Hydrogeological Study
5782 6 Line East, Township of Guelph/Eramosa (Ariss)

GMBP File: 420099-2

August 2023

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650 WOODLAWN RD. W., BLOCK C, UNIT 2, GUELPH ON N1K 1B8 P: 519-824-8150
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5782 6 LINE EAST, TOWNSHIP OF GUELPH/ERAMOSA (ARISS)

WILL-O-HOMES INC.

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1. INTRODUCTION

Will-O-Homes Inc. (the Client) has retained GM BluePlan Engineering Ltd. (GMBP) to perform a hydrogeological study to support Draft Plan Approval for a residential development on a property located at 5782 6 Line E, Ariss. The subject property (the Site) is approximately 7.77 ha (19.3 acres) and is located within Lot 17, Concession 4 of the Geographic Township of Pilkington (Figure 1). It is our understanding that the development is anticipated to comprise of 16 residential lots, associated easements and roadways. The residential lots are proposed to be serviced by private on-site sewage systems and individual private water supply wells. A draft plan of the development showing a 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 hydrogeological system.

1.1 PURPOSE AND SCOPE

The purpose of this report is to gather information about the Site from existing sources and from field investigation in order to characterize the hydrogeological setting of the Site and to assess the feasibility of the proposed development with respect to the use of on-site sewage systems and private water supply wells.

The study is based on *Procedure D-5-4: Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment (*MOE August 1996) and *Procedure D-5-5: Technical Guideline for Private Wells: Water Supply Assessment* (MOE August 1996) and our experience with similar projects. 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 includes:

1. Background study regarding the geological and physiographic setting of the Site;
2. Search of provincial MECP records for wells within 500 m of the Site boundaries;
3. Completion of overburden boreholes, complete with monitoring wells, for characterization of overburden materials and groundwater;
4. Door-to-door survey of properties within 500 m of the Site for information on water wells and usage;
5. Installation and aquifer performance testing (i.e. pumping tests) of water supply test wells on-Site;
6. Water quality testing of samples taken from monitoring wells and water supply test wells installed on-Site;
7. Water quality testing of samples collected from domestic wells at neighbouring properties near to the Site;
8. Estimation of the nitrate attenuation capacity of the proposed development (as per Procedure D-5-4); and
9. Assessment for adequate water supply as per Procedure D-5-5.

A more 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 along 6th Line East toward Sideroad 16 (i.e., compass northwest). Figure 1 shows the location of the Site on a regional scale and Figure 2 shows an aerial view of the Site.

2.1 SITE LOCATION AND SETTING

The Site is situated in the vicinity of the hamlet area of Ariss in the Township of Guelph/Eramosa (refer to Figure 1). The Site occupies an area of approximately 7.77 ha and is located along 6 Line E, 300 m north of its intersection with Wellington County Road 51. The property is described as Part of Lot 17, Concession 4, Geographic Township of Pilkington. The Site is currently undeveloped land with no existing structures and is used for agricultural purposes. The property is intersected through the center by a municipal drainage feature known as Branch C of Kurtz Drain (runs north-south across the Site). The Kurtz Drain conveys surface flows to Hopewell Creek which lies approximately 1.5 kilometres south of the Site.

The western half of the Site is currently bounded to the north by Branch F of the Kurtz Drain, which spans east-west and connects with Branch C; while the eastern half of the Site is bounded to the north and east by residential and agricultural properties. Along the southeastern property line, Branch E of the Kurtz Drain exists which spans east-west and conveys flows southward via a culvert. The Usher's Creek Subdivision also bounds the Site to the South as well the residential property 5760 6 Line East. The Site is bounded to the west by the Kissing Bridge Trailway.

An aerial photo of the layout of the Site is provided in Figure 2.

2.2 PROPOSED DEVELOPMENT

The proposed draft plan (Appendix A) shows a design with 16 residential lots for single-family detached homes and associated amenities and services including roadways. Stormwater generated on-site is to be directed to the Kurtz Drain. An open space block is to be provided to allow for Branch C of Kurtz Drain to intersect the Site through the center, between proposed lots 7 and 8.

Each individual lot is proposed to be serviced with a private on-site sewage system and private water supply well.

