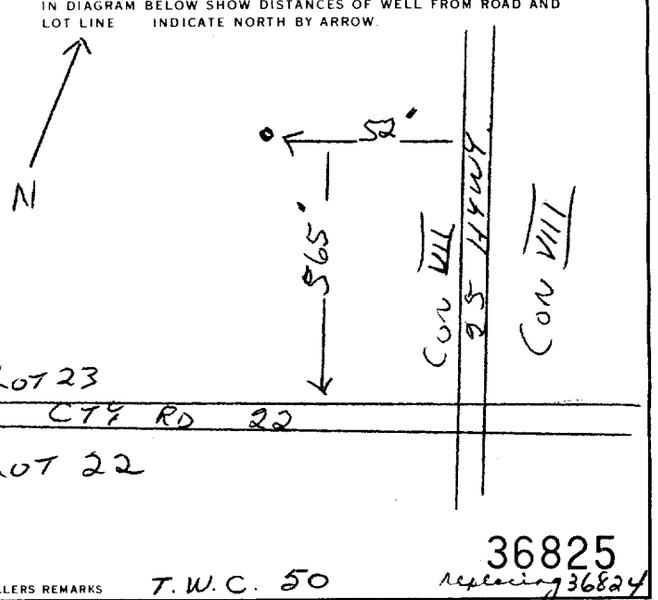
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 10 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

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

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 45 FEET
RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C. 50
36825 replacing 36824

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lang Well Drilling Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 3317
ADDRESS: R.R.#1 Millsburgh Ontario.
NAME OF WELL TECHNICIAN: ROY LANG
WELL TECHNICIAN'S LICENCE NUMBER: T-0158
SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang
SUBMISSION DATE: DAY 10 MO. 02 YR. 89

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED FEB 10 1989
DATE OF INSPECTION | INSPECTOR
REMARKS
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CSS.ES

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 — 6709605 — MUNICIP 67093 — CON. CON — 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Erin	VII	23

[redacted]

DATE COMPLETED: DAY 06 MO 09 YR 88

ELEVATION — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Fill			0	4
	Gravel	Sand, Clay		4	33
Br.	Limestone			33	70

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
60 TO 70	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	36
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		36	70
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: 12 GPM — DURATION OF PUMPING: 1 HOURS 30 MINS

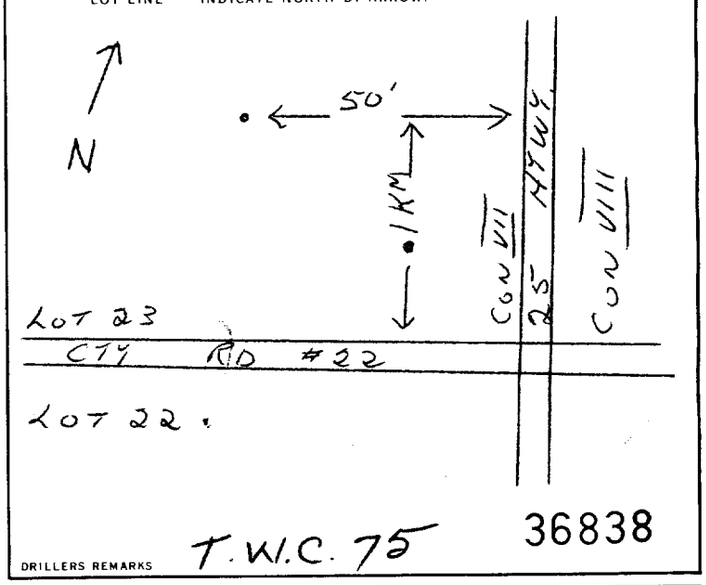
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
1 FEET	20 FEET	20 FEET	20 FEET	20 FEET	20 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	45 FEET	10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: T.W.C. 75 — 36838

FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 8 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED 9 ☐ DEWATERING

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Laughlin Drilling Ltd. — WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.1 Hillsburgh Ontario.

NAME OF WELL TECHNICIAN: ROY LANG — WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang — SUBMISSION DATE: DAY 10 MO. 02 YR 89

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR 3317 — DATE RECEIVED FEB 10 1989

DATE OF INSPECTION — INSPECTOR

REMARKS: WDE — CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 | 6709886 | MUNICIP 67003 | CON. CON | LOT 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT	DATE COMPLETED
[redacted]	ERIN	VII	24	DAY 22 MO 07 YR 89

[redacted] R.R.2 ERIN ONT NOBITO

RC | ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	FILL			0	5
BR.	CLAY	GRAVEL		5	28
GR.	CLAY	STONES		28	48
BR.	LIMESTONE			48	75

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
70 TO 75	1 ☒ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	52
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		52	75
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: 15 GPM

DURATION OF PUMPING: 1 HOURS 30 MINS

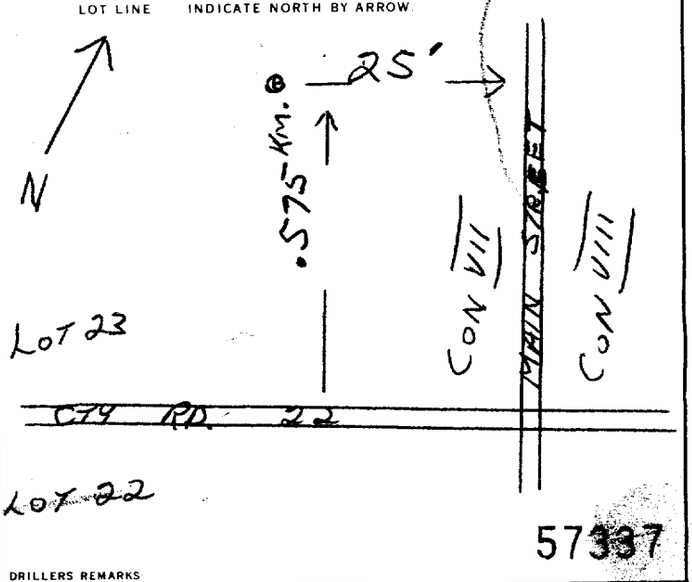
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
16 FEET	20 FEET	20 FEET	20 FEET	20 FEET	20 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	40 FEET	12 GPM

LOCATION OF WELL

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



DRILLERS REMARKS

57337

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD
WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.1 HILLSBURGH ONT

NAME OF WELL TECHNICIAN: ROY LANG
WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang
SUBMISSION DATE: DAY 03 MO 08 YR 89

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED AUG 14 1989

DATE OF INSPECTION | INSPECTOR

REMARKS: CSS.ES

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 (1 2) **6709890** MUNICIP 6,7,003 (10 14) CON. CON 07 (15 22 23 24)

COUNTY OR DISTRICT [redacted] | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE [redacted]n | CON. BLOCK, TRACT, SURVEY, ETC. VII | LOT 22 (25-27)

[redacted] HILLSBURGH ONT. | DATE COMPLETED (48-53) DAY 01 MO 08 YR 89

RNG (RC.) ELEVATION (RC.) BASIN CODE (II III IV)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Topsoil			0	2
Br.	Sand	Gravel		2	22
Gr.	Clay	Stones		22	61
Br.	Limestone			61	110
Gr./Br.	Limestone			110	144
Gr.	Limestone			144	179

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

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
175	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	66'6"
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		66'6"	179
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR

PUMPING RATE: 10 GPM | DURATION OF PUMPING: 1 HOURS 30 MINS

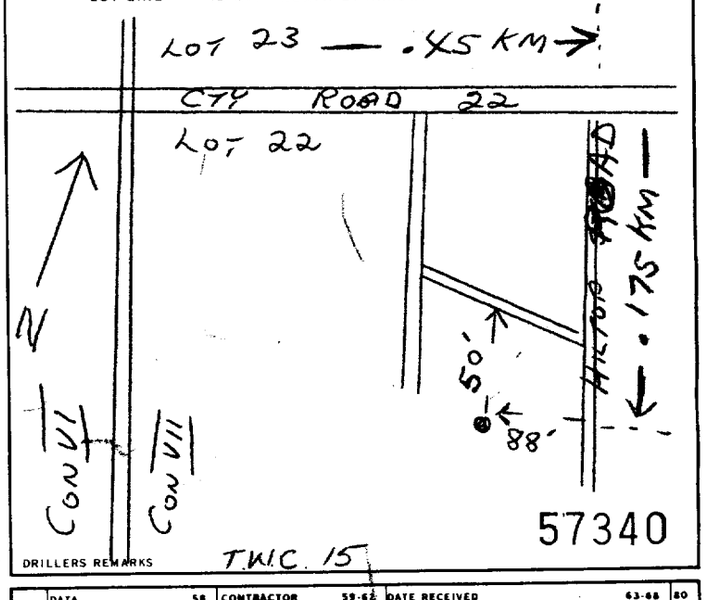
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
23'1" FEET	37 FEET		37 FEET	37 FEET	37 FEET	37 FEET

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

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 80 FEET | RECOMMENDED PUMPING RATE: 10 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: TWIC 15

FINAL STATUS OF WELL (54)

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

WATER USE (55-56)

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

METHOD OF CONSTRUCTION (57)

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lang Well Drilling Ltd | WELL CONTRACTOR'S LICENCE NUMBER: 3317

ADDRESS: R.R.4 Hillsburgh Ont.

NAME OF WELL TECHNICIAN: Roy LANG | WELL TECHNICIAN'S LICENCE NUMBER: T-0158

SIGNATURE OF TECHNICIAN/CONTRACTOR: R Lang | SUBMISSION DATE: DAY 03 MO 08 YR 89

OFFICE USE ONLY

DATA SOURCE (58) | CONTRACTOR (59-62): 3317 | DATE RECEIVED (63-68): AUG 14 1989

DATE OF INSPECTION | INSPECTOR

REMARKS: CSS.ES

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	VIII	23

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
BELL CANADA	13 MAIN ST, HILLSBURGH ONT.	DAY 19 MO 10 YR 90

21 | UTM ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASIN CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	GRAVEL	SAND, CLAY LAYERS		0	41
BR.	LIMESTONE			41	86

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
86	1 ☒ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY; 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	48
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		48	86
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 12 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

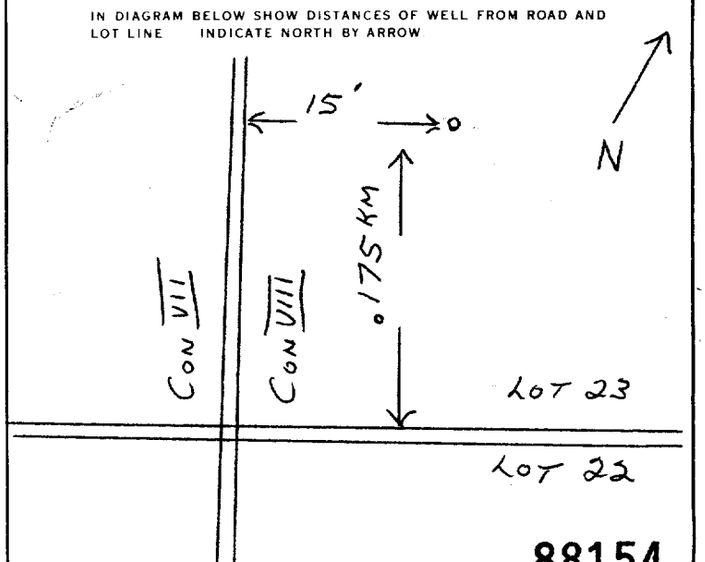
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
14 FEET	18 FEET	18 FEET	18 FEET	18 FEET	18 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	40 FEET	12 GPM

LOCATION OF WELL

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



88154

DRILLERS REMARKS

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD. — WELL CONTRACTOR'S LICENCE NUMBER: 3317
ADDRESS: R.R.1 HILLSBURGH ONT
NAME OF WELL TECHNICIAN: ROY LANG — WELL TECHNICIAN'S LICENCE NUMBER: T-0158
SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang — SUBMISSION DATE: DAY 29 MO. 12 YR. 90

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3317 | DATE RECEIVED JAN 08 1991
DATE OF INSPECTION | INSPECTOR
REMARKS

CSS.ES

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Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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11 | 6710551 | MUNICIP 67003 | CON. CON 07

COUNTY OR DISTRICT: [redacted]
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON. BLOCK, TRACT, SURVEY, ETC: VII
LOT: 23
R.R.#1, HILLSBURGH, ONT.
DATE COMPLETED: DAY 20 MO 11 YR 90

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BR.	CLAY	STONES		0	10
GR.	CLAY	STONES		10	82
BR.	LIMESTONE			82	98

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
90 TO 95	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
5"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	86
5"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		86	98
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

SCREEN

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

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER — AIR
PUMPING RATE: 10 GPM
DURATION OF PUMPING: 1 HOURS 30 MINS

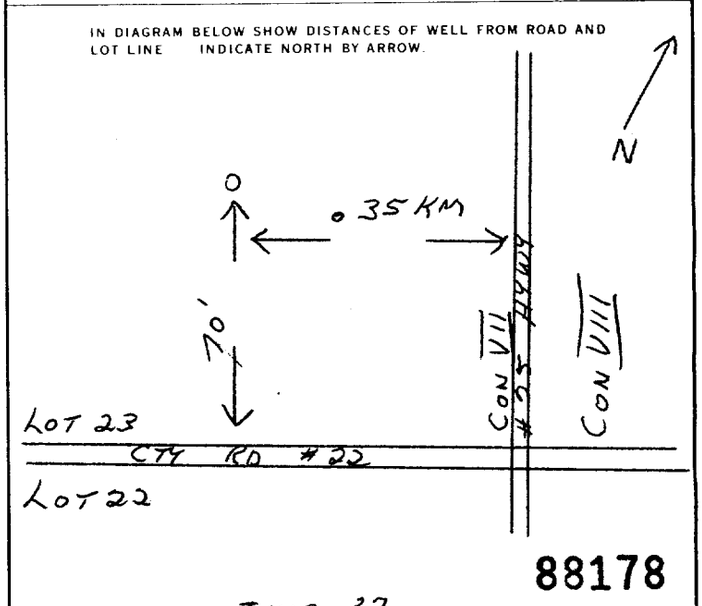
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
30 FEET	36 FEET	36 FEET	36 FEET	36 FEET	36 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	70 FEET	10 GPM

LOCATION OF WELL

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



88178

DRILLERS REMARKS: TWIC 37

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD
WELL CONTRACTOR'S LICENCE NUMBER: 3317
ADDRESS: R.R.1 HILLSBURGH ONT.
NAME OF WELL TECHNICIAN: ROY LANG
WELL TECHNICIAN'S LICENCE NUMBER: T-0158
SIGNATURE OF TECHNICIAN/CONTRACTOR: R. Lang
SUBMISSION DATE: DAY 29 MO 12 YR 90

OFFICE USE ONLY

DATA SOURCE:
CONTRACTOR: 3317
DATE RECEIVED: JAN 08 1991
DATE OF INSPECTION:
INSPECTOR:
REMARKS:
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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 — 6711893

Municipality: 67003 (10–14) Con.: CON (15–22) 06 (23–24)

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25–27)
[redacted]	ERIN	VL	22
	Address RR1 HILLSBURGH ONT	Date completed 20 day 12 month 95 year	

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

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
BR.	CLAY			0	15
GR.	CLAY, STONES, SAND LEDGES			15	55
GR.	CLAY	BOULDERS		55	109
BR.	LIMESTONE			109	152
DK. BR.	LIMESTONE			152	166
GR.	LIMESTONE			166	190

31

32

41 WATER RECORD

Water found at – feet	Kind of water
185 – 190 (10–13)	1 ☒ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
(15–18)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
(20–23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25–28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30–33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
(10–11) 6¼	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	(13–16) 112'9"
(17–18) 6⅛	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		112'9"	(20–23) 190
(24–25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27–30)

SCREEN

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

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

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

71 PUMPING TEST

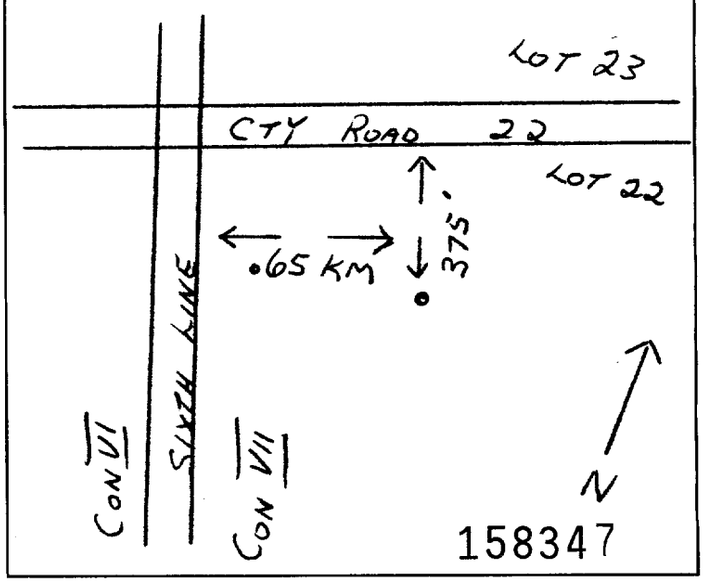
Pumping test method: 1 ☐ Pump 2 ☐ Bailer 3 ☒ AIR (11)
Pumping rate: 12 GPM (11–14)
Duration of pumping: 1 Hours (15–16) 30 Mins (17–18)
(25) Water levels during: 1 ☒ Pumping 2 ☐ Recovery

Static level (19–21)	Water level end of pumping (22–24)	15 minutes (26–28)	30 minutes (29–31)	45 minutes (32–34)	60 minutes (35–37)
50 feet	60 feet	60 feet	60 feet	60 feet	60 feet

If flowing give rate (38–41)	Pump intake set at	Water at end of test (42)
GPM	feet	☒ Clear ☐ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep (50–53)	Recommended pump setting (43–45): 85 feet	Recommended pump rate (46–49): 10 GPM

LOCATION OF WELL

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



FINAL STATUS OF WELL (54)

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

WATER USE (55, 56)

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

METHOD OF CONSTRUCTION (57)

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

Name of Well Contractor	Well Contractor's Licence No.
LANG WELL DRILLING LTD	3317
Address: RR1 HILLSBURGH ONT	
Name of Well Technician: ROY LANG	Well Technician's Licence No.: T-0158
Signature of Technician/Contractor: R. Lang	Submission date: day 16 mo 01 yr 96

MINISTRY USE ONLY

Data source (58)	Contractor (59–62)	Date received (63–68) (80)
	3317	JAN 18 1996
Date of inspection	Inspector	
Remarks		

CSS.ES

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The Ontario Water Resources Act
WATER WELL RECORD

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

11 — 6712833 — Municipality 67003 — Con CON 09

County or District: WELLINGTON
Township/Borough/City/Town/Village: ERIN
Con block tract survey, etc.: VIII
Lot: 24
Address: RR 2 GORE ROAD, PUSLINCH ONTARIO N0B 2J0
Date completed: 06 (day) 10 (month) 98 (year)

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

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
	TOPSOIL	FILL		0	3
	SAND	GRAVEL		3	16
	CLAY	STONES		16	24
	GRAVEL	SAND		24	35
GR.	CLAY	STONES, SAND		35	55
BR.	LIMESTONE			55	80

31
32

41 WATER RECORD

Water found at – feet	Kind of water
70 TO 80	1 [x] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6 1/4	1 [x] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic	.188	0	616'
6 1/8	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [x] Open hole 5 [ ] Plastic		616'	80
	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			

SCREEN

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

61 PLUGGING & SEALING RECORD

[ ] Annular space [ ] Abandonment

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

71 PUMPING TEST

Pumping test method: 1 [ ] Pump 2 [ ] Bailer — AIR
Pumping rate: 15 GPM
Duration of pumping: 1 Hours 30 Mins

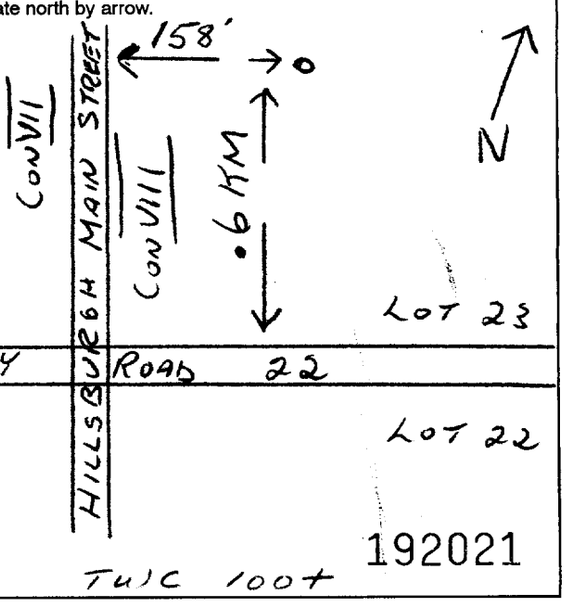
Static level	Water level end of pumping	Water levels during: 1 [x] Pumping 2 [ ] Recovery — 15 minutes	30 minutes	45 minutes	60 minutes
14 feet	16 feet	16 feet	16 feet	16 feet	16 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	[x] Clear [ ] Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
[ ] Shallow [x] Deep	35 feet	12 GPM

LOCATION OF WELL

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



FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor: LAING WELL DRILLING LTD
Well Contractor's Licence No.: 3317
Address: RR1 HILLSBURGH ONT
Name of Well Technician: ROY LAING
Well Technician's Licence No.: T-0158
Signature of Technician/Contractor: R Laing
Submission date: day 26 mo 12 yr 98

MINISTRY USE ONLY
Data source
Contractor: 3317
Date received: JAN 07 1999
Date of inspection
Inspector
Remarks

CSS.ES9

0506 (07/94) Front Form 9

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 (1 2) 6712960 Municipality 67003 (13 14) Con. CON (15 22 23 24) 07

25-99

County or District: WELLINGTON
Township/Borough/City/Town/Village: ERIN TWP
Con block tract survey, etc.: 7
Lot (25-27): 24
Address: RR#3 Guelph, ONT.
Date completed (48-53): 10 day 05 month 99 year

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

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
BROWN	SAND	STONES		0	25
BROWN	GRAVEL	SAND	COARSE	25	37
GREY	CLAY			37	42
			TOTAL DEPTH	42'	
		6" SHOE			

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

41 WATER RECORD

Water found at – feet	Kind of water
29-37	1 [X] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas
	1 [ ] Fresh 2 [ ] Salty 3 [ ] Sulphur 4 [ ] Minerals 6 [ ] Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6"	1 [X] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic	188	+2	29
	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			
	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
45		8

Material and type:
Depth at top of screen: 29 feet

61 PLUGGING & SEALING RECORD

[X] Annular space [ ] Abandonment

Depth set at – From	Depth set at – To	Material and type (Cement grout, bentonite, etc.)
0	25	BENTONITE

71 PUMPING TEST

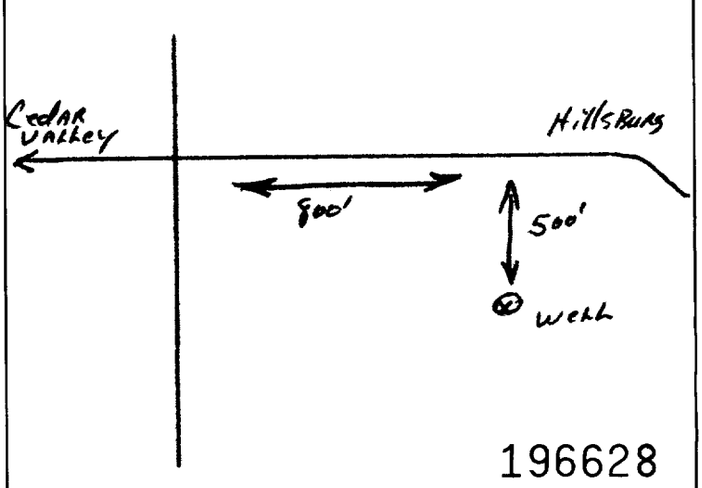
Pumping test method: 1 [X] Pump 2 [ ] Bailer
Pumping rate: 50 GPM
Duration of pumping: 1/2 Hours 0 Mins