2.3 LOCAL RELIEF AND DRAINAGE

According to topographic maps available through the Grand River Conservation Authority (GRCA 2023), the Site generally has a gentle relief, with elevations ranging from 350 masl to 344.5 masl. The highest elevations are observed at the east and west portions of the Site and the low point at the Site is located at the center of the Site where Branch C of Kurtz Drain intersects.

The west half of the Site features a gradual east-southeast slope trending toward Branch C.

The eastern half of the Site is divided by a hill feature located along the north boundary: west of the hill, the slope trends gradually westward towards Branch C; and east of the hill, the slope trends gradually southward towards Branch E of Kurtz Drain located along the southeast of the Site.

2.4 GEOLOGY AND PHYSIOGRAPHY

The site is located within the physiographic regions known as the Guelph Drumlin Field, where 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 is predominately located on a till plain feature with a single drumlin feature intersecting the Site from the north coinciding with the location of the hill feature (Chapman and Putnam 2007). The physiographic region and landform mapping of the Site is illustrated in Figure 3a and 3b.

The surficial materials underlying the site are predominately silty sand to sandy silt till of the Wentworth Till deposit (Ontario Geological Survey 2010). The center of the Site is intersected by a Kame and Esker deposit that is characterized by poorly-sorted coarse materials deposited by glacial meltwaters. The illustration of the surficial geological materials is presented in Figure 4.

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 (i.e., predominately till).

The Site is underlain at depth by the subcrop of the Guelph Formation (OGS 2011). Locally significant aquifers include the Guelph Formation and the deeper Gasport Formation (Brunton 2009), both of which are typically capable of supporting high-demand flows as would be required by municipal systems (e.g., the City of Guelph). Beneath the Guelph Formation is an aquitard known as the Eramosa Formation, which contains argillaceous and bituminous material, which in turn is underlain by the Goat Island Formation, an aquifer of lower transmissivity which is noted for distinctive geochemistry with elevated sulphate and halite (Brunton 2009). The Goat Island Formation is underlain by the Gasport Formation.

Water well records indicate the subcrop (i.e., the upper surface of the bedrock) generally lies at a depth between 12 m and 28 m below ground surface, depending on location.

2.5 LOCAL USE OF GROUNDWATER

The Site lies within the Grand River Source Protection Area, a part of the Lake Erie Source Protection Region. According to the Source Protection Information Atlas (MECP, 2023), the Site overlaps the following types of vulnerable areas:

- Wellhead Protection Area: No
- Groundwater Under Direct Influence (GUDI): No
- Issue Contributing Area: No
- Significant Groundwater Recharge Area: Yes
    - Attributed to the eastern half of the Site.
- Highly Vulnerable Aquifer: No
- Intake Protection Zone: No
- Event Based Area: No.

These designations will be used to assess the proposed development, in the context of the local Source Protection Plan, for significant threats to drinking water and to determine, if required, suitable monitoring and/or mitigation activities for the protection of drinking water sources.

A desktop survey of water wells via the MECP Water Well Information System indicates numerous water well records attributable to locations on-site and properties within 500 m of the Site. Table 1 provides select details given by these water well records. Copies of the water well records are included in Appendix B. A brief summary of the water well records is given here:

- A total of 76 water well records were identified within the search area
    - 68 of these were installed to bedrock
    - 8 were installed in the overburden
        - 7 records were for monitoring wells (6 of which are located on-site)
        - 1 record for an overburden water supply well attributed to the address 5767 Wellington County Road 86
- The uses of the water wells is broken down as follows:
    - 68 domestic wells
    - 7 monitoring wells
    - 1 commercial well
    - 1 abandonment record
- Hydraulic parameters of bedrock wells used for domestic purposes (67 records)
    - Average static water level 6.3 m below ground surface
    - Average depth of penetration into bedrock is 17.8 m
    - Average pumping rate (as recommended on the well record) of 13 gallons per minute (49. L/min)

Figure 5 shows the locations of the water well records according to the coordinates given by the MECP. It is noted that one of the wells in the study area (MECP Well ID: 6702205) has been identified as an overburden well for domestic use. The record appears to be associated with the address 5767 Wellington Road 86 which neighbours the Site to west, just beyond the Kissing Bridge Trail.

2.6 RELEVANT LOCAL AND SITE-SPECIFIC REPORTS

2.6.1 CMT Geotechnical Investigation – 2021

A geotechnical investigation of the Site was conducted by CMT Engineering Inc. (CMT) in 2021, concurrently with this hydrogeological investigation. Borehole placement was coordinated between CMT and GM BluePlan to meet the needs of each study. The drilling program involved the drilling of six (6) boreholes with all six (6) being installed with monitoring wells.

Figure 6 shows the location of the boreholes/monitoring wells on-Site and the borehole logs from the geotechnical investigation are provided in Appendix C.

A generalized summary of the stratigraphy encountered during drilling is as follows:

- Sand and Gravel Fill
  - Only observed at BH-6 and is likely attributed to backfill used from a nearby field drain
- Native Sand and gravel
  - Observed underlying the topsoil at BH-4 and interbedded within the sandy silt at BH-2 and BH-5
- Sandy Silt
  - Observed in all boreholes extending to termination of boreholes.

The predominant soil type on Site, Sandy Silt, was observed to be very loose to very dense in consistency and was considered to be moist to wet with moisture content ranging from 5.5% to 17.6%.

The sand and gravel fill underlying the topsoil and overlying the sandy silt observed at BH-6 was reported to be 1.68 m thick and 0.77 m of the thickness was saturated. This borehole was observed to have the highest groundwater level on-site.

The native sand and gravel seams interbedded between the sandy silt at BH-2 and BH-5 were observed to be wet to saturated. Based on the limited number of boreholes, it is unclear whether these sand and gravel seams are laterally-extensive, or whether they have substantial capacity to convey groundwater flows laterally.

To assist in the determination of hydraulic conductivity of the predominant soil type encountered at the Site, CMT collected one sample of the sandy silt material from each borehole (i.e., a total of six (6) samples) and subjected them to grain size analyses. The grain size analyses are provided in Appendix D for reference.

Based on the results of these grain size analyses, CMT estimated select hydraulic parameters to be as follows:

- Hydraulic conductivity (k): between 1.2×10^{-8} m/s and 4.1×10^{-8} m/s.
- Percolation time (“T”-time): between 20 min/cm and 30 min/cm.

2.7 RECEPTORS

In the vicinity of the Site, the following potential receptors (i.e., entities or parties which may be affected by potential groundwater impacts) have been identified:

- Groundwater users: approximately 80 residences have been identified to lie within 500 m of the Site and, due to the lack of municipal water services, it is reasonable to assume that all or most obtain their water supply from water wells.
- Surface water features: Kurtz Drain, which ultimately conveys flows to Hopewell Creek approximately 1.5 m south of the Site.

With respect to Source Water Protection policy areas, such as Intake Protection Zones and Wellhead Protection Zones, the nearest such area is approximately 1.3 km to the southeast and is associated with the municipal system for the City

of Guelph. As such, an impact assessment with respect to the policies and Source Protection Plans under the *Clean Water Act (2006)* is not anticipated to be required.

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

The scope of the hydrogeological study involved the completion of multiple investigative activities, including the following:

1. Undertake a field investigation to support individual private sewage servicing (i.e., D-5-4 Individual On-Site Sewage Systems Water Quality Impact Risk Assessment) including:
    a. Water level monitoring to confirm groundwater levels
    b. Topographical survey of all monitoring well installations (position and elevation)
    c. Groundwater sampling (one from each monitoring well) and laboratory analysis to determine existing nitrate concentrations and general groundwater quality
    d. Site reconnaissance to observe existing natural features on-site and on adjacent lands.

2. Undertake a field investigation to support individual private water well servicing (i.e. D-5-5 Private Wells: Water Supply Assessment) including:
    a. *Completion of a door-to-door well survey of residents within 500 m of the Site, including the hand-delivery of well survey forms and postage-paid return envelopes.
    b. Arrangement of a water well drilling contractor to drill three (3) test wells and one observation well to an anticipated depth of 48 m.
        i. All wells will be approximately 6” diameter wells intended to be suitable for future domestic use by homeowners in the new development.
    c. Completion of three (3) 6-hour pumping tests, one on each test well, including manual and electronic (using pressure transducer dataloggers) monitoring of water levels.
    d. Collection of a total of 6 well water samples (two from each test well during their respective pumping tests) and laboratory analysis of a suite of drinking water parameters, including sodium, sulphate, hardness, iron, turbidity, microbiological parameters and others.
    e. Topographical survey of all test well and observation well installations (position and elevation).