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

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

LOCATION OF WELL

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



196628

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor: GRAHAM WELL DRILLING LTD
Well Contractor's Licence No.: 2336
Address: RR#5 ROCKWOOD, ONT. N0B-2K0
Name of Well Technician: TIM WILSON
Well Technician's Licence No.: T-1924
Signature of Technician/Contractor:
Submission date: 030 day 05 mo 99 yr

MINISTRY USE ONLY

Data source (58)
Contractor (59-62): 2336
Date received (63-68): JUN 09 1999 (80)
Date of inspection
Inspector
Remarks: CSS.ES9

0506 (07/94) Front Form 9

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Ontario **Ministry of the Environment**

The Ontario Water Resources Act
WATER WELL RECORD

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

11 **6714186** Municipality 67003 Con. CON 07

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
WELLINGTON	ERIN	7	24

[redacted]

Address: HILLSBURGH ONT

Date completed: 28 (day) 8 (month) 30 (year) 02

21 UTM Northing RC Elevation RC Basin Code ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
BROWN	STONES AND GRAVEL			0	37
GRAY	CLAY AND STONES			37	61
BROWN	LIMESTONE			61	97

31

32

41 WATER RECORD

Water found at - feet	Kind of water
93	1 ☒ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6¼	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	67
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		67	97
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

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

Material and type | Depth at top of screen feet

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
0	67	BENTONITE SLURRY
		DRILL CUTTINGS

71 PUMPING TEST

Pumping test method: 1 ☐ Pump 2 ☐ Bailer — air

Pumping rate: 10 GPM

Duration of pumping: 3 Hours 0 Mins

25 Water levels during: 1 ☐ Pumping ☒ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
25 feet	50 feet	29 feet	25 feet	25 feet	25 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☒ Clear ☐ Cloudy

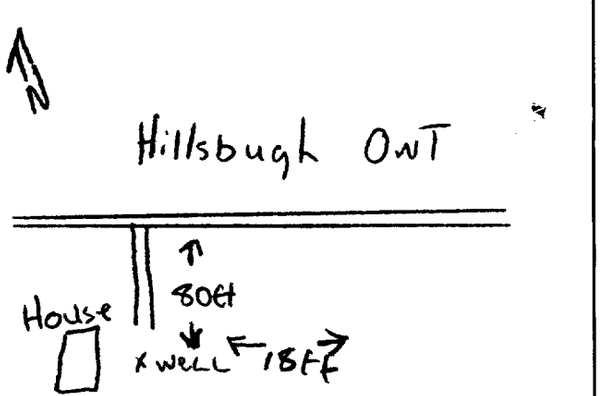
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 65 feet

Recommended pump rate: 10 GPM

LOCATION OF WELL

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



245736

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor	Well Contractor's Licence No.
KEITH LANG WELL DRILLING INC	7154
Address: 154 PARK ST GODERICH ONT	
Name of Well Technician: KEITH LANG	Well Technician's Licence No.: T 446
Signature of Technician/Contractor: Keith Lang.	Submission date: day mo yr

MINISTRY USE ONLY

Data source	Contractor	Date received
	7154	SEP 19 2002
Date of inspection	Inspector	
Remarks: CSS.ES2		

0506 (07/00) Front Form 9

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Ontario **Ministry of Environment and Energy**

The Ontario Water Resources Act
WATER WELL RECORD

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

11 **6714441** Municipality 67003 Con. CON 07

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
WELLINGTON	ERIN	7	24

Owner's surname / First Name	Address of Well Location	Date completed
HILLSBURGH REST HOME	HILLSBURGH ONT	21 (day) 3 (month) 2003 (year)

21 Zone UTM | Easting | Northing | RC | Elevation | RC | Basin Code | ii | iii | iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
BROWN	CLAY SILTY			0	8
GRAY	GRAVEL & STONES			8	41
GRAY	CLAY & STONES			41	59
BROWN	LIMESTONE			59	96
GRAY	[redacted] LIMESTONE			96	127

31

32

41 WATER RECORD

Water found at - feet	Kind of water
97	1 ☒ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
125	1 ☒ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6¼	1 ☒ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	61
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		61	127
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

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

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
0	61	BENTONITE SLURRY
		DRILL CUTTINGS

71 PUMPING TEST

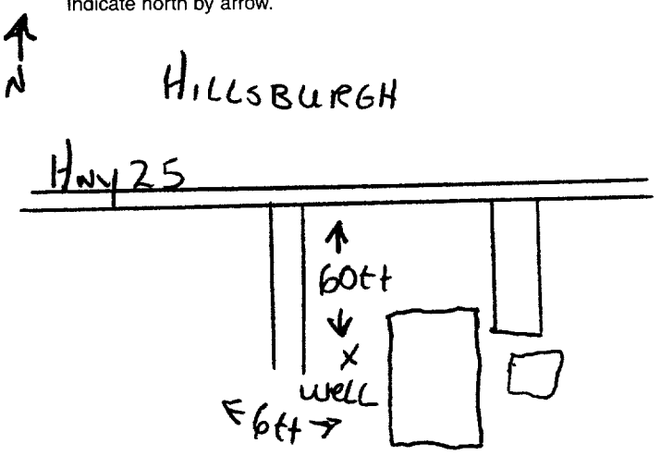
Pumping test method: 1 ☐ Pump 2 ☐ Bailair
Pumping rate: 15 GPM
Duration of pumping: 1 Hours 0 Mins

Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☒ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
27 feet	42 feet	31 feet	27 feet	27 feet	27 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☒ Clear ☐ Cloudy
Recommended pump type: ☐ Shallow ☒ Deep	Recommended pump setting: 60 feet	Recommended pump rate: 15 GPM

LOCATION OF WELL

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



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FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor	Well Contractor's Licence No.
KEITH LANG WELL DRILLING INC	7154
Address: 251 ELDON ST GODERICH ONT	
Name of Well Technician: KEOTH LANG	Well Technician's Licence No.: T 446
Signature of Technician/Contractor: Keith Lang	Submission date: day mo yr

MINISTRY USE ONLY

Data source	Contractor	Date received
	7154	APR 0 2 2003
Date of inspection	Inspector	
Remarks	CSS.ES3	

2 - MINISTRY OF ENVIRONMENT AND ENERGY COPY

Ontario Ministry of the Environment

08-04

Well A001807 (number below)

A001807

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

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

Ministry Use Only

[redacted]

Address of Well Location (County/District/Municipality): WELLINGTON

Township: ERIN

Lot: 21 Concession: 7

RR#/Street Number/Name: 9322 WELL. RD #22

City/Town/Village: HILLSBURGE

Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 Zone 17 Easting [redacted]569206 Northing 4847351 Unit Make/Model GARMIN Mode of Operation: Undifferentiated / Differentiated. specify / X Averaged

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
BROWN	CLAY	GRAVEL - BOULDERS		0	5.5
GREY	CLAY	FINE SAND		5.5	31.7
BROWN	ROCK		FRACTURED	31.7	48.7

Hole Diameter

Depth From	Metres To	Diameter Centimetres
0	6	22
6	48.7	16

Water Record

Water found at ___ Metres: 47.3 m — Kind of Water: X Fresh / Salty / Sulphur / Minerals / Gas / Other:

m — Fresh / Salty / Sulphur / Minerals / Gas / Other:

m — Fresh / Salty / Sulphur / Minerals / Gas / Other:

After test of well yield, water was: X Clear and sediment free / Other, specify

Chlorinated: X Yes / No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Metres To
Casing				
16	X Steel / Fibreglass / Plastic / Concrete / Galvanized	0.5	+46cm	33.9
	Steel / Fibreglass / Plastic / Concrete / Galvanized			
	Steel / Fibreglass / Plastic / Concrete / Galvanized			
Screen				
Outside diam	Steel / Fibreglass / Plastic / Concrete / Galvanized	Slot No.		
No Casing or Screen				
	X Open hole		33.9	48.7

Test of Well Yield

Pumping test method

Pump intake set at - (metres) 30.5

Pumping rate - (litres/min) 45

Duration of pumping 1 hrs + 0 min

Final water level end of pumping 25.3 metres

Recommended pump type. Shallow / X Deep

Recommended pump depth. 30.5 metres

Recommended pump rate. (litres/min) 45

If flowing give rate - (litres/min)

If pumping discontinued, give reason.

	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level		13.8		<5.3
1	15.9		1	22.9
2	18.3		2	20.7
3	19.9		3	16.8
4	21.3		4	15.6
5	22.3		5	14.6
10	24.3		10	14
15	25.3		15	13.5
20	25.3		20	13.8
25	25.3		25	13.8
30	25.3		30	13.8
40	25.3		40	13.8
50	25.3		50	13.8
60	25.3		60	13.8

Plugging and Sealing Record

☐ Annular space ☐ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	6	BENTONITE SLURRY	0.1

Method of Construction

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

Water Use

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

Final Status of Well

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

Well Contractor/Technician Information

Name of Well Contractor: GRAHAM WELL DRILLING LTD — Well Contractor's Licence No.: 2336

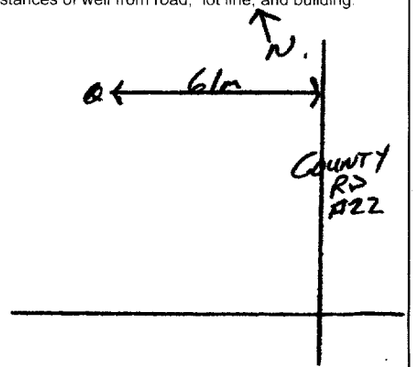
Business Address (street name, number, city etc.): RR#5 ROCKWOOD, ONT. N0B-2K0

Name of Well Technician (last name, first name): WILSON TIM — Well Technician's Licence No.: T-1924

Signature of Technician/Contractor: X [signature] — Date Submitted: 04 04 30

Location of Well

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



Audit No. Z 01905 — Date Well Completed: 04 04 01

Was the well owner's information package delivered? X Yes / No — Date Delivered: 04 04 01

Ministry Use Only

Data Source — Contractor 2336

Date Received: MAY 11 2004 — Date of Inspection

Remarks — Well Record Number: 6714872

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☒

Cette formule est disponible en français

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

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- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

[redacted]

WELLINGTON — RR#/Street Number/Name

ERIN — City/Town/Village

22 7 — Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 17 | Easting 569431 | Northing 4847195

Unit Make/Model: MAGELEN

Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify UTM

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To
		PLUG DUG WELL			

Hole Diameter

Depth From	Depth To	Diameter Centimetres

Water Record

Water found at ___ Metres / Kind of Water

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

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

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

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

Chlorinated ☒ Yes ☐ No

Construction Record

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

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ____hrs +____ min	2		2	
Final water level end of pumping ____metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ____metres	5		5	
Recommended pump rate. (litres/min)	10		10	
If flowing give rate - (litres/min)	15		15	
If pumping discontinued, give reason.	20		20	
	25		25	
	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record

☐ Annular space ☒ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	8ft	GRAVEL SAND CLEAN	
8	9ft	BENTONITE	
(9ft	29ft	GRAVEL SAND CLEAN	
"29ft	30ft	BENTONITE	

Method of Construction

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

Water Use

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

Final Status of Well

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

Well Contractor/Technician Information

Name of Well Contractor: KEITH LANG WELL DRILLING INC — Well Contractor's Licence No.: 7154

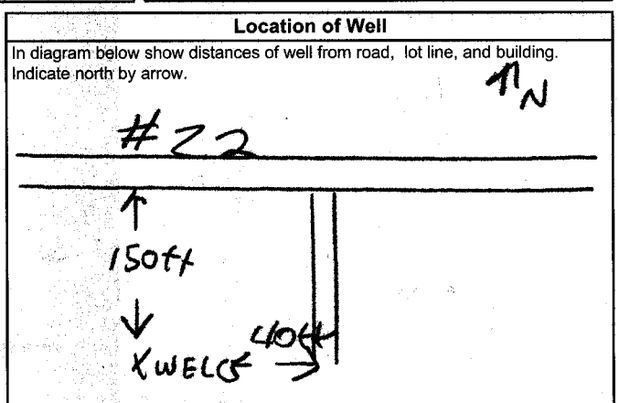
Business Address (street name, number, city etc.): 251 ELDON ST GODERICH ONT

Name of Well Technician (last name, first name): KEITH LANG — Well Technician's Licence No.: T 446

Signature of Technician/Contractor: X Keith Lang — Date Submitted YYYY MM DD

Location of Well

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



Audit No. Z 50304

Date Well Completed YYYY MM DD: 2006 6 22

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

Date Delivered YYYY MM DD

Ministry Use Only

Data Source — Contractor [redacted]

Date Received JUL 13 2006 YYYY MM DD — Date of Inspection YYYY MM DD

Remarks — Well Record Number 7154

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

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* A047135 A 047135

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

Well Owner's Information

[redacted]

Address of Well Location (Street Number/Name/Lot No.) 14 MAIN ST

Township ERIN

Concession 23

Lot 7

County/District/Municipality WELLINGTON

City/Town/Village HILLSBURG

Province Ontario

Postal Code

UTM Coordinates NAD 8 3 Zone 17 Easting 569784 Northing 4848031

GPS Unit Make GARMIN

Model

Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
			UPGRADE WELL HEAD		
			ADD 1ft WELL CASING To Meet M.O.E. Standards		

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)

Method of Construction

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

Water Use

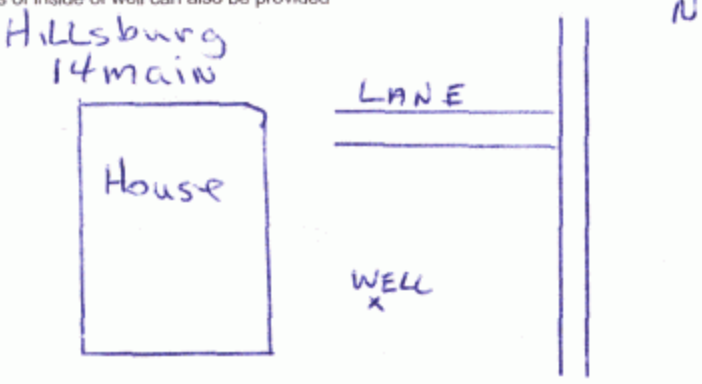
☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Status of Well

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

Location of Well

Please provide a map below showing:
- all property boundaries, and measurements sufficient to locate the well in relation to fixed points,
- an arrow indicating the North direction
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- vidigital pictures of inside of well can also be provided



Date Well Completed (yyyy/mm/dd) 2008/18/3

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

Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd)

Well Contractor and Well Technician Information

Business Name of Well Contractor KEITH LANG WELL DRILLING INC

Well Contractor's Licence No. 7154

Business Address (Street No./Name, number, RR) 251 ELDON ST GODERICH

Municipality

Province ONT

Postal Code N7A 3R9

Business E-mail Address

Bus. Telephone No. (inc. area code) 519-524-8159

Name of Well Technician (Last Name, First Name) KEITH LANG

Well Technician's Licence No. T H 4 6

Signature of Technician K. Lang

Date Submitted (yyyy/mm/dd)

Results of Well Yield Testing

Check box if after test of well yield, water was:
☐ Clear and sand free
☐ Cannot develop to sand-free state

If pumping discontinued, give reason:

Pumping test method

Pump intake set at (Metres)

Pumping rate (Litres/min)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (Metres)

Recommended pump type ☐ Shallow ☐ Deep

Recommended pump depth ____ Metres

Recommended pump rate (Litres/min)

If flowing give rate (Litres/min)

	Draw Down Time (Min)	Draw Down Water Level (Metres)	Recovery Time (Min)	Recovery Water Level (Metres)
Static Level			Static Level	
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Water Details

Water found at Depth	Kind of Water
____ Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
____ Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
____ Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Casing Used

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete

Screen Used

☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete

No Casing and Screen Used

☐ Open Hole

Disinfected? ☒ Yes ☐ No

Casing and Well Details

Diameter of the Hole (Centimetres)

Depth of the Hole (Metres)

Wall Thickness (Metres)

Inside Diameter of the Casing (Metres)

Depth of the Casing (Metres)

Ministry Use Only

Audit No. z 69718

Well Contractor No.

Date Received (yyyy/mm/dd) APR 25 2008

Date of Inspection (yyyy/mm/dd)

Remarks

0506E (11/2006)

Ministry's Copy

Ontario Ministry of the Environment

Well Tag (see below)
A 026318
A 026318

Well Record
Regulation 903 Ontario Water Resources Act

page 1 of 2

Instructions for Completing Form

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

Ministry Use Only
MUN | CON | LOT

[redacted]

WELLINGTON | ERIN | 23-24 | 7

RR#/Street Number/Name: STATION ST.
City/Town/Village: ERIN
Site/Compartment/Block/Tract etc.:

GPS Reading: NAD 83 | Zone 17 | Easting 569283 | Northing 4847592
Unit Make/Model: MACGILLAN
Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
GREY.	SILT	CLAY, SAND, GRAVEL	SILT TILL	0	15.3
GREY	DOLOSTONE	–	BEDROCK	15.3	36.0

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	15.3	25
15.3	36.0	13

Water Record

Water found at ___ Metres / Kind of Water

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

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

Chlorinated ☐ Yes ☐ No

Construction Record

Inside diam (centimetres)	Material	Wall thickness (centimetres)	Depth From	Depth To (Metres)
Casing				
5	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	SCH40	0	33
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam		Slot No.		
5.7	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	10	33	36
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time (min)	Draw Down Water Level (Metres)	Recovery Time (min)	Recovery Water Level (Metres)
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___hrs +___ min	2		2	
Final water level end of pumping (metres)	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

DONE BY CONSULTANT

Plugging and Sealing Record

☒ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	33	BENTONITE GROUT	.90

Method of Construction

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

Water Use

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

Final Status of Well

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

Well Contractor/Technician Information

Name of Well Contractor: NOLL DRILLING INC
Well Contractor's Licence No.: 6370
Business Address (street name, number, city etc.): 233 ST. CHARLES ST. WEST R.R.#1 BRESLAU
Name of Well Technician (last name, first name): NOLL ROBERT.
Well Technician's Licence No.: 411
Signature of Technician/Contractor: X
Date Submitted: 2008 02 21

Location of Well

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

MW12A / B-08

Audit No. Z 48968
Date Well Completed: 2008 02 21
Was the well owner's information package delivered? ☐ Yes ☒ No
Date Delivered

Ministry Use Only

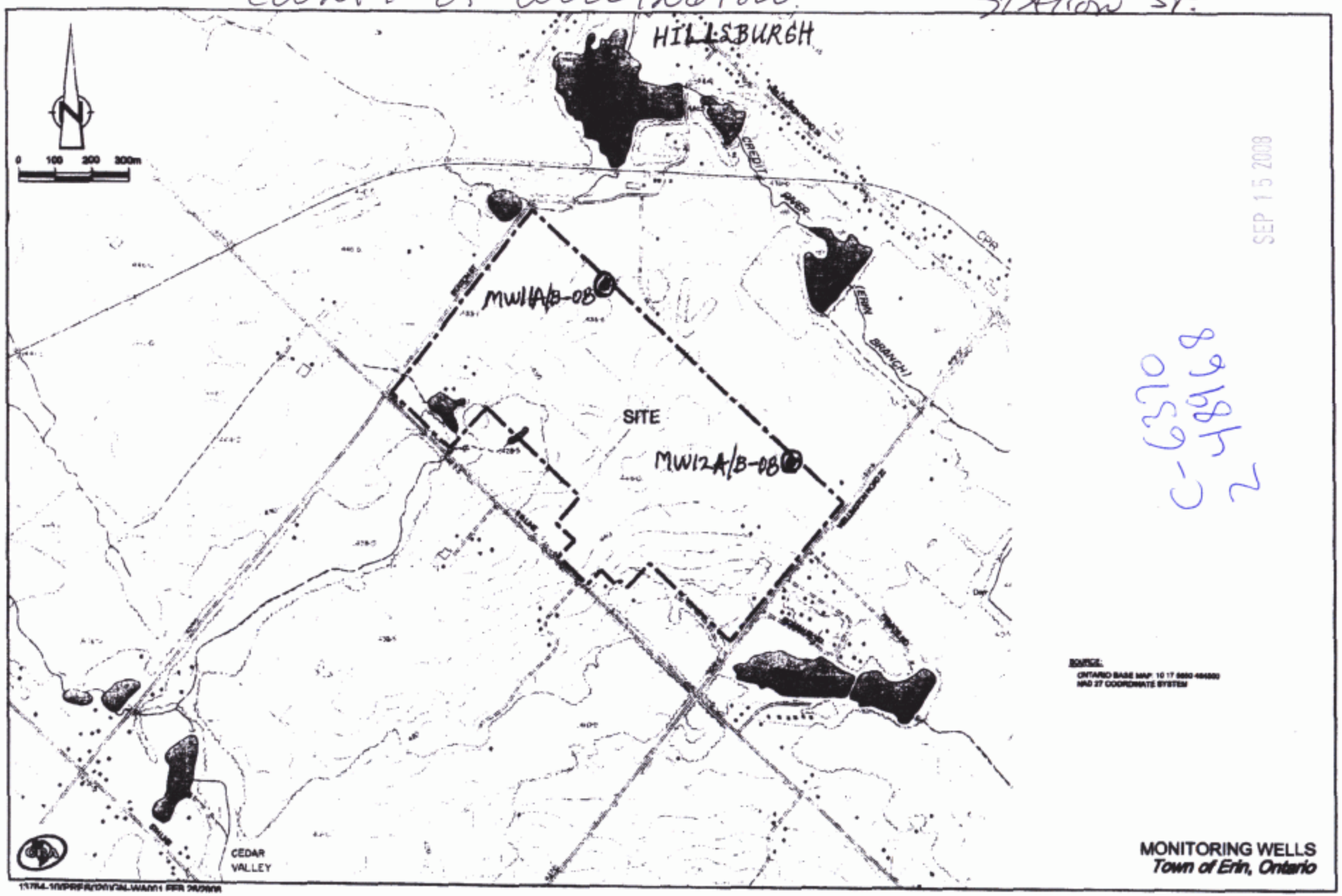
Data Source | Contractor
Date Received: SEP 15 2008 | Date of Inspection
Remarks | Well Record Number

05082 (99/03)

Contractor's Copy ☑ Ministry's Copy ☐ Well Owner's Copy ☐

Cette formule est disponible en français

LOTS 23 & 24.
CONCESSION 7 TOWN OF ERIN.
COUNTY OF WELLINGTON. STATION ST.



C-6570
2 4984 8

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)

A 026317

Well Record

Regulation 903 Ontario Water Resources Act

page 1 of 2

Instructions for Completing Form

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- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

[redacted]

WELLINGTON | ERIN | 23-24 | 7

RR#/Street Number/Name | City/Town/Village | Site/Compartment/Block/Tract etc.

STATION ST. | ERIN

GPS Reading | NAD | Zone | Easting | Northing | Unit Make/Model | Mode of Operation

NAD 83 | Zone 17 | Easting 565783 | Northing 4854057 | MAGELLAN | Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
GREY.	SILT	CLAY, SAND, GRAVEL	SILT TILL	0	19.8
GREY	DOLOSTONE		BEDROCK.	19.8	32.0

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	19.8	25
19.8	32.0	13

Water Record

Water found at ___ Metres / Kind of Water

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

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

Chlorinated ☐ Yes ☒ No

Construction Record

Inside diam (centimetres)	Material	Wall thickness (centimetres)	Depth From	Depth To (Metres)
Casing				
5	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	SCH40	0	29
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam		Slot No.		
5.7	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	10	29	32
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___hrs ___min	2		2	
Final water level end of pumping ___metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

DOWN BY. CONSULTANT.