A fulsome door-to-door water well survey (i.e., addressed to all residences within 500 m of the proposed development) is proposed to be completed in a subsequent submission of this Hydrogeological Study (e.g., at Site Plan Approval).

The general layout of site investigation activities is given in Figure 6.

3.2 GROUNDWATER LEVELS

On June 18, 2021, a datalogging pressure transducer (i.e., Solinst Levelogger) was installed at all six monitoring wells to record change in groundwater level and temperature on a frequent basis over a period of time (ideally multiple seasons). A topographic survey was also completed on the monitoring wells to translate the data recorded by the datalogger into actual elevations (i.e., meters above sea level, masl). The groundwater level data was collected beginning June 18, 2021 with the most recent data being collected on June 20, 2023.

Table 2 provides a summary of the groundwater level measurements collected from monitoring wells BH-1 to BH-6; Charts 1 to 6 provide hydrographs of the datalogger data collected; and Figure 7 shows the seasonal high groundwater levels observed at the Site.

From the data collected, the following observations have been made regarding the trends in groundwater level:

- The groundwater was generally observed to be at higher elevations at the east and west boundaries of the Site, trending downwards towards the municipal drain feature at the centre of the Site.
- Throughout the monitoring period, the seasonal high groundwater level observed was approximately 349 masl at the east and west extremities of the Site, and 344.80 masl at the center (i.e., at BH-3 which is located directly adjacent to the on-site municipal drain feature).
- The groundwater table was typically highest during the fall and winter and was sustained through the spring months. The groundwater table then declined through the summer months.
    - Comparing low-season (i.e., summer and fall) water levels between 2021 and 2022, it is noted that groundwater levels in 2022 reached levels about 1 to 1.5 m lower than in 2021.
- Periods of sharp rise in the groundwater table and a gradual decline are observed at all boreholes (with the exception of BH-4).

Notably the groundwater levels observed at the monitoring well BH-3 were observed to be at similar elevations as the surface of the drainage feature (i.e., Branch C of the Kurtz Drain), which indicates that the water level in Kurtz Drain is an expression of the groundwater table and that it likely receives interflow and/or groundwater discharge from the surrounding soils.

3.3 DOOR-TO-DOOR WELL SURVEY

A door-to-door water well survey of nearby residences within 500 m of the subject Site is proposed to be conducted in the late summer, early fall months, to support later submissions of this Hydrogeological Study.

In the interim, a limited door-to-door well survey was completed at nearby neighbouring properties within 100 m of the subject Site to identify private water well users and to invite those users to be monitored during the on-site pumping tests of test wells to support the water supply assessment. A survey questionnaire was delivered to 12 residents, of which only five responses were received from residents who were interested in being monitored during the pumping tests. Figure 8 displays the locations of the residents who agreed to participate. The five respondents were as follows:

- 54 Ariss Glen Drive
- 50 Ariss Glen Drive
- 46 Ariss Glen Drive
- 42 Ariss Glen Drive
- 5763 6 Line East

The survey responses from the residents reported the water quality from their wells as clear and odourless, with some residents reporting high levels of iron and that they use domestic water treatment systems to reduce iron concentrations. The responses from residents did not specify whether the wells were advanced into bedrock; however, based on the abundance of well records in the area available on the MECP Water Well Records database of domestic water wells finished in the bedrock and the typical absence of a suitable overburden aquifer based on the stratigraphic logs provided in those well records, it is inferred that these water wells are also finished within the bedrock.

A site visit was scheduled with each of the respondents to assess the suitability/accessibility of their wells, collect a manual water level measurement, and the installation of a datalogger to record the trend in groundwater during the on-site pumping tests. The findings of the pumping test monitoring are discussed in the following section.