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	29	BENTONITE GROUT	.90

Method of Construction

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

Water Use

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

Final Status of Well

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

Well Contractor/Technician Information

Name of Well Contractor: NOLL DRILLING INC | Well Contractor's Licence No.: 6370

Business Address (street name, number, city etc.): 233 ST. CHARLES ST. WEST. R.R.#1 BRESLAU

Name of Well Technician (last name, first name): NOLL ROBERT. | Well Technician's Licence No.: 411

Signature of Technician/Contractor: X [signature] | Date Submitted: 2008 02 21

Location of Well

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

MW11A/8-08

Audit No. Z 48955 | Date Well Completed: 2008 01 20

Was the well owner's information package delivered? ☐ Yes ☐ No | Date Delivered: [redacted]

Ministry Use Only

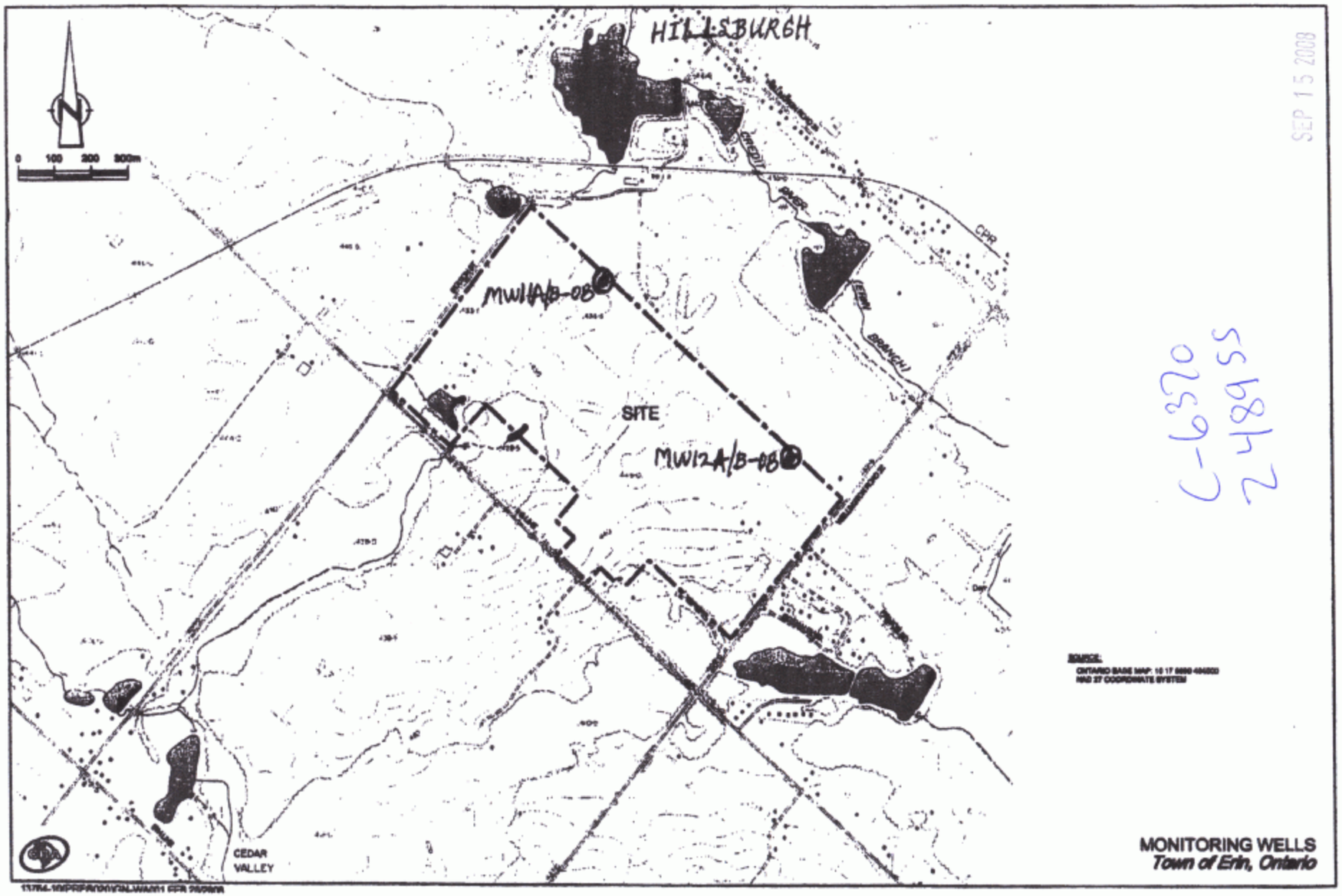
Data Source | Contractor

Date Received: SEP 15 2008 | Date of Inspection

Remarks | Well Record Number

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐

Cette formule est disponible en français



SEP 15 2008

C-6320
2-4855

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. A077208

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
#9366 County Rd. #22	Erin	Pt. 23	7

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Erin / Hillsburgh	Ontario	N0B 1Z0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	569353	4347965		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Top Soil			0	2
Brown	Clay	Stones		2	43
Brown	Clay	Gravel		43	65
Brown	Clay			65	69
Brown	Limestone		Large Fracture	69	72
Brown	Limestone			72	82
			Total = 82 Ft.		
		6 1/4" Casing Drive Shoe			

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20	Quick Grout	90 Gal.

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6 1/4	Steel	.188	+2	69
6 1/4	Open Hole		69	82

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify
82	☐	☐	☑	
	☐	☐	☐	
	☐	☐	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10"
20	82	6 1/4"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 60

Pumping rate (l/min / GPM): 25

Duration of pumping: 1 hrs + ____ min

Final water level end of pumping (m/ft): 18 FT

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft): 60

Recommended pump rate (l/min / GPM): 25

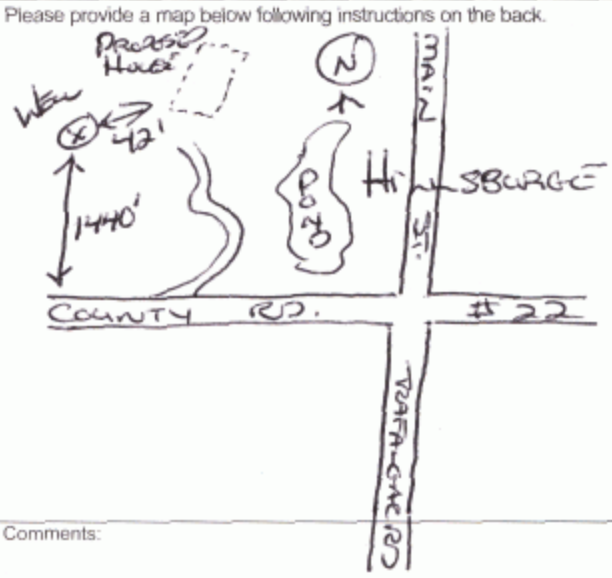
Well production (l/min / GPM): 25+

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	17		18
1	17.6	1	17.5
2	17.6	2	17.3
3	17.6	3	17.0
4	17.6	4	
5	17.6	5	
10	17.7	10	
15	17.8	15	
20	18	20	
25	18	25	
30	18	30	
40	18	40	
50	18	50	
60	18	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Hannen Well Drilling LTD	2663

Business Address (Street Number/Name)	Municipality
RR#5 Guelph	Wellington

Province	Postal Code	Business E-mail Address
Ont.	N1H 6J2	hannenwelldrilling@bellnet.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5197638239	Hannen, Henry

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0590	[signature]	2009 07 01

Well owner's information package delivered ☑ Yes ☐ No

Date Package Delivered: 2009 07 13

Date Work Completed: 2009 06 02

Ministry Use Only

Audit No. Z 85140

Received JUL 16 2009

0506E (12/2007)

Ministry's Copy

Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (P 73292 **A 073292**

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	ERIN	24	8

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	569628	4848118		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	SILTY CLAY GRAVEL			0	8ft
GRAY	GRAVEL			8ft	52ft
GRAY	LIMESTONE			52ft	65ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	54ft	BENTONITE SLURRY	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼	steel	.188	0	54ft
6ion	open hole		54ft	65ft

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth	Kind of Water	
62ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	
(m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify	
(m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
o	54ft	8.75in
54ft	65ft	6in

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 30ft

Pumping rate (l/min / GPM): 10gpm

Duration of pumping: 2 hrs + 0 min

Final water level end of pumping (m/ft): 10ft

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

Recommended pump depth (m/ft): 20ft

Recommended pump rate (l/min / GPM): 10gpm

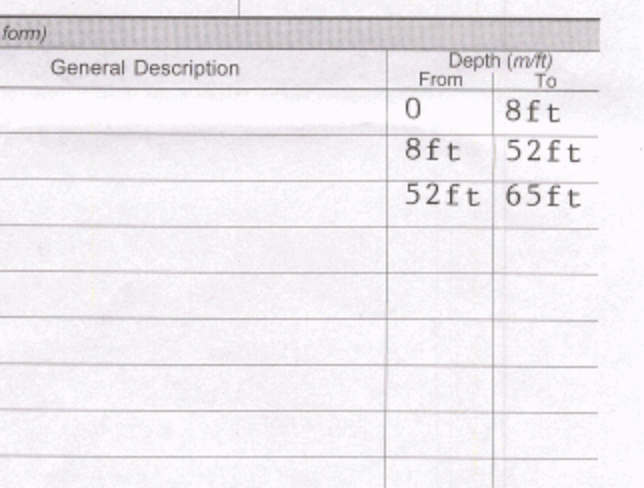
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		8ft		
1			1	
2			2	
3			3	
4			4	
5		9ft	5	8ft
10			10	
15			15	
20			20	
25		10ft	25	
30			30	
40			40	
50			50	
60		10ft	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
KEITH LANG WELL DRILLING INC	7154

Business Address (Street Number/Name)	Municipality
251 ELDON ST GODERICH ONT	

Province	Postal Code	Business E-mail Address
	N7A3R9	

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T5446	K Lang	

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

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

Date Work Completed: 2009 10 10

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Audit No. Z 097054

Received DEC 03 2009

0506E (12/2007)

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A 090694

(or Print Below)

A090694

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☐ Imperial

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	NESTLE WATERS CANADA		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
% Schlumberger Water Services, 460 Phillip St. Suite 101	WATERLOO	ON	N2L5J2	5197461798

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
9313 Sideroad 24 Erin - Station St.	Erin Town	24	7

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Hillsburg	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	568535	4847688		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Black	Topsoil			0'	1'
	Silty sand			1'	17'
	Med. sand	Gravel, boulders		17'	35'
Brown	Clay			35'	36'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
36'	24'	Sand	4 bgs.
24'	0'	Bentonite chips	5 bgs.

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	Plastic - PVC	Sch. 40	0'	35'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2"	Plastic - PVC	10	35'	25'

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
25'-35'	☒ Fresh ☐ Untested	☐	
(m/ft)	☐ Fresh ☐ Untested	☐	
(m/ft)	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0'	36'	6"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

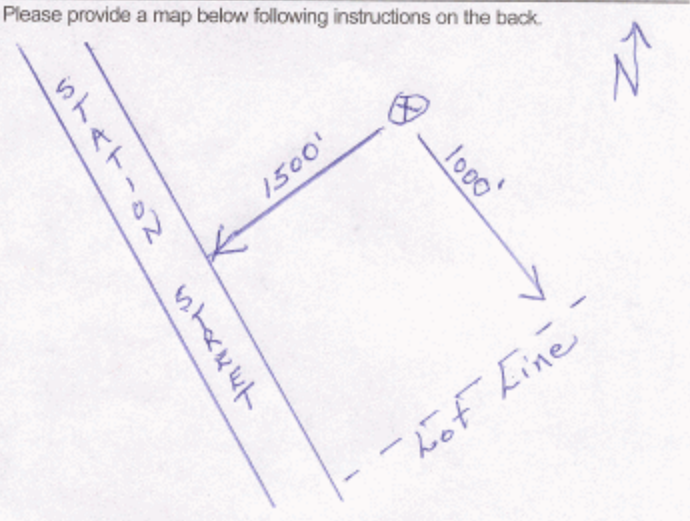
Well production (l/min / GPM)

Disinfected? ☒ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Davidson Well Drilling Limited	1737

Business Address (Street Number/Name)	Municipality
147 North Street W.	WINGHAM

Province	Postal Code	Business E-mail Address
ON	N0G2W0	info@davidsondrilling.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5193571960	REAVIE GARY

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T156	G. C. Davidson	2009 12 21

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

Date Package Delivered: YYYY MM DD

Date Work Completed: 2008 12 01

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Audit No. Z109934

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A090695

Measurements recorded in: ☐ Metric ☐ Imperial

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	NESTLE WATERS CANADA		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
% Schlumberger Water Services, 460 Phillip st. Suite 101	WATERLOO	ON	N2L5J2	5197461798

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
9313 Sideroad 24 Erin - Station st.	Erin Town	24	7

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Hillsburgh	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	568556	4847875		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Topsoil			0'	1'
	Silty sand			1'	17'
	Med. sand	Gravel, boulders		17'	35'
Brown	Clay	Boulders, gravel		35'	73'
Brown	Limestone			73'	171'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
171'	131'	Sand	12 bgs.
131'	128'	Bentonite chips	1 bg.
128'	90'	Grout well	8 bgs.
90'	73'	Bentonite chips	19 bgs.
73'	0'	Grout well	4 bgs.

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	.188"	0'	73'
6"	Open Hole		73'	171'
2"	Plastic	Sch. 40	0'	170'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2"	Sch. 40 - PVC	10	170'	140'

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
140 - 170'	☒ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0'	73'	8 3/4"
73'	171'	6"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

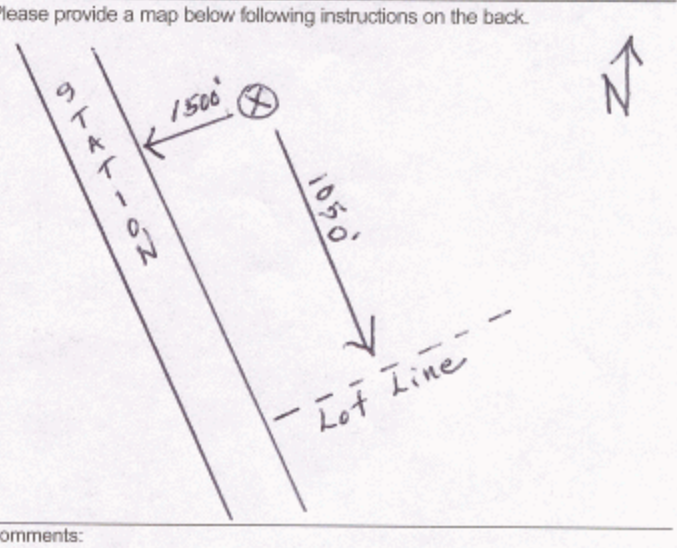
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Davidson Well Drilling Limited	1737

Business Address (Street Number/Name)	Municipality
147 North Street W.	WINGHAM

Province	Postal Code	Business E-mail Address
ON	N0G2W0	info@davidsondrilling.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5193571960	REAVIE GARY

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T156	J.C. Davidson	2009 12 21

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2009 12 04

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Audit No. Z109935

Received MAR 29 2010

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Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Pla 84720 **A 084720**

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	ERIN	24	8

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	569543	4848308		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	SILTY SAND CLAY			0	8ft
BROWN	GRAVEL SAND			8ft	32ft
GRAY	CLAY & STONES			32ft	50ft
GRAY	LIMSTONE			50ft	68ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	51ft	BENTONITE SLURRY	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼	steel	.188	0	51ft
6in	open hole		51ft	68ft

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Fresh	Untested	Other, specify
65ft	☐	☒	☐	☐	
	☐	☐	☐	☐	
	☐	☐	☐	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	51ft	8.75in
51ft	68ft	6in

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 40ft

Pumping rate (l/min / GPM): 10gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 24ft

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

Recommended pump depth (m/ft): 40ft

Recommended pump rate (l/min / GPM): 10gpm,

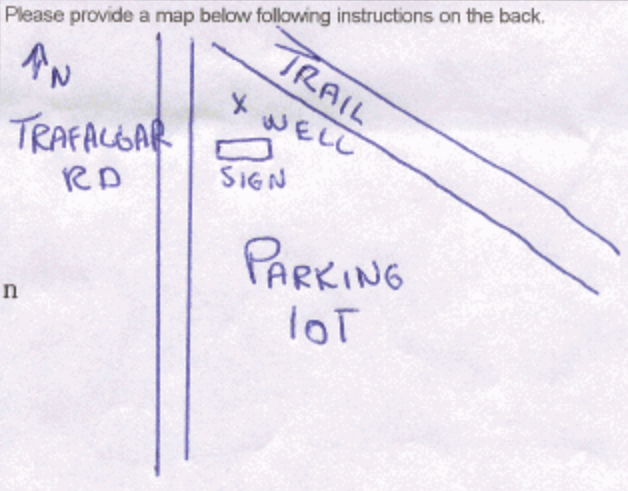
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	12ft		
1		1	
2		2	
3		3	
4		4	
5	19ft	5	14ft
10	22ft	10	13ft
15	23ft	15	12ft
20	24ft	20	
25		25	
30		30	
40		40	
50		50	
60	24ft	60	12ft

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
KEITH LANG WELL DRILLING INC	7154

Business Address (Street Number/Name)	Municipality
251 ELDON ST GODERICH ONT	

Province	Postal Code	Business E-mail Address
ONT	N7A3R9	

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T446	K. Lang	

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

Date Package Delivered:

Date Work Completed: 2010 8 8

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Audit No. z119236

Date Received: OCT 27 2010

0506E (2007/12)

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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.

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
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

Annular Space/Abandonment Sealing Record

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

Method of Construction & Well Use

Method of Construction	Well Use

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth 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	
Duration of Pumping	
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	Depth To	Diameter

Audit Number: C16734

Date Well Completed: January 31, 2012

Date Well Record Received by MOE: February 14, 2012

Updated: February 8, 2016
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- Drinking water,

- Environment maps,
- Well water

Glen Murray

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Ministry of the Environment and Climate Change

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Ontario — 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 1 of 1

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
30 Trafalgar Road	ERIN	9	

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Hillsburgh	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	08	0080103	4834702 8	Plan 155	

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	WELL UPGRADE				
	DIG OUT BOTTOM OF WELL PIT WELDON NEW 6" CASING USING 5x6 BELL INSTALL PITLESS ADAPTOR USE SOLID TUBE FILL 2" ANNULAR SPACE WITH BENTONITE INSTALL NEW WELL CAP HOOK UP TO EXISTING 1¼" POLY LINE BACK FILL WELL PIT WITH SCREENINGS, BUILD TAPER, CHLORINATE WELL SYSTEM.				

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
		SEE ABOVE	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	STEEL	.188	+2'	6'
5"	STEEL	.188	-6'	-?

Construction Record - Screen

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

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

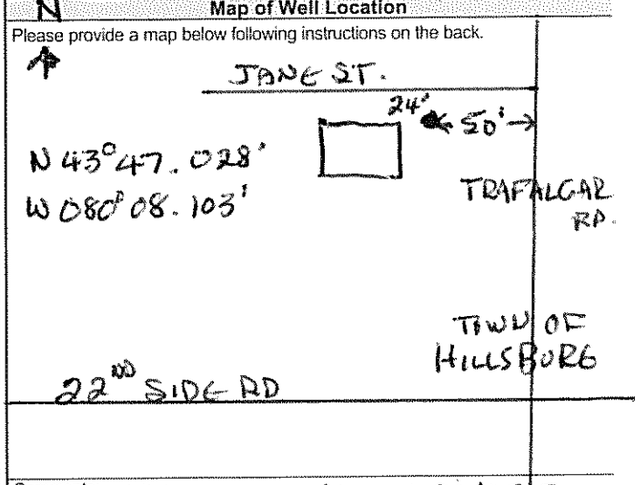
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		10'6"		
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: 5" DRILLED WELL LOCATED IN WELL PIT 6' DEEP.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Smith Water Systems Inc	7407

Business Address (Street Number/Name)	Municipality
P.O. Box 787	ERIN

Province	Postal Code	Business E-mail Address
Ont	N0B 1T0	julie@smithwatersystem.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5198332000	Smith, Simon

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T346		2012/05/19

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2012/05/20	2012/05/09

Ministry Use Only

Audit No. Z151578

Received MAY 30 2012

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: A 115238 Abandon

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	[ ] Well Constructed by Well Owner
	Nestle Waters Canada	www.Nestlewater.ca	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
101 Brock Road South	Guelph	ONT	N1H6H9	5197689463

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
15 Station Street	Town of ERIN		

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Hillsburgh	Ontario	N0B1Z0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	See below	See below		

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

General Colour	Most Common Material	Other Materials	From	To	~~General Description~~ Abandon	From	To
well #1			FROM	TO	well #2		
	Bentonite		0	3.60	Bentonite	0	3.75
	clean peastone		3.60	5.30	clean Peastone	3.75	5.15
	static level 3.56 m				static level	3.70 m	
	Easting	Northing			Easting	Northing	
GPS	568903	4848337	GPS		568877	4848340	

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
		constructed by others	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
5cm	PVC			
	constructed by Others			

Construction Record - Screen

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

Status of Well

[ ] Water Supply
[ ] Replacement Well
[ ] Test Hole
[ ] Recharge Well
[ ] Dewatering Well
[ ] Observation and/or Monitoring Hole
[ ] Alteration (Construction)
[ ] Abandoned, Insufficient Supply
[ ] Abandoned, Poor Water Quality
[ ] Abandoned, other, specify Not Required
[ ] Other, specify

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
	constructed by others	

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Ontario Water Well Services	4011

Business Address (Street Number/Name)	Municipality
387461 Mono Centre Road	Dufferin

Province	Postal Code	Business E-mail Address
ONT	L9W6V7	ontariowaterwell@bellnet.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5199424251	VanOosten Ken

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3161		2014 05 14

Results of Well Yield Testing

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

If pumping discontinued, give reason: Abandon

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

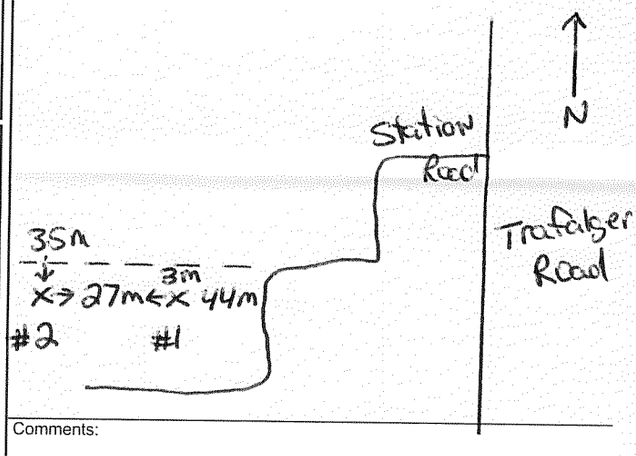
Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered: [ ] Yes [X] No

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

Date Work Completed: 2014 04 22

Ministry Use Only

Audit No. Z 159873

Received JUN 05 2014

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: N/A Abandonment

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Nestle Waters Canada	www.nestlewaters.ca	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
101 Brock Rd S	Guelph	ON	N1H6H9	5197639462

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
15 station St	~~Wellington~~ Town of Erin	25	7

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Hillsburgh	Ontario	N0B1Z0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	568866	4843016		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
	fill			0	1.5
	bentonite			1.5	21.05
	pea stone			21.05	23.15
	bentonite			23.15	26.65
	pea stone			26.65	31.18
	bentonite			31.18	35.60
	pea stone			35.60	38.45

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
		constructed by others	

Method of Construction

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

Well Use

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

Construction Record - Casing

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

Construction Record - Screen

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

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☒ Abandoned, other, *specify* not required
☐ Other, *specify*

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
constructed by	others	

Results of Well Yield Testing

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

If pumping discontinued, give reason: abandoned

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

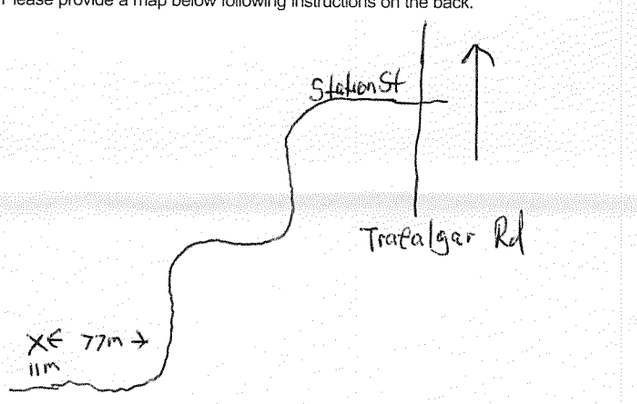
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	6.72			
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: well pit removed by owners

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Ontario Water Well Services	4011

Business Address (Street Number/Name)	Municipality
387 461 Mono Centre Rd	Mono

Province	Postal Code	Business E-mail Address
ON	L9W7V7	ontariowaterwell@bellnet.ca

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
5194241251	VanCooten KEN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3161		2014/05/14

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No		2014/04/22

Ministry Use Only

Audit No. Z159872

Received JUN 05 2014

Ministry's Copy

UTM Z E
Con 5 R VII N
Elev. 1015 R 21345
Basin 24

The Ontario Water Resources Commission Act

WATER WELL RECORD

GROUND WATER BRANCH
AUG 23 1963
ONTARIO WATER RESOURCES COMMISSION

67 N. 710

County or District Wellington
Township, Village, Town or City Erin Twsp
Con. 7th Lot 22
Date completed 9th (day) August (month) 1963 (year)
[redacted] ess 5 Freenbrook Dr. Toronto 15 Ont

Casing and Screen Record

Inside diameter of casing 5 inch
Total length of casing 50 ft
Type of screen nil
Length of screen nil
Depth to top of screen nil
Diameter of finished hole 5 inch

Pumping Test

Static level 25 ft
Test-pumping rate 10 G.P.M.
Pumping level 50 ft
Duration of test pumping 1 hr
Water clear or cloudy at end of test clear
Recommended pumping rate 10 G.P.M.
with pump setting of 50 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
Top soil	0	1	69 ft	fresh
fine brown sand	1	34		
gravel	34	35		
fine sand	35	42		
fine sand & gray clay streaks	42	50		
rock med. brown	50	69		

total depth - 69 ft.

For what purpose(s) is the water to be used?
domestic
Is well on upland, in valley, or on hillside? hillside
Drilling or Boring Firm
Graham Well Drilling
Address 119 Renfield St. Guelph

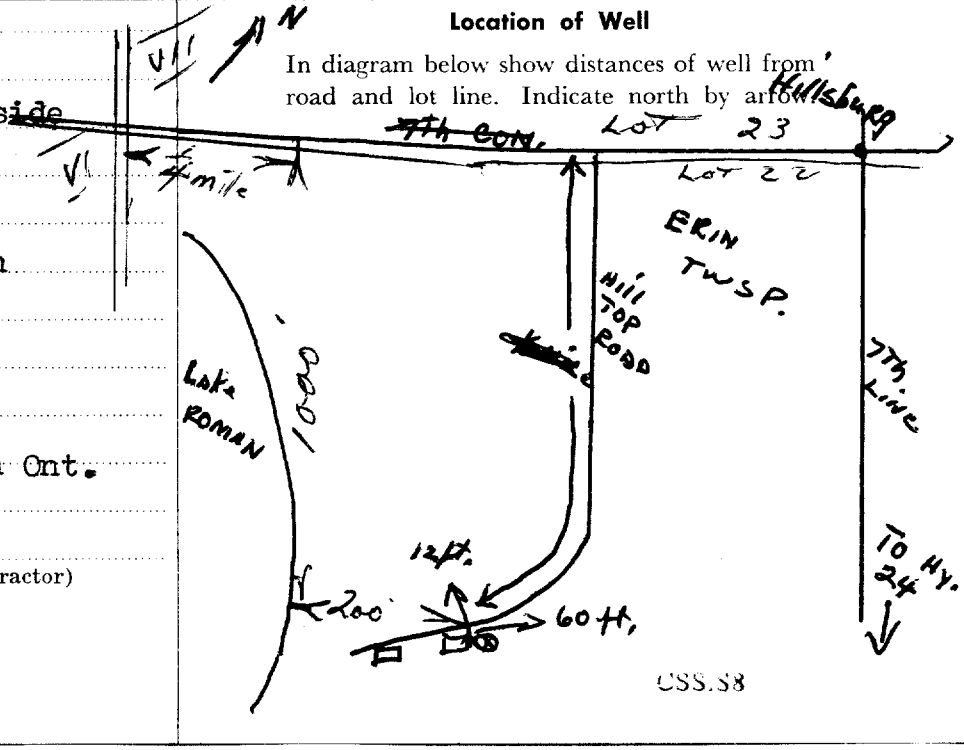
Licence Number 1156
Name of Driller or Borer Robert Graham
Address 210 Waverley Dr. Guelph Ont.
Date Aug 13th 1963
J L Graham per NCG.
(Signature of Licensed Drilling or Boring Contractor)

7 15M-60-4138

WC COPY

Location of Well

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



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5D

UTM | | Z | | | | | | E

| 5 | R | | | | | | | N

Elev. | 5 | R | 1 | 3 | 4 | 8 |

Basin | 24 |

67 No. 711

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Wellington

Township, Village, Town or City Erin Twsp.

Con. #7 Pt. of Lot #22

Date completed 15th (day) May (month) 1966 (year)

[redacted]

Address R R # 1 Hillsburgh Ontario.

Casing and Screen Record

Inside diameter of casing 5 inch

Total length of casing 54 ft

Type of screen nil

Length of screen nil

Depth to top of screen nil

Diameter of finished hole nil

Pumping Test

Static level 10 ft

Test-pumping rate 10 G.P.M.

Pumping level 40 ft

Duration of test pumping 1½ hours

Water clear or cloudy at end of test clear

Recommended pumping rate 10 G.P.M.

with pump setting of 60 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
fine brown sand	0	28	130'	fresh
gravel brown	28	34		
fine sand , gray clay	34	52		
light brown rock	52	97		
dark brown rock	97	116		
dark gray rock	116	130		
total -130 ft.				

For what purpose(s) is the water to be used?
domestic - cottages(summer)

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

Drilling or Boring Firm Graham Well Drilling

Address 119 Renfield St. Guelph, Ont.

Licence Number 2076

Name of Driller or Borer James Hawkins

Address Eramosa Rd Guelph Ont.

Date June 28th 1966

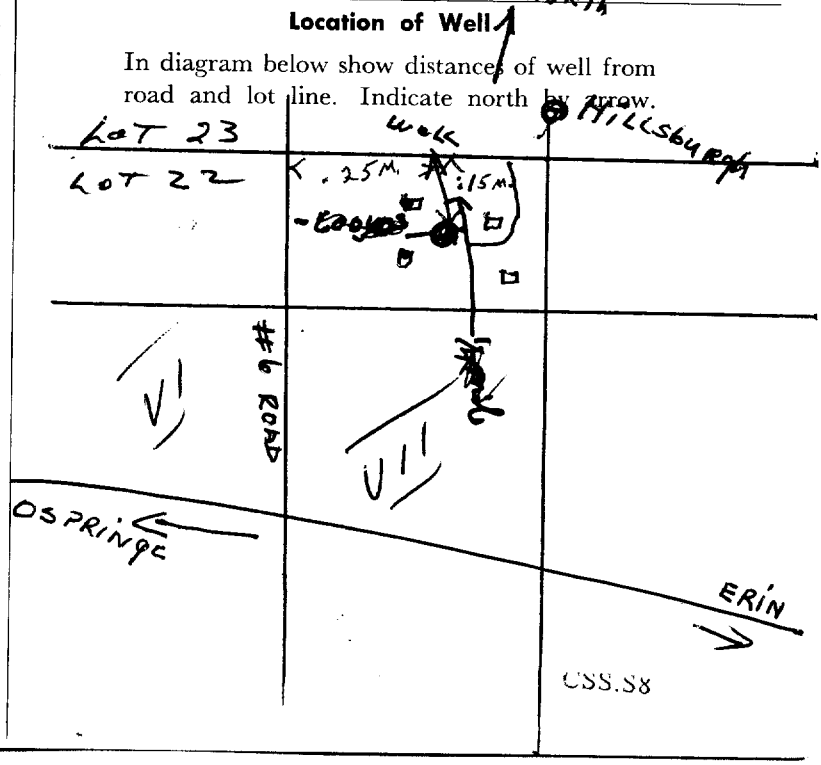
J L Graham per NEG
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

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



CSS.S8

UTM: Z E
Co. 15 R IV N
Elev. 6 1425

The Ontario Water Resources Commission Act

WATER WELL RECORD

67 No 712

Basin 24
County or District WELLINGTON
Township, ~~Village, Town or City~~ TWP. ERIN (HILLSBURGH)
Con. VII Lot 24
Date completed 21 (day) MAR (month) 66 (year)
Address HILLSBURGH

Casing and Screen Record

Inside diameter of casing 4"
Total length of casing 86ft
Type of screen NONE
Length of screen
Depth to top of screen
Diameter of finished hole 4"

Pumping Test

Static level 30
Test-pumping rate 5 G.P.M.
Pumping level 50'
Duration of test pumping 2 hrs
Water clear or cloudy at end of test clear
Recommended pumping rate 4 G.P.M.
with pump setting of 80ft feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
GRAVEL & SAND	0	65	128	FRESH
BROWN LIMESTONE	65	130		

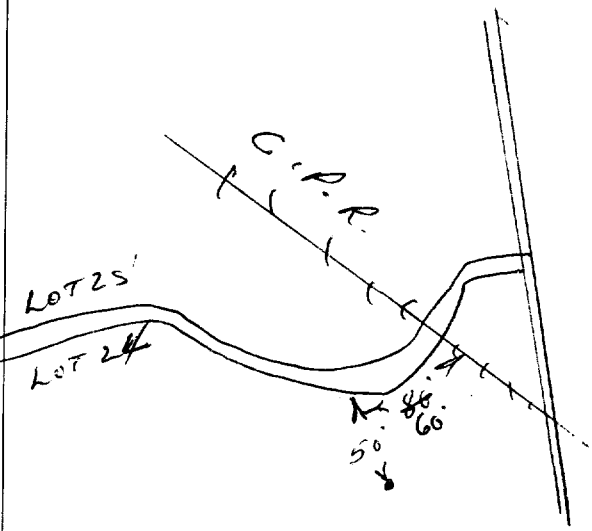
For what purpose(s) is the water to be used?
DOMESTIC
Is well on upland, in valley, or on hillside? UPLAND
Drilling or Boring Firm
LADCO DRILLING
Address HILLSBURGH RR #1
Licence Number 1955
Name of Driller or Borer ROY LANG
Address 3 SUNNYLEA GRES APT. 4
Date MAR 21/66 GUELPH
Roy Lang
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

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



CSS 58

17 5690710
5 48479906
14 26
24

Con VII
CODED 24

6703077

40P/166

7

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District WELLINGTON Township, Village, Town or City ERIN

Con. VII Lot 24 Date completed 5 (day) APRIL (month) 1968 (year)

Owner MORRETTES LTD (print in block letters) Address HILLSBURG

Casing and Screen Record

Inside diameter of casing 4"

Total length of casing 96 ft

Type of screen

Length of screen NONE

Depth to top of screen

Diameter of finished hole 4"

Pumping Test

Static level 29 ft

Test-pumping rate 15 G.P.M.

Pumping level 37 ft

Duration of test pumping 1 hr

Water clear or cloudy at end of test CLEAR

Recommended pumping rate 15 G.P.M.

with pump setting of 65 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
CLAY - ROCKS GRAVEL LAYERS	0	70	102 ft	FRESH
LIGHT GREY LIMESTONE - CLAY LAYERS	70	94		
BROWN LIMESTONE	94	105		

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

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

Drilling or Boring Firm HADCO DRILLING HILLSBURG R.R. #1

Address

Licence Number 2987

Name of Driller or Borer THOMAS LANG

Address HILLSBURG R.R. #1

Date April 5/68

T. Lang

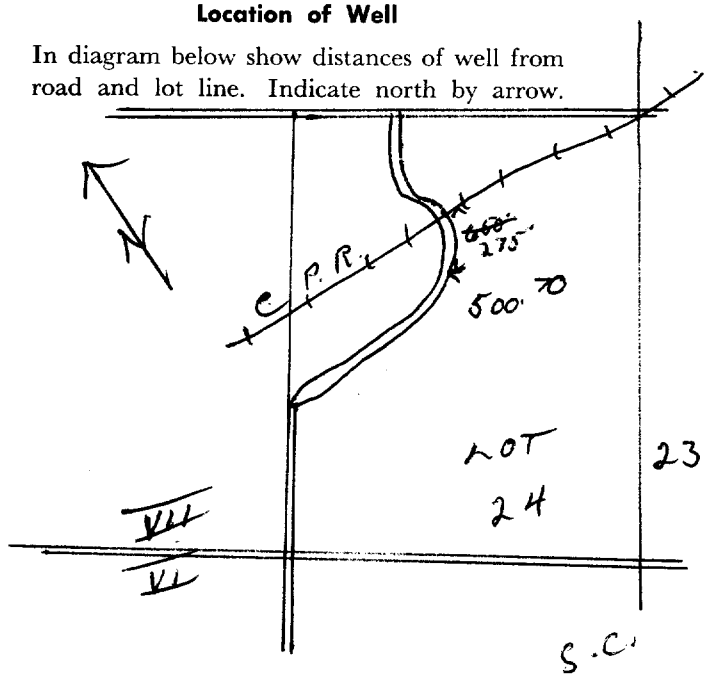
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

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



S.C.

CSS.58

40P1/16E

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

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

11 | 6703621 | MUNICIP. 67003 | CON. CON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	022

[redacted] HILLSBURGH RR#1

DATE COMPLETED: DAY 10 MO. 12 YR. 69

UTM | RC. | ELEVATION | RC. | BASIN CODE
546970 | 4 | 1375 | 7 | 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
BROWN	CLAY	CLAY + STONES		0	12
	SAND & GRAVEL			12	16
GREY	CLAY	CLAY + BOULDERS		16	60
BROWN	~~BR~~ ROCK			60	142
GREY	LIMESTONE			142	155
BROWN	LIMESTONE			155	162
GREY	LIMESTONE			162	170

31 | 00126051/2 | 0016 1/09 | 00602051/3 | 01426 26 | 01552 15 | 0762 ~~0762~~ 15 | 1

32 | 01732 15

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0170 ~~172~~	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.205	0	~~67~~ 0067
04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		67	~~173~~ 0173
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE: NONE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE: 0015 GPM. DURATION OF PUMPING: 02 HOURS 15 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
030 FEET	030 FEET	030 FEET	030 FEET	~~030~~ 030 FEET	030 FEET

IF FLOWING, GIVE RATE: GPM.

PUMP INTAKE SET AT: FEET

WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP

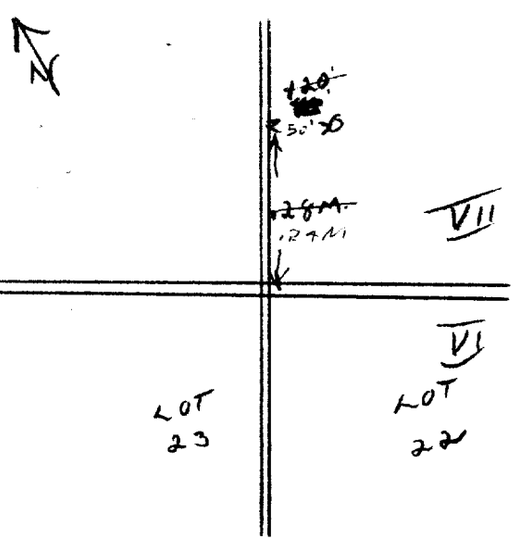
RECOMMENDED PUMP SETTING: 050 FEET

RECOMMENDED PUMPING RATE: 0010 GPM.

030.0 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL

54

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

WATER USE

55-56: 01

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

METHOD OF DRILLING

57

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING — LICENCE NUMBER: 3423

ADDRESS: Hillsburg R.R. #1

NAME OF DRILLER OR BORER: Roy LANG — LICENCE NUMBER: 3423

SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 11 MO. MAR YR 1970

OWRC COPY

OFFICE USE ONLY

DATA SOURCE: 1 | 58 | CONTRACTOR: 3316 | 59-62 | DATE RECEIVED: 160370 | 63-68 | 80

DATE OF INSPECTION: 14/7/70 | INSPECTOR: [illegible]

REMARKS:

USS 55

7

4/0 P/164

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

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

11 (1 2) | 6703623 | MUNICIP. 67003 (10 14) | CON. 6TH (15) | 07 (22 23 24)

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT (25-27)
WELLINGTON	ERIN	7	022

[redacted] HILLSBURGH RR#1

DATE COMPLETED (48-53): DAY 23 MO. 12 YR. 69

UTM (24) | RC. (25) 4 | ELEVATION (26) 1390 | RC. (30) 7 | BASIN (31) 24 | II | III | IV (47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
BROWN	CLAY			0	18
GREY	CLAY	CLAY & ROCKS		18	54
	SANDY GRAVEL			54	68
GREY	CLAY			68	83
BROWN	LIMESTONE			83	148
GREY	LIMESTONE			148	165
BROWN	LIMESTONE			165	178
GREY	LIMESTONE			178	194

31: 00186OST | 00354OST | 0068 | 1109 | 00833OST | 01486/1ST | 01653/1ST | 1

32 (1 2): 01786/1ST (10 14 15) | 01942/1ST (21) | (32) | (43) | (54) | (65) | (75) | (80)

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
191 – 194 (10-13, 15-18)	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL (14)
20-23	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL (24)
25-28	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL (29)
30-33	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL (34) (80)

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
4" 04 (10-11)	1 ☒ STEEL (12) 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.205	0	87 (13-16) 0087
4" 04 (17-18)	1 ☐ STEEL (19) 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		87	0194 (20-23) 194
(24-25)	1 ☐ STEEL (26) 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			(27-30)

SCREEN

SIZE(S) OF OPENING (SLOT NO.) (31-33)	DIAMETER (34-38) INCHES	LENGTH (39-40) FEET
MATERIAL AND TYPE: NONE	DEPTH TO TOP OF SCREEN (41-44) FEET	(80)

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD (10): 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE (11-14): 0012 GPM. | DURATION OF PUMPING (15-16 HOURS 17-18 MINS.): 01 HOURS 30 MINS.

STATIC LEVEL (19-21) FEET	WATER LEVEL END OF PUMPING (22-24) FEET	WATER LEVELS DURING (25): 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES (26-28) FEET	30 MINUTES (29-31) FEET	45 MINUTES (32-34) FEET	60 MINUTES (35-37) FEET
053	055		055	055	055	055

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

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING (43-45) 080 FEET | RECOMMENDED PUMPING RATE (46-49) 0010 GPM.

(50-53) 0006.0 GPM./FT. SPECIFIC CAPACITY

FINAL STATUS OF WELL (54)

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

WATER USE (55-56) 01

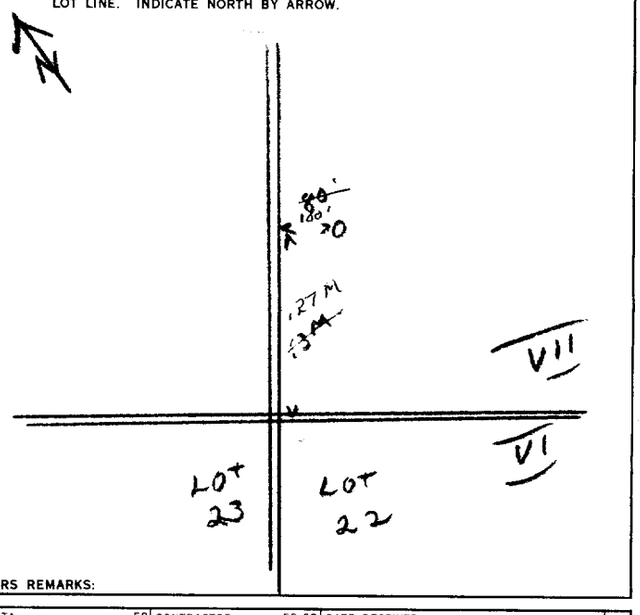
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING (57)

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

LOCATION OF WELL

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



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING | LICENCE NUMBER: 3423

ADDRESS: HILLSBURGH RR#1

NAME OF DRILLER OR BORER: ROY LANG | LICENCE NUMBER: 342X

SIGNATURE OF CONTRACTOR: Roy Lang | SUBMISSION DATE: DAY 3 MO. 12 YR. 69

OFFICE USE ONLY

DATA SOURCE: 1 (58) | CONTRACTOR: 3316 (59-62) | DATE RECEIVED: 160370 (63-68) (80)

DATE OF INSPECTION: 14/7/70 | INSPECTOR: I/D

REMARKS:

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

40 P/16 E

Water management in Ontario

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

11 | 6703704 | MUNICIP. 67003 | CON. 6th N 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	COR., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Erin Twsp. (Roman Lake)	7 (Lot 8 Plan 519 W. half)	022

[redacted] Thorncliffe Pk.Dr. Apt 815

nto 17, Ont.

DATE COMPLETED: DAY 05 MO. June (06) YR. 70

ELEVATION 1340 | RC. 5 | BASIN CODE 24

17 MOST 569400 4846820 4 1340 5 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	TO
	top soil			0	1
fine	sand			1	28
brown	sand & clay	gravel		28	40
brown	clay	stones		40	52
lt brown		rock		52	80
dk brown		rock		80	115
dk grey		rock		115	128
		total depth - 128 ft			

31: 0001 02 | 0028 08 | 0040 60 90 51 1/1 | 0052 60 51 2/2 | 01 15 62 6 | 01 28 22 6

32:

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0095 ~~95'10~~	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
~~120'~~	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0052
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0128
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	0010 GPM.	01 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
012 FEET	032 FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	FEET

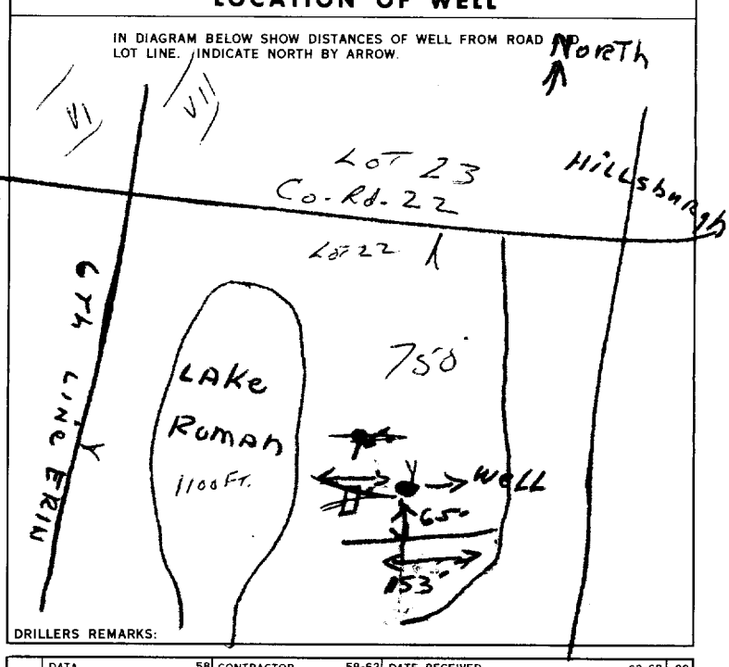
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM.	FEET	1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	040 FEET	0010 GPM.

50-53 000.5 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL

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

WATER USE 01

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

METHOD OF DRILLING

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

CONTRACTOR

NAME OF WELL CONTRACTOR: GRAHAM WELL DRILLING | LICENCE NUMBER: 2406

ADDRESS: R R # 2 Guelph Ont.

NAME OF DRILLER OR BORER: James Hawkins | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: J L Graham p r | SUBMISSION DATE: DAY 2 MO. June YR. 70

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 2406 | DATE RECEIVED 63-68: 130770

DATE OF INSPECTION | INSPECTOR

REMARKS:

CSS.58

OWRC COPY

The Ontario Water Resources Commission Act

WATER WELL RECORD

40 P/16 E

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

11 | 6704171 | MUNICIP. 07003 | CON. 6W | LOT 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	023

OWNER (SURNAME FIRST) [redacted] ADDRESS HILLSBURGH RR #1

DATE COMPLETED DAY 14 MO 01 YR 72

UTM ZONE 17 | EASTING 547950 | RC 4 | ELEVATION 1400 | RC 5 | BASIN CODE 23

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	GRAVEL	+ BOULDERS		0	38
BROWN	LIMESTONE			38	85

31 0038 1113 0085 6 15

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0080	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0084	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	1205	0	62
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		62	0085
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER

PUMPING RATE: 0020 GPM | DURATION OF PUMPING: 03 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
012 FEET	015 FEET		015 FEET	015 FEET	015 FEET	015 FEET

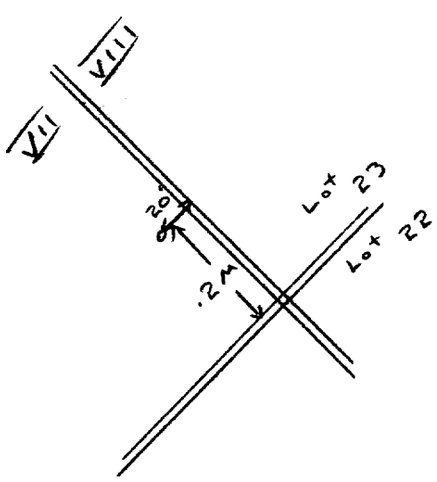
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 030 FEET | RECOMMENDED PUMPING RATE: 0010 GPM.

50-53 006.7 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING | LICENCE NUMBER: 3316

ADDRESS: HILLSBURGH RR #1

NAME OF DRILLER OR BORER: ROY LONG | LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Long | SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OWRC COPY

OFFICE USE ONLY

DATA SOURCE (58)	CONTRACTOR (59-62)	DATE RECEIVED (63-68)
1	3316	140272

DATE OF INSPECTION | INSPECTOR

REMARKS: CSS.S8

P 1 | WI

40 PIKE

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

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

11 | 6704175 | MUNICIP. 67003 | CON. CON | 07

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON., BLOCK, TRACT, SURVEY, ETC.: 7
LOT: 023
OWNER (SURNAME FIRST): [redacted]
ADDRESS: HILLSBURGH RR#1
DATE COMPLETED: DAY 22 MO DEC YR 71
HWG: 47950 | RC: 4 | ELEVATION: 1400 | RC: 5 | BASIN CODE: 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	GRAVEL	+ BOULDERS		0	40
BROWN	LIMESTONE			40	116
GREY	LIMESTONE			116	140

31: 0040 1111 3 | 0116 15 | 0140 2 15

32:

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0137 ~~140~~	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
15-18	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
20-23	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
25-28	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
30-33	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
~~4~~ 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.205	0	~~57~~ 0057
~~4~~ 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		57	~~140~~ 0140
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

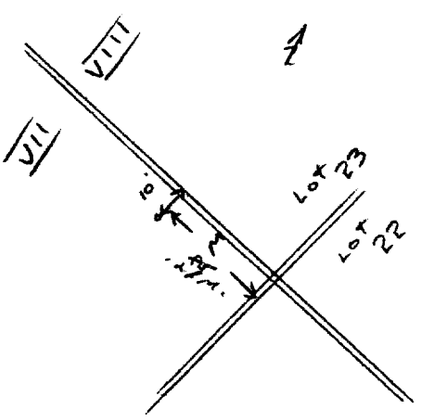
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0010 GPM
DURATION OF PUMPING: 03 HOURS 00 MINS.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
022 FEET	024 FEET	024 FEET	024 FEET	024 FEET	024 FEET

IF FLOWING, GIVE RATE: GPM.
PUMP INTAKE SET AT: 40 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP
RECOMMENDED PUMP SETTING: 040 FEET
RECOMMENDED PUMPING RATE: 0008 GPM.
GPM./FT. SPECIFIC CAPACITY: 005.0

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING — LICENCE NUMBER: 3316
ADDRESS: HILLSBURGH
NAME OF DRILLER OR BORER: ROY LANG — LICENCE NUMBER: 3317
SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 22 MO DEC YR 71

OWRC COPY

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 3316 | DATE RECEIVED: 110272
DATE OF INSPECTION: 22/11/72 | INSPECTOR:
REMARKS: CSS.58
P 3
WI

The Ontario Water Resources Commission Act

WATER WELL RECORD

40 MILE E

Water management in Ontario

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

11 | 6704176 | MUNICIP. 67003 | CON. CAN | 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	023

[redacted] HILLSBURGH RR#1

DATE COMPLETED: DAY 24 MO DEC YR 71

47975 | RC 4 | ELEVATION 1400 | RC 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
	GRAVEL	& BOULDERS		0	41
BROWN	LIMESTONE			41	117
GREY	LIMESTONE			117	140

31: 0041 | 0117 | 0140

32:

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0138	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
140	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	205	0	64
			0064	
04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		64	140
			0140	
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE GPM.	DURATION OF PUMPING HOURS / MINS.
1 ☒ PUMP 2 ☐ BAILER	0010	23 / 30

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
		1 ☒ PUMPING 2 ☐ RECOVERY				
022 FEET	024 FEET		024 FEET	024 FEET	024 FEET	024 FEET

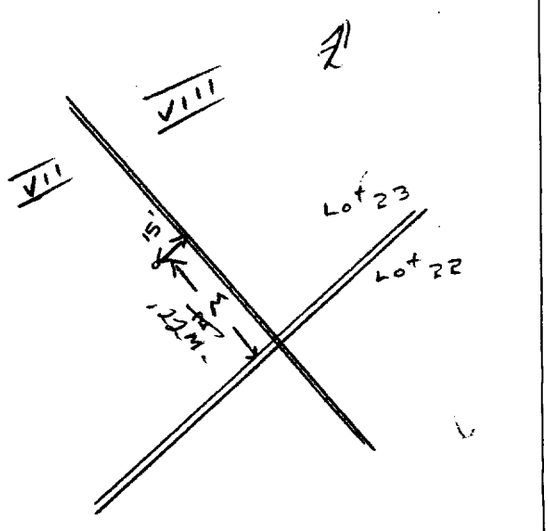
IF FLOWING, GIVE RATE GPM.	PUMP INTAKE SET AT FEET	WATER AT END OF TEST
	50	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING FEET	RECOMMENDED PUMPING RATE GPM.
☐ SHALLOW ☒ DEEP	045	0008

50-53: 0050 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL

54

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

WATER USE 01

55-56

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

METHOD OF DRILLING

57

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING — LICENCE NUMBER: 3316

ADDRESS: HILLSBURGH RR#1

NAME OF DRILLER OR BORER: ROY LANG — LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 24 MO DEC YR 71

OWRC COPY

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 3316 — DATE RECEIVED 63-68: 110272 — 80

DATE OF INSPECTION: 22/11/72 — INSPECTOR:

REMARKS: CSS.S8

P 3

WI

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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11 | 6704921 | MUNICIP. 67003 | CON. CON | LOT 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	~~22~~ 22

[redacted] RR #1 HILLSBURGH — DATE COMPLETED: DAY 14 MO 08 YR 73

1846942 | 4 | 1372 | 5 | 24 | MAR 20, 1975 | 49

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	CLAY -	STONES GRAVEL		0	74
BROWN	ROCK			74	140
GREY	LIMESTONE			140	174

31: 0074 05T12/1 0140626 0174015T

32:

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0173	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
4" 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	1205	0	~~80~~ 0880
4" 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		800174	
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE GPM	DURATION OF PUMPING HOURS	MINS
1 ☐ PUMP 2 ☒ BAILER	0010	01	00

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
052 FEET	053 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	053 FEET	053 FEET	053 FEET	053 FEET

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

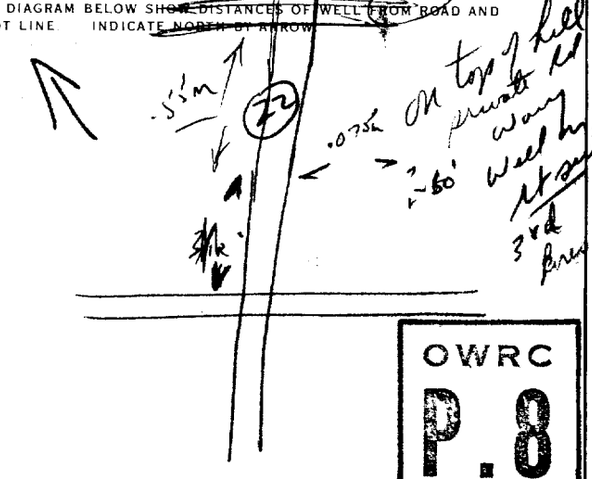
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	075 FEET	0010 GPM

50-53: 010.0

LOCATION OF WELL

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

64 CO



OWRC P.8

DRILLERS REMARKS:

FINAL STATUS OF WELL

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

WATER USE

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

01 DOMO

METHOD OF DRILLING

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING — LICENCE NUMBER: 3316

ADDRESS: HILLSBURGH RR#1

NAME OF DRILLER OR BORER: ROY LANG — LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 14 MO. 8 YR. 73

OFFICE USE ONLY

58 DATA SOURCE: 1 — 59-62 CONTRACTOR: 3316 — 63-68 DATE RECEIVED: 18 01 74 — 80

DATE OF INSPECTION: — INSPECTOR:

REMARKS: CSS.S8

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The Ontario Water Resources Act

WATER WELL RECORD

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Ontario

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11 | 6704991 | MUNICIP. 6.7003 | CON. E&W | LOT 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Erin Township	con. 7	W½ of 22 022

[redacted]

RR#1 HILLSBURG, Ontario

DATE COMPLETED: DAY 19 MO. 02 YR. 74

846868 4 1350 5 24 MAR 20, 1975 49

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
		well pit		0	5
Brown	clay	stones		5	20
Gray	"	"		20	28
Brown	rock		soft	28	82
			Total Depth 82 ft.		

31 0005T 102 | 0020160ST/2 | 0028205T/2 | 00826126

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0082	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	~~85~~ 0035
04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		35	0082 ~~82~~
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER

PUMPING RATE: 0000 GPM

DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
002 FEET	010 FEET		002 FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE: GPM

PUMP INTAKE SET AT: FEET

WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

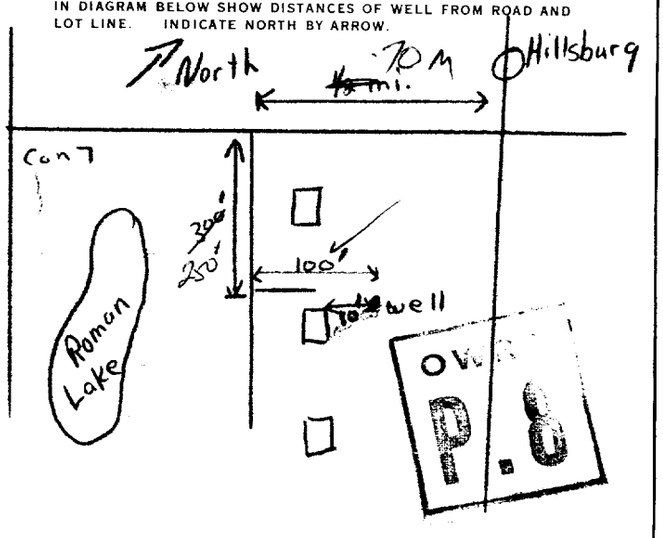
RECOMMENDED PUMP SETTING: 025 FEET

RECOMMENDED PUMPING RATE: 0010 GPM.

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 54

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

WATER USE 55-56: 01

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

METHOD OF DRILLING 57

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

CONTRACTOR

NAME OF WELL CONTRACTOR: R.H. GRAHAM WELL DRILLING — LICENCE NUMBER: 2336

ADDRESS: 212 Waverley Drive, GUELPH, Ont.

NAME OF DRILLER OR BORER: J. Wilson — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: R.H. Graham per jg. — SUBMISSION DATE: DAY 19 MO. 2 YR. 74

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 2336 — DATE RECEIVED 63-68: 80 30274

DATE OF INSPECTION — INSPECTOR

REMARKS: CSS.S8

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The Ontario Water Resources Act

WATER WELL RECORD

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Ontario

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11 | 6705146 | MUNICIP. 67003 | CON. CON | 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	023

[redacted] Hillsburgh — DATE COMPLETED DAY 16 MO. 04 YR. 78

6705146 11 569105 4847810 4 1385 5 24 MAR 02, 1977 233

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	CLAY-GRAVEL			0	41
BROWN	ROCK			41	80

31 | 0041 0511 | 0080 6216

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0079	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
4" 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	56 0056
4" 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		56	80 0080
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER

PUMPING RATE: 0020 GPM — DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
008 FEET	020 FEET		020 FEET	020 FEET	020 FEET	020 FEET

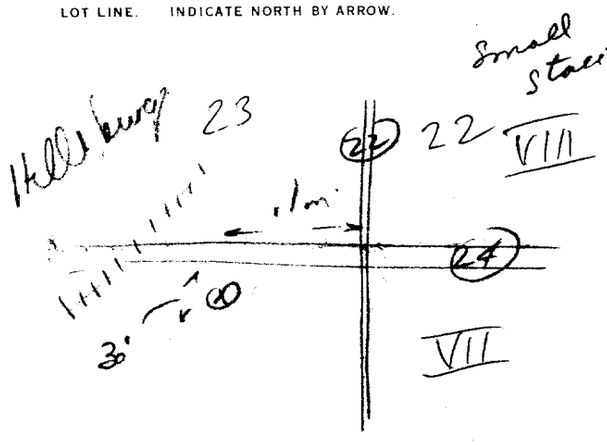
IF FLOWING GIVE RATE: GPM — PUMP INTAKE SET AT: 40 FEET — WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP — RECOMMENDED PUMP SETTING: 035 FEET — RECOMMENDED PUMPING RATE: 0010 GPM

001.7 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 6947

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING — LICENCE NUMBER: 3316

ADDRESS: HILLSBURGH RR#1

NAME OF DRILLER OR BORER: ROY LANG — LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 16 MO. APR. YR. 78

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 3316 — DATE RECEIVED 63-68: 150778

DATE OF INSPECTION — INSPECTOR

REMARKS: OSS SS — P — WI

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FORM 7 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

40 P/16E

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11 | 6705148 | MUNICIP. 67003 | CON. CON 08

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON., BLOCK, TRACT, SURVEY, ETC.: 8
LOT: 023
[redacted]
[redacted] ALSBURGH R.R. #1
DATE COMPLETED: DAY 21 MO. 06 YR. 74

RC. ELEVATION RC. BASIN CODE

6705148 17 569781 4847875 4 1390 5 24 MAR 02, 1977 233

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	GRAVEL -	CLAY		0	42
BROWN	ROCK	(LAYERS CLAY)		42	55
BROWN	ROCK			55	60

31 | 0042 1105 | 0055 0605 | 0060 0626

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0059	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
4" 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	~~57~~ 0057
4" 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		57	~~60~~ 0060
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0015 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
03 FEET	015 FEET		015 FEET	015 FEET	015 FEET	015 FEET

FLOWING RATE: GPM
PUMP INTAKE SET AT: 35 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 035 FEET
RECOMMENDED PUMPING RATE: 0010 GPM

001.3 GPM./FT. SPECIFIC CAPACITY

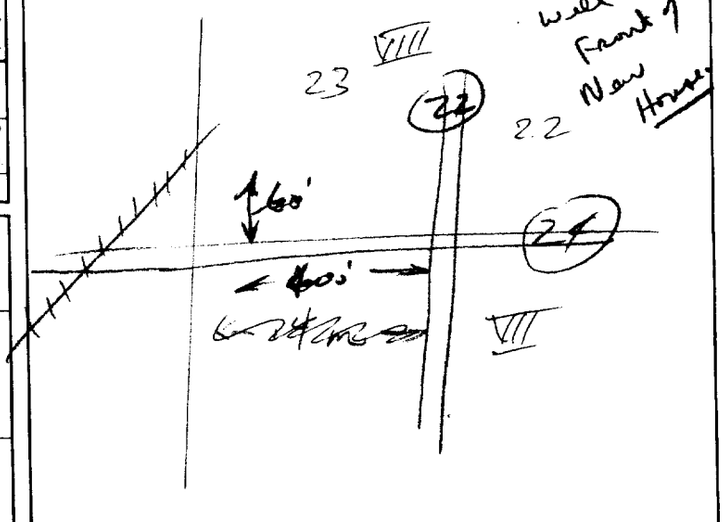
54 STATUS OF WELL
1 ☒ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☐ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED

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

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

LOCATION OF WELL 6947

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



DRILLERS REMARKS:

CONTRACTOR: DCO DRILLING — LICENCE NUMBER: 3316
ADDRESS: ALSBURGH RR#1
ENGINEER OR BORER: DY LANG — LICENCE NUMBER: 3317
CONTRACTOR: Lang — SUBMISSION DATE: DAY 21 MO. JUNE YR. 74

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DATA SOURCE 1 | CONTRACTOR 3316 | DATE RECEIVED 150774
DATE OF INSPECTION | INSPECTOR
REMARKS: CSS 88
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WI

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

40 P/16E

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11 6705153

MUNICIP. 67003 CON. CON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	23

OWNER (SURNAME FIRST) George Reid CONST. ADDRESS [redacted] 183 DUFFERIN, Guelph. DATE COMPLETED DAY 12 MO. 01 YR. 74

6705153 17 569288 4847292 4 1440 5 24 MAR 02, 1977 233

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	GRAVEL - SAND - CLAY			0	39
BROWN & GREY	ROCK			39	165

31 0039 1V2805 0165626

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0164	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
4 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0044
4 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		44	0165
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0010 GPM	02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
012 FEET	018 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	018 FEET	018 FEET	018 FEET	018 FEET

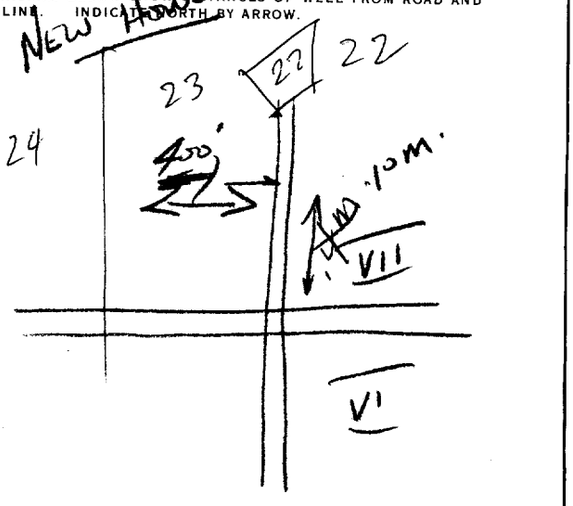
IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	35 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☒ SHALLOW ☐ DEEP	035 FEET	0010 GPM

001.7 GPM./FT SPECIFIC CAPACITY

LOCATION OF WELL 6947

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



DRILLERS REMARKS:

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

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
LAOCO DRILLING	3316
ADDRESS: HILLSBURGH RR#1	
NAME OF DRILLER OR BORER: ROY LANG	LICENCE NUMBER 3317
SIGNATURE OF CONTRACTOR: Roy Lang	SUBMISSION DATE DAY 12 MO. 1 YR 74

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	3316	750774
DATE OF INSPECTION	INSPECTOR	
REMARKS:		P
CSS 88		WI

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The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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11 | 6705612 | MUNICIP. 67003 | CON. CON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7	024 E

[redacted] HILLSBURGH, ONT.

DATE COMPLETED: DAY 10 MO 10 YR 74

UTM 848133 | RC 4 | ELEVATION 1430 | RC 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	GRAVEL	SAND-BOULDERS	CLAY	0	45
GREY	CLAY -	STONES		45	60
BROWN	ROCK			60	135

31 | 00445 | 112813 | 00602512 | 0135626

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0130	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
134	
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
4 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0080
4 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		80	0135
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE GPM	DURATION OF PUMPING HOURS	MINS
1 ☐ PUMP 2 ☒ BAILER	0009	01	00

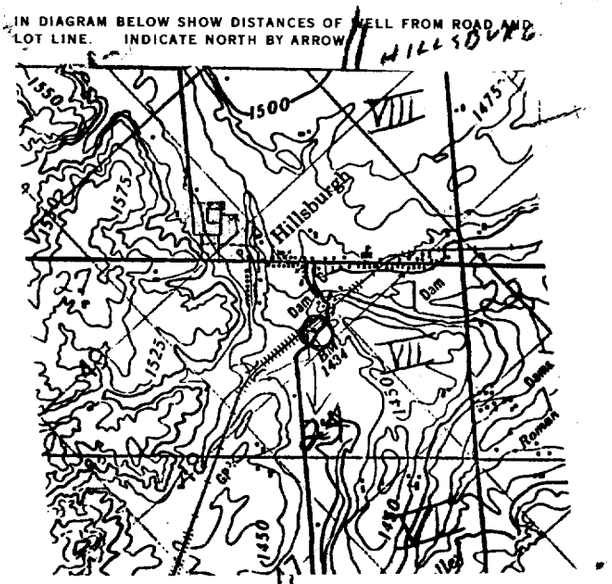
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
023 FEET	035 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	035 FEET	035 FEET	035 FEET	035 FEET

IF FLOWING, GIVE RATE GPM	PUMP INTAKE SET AT FEET	WATER AT END OF TEST	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING FEET	RECOMMENDED PUMPING RATE GPM
	55	1 ☒ CLEAR 2 ☐ CLOUDY	☐ SHALLOW ☒ DEEP	055	0009

000.8 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 6848

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1

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

WATER USE 55-56: 01

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

METHOD OF DRILLING 57: 2

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LAOCO DRILLING | LICENCE NUMBER: 3316

ADDRESS: HILLSBURGH RR#1

NAME OF DRILLER OR BORER: RR#1 | LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang | SUBMISSION DATE DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 3316 | DATE RECEIVED 63-68: 220875 | 80

DATE OF INSPECTION | INSPECTOR: By Owner

REMARKS: CSS.S8

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MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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1 | 6705975 | MUNICIP 67003 | CON. CON | 07

COUNTY OR DISTRICT [redacted] | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE FRIN | CON., BLOCK, TRACT, SURVEY, ETC. 7 | LOT 023

[redacted] RR #1 HILLSBURGH | DATE COMPLETED DAY 29 MO. 04 YR. 75

47260 | ELEVATION 1435 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
BROWN	CLAY			0	5
	SAND - GRAVEL			5	10
	CLAY			10	20
	GRAVEL - SAND - CLAY			20	65
GREY	CLAY	STONES - SAND LAYERS		65	123
BROWN	ROCK			123	185
BROWN &					
BLACK	ROCK			185	195
GREY &					
BROWN	LIMESTONE			195	228
GREY	LIMESTONE			228	235

31 | 0005605 | 0010 2811 | 0020 05 | 0065 112805 | 0123205 1228 | 0185626 | 1

32 | 0195826 | 0228615 | 0235215

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0233	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
235 0235	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
4 04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0127
4 04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		127	0235
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE 0010 GPM | DURATION OF PUMPING 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
080 FEET	083 FEET	083 FEET	083 FEET	083 FEET	083 FEET

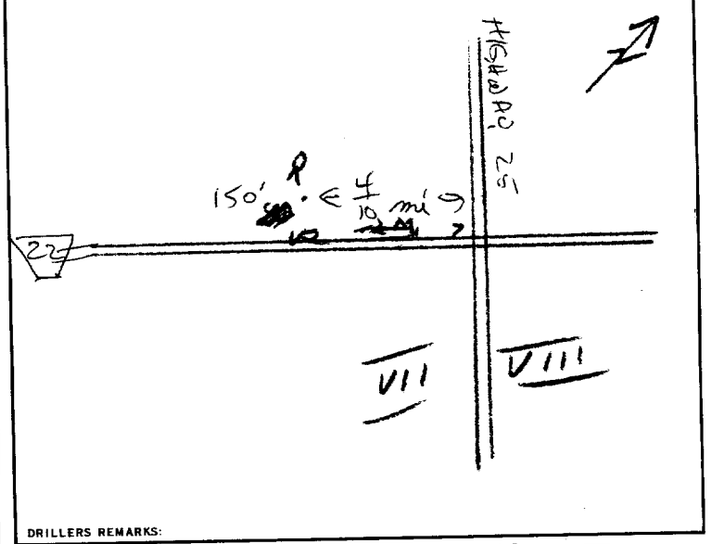
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 110 FEET | RECOMMENDED PUMPING RATE 0010 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LADCO DRILLING | LICENCE NUMBER 3316

ADDRESS: HILLSBURGH RR #1

NAME OF DRILLER OR BORER: ROY LANG | LICENCE NUMBER 3317

SIGNATURE OF CONTRACTOR: Roy Lang | SUBMISSION DATE DAY 29 MO. APR. YR. 75

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3316 | DATE RECEIVED 310776

DATE OF INSPECTION May 31/77 | INSPECTOR AMT

REMARKS: CSS.88 | P | WI

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WATER WELL RECORD

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Ontario

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11 | 6706041 | MUNICIP. 67003 | CON. CON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
WELL.	ERIN / Hillsburg	7	024

[redacted] 58 MAIN ST. | DATE COMPLETED DAY 03 MO 07 YR 75

UTM 48 250 5 | ELEVATION 1400 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BLACK	FILL			0	5
BROWN	GRAVEL	CLAY - STONES		5	17
MULTI COLOUR	ROCK - ROCKPEPPELS - SOMPSTONE RIGES			17	45
BROWN	ROCK			45	52

31 | 0005 | 801 | 001 | 761 | 105 | 12 | 0045 | 261 | 248 | 0052 | 626

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0050	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE	.188	0	0047
			47	52
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0052
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE: 0010 GPM | DURATION OF PUMPING: 01 HOURS 00 MINS

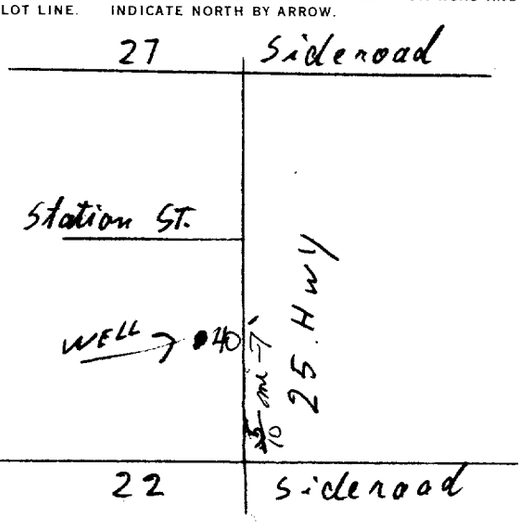
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
010 FEET	011 FEET		010 FEET	010 FEET	010 FEET	010 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
GPM	25 FEET	1 ☒ CLEAR 2 ☐ CLOUDY	☐ SHALLOW ☐ DEEP	025 FEET	005-10 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Rudy's Drilling | LICENCE NUMBER: 2332

ADDRESS: RR I Hillsburg

NAME OF DRILLER OR BORER: Rudy Garbotz | LICENCE NUMBER: 2332

SIGNATURE OF CONTRACTOR: Rudy Garbotz | SUBMISSION DATE DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 2332 | DATE RECEIVED 63-68: 30 06 76

DATE OF INSPECTION: May 31/77 | INSPECTOR

REMARKS:

CSS.S8

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The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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11 | 6706286 | MUNICIP. 67003 | CON. CON | 07

COUNTY OR DISTRICT: WELL

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN

CON., BLOCK, TRACT, SURVEY, ETC.: 7

LOT: 23 25

[redacted] MAIN ST. Hillsburg.

DATE COMPLETED: DAY 08 MO. 07 YR. 76

480.00 | 5 | ELEVATION 1400 | 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	C. GRAVEL - STONES			0	15
BROWN	C. SAND			15	18
BROWN	C. GRAVEL - STONES - SAND			18	31
WHITE	SOAPSTONE - ROCK			31	40
GREY	ROCK	BROWN ROCK	SOAPSTONE LAYERED	40	48
GREY	ROCK	BROWN ROCK		48	105

31 | 00156311 12 | 00186 10 | 00311631 11228 | 00140 14826 | 00482 26487 74 | 00 5226

32

41 WATER RECORD

WATER FOUND AT	KIND OF WATER			
00 70	1 ☒ FRESH	2 ☐ SALTY	3 ☐ SULPHUR	4 ☐ MINERAL
70 105	1 ☐ FRESH	2 ☐ SALTY	3 ☐ SULPHUR	4 ☐ MINERAL
	1 ☐ FRESH	2 ☐ SALTY	3 ☐ SULPHUR	4 ☐ MINERAL
	1 ☐ FRESH	2 ☐ SALTY	3 ☐ SULPHUR	4 ☐ MINERAL
	1 ☐ FRESH	2 ☐ SALTY	3 ☐ SULPHUR	4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04	1 ☒ STEEL, 2 ☐ GALVANIZED, 3 ☐ CONCRETE, 4 ☒ OPEN HOLE	.188	0	0062
4			62	105
04	1 ☐ STEEL, 2 ☐ GALVANIZED, 3 ☐ CONCRETE, 4 ☒ OPEN HOLE			0105
	1 ☐ STEEL, 2 ☐ GALVANIZED, 3 ☐ CONCRETE, 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER

PUMPING RATE: 0006 GPM | DURATION OF PUMPING: 03 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
010 FEET	014 FEET		010 FEET	010 FEET	010 FEET	010 FEET

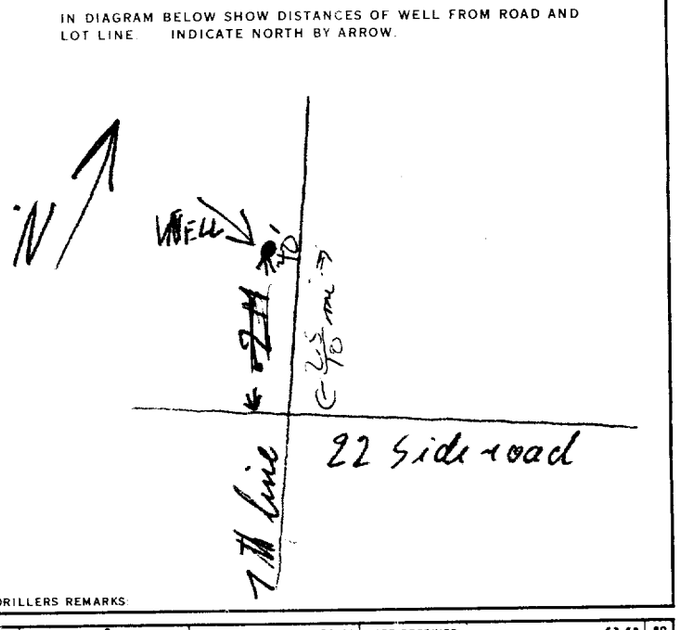
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 40 FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 030 FEET | RECOMMENDED PUMPING RATE: 004-6 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Rudy's WELL DRILLING | LICENCE NUMBER: 2332

ADDRESS: RR I Hillsburg

NAME OF DRILLER OR BORER: Rudy GARBOTZ | LICENCE NUMBER: 2332

SIGNATURE OF CONTRACTOR: Rudy Garbot | SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 58 | CONTRACTOR 59-62: 2332 | DATE RECEIVED 63-68: 250177

DATE OF INSPECTION: May 31/77 | INSPECTOR

REMARKS: CSS.58

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FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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

11 | 6706342 | MUNICIP 67003 | CON. CON | 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON.	BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	7		022

[redacted] MAIN ST, HILLSBURGH ONT

DATE COMPLETED: DAY 17 MO 12 YR 76

UTM NORTHING 4847100 | ELEVATION 1410 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	CLAY	- STONES - GRAVEL		0	8
BROWN	CLAY	- STONES		8	20
GREY	CLAY	- STONES - SAND		20	88
BROWN	ROCK			88	138
BR/BLK	ROCK			138	150
GREY/BR.	LIMESTONE			150	206

31 | 0008605|211 | 0020605|12 | 0088205|228 | 0138626 | 0150826 | 0206215

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0198 - 205	1 ☒ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04"	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	0094 ~~94~~
04"	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		94	0206
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE: 0010 GPM | DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
055 FEET	060 FEET		FEET	FEET	FEET	FEET

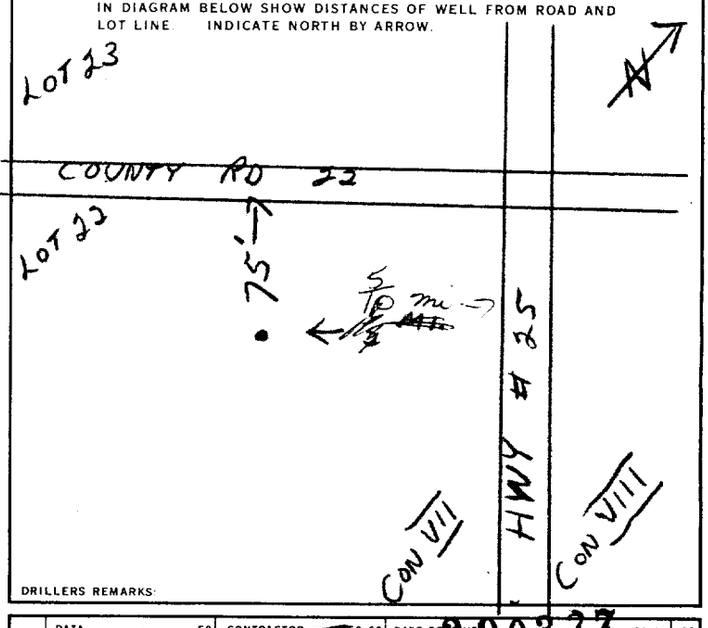
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: [illegible] FEET | RECOMMENDED PUMPING RATE: 0 010 GPM

50-53 — — — • — GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

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

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

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD. | LICENCE NUMBER: 3317

ADDRESS: R.R.1 HILLSBURGH ONT

NAME OF DRILLER OR BORER: ROY LANG | LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang | SUBMISSION DATE: DAY 17 MO. 12 YR. 76

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 3317 | DATE RECEIVED 63-68: 290377 | 80

DATE OF INSPECTION: May 31/77 | INSPECTOR

REMARKS:

CSS.S8

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FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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11 | 6706583 | MUNICIP. 67003 | CON. CON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	ERIN	VII	024

[redacted]
HILLSBURGH ONT

DATE COMPLETED: DAY 17 MO 05 YR 77

UTM: 848250 | RC 5 | ELEVATION 1395 | RC 5 | BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	ROCKS	TOP SOIL		0	3
	SAND	STONES		3	7
	SAND			7	17
	GRAVEL	SAND		17	30
	CLAY	STONES		30	45
GREY	CLAY			45	60
GREY	~~GR~~ LIMESTONE			60	68

31: 0003 1202 | 0007 2812 | 0017 28 | 0030 1128 | 0045 0517 | 0060205 | 1
32: 0068215 | ~~55 60~~ PERFORATED PIPE ~~61 67~~

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0064	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
~~64 68~~	
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04 "	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0063 ~~63~~
04 "	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		63	0068
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

PUMPING TEST

71

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0011 GPM	03 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
018 FEET	025 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	025 FEET	025 FEET	025 FEET	025 FEET

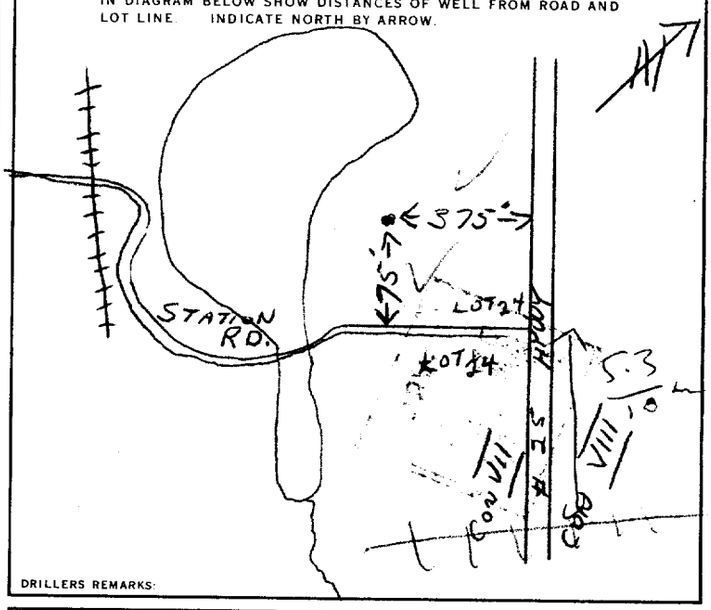
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	40 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	040 FEET	0010 GPM

50-53 ——— GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1

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

WATER USE 55-56: 01

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

METHOD OF DRILLING 57: 2

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD | LICENCE NUMBER: 3317
ADDRESS: RR1 HILLSBURGH ONT
NAME OF DRILLER OR BORER: ROY LANG | LICENCE NUMBER: 3317
SIGNATURE OF CONTRACTOR: Roy Lang | SUBMISSION DATE: DAY 17 MO. 5 YR. 77

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 3317 | DATE RECEIVED 63-68: 050178
DATE OF INSPECTION: Aug 4/78 | INSPECTOR: EJ
REMARKS: CSS 88
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FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

40P/16E

Ontario

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11 | 6706591 | MUNICIP. 67003 | CON. GON 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Erin	VII	022

[redacted] R#1 Hillsburgh Ont. — DATE COMPLETED: DAY 25 MO 06 YR 77

UTM: 546900 | RC: 5 | ELEVATION: 1350 | RC: 5 | BASIN CODE: 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	CLAY	STONES		0	15
Grey	CLAY	STONES		15	35
Grey	CLAY	ROCKS		35	76
Brown	LIMESTONE			76	110
DK. Brown	ROCK			110	127
Black	ROCK			127	138
Brown	ROCK		(Shale ledges)	138	162
Grey	LIMESTONE			162	175
White	LIMESTONE		([redacted] porus)	175	191

31 | 00 15 60 5 12 | 00 35 20 5 12 | 00 76 20 5 12 | 01 10 6 15 | 01 27 62 665 | 01 38 826 | 1

32 | 01 62 626 17 74 | 01 75 215 | 01 91 11 580

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0175	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0160
04"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		160	0191
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE: | DEPTH TO TOP OF SCREEN FEET:

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0011 GPM	02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
042 FEET	045 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	045 FEET	045 FEET	045 FEET	045 FEET

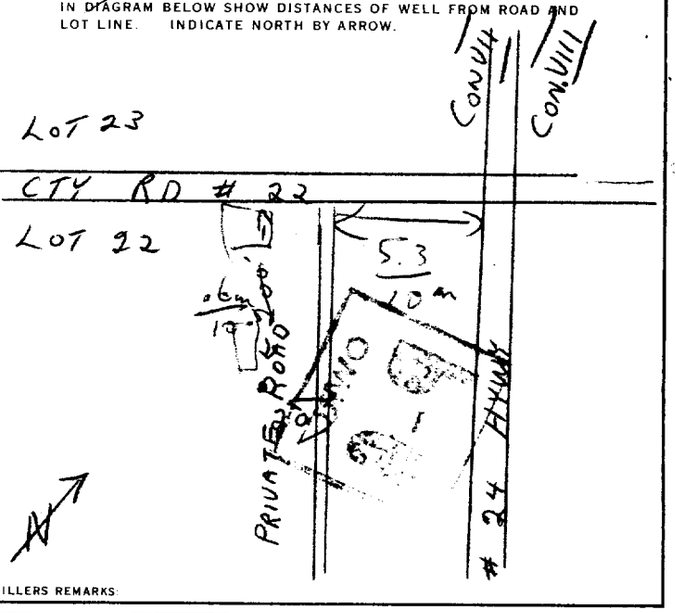
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	60 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	070 FEET	0010 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 1

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

WATER USE 01

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

METHOD OF DRILLING 2

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

CONTRACTOR

NAME OF WELL CONTRACTOR: LANG WELL DRILLING LTD. — LICENCE NUMBER: 3317

ADDRESS: RR#1 HILLSBURGH ONT

NAME OF DRILLER OR BORER: ROY LANG — LICENCE NUMBER: 3317

SIGNATURE OF CONTRACTOR: Roy Lang — SUBMISSION DATE: DAY 25 MO 6 YR 77

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3317 | DATE RECEIVED 0 50178

DATE OF INSPECTION: Aug 4/78 | INSPECTOR: 29

REMARKS:

P

WI

CSS.SS

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FORM 7 MOE 07-091

Ministry of the Environment

Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 6707143

MUNICIP. CON.

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON., BLOCK, TRACT, SURVEY, ETC.: VIII
LOT: 23
OWNER (SURNAME FIRST): MOORE WILF CONSTR.
ADDRESS: 11 MAIN ST. HILLSBURGH
DATE COMPLETED: DAY 26 MO 04 YR 79

21 ZONE EASTING NORTHING RC ELEVATION RC BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	SAND	GRAVEL - CLAY		0	30
	CLAY	STONES		30	40
BROWN	ROCK			40	82

31 0030 2811 05 0040 0512 0082612

32

41 WATER RECORD

WATER FOUND FEET	KIND OF WATER
0070 / 4082	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	50
04"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		50	82
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

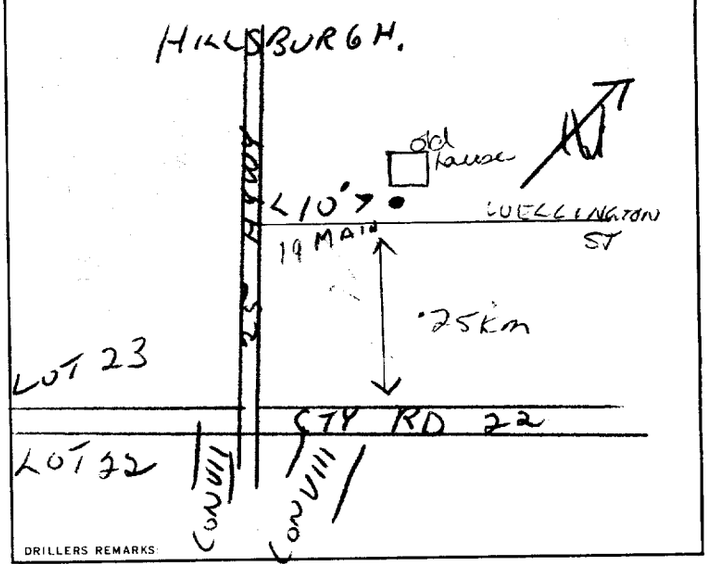
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0015 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
015 FEET	018 FEET		FEET	FEET	FEET	018 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 25 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 040 FEET
RECOMMENDED PUMPING RATE: 0010 GPM

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 54: 1

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

WATER USE 55-56: 01

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

METHOD OF DRILLING 57: 2

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Lang Well Drilling Ltd. LICENCE NUMBER: 3317
ADDRESS: R.R.1 Hillsburgh Ont.
NAME OF DRILLER OR BORER: Roy LANG LICENCE NUMBER: 3317
SIGNATURE OF CONTRACTOR: Roy Lang
SUBMISSION DATE: DAY 26 MO 4 YR 79

OFFICE USE ONLY

DATA SOURCE 58: 1
CONTRACTOR 59-62: 3317
DATE RECEIVED 63-68: 150180
DATE OF INSPECTION: July 15/1980
INSPECTOR:
REMARKS: P-DW

CSS.88

FORM NO. 0506-4-77

MINISTRY OF THE ENVIRONMENT COPY

40 P-16

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 — 6707864 — MUNICIP 67003 — CON CON — LOT 022

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: ERIN
CON., BLOCK, TRACT, SURVEY, ETC: 7
LOT: 022
[redacted]
B. Hillsburg.
DATE COMPLETED: DAY 12 MO July YR. 83

47050 — RC 5 — ELEVATION 1400 — RC 5 — BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BLK.	Top Soil			0	2
Brown	Clay	Stones		2	32
grey	Clay	Rocks		32	92
Brown	Rock		M. Soft	92	145
grey	Rock	Limestone	M. Hard	145	205

61 — 000 28 02 — 003 26 05 12 — 009 22 05 12 — 014 56 12 85 78 — 020 52 12 15 73
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0195 / 802	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
04	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.205	0	0094
04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		94	0205
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

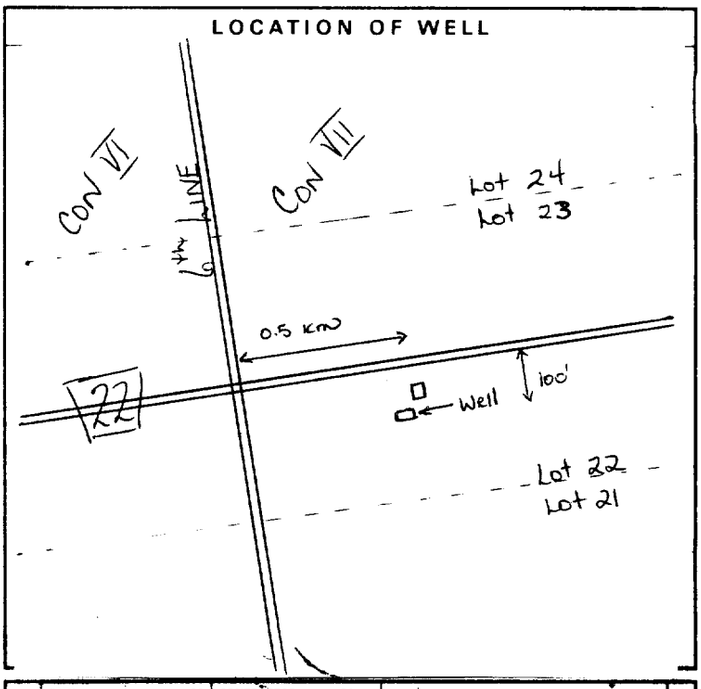
71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0008 GPM
DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
052 FEET	054 FEET	052 FEET	052 FEET	052 FEET	052 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 70 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 070 FEET
RECOMMENDED PUMP RATE: 0008 GPM

LOCATION OF WELL



FINAL STATUS OF WELL 84 — 1

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

WATER USE 55-56 — 01

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

METHOD OF DRILLING 57 — 2

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Rudy's Well Drilling — LICENCE NUMBER: 2332
ADDRESS: RR I Hillsburg
NAME OF DRILLER OR BORER: Rudy Garbotz — LICENCE NUMBER: 2332
SIGNATURE OF CONTRACTOR: Rudy Garbotz — SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 2332 — DATE RECEIVED 63-68: 10 04 84
DATE OF INSPECTION: July 13/84 — INSPECTOR: KW
REMARKS: CSS.S8

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 P-16

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

(11) 6708080 MUNICIP 67003 CON Con 07

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	
Wellington	Erin Twp.	Con. 7	023 PT 23

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
SHELL CANADA ~~LIMITED~~ LTD.	1500 Don Mills Rd. Don Mills, Ont. M3B 3K4	DAY 07 MO Nov. YR 83.

(21) UTM ZONE 17 EASTING 569650 NORTHING 4847900 RC 5 ELEVATION 1400 RC 5 BASIN CODE 24

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Topsoil			0	1
	Gravel	Boulders	Hard	1	32
Lt. Brown	Broken limestone	Shale	Soft	32	38
Brown	Limestone		Medium hard	38	79
Dk. Brown	Limestone		Medium hard	79	102

(31) 0001 02 0032 111373 0038 151785 0079 151873 0102 151573

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0056 ~~102~~	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0040 ~~39-6~~
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		39-6	0102
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

(61) PLUGGING & SEALING RECORD

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

PUMPING TEST

(71) PUMPING TEST METHOD 1 ☒ PUMP air 2 ~~BAILER~~

PUMPING RATE 0020 GPM — DURATION OF PUMPING 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (25) 1 ☒ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
006 FEET	010 FEET		009 FEET	010 FEET	010 FEET	010 FEET

IF FLOWING, GIVE RATE ____ GPM — PUMP INTAKE SET AT 25 FEET — WATER AT END OF TEST 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP — RECOMMENDED PUMP SETTING 025 FEET — RECOMMENDED PUMPING RATE 0020 GPM

FINAL STATUS OF WELL 1

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

WATER USE 01

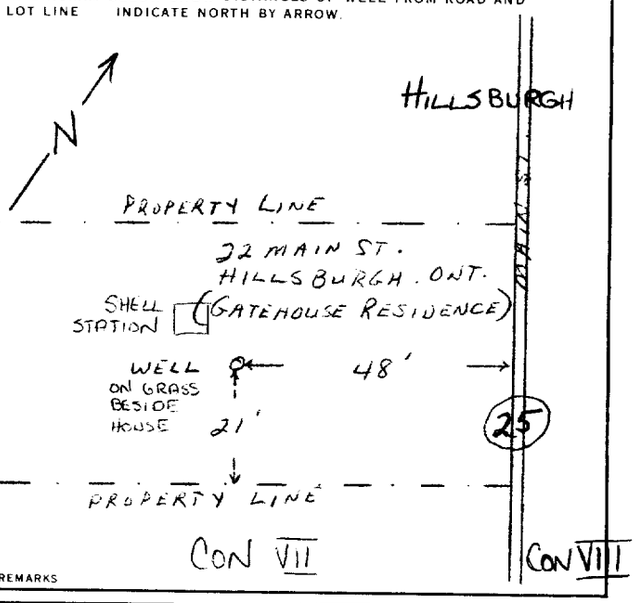
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 2

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

LOCATION OF WELL

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



DRILLERS REMARKS

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Davidson Well Drilling Limited	1737

ADDRESS: Box 486, Wingham, Ontario. N0G 2W0

NAME OF DRILLER OR BORER	LICENCE NUMBER
G. Reavie	

SIGNATURE OF CONTRACTOR: D. J. Davidson — SUBMISSION DATE: DAY 14 MO Nov. YR 83.

OFFICE USE ONLY

DATA SOURCE 58	CONTRACTOR 59-62	DATE RECEIVED 63-68
1	1737	120184

DATE OF INSPECTION: July 13/84 — INSPECTOR: KWO

REMARKS: Changed from 6707780

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

6708153

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11

MUNICIP | CON.

COUNTY OR DISTRICT: [redacted]
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Erin
CON. BLOCK, TRACT, SURVEY, ETC.: VII
LOT: 23
[redacted] 21 Hillsburgh Ont. NOB 1Z0
DATE COMPLETED: DAY 9 MO 5 YR 84
ELEVATION | RC | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
	Sand-Gravel-Clay Layers			0	10
Grey	Clay-Stones			10	35
Br.	Limestone			35	100
DK. Br.	Rock			100	115
Grey	Rock			115	139
Br.	Rock			139	150
Grey	Limestone		(Br. Layers)	150	180

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
165-170	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	40
6⅛"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		40	180
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

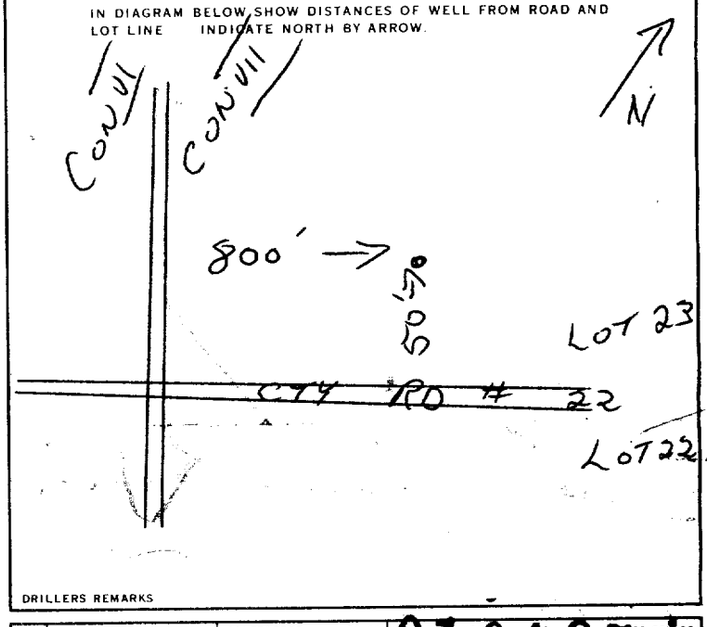
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER — AIR
PUMPING RATE: 85 GPM
DURATION OF PUMPING: 3 HOURS ___ MINS
STATIC LEVEL: 3 FEET
WATER LEVEL END OF PUMPING: 75 FEET
WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
FEET	FEET	FEET	75 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 100 FEET
RECOMMENDED PUMPING RATE: 75 GPM

2880 LOCATION OF WELL

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



DRILLERS REMARKS

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF DRILLING

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Langdale Drilling Ltd. — LICENCE NUMBER: 3317
ADDRESS: RR1 Hillsburgh Ont.
NAME OF DRILLER OR BORER: Roy Lang — LICENCE NUMBER: 3317
SIGNATURE OF CONTRACTOR: Roy Lang
SUBMISSION DATE: DAY 9 MO 5 YR 84

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | DATE RECEIVED | 010485
DATE OF INSPECTION | INSPECTOR
REMARKS: APL/MAY '85

CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

APPENDIX D:
BOREHOLE LOGS

MONITORING WELL ID: MW-01

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-21
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES Southeast portion of Site. Bears Well Tag A201634.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	0							0.00 Ground Surface 442.84	Protective Stickup Casing
								0.30 442.54 [OL to ML - Topsoil] soft, medium brown SILT, some sand, some gravel, organics, cobbles, dry to moist.	Native Soil Backfill
		442	SS 1	60	5-7-9-16 (16)			[CL to ML - Silt] firm to very stiff, light to medium brown SILT, some sand, some clay, some gravel (subangular), moist	
2	6		SS 2	100	4-6-10-19 (16)				
	8		SS 3	100	5-9-50/0.03	>>		-@ 2.30 m pocket of yellow-brown SAND (medium to coarse, equant, subangular)	
		440							
	10		SS 4	50	3-9-12-14 (21)			-@ 3.05 m becomes very stiff	
4	12								Riser Pipe
	14		SS 5	60	8-12-14-22 (26)				Bentonite Annular Seal
	16	438	SS 6	100	2-8-13-18 (21)			4.90 437.94 [CL to CH - Upper Till] stiff to very stiff, medium brown (with reddish mottling) SILT, some clay to clayey, some sand, trace gravel, moist to wet, occasional light to dark grey clasts (may be dolostone)	
	18		SS 7	100	7-8-16-22 (24)			-@ 5.35 m samples exhibit discing and heavy overconsolidation	
6	20		SS 8	100	18-50/0.13	>>		6.40 436.44	
	22	436						[SW-SM or GW-GM - Sand and Gravel] very dense, light brown SAND and GRAVEL, some silt, moist, appears well-graded, gravel is subrounded and sand is subrounded to subangular.	
	24								
8	26		SS 9	100	55-50/0.05	>>			"00" Fine Sand Filter Pack
	28								

(Continued Next Page)

MONITORING WELL ID: MW-01

CLIENT Thomasfield Homes Limited

PROJECT NAME Hillsburgh Hydrogeological Study

PROJECT NUMBER 116103

PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	30							9.15 — 433.69	
			SS 10	100	19-25-35-50 (60)			[CH - Lower Till] hard light brownish-grey (with red and dark grey mottling) SILT, clayey, some sand, some gravel (subangular to subrounded), moist, heavily overconsolidated.	Water Level (2016-09-26): 433.38 masl
	32							9.90 — 432.94	
10								-@ 9.9 m soil cuttings coming up very soft and saturated	
	34								010 Slotted PVC Screen
		432							
	36		SS 11	100	26-24-31-43 (55)			-@ 10.65 m becomes dark grey	
	38								
12									
	40		SS 12	100	21-32-36-36 (68)				

-Suspected to be approximately 3 m below water table

Borehole Terminated at 12.80 m.

MONITORING WELL ID: MW-02

BluePlan ENGINEERING

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-19
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES Southwest portion of Site. Well dry at times of observation.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	-2								Protective Stickup Casing
0	0	440						0.00 Ground Surface 440.07	Native Soil Backfill
								[OL to ML - Topsoil] soft, medium brown SILT, sandy, some clay, some gravel, organics, dry to moist.	
	2							0.82 439.25	
	4		SS 1	42	3-2-1-4 (3)			[ML to CL - Silt] soft to stiff, reddish brown SILT, and SAND to sandy, trace to some clay, some cobbles, red oxidized inclusions, moist, occasional sand pockets.	
2	6	438	SS 2	68	3-3-5-13 (8)				Riser Pipe
	8		SS 3	100	3-6-10 (16)				Bentonite Annular Seal
	10								
	12		SS 4	100	3-8-6-9 (14)				
4	14	436	SS 5	100	8-11-15-19 (26)			-@ 3.8 m becomes very stiff -@ 4.25 m pocket of sand (coarse to medium), saturated/wet.	"00" Fine Sand Filter Pack
	16		SS 6	100	24-50			-@ 4.6 m becomes hard	
	18		SS 7	100	27-50-50/0.11	>>		5.40 434.67 [CL - Upper Till] hard, grey and light brown, SILT, some sand, some clay, trace gravel, moist, heavily overconsolidated.	
6	20	434	SS 8	100	27-45-50/0.13	>>			010 Slotted PVC Screen
	22								
	24								
8	26		SS 9	100	25-40-50/0.13	>>			

-Suspected 3 m below water table
Borehole Terminated at 8.03 m.

MONITORING WELL ID: MW-03

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-20
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES Northwest portion of Site.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION		WELL DIAGRAM
								0.00 Ground Surface	445.46	Protective Stickup Casing
								[OL to ML - Topsoil] soft, medium brown SILT, sandy, some clay, some gravel, organics, dry to moist.		Native Soil Backfill
								0.60	444.86	
			SS 1	100	2-1-2-4 (3)			[ML - Silt] soft to stiff, reddish brown SILT, sandy, trace clay, trace gravel (subangular to subrounded), moist, rootlets present to 0.9 m		
			SS 2	100	2-4-2-3 (6)					
			SS 3	100	5-17-26-24 (43)					Riser Pipe
								3.00	442.46	Bentonite Annular Seal
			SS 4	100	18-17-33-23 (50)			[CL - Upper Till] firm to very stiff, medium brown (with reddish mottling) SILT, some sand some clay, moist.		
			SS 5	100	5-16-17-17 (33)					
			SS 6	100	9-16-25-20 (41)			4.90	440.56	
			SS 7	85	16-42-32-29 (74)			[ML - Upper Till] stiff to hard, light brown SILT, sandy, some gravel, some clay, occasional dolostone clast		"00" Fine Sand Filter Pack
			SS 8	100	14-18-31-45 (49)			6.40	439.06	
								[GM-ML - Sand and Gravel] very dense light brown (with variegated pink and grey) SAND (fine to medium), gravelly, some silt, moist.		
								7.60	437.86	
			SS 9	100	20-26-44-50/0.11	>>		[CL to CH - Lower Till] very stiff to hard medium greyish brown SILT, clayey, some gravel, some sand, moist, heavily overconsolidated.		010 Slotted PVC Screen

(Continued Next Page)

MONITORING WELL ID: MW-03

CLIENT Thomasfield Homes Limited

PROJECT NAME Hillsburgh Hydrogeological Study

PROJECT NUMBER 116103

PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario

DEPTH (m) (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
10 (30, 32, 34, 36)	436	SS 10	100	18-41-50/0.11	>>		[CL to CH - Lower Till] very stiff to hard medium greyish brown SILT, clayey, some gravel, some sand, moist, heavily overconsolidated. *(continued)*	Water Level (2016-09-26): 436.20 masl
		SS 11	100	23-25-46-50 (71)			-@ 11.2 m large red shale-like clast -Greater than 3 m into heavily overconsolidated clay till Borehole Terminated at 11.25 m.	

MONITORING WELL ID: MW-04

BluePlan ENGINEERING

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-20
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES Northeast portion of Site.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
								0.00 Ground Surface 446.00	Protective Stickup Casing
								[OL to ML - Topsoil] soft, medium brown SILT, sandy, some clay, some gravel, organics, dry to moist.	Native Soil Backfill
								0.60 445.40	
								[CL - Silt] very soft to soft, medium brown SILT, some clay, some sand, moist	
			SS 1	100	1-2-2-3 (4)				
			SS 2	100	1-3-5-6 (8)				
2		444	SS 3	100	1-2-1-3 (3)				
								3.05 442.95	
			SS 4	77	13-12-15-35 (27)			[GM - Upper Till] dense, medium brown (with reddish mottling) GRAVEL, silty, some sand, some clay, occasional large dolostone clast.	
4		442	SS 5	100	50-50/0.10	>>			Riser Pipe
			SS 6	33	68-50/0.00	>>			Bentonite Annular Seal
								5.35 440.65	
			SS 7	49	8-30-50-50/0.06	>>		5.55 440.45 [SM to ML] very stiff to hard, medium brown, SILT, sandy, trace clay, wet, non-plastic	
6		440	SS 8	33				[GP - Sand and Gravel] very dense, medium to light brown GRAVEL and SAND, trace silt, dry to moist, coarse grains are subrounded to subangular.	
			SS 9	60	33-50/0.10	>>			
8		438							

(Continued Next Page)

MONITORING WELL ID: MW-04

CLIENT Thomasfield Homes Limited

PROJECT NAME Hillsburgh Hydrogeological Study

PROJECT NUMBER 116103

PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	30							[GP - Sand and Gravel] very dense, medium to light brown GRAVEL and SAND, trace silt, dry to moist, coarse grains are subrounded to subangular. *(continued)*	
			SS 10	83	57-50/0.03	>>			"00" Fine Sand Filter Pack
	32								
10		436							
	34								
								-@ 10.65 m becomes saturated/wet	
	36		SS 11	50	26-31-35-36 (66)				Water Level (2016-09-26): 435.05 masl
	38								010 Slotted PVC Screen
								11.90 434.10	
12		434							
	40							[CL to CH - Lower Till] hard, medium greyish-brown SILT, clayey, some gravel, some sand, moist, heavily overconsolidated.	
			SS 12	100	15-27-43-50/0.06	>>			

-Suspected 1.5 m below water table

Borehole Terminated at 12.71 m.

MONITORING WELL ID: MW-05

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-22
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES West-central portion of Site.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0	0							0.00 Ground Surface 442.74	Protective Stickup Casing
								0.30 442.44 [OL to ML - Topsoil] soft, medium brown SILT, sandy, some clay, some gravel, organics, dry to moist.	Native Soil Backfill
		442	SS 1	50	4-7-5-7 (12)			[ML to CL - Silt] firm to very stiff, medium reddish-brown SILT and SAND to some sand, some gravel to no gravel, trace to some clay, moist, some organics, non-plastic to slightly plastic.	
2	6		SS 2	100	8-3-6-5 (9)			-@ 1.8 m pocket of sand (fine to medium)	
		440	SS 3	100	8-13-16-20 (29)				
			SS 4	100	17-17-23-28 (40)				
4	14		SS 5	100	12-17-23-22 (40)				
		438	SS 6	100	9-14-24-26 (38)				Riser Pipe
			SS 7	100	8-15-26-27 (41)				Bentonite Annular Seal
6	20		SS 8	100	13-17-25-32 (42)			6.25 436.49 [CH to CL - Upper Till] very stiff, brownish red SILT and CLAY, some sand, trace gravel, moist (below plastic limit).	
		436							
			SS 9	100	18-50/0.10	>>		7.95 434.79 [CL - Upper Till] hard, greyish-brown SILT, some clay, some sand, some gravel, moist (below plastic limit).	
8	26								
		434							

(Continued Next Page)

MONITORING WELL ID: MW-05

CLIENT Thomasfield Homes Limited **PROJECT NAME** Hillsburgh Hydrogeological Study

PROJECT NUMBER 116103 **PROJECT LOCATION** Part of Lot 23, Concession 7, Town of Erin, Ontario

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	30		SS 10	100	47-50/0.08	>>		[CL - Upper Till] hard, greyish-brown SILT, some clay, some sand, some gravel, moist (below plastic limit). *(continued)*	
10	32								
	34	432						10.65 — 432.09	
			SS 11	100	60/0.05	>>		[SM - Sand and Silt] very dense, medium brown SAND, some silt, some gravel to gravelly, moist to wet.	"00" Fine Sand Filter Pack
	36								
	38								Water Level (2016-09-26): 430.88 masl
12	40		SS 12	100	70/0.10	>>		-@ 12.2 m becomes wet/saturated	
		430							010 Slotted PVC Screen
	42								
	44								
14	46		SS 13	100	18-36-32-49 (68)			-@ 13.75 m becomes grey, more silt than sand	

-Suspected 2 m below water table

Borehole Terminated at 14.30 m.

MONITORING WELL ID: MW-06

BluePlan ENGINEERING

CLIENT Thomasfield Homes Limited
PROJECT NAME Hillsburgh Hydrogeological Study
PROJECT NUMBER 116103
PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario
DATE COMPLETED 2016-09-22
CONTRACTOR Aardvark Drilling Inc.
LOGGED BY M.Long
METHOD Hollow Stem Auger
WELL CONSTRUCTION 2"Ø PVC Screen
NOTES Central portion of Site.

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
								0.00 Ground Surface 443.62	Protective Stickup Casing
								[Topsoil] soft, medium brown SILT, clayey, some sand, some gravel, cobbles, moist (below plastic limit).	Native Soil Backfill
								0.60 443.02	
								[ML to CL - Silt] soft, reddish brown, SILT, sandy to some sand, trace clay to clayey, moist, layered in coarser [ML] and finer [CL] beds.	
			SS 1	100	2-3-5-4 (8)				
			SS 2	100	3-4-7-10 (11)				
			SS 3	100	5-6-7-10 (13)				
			SS 4	100	6-8-7-10 (15)				
								3.80 439.82	
			SS 5	100	8-16-20-19 (36)			[CH - Upper Till] very stiff to hard, medium brown (with orange mottling and dark reddish brown) to greyish brown, SILT, clayey to some clay, some sand, some gravel, moist (below plastic limit), occasional dolostone clasts.	Riser Pipe
			SS 6	82	9-19-34-50/0.11	>>		-@ 4.75 m pocket of sand, some gravel (subrounded to rounded particles), moist	Bentonite Annular Seal
			SS 7	100	12-50/0.08	>>			
			SS 8	100	16-35-36-50/0.13	>>		-@ 6.1 m becomes heavily overconsolidated -@ 6.55 m becomes dark grey	
			SS 9	100	33-50/0.08	>>			

(Continued Next Page)

MONITORING WELL ID: MW-06

CLIENT Thomasfield Homes Limited

PROJECT NAME Hillsburgh Hydrogeological Study

PROJECT NUMBER 116103

PROJECT LOCATION Part of Lot 23, Concession 7, Town of Erin, Ontario

DEPTH (m)	DEPTH (ft)	ELEVATION (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE 20 40 60 80	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
	30							9.15 — 434.47	
		434	SS 10	100	28-30-50-48 (80)			[SM - Sand and Silt] very dense, medium brown (with reddish mottling) SAND, silty, trace to no clay, moist to wet (saturated).	"00" Fine Sand Filter Pack
	32								
10									
	34								
	36		SS 11	100	21-47-44-48 (91)			-@ 10.65 m becomes wet/saturated	Water Level (2016-09-26): 432.95 masl
	38	432							010 Slotted PVC Screen
12									
	40		SS 12	100	22-18-33-36 (51)				

-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 matt.long@gmblueplan.ca.

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: [redacted]
Name of Occupant:
Phone Number of Own
Lot/Concession: LOT 23 , CONCESSION 7
Fire Number (if applicable): 9354

MAILING ADDRESS:
9354 WELLINGTON RD. 22
RR#1 HILLSBURGH
ONT. N0B1Z0

PROPERTY ADDRESS:
SAME

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 INCH
Type of well/source of water (please check): Bedrock ☑ Overburden ☐
Name of past property owner(s): [redacted]
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)

3. Do you have a water treatment system? If so, please describe:

NO

STEP 3 –

Please provide the name and signature of the person who completed this form below:

[redacted]

(Name – Please print) (Signature)

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: [redacted]
Name of Occupar
Phone Number of
Lot/Concession: LOT 22 CON 7
Fire Number (if applicable): 9357

MAILING ADDRESS:
9357 Wellington Cty Rd. #22
Hillsburgh ONT.
N0B1Z0

PROPERTY ADDRESS:
SAME

E-mail address: MADWEB@Sympatico.ca

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: August 1980
Contractor: SNOW
Type of Well (please check): Drilled ☐ Dug ☑
Original Well Depth: 9' feet
Well Diameter: 3' feet
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.)
ND

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

3. Do you have a water treatment system? If so, please describe:

NO

STEP 3 –

Please provide the name and signature of the person who completed this form below:

[redacted]

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: [redacted]
Name of Occupant:
Phone Number of O
Lot/Concession: Lot 23 Concession 7
Fire Number (if applicable): 9364

MAILING ADDRESS:
9364 WELLINGTON Rd 22
R.R #1 HILLSBURGH
ONTARIO NOB1Z0

PROPERTY ADDRESS:

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:
Contractor:
Type of Well (please check): Drilled ☒ Dug ☐
Original Well Depth:
Well Diameter:
Type of well/source of water (please check): Bedrock ☐ Overburden ☐
Name of past property owner(s): [redacted]
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.)
NO

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)

3. Do you have a water treatment system? If so, please describe:

NO

STEP 3 –

Please provide the name and signature of the person who completed this form below:

[redacted]

(Name – Please print) (Signature)

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: [redacted]
Name of Occupant:
Phone Number of Ow
Lot/Concession: Lot 22 Conc 7
Fire Number (if applicable): 93167

MAILING ADDRESS:
RR1, 9367 Wellington Rd 22
Hillsborough Ont
N0B 1Z0

PROPERTY ADDRESS:
Same

E-mail address: gillian.joyce@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: July 1988
Contractor: Lang Well Drilling Ltd
Type of Well (please check): Drilled ☒ Dug ☐
Original Well Depth: 107 ft
Well Diameter: 5"
Type of well/source of water (please check): Bedrock ☐ Overburden ☐ 92' to 107' Limestone
Name of past property owner(s):
Well usage: Domestic ☒ Irrigation ☐ Livestock ☐ Other: veterinary office
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.)

No

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)

3. Do you have a water treatment system? If so, please describe:
Water softener

STEP 3 –

Please provide the name and signature of the person who completed this form below:

[redacted]

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

APPENDIX F:
CERTIFICATE OF ANALYSIS OF GROUNDWATER SAMPLES

Maxxam
A Bureau Veritas Group Company

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

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	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
pH	4	N/A	2016/09/29	CAM SOP-00413	SM 4500H+ B m
pH	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

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

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.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		DDM152		DDM153			DDM154		
Sampling Date		2016/09/26 14:30		2016/09/26 15:20			2016/09/26 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
pH	pH	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 (Cl)	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									
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
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

RCAP - COMPREHENSIVE (WATER)

Maxxam ID		DDM152		DDM153			DDM154		
Sampling Date		2016/09/26 14:30		2016/09/26 15:20			2016/09/26 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
Dissolved Copper (Cu)	ug/L	<1.0	4687330	2.3	1.0	4681575	1.1	1.0	4681575
Dissolved Iron (Fe)	ug/L	<100	4687330	<100	100	4681575	<100	100	4681575
Dissolved Lead (Pb)	ug/L	<0.50	4687330	<0.50	0.50	4681575	<0.50	0.50	4681575
Dissolved Magnesium (Mg)	ug/L	23000	4687330	18000	50	4681575	22000	50	4681575
Dissolved Manganese (Mn)	ug/L	18	4687330	66	2.0	4681575	110	2.0	4681575
Dissolved Molybdenum (Mo)	ug/L	17	4687330	12	0.50	4681575	4.5	0.50	4681575
Dissolved Nickel (Ni)	ug/L	<1.0	4687330	1.2	1.0	4681575	1.5	1.0	4681575
Dissolved Phosphorus (P)	ug/L	<100	4687330	<100	100	4681575	<100	100	4681575
Dissolved Potassium (K)	ug/L	20000	4687330	13000	200	4681575	4700	200	4681575
Dissolved Selenium (Se)	ug/L	<2.0	4687330	<2.0	2.0	4681575	<2.0	2.0	4681575
Dissolved Silicon (Si)	ug/L	3600	4687330	3800	50	4681575	4800	50	4681575
Dissolved Silver (Ag)	ug/L	<0.10	4687330	<0.10	0.10	4681575	<0.10	0.10	4681575
Dissolved Sodium (Na)	ug/L	14000	4687330	12000	100	4681575	4800	100	4681575
Dissolved Strontium (Sr)	ug/L	190	4687330	190	1.0	4681575	210	1.0	4681575
Dissolved Thallium (Tl)	ug/L	<0.050	4687330	<0.050	0.050	4681575	<0.050	0.050	4681575
Dissolved Titanium (Ti)	ug/L	<5.0	4687330	<5.0	5.0	4681575	<5.0	5.0	4681575
Dissolved Uranium (U)	ug/L	0.69	4687330	1.1	0.10	4681575	0.55	0.10	4681575
Dissolved Vanadium (V)	ug/L	1.3	4687330	0.83	0.50	4681575	0.64	0.50	4681575
Dissolved Zinc (Zn)	ug/L	8.6	4687330	6.8	5.0	4681575	6.1	5.0	4681575

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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
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
pH	pH	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

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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 (Tl)	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

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

TEST SUMMARY

Maxxam ID: DDM152
Sample ID: MW-01
Matrix: Water

Collected: 2016/09/26
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
pH	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
Sample ID: MW-03
Matrix: Water

Collected: 2016/09/26
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	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
pH	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

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

TEST SUMMARY

Maxxam ID: DDM154
Sample ID: MW-04
Matrix: Water

Collected: 2016/09/26
Shipped:
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
pH	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
Sample ID: MW-05
Matrix: Water

Collected: 2016/09/26
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	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
pH	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

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

TEST SUMMARY

Maxxam ID: DDM156
Sample ID: MW-06
Matrix: Water

Collected: 2016/09/26
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	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
pH	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

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

GENERAL COMMENTS

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

Results relate only to the items tested.

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

QUALITY ASSURANCE REPORT

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

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
4680287	Alkalinity (Total as CaCO3)	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	pH	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 (Cl)	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 (Al)	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

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
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 (Tl)	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	pH	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 (Al)	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		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
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 (Tl)	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).

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Maxxam Job #: B6K7932
Report Date: 2016/10/04

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Cristina Carriere

Cristina Carriere, 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.

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27-Sep-16 16:00
Ashton Gibson
R6V7932

Page 1 of 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		
Company Name:	#1067 GM BluePlan Engineering Limited	Company Name:		Quotation #:	B47865	
Attention:	Joe Rotondi	Attention:	Matt Long	P.O. #:		
Address:	650 Woodlawn Rd W Block C, Unit 2 Guelph ON N1K 1B8	Address:		Project:	116103	ABH ENV-265
Tel:	(519) 824-8150 Fax: (519) 824-8089	Tel:	(519) 824-8150 x1274 Fax:	Project Name:	Hillsburgh	
Email:	jrotondi@gamsby.com	Email:	cory.young@gmblueplan.ca; matthew.nelson@gmbluep	Site #:		
				Sampled By:	MRL	

Bottle Order #: 576723
C#576723-01-01
Project Manager: Ashton Gibson

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☒ PWQO ☐ Other ODWS	

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive									# of Bottles	Comments
1		MW-01	2016 09 26	14:30	GW	✓	✓									4	Decant if required due to sediment
2		MW-03	2016 09 26	15:20	GW	✓	✓									4	
3		MW-04	2016 09 26	15:05	GW	✓	✓									4	
4		MW-05	2016 09 26	15:25	GW	✓	✓									4	
5		MW-06	2016 09 26	14:45	GW	✓	✓									4	
6					GW												
7																	
8																	
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Matt Long	16/09/27	8:55	Tanvir Bajwa TANVIR SEKHA	16/09/27	16:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal	Yes	No
	9/7/7	Present	✓	
		Intact	✓	

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics

APPENDIX G:
RESULTS OF GRAIN SIZE ANALYSES

GM BluePlan Engineering Limited

Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA

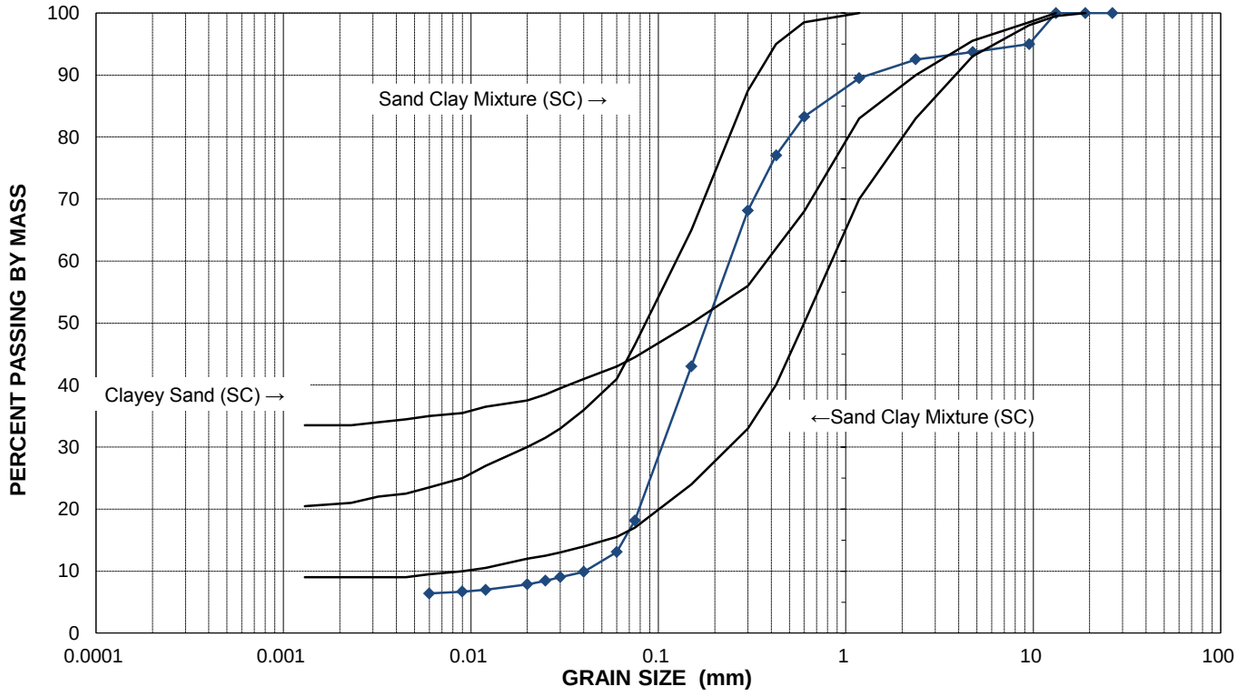
1260 - 2nd Avenue E., Unit 1 Owen Sound, ON N4K 2J3

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



←		FINE	MEDIUM	COARSE	FINE	COARSE
CLAY	SILT	SAND			GRAVEL	

SIEVE SIZE PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE	HYDROMETER PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE
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: 1.6×10^{-3} cm/sec **"T" Time : 12 - 18 mins/cm**

Comments:

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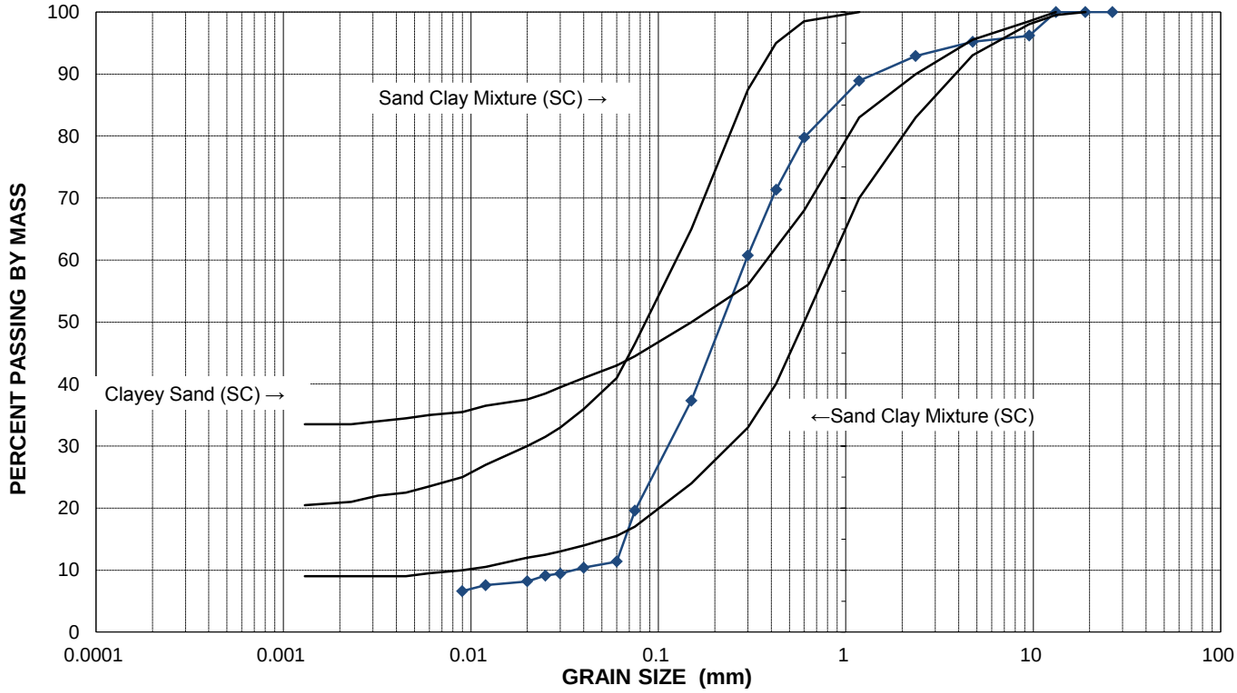
PARTICLE SIZE ANALYSIS

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



←		FINE	MEDIUM	COARSE	FINE	COARSE
CLAY	SILT	SAND			GRAVEL	

SIEVE SIZE PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE	HYDROMETER PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE
26.5	100.0	0.0600	11.4
19	100.0	0.0400	10.4
13.2	100.0	0.0300	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_{10} : 0.04 mm **D_{60} : 0.3 mm** **Cu : 7.5**

Coefficient of Permeability: 1.6×10^{-3} cm/sec **"T" Time : 12 - 18 mins/cm**

Comments:

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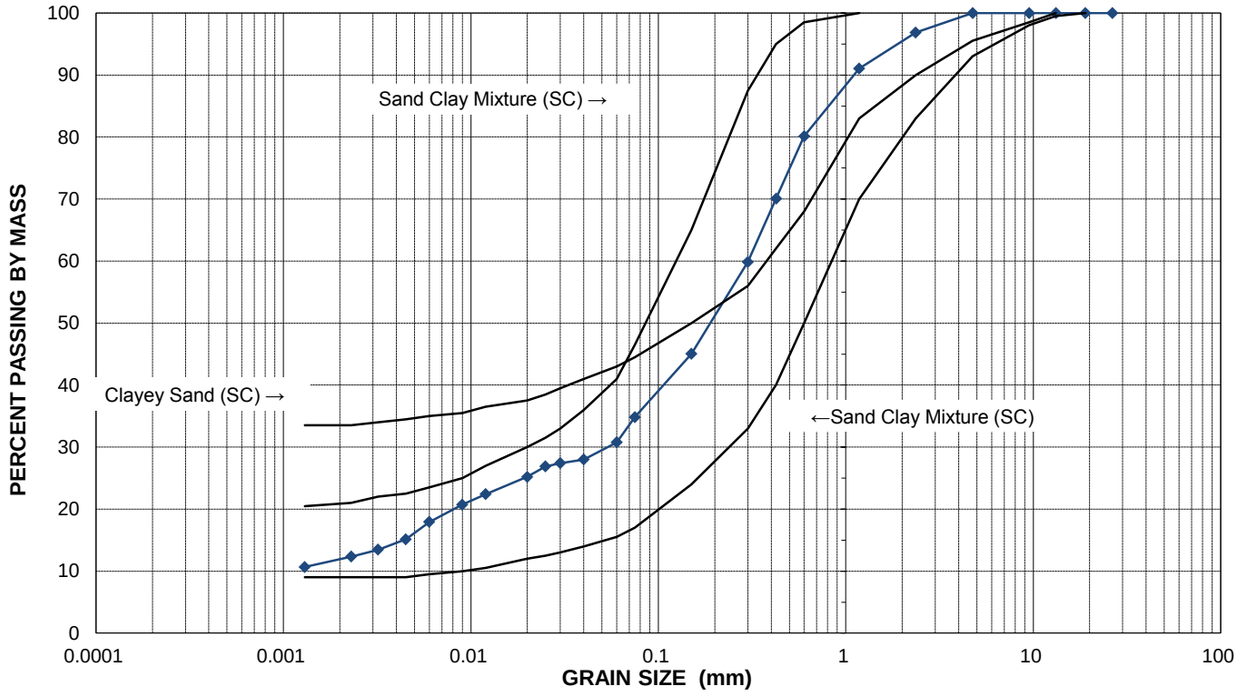
PARTICLE SIZE ANALYSIS

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	SILT	SAND			GRAVEL	

SIEVE SIZE PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE	HYDROMETER PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE
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 **D_{60} : 0.3 mm** **Cu : 300**

Coefficient of Permeability: 1 x 10^{-6} cm/sec **"T" Time : 38 - 50 mins/cm**

Comments: D10 is an interpolated value.

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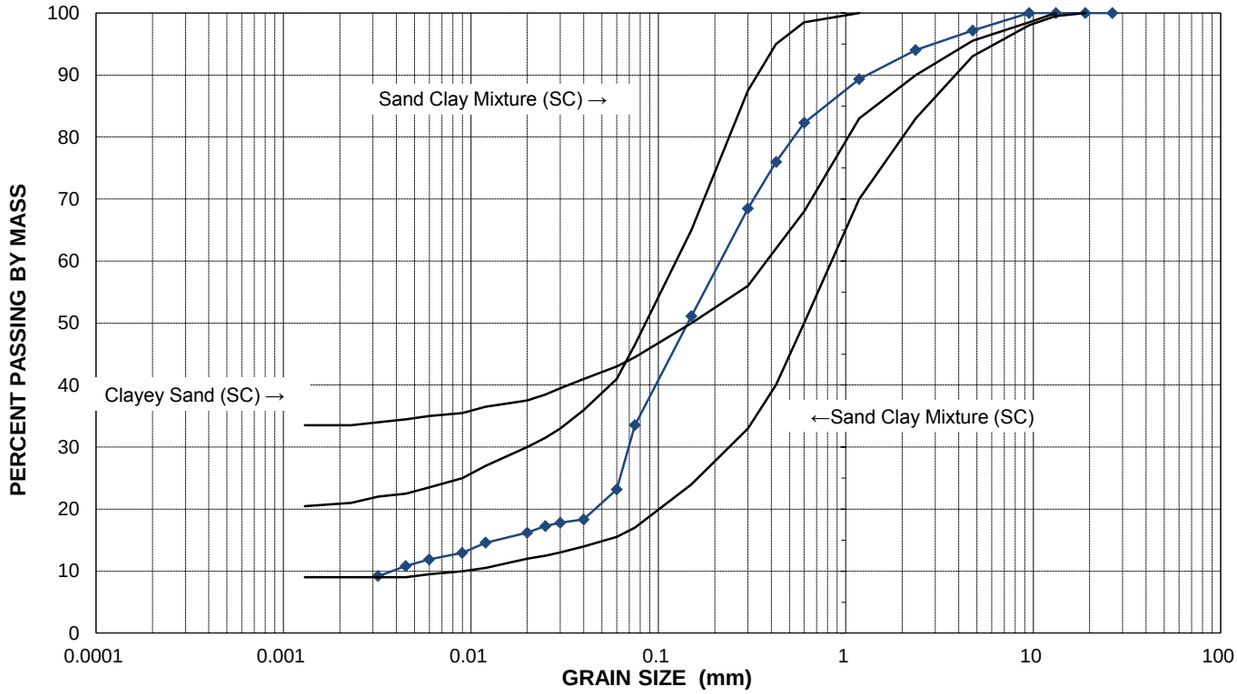
PARTICLE SIZE ANALYSIS

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



←		FINE	MEDIUM	COARSE	FINE	COARSE
CLAY	SILT	SAND			GRAVEL	

SIEVE SIZE PARTICLE DIA. (mm)	PERCENT PASSING SAMPLE	HYDROMETER PARTICLE DIA. (mm)	PERCENT PASSING 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	

D_{10} : 0.004 mm **D_{60} : 0.23 mm** **Cu : 57.5**

Coefficient of Permeability: 1.6×10^{-5} cm/sec **"T" Time : 36 - 46 mins/cm**

Comments:

APPENDIX H:
CONSTRUCTION DEWATERING ESTIMATES

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

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Hydrogeological Calculations for Dewatering Estimates

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

2) 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.

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Hydrogeological Calculations for Dewatering Estimates

Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 **Engineer/Technician:** MRL/AF

MAXIMUM DEWATERING SCENARIO

#1 - Dewatering for Servicing

Radius of Influence

Sichart

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

R_0 =	17	m (Radius of Influence)
H=	2	m (Initial Head)
h=	1.6	m (Head at Drawdown)
k=	2.00E-04	m/s (Hydraulic Conductivity)

Aquifer Type: Unconfined (Water Table)

Calculation Approach: Flow to Finite Trench

Governing Equation:

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

Q=	76,210	L/d (Dewatering Flow)	(A)
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_w=	1.5	m (Radius of Well or System)	

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Hydrogeological Calculations for Dewatering Estimates

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: Unconfined (Water Table)
Calculation Approach: Flow to Well
Governing Equation:

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

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)	
$R_{0'}$ =	28	m (Radius of Influence, R_0 plus r_w due to relative size of excavation)	
r_w=	15	m (Radius of Well or System)	

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Hydrogeological Calculations for Dewatering Estimates

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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: Unconfined (Water Table)
Calculation Approach: Flow to Well
Governing Equation:

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

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)	
$R_{0'}$ =	60	m (Radius of Influence, R_0 plus r_w due to relative size of excavation)	
r_w=	13.6	m (Radius of Well or System)	

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Hydrogeological Calculations for Dewatering Estimates

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_0 =	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: Unconfined (Water Table)
Calculation Approach: Flow to Well
Governing Equation:

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

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)	
$R_{0'}$ =	125	m (Radius of Influence, R_0 plus r_w due to relative size of excavation)	
r_w=	19.1	m (Radius of Well or System)	

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Hydrogeological Calculations for Dewatering Estimates

Project: Hillsburgh Residential Subdivision Hydrogeological Study

Project Number: 121132 **Engineer/Technician:** MRL/AF

1) Contribution from Lower Till

Sichart

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

R_0 =	1	m (Radius of Influence)
H=	2	m (Initial Head)
h=	1	m (Head at Drawdown)
k=	1.00E-07	m/s (Hydraulic Conductivity)

Aquifer Type: Unconfined (Water Table)

Calculation Approach: Flow to Well

Governing Equation:

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

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)
$R_{0'}$ =	20	m (Radius of Influence, R_0 plus r_w due to relative size of excavation)
r_w=	19.1	m (Radius of Well or System)

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Hydrogeological Calculations for Dewatering Estimates

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

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

R_0 =	3	m (Radius of Influence)
H=	7	m (Initial Head)
h=	3.5	m (Head at Drawdown)
k=	1.00E-07	m/s (Hydraulic Conductivity)

Aquifer Type: Unconfined (Water Table)

Calculation Approach: Flow to Well

Governing Equation:

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

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)
$R_{0'}$ =	22	m (Radius of Influence, R_0 plus r_w due to relative size of excavation)
r_w=	19.1	m (Radius of Well or System)

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Hydrogeological Calculations for Dewatering Estimates

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

*Based on the assumption that construction of the SPS, SWM Pond and site servicing will not be concurrent.
**Under most conditions, excavations are expected to be well above groundwater levels, except at the SPS.

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APPENDIX I:
MONITORING AND MITIGATION PLAN FOR CONSTRUCTION DEWATERING

Table I1: DEWATERING MONITORING PLAN

	Number	Activity	Frequency or Schedule	Location	Threshold**	Threshold ID†
Pre-Construction Monitoring	P0	Groundwater Level Monitoring	Once before dewatering.	All monitoring wells on-site.	Groundwater level exceeds historical range of measurements.	P0.1
	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 other equipment deficiency.	D1.1
	D2	Inspect Discharge Water	Daily during dewatering	1. At discharge point. 2. At receiver (e.g. municipal drain).	Evidence of sheen, odour, globules or other characteristics which may indicate impacted water.	D2.1
	D3	Field Monitoring of Turbidity	Daily during dewatering	1. Any point along route between discharge area and receiver. 2. Receiver (i.e. surface water body), upgradient of point of entry of discharge.	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

** In the event that a threshold is exceeded, proceed with mitigation activities.

†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 I2: DEWATERING MITIGATION PLAN
GENERAL AND CONTINGENCY MITIGATION ACTIVITIES

Mitigation Type		Threshold ID	Mitigation Measures*
General	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.
	Intake Points	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.
	Restriction of Contaminating Activities	N/A	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.
Contingency	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.
	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.

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