3.4 SHALLOW GROUNDWATER QUALITY

Groundwater samples were collected from 5 out of the 6 overburden monitoring wells on-site. Monitoring well BH-3 could not be sampled due to damage that had occurred to the well during grading work associated with the re-alignment of Kurtz Drain. Samples were collected according to industry-accepted practices with the use of a dedicated Waterra inertial pump to purge the well of at least three well-volumes or until dry prior to sampling. After purging, the inertial pump was used to collect samples into laboratory supplied bottles appropriate for the required analyses. The samples were submitted to an accredited laboratory for analysis of a suite of routine groundwater quality parameters, including major anions and metals/cations and other index parameters (e.g., hardness, alkalinity, pH). The results of the groundwater

quality analyses are summarized in Tables 3a and 3b, and the Certificate of Analysis for this sample submission is included in Appendix E.

The results from the laboratory were compared against the Provincial Water Quality Objectives (PWQO) criteria. The PWQO are established by the government of Ontario and are used in the assessment of chemical and physical indicators of surface water and groundwater that is to be discharged to the surface. These criteria were established to protect aquatic life and all aspects of the aquatic life cycles during indefinite exposure to the water (Ontario 1994).

Generally, the reported results indicate that the shallow groundwater on-site is considered to be moderately mineralized as indicated by the elevated concentrations of dissolved calcium and magnesium. This result can be expected due to the Site's geological environment: the local overburden, which is largely derived from regional bedrock materials such as dolostone and limestone of the Guelph Formation.

Elevated concentrations of dissolved sodium and chloride were observed at the monitoring wells BH-2 and BH-6 which are located adjacent to the Ariss Glen Drive Cul-de-Sac and 6 Line E, respectively. These elevated concentrations are believed to be as a result of road salt application occurring at these nearby rights-of-way. Elevated concentrations of dissolved potassium were also observed in all samples and this is believed to be associated with the agricultural activity that has occurred on-site. Potassium is a common nutrient used to fertilize soil and its benefits to plant growth are well known and documented.

Ultimately, the results of the analyses indicate that the groundwater on-site meets the PWQO (or would meet the PWQO if sediment capture is provided) and would be suitable to be discharged to the surface in the event that construction dewatering is required.

In consideration for the proposed on-site private sewage systems, the existing nitrate concentration were also analyzed. The results indicate that at BH-4 and BH-5 the nitrate concentrations are below laboratory detection limits. At BH-2 and BH-5 the nitrate was reported to be very similar to each other with concentrations of 0.27 mg/L and 0.25 mg/L, respectively. BH-1 reported slightly higher with a concentration of 2.16 mg/L, which is still well below the Ontario Drinking Water Standard (ODWS) of 10 mg/L.

3.5 PUMPING TESTS

In support of the water supply assessment (in accordance with MECP Procedure D-5-5), a total of three (3) test wells and one (1) observation well were advanced on-site by Keith Lang Water Well Drilling Inc. The wells were installed at points distributed across the Site, with consideration for the on-site features such as the municipal drains that intersect the Site, and for the potential future use by residents post-development. Please see Figure 8 for the location of the test wells (TW-01, TW-02, TW-03) and observation well (OW-01).

The wells were completed with a 6" steel casing from approximately 0.6 m (2 ft) above the ground surface to between 0.6 to 1.8 m into the bedrock formation. Following installation, wells were developed by the well drilling contractor using surging and pumping techniques.

A separate water well record was submitted for each of these wells and is provided in Appendix F. The records contain details about the geological material encountered, total depth, well construction and other pertinent information.

Two pumping tests were completed for the purposes of establishing aquifer characteristics (i.e., transmissivity, storage) and water supply capacity, as well as to collect samples to characterize groundwater quality in the bedrock aquifer.

Pumping Test 1 involved the concurrent pumping of test wells TW-01 and TW-03, each at a constant discharge rate of 76 L/min (or 152 L/min combined, which equates to 218,900 L/day). Both of these wells were pumped for a period of 6 hours, though pumping was begun at TW-03 an hour later than at TW-01.

Pumping Test 2 involved pumping of TW-02, which was initially pumped at 76 L/min (109,400 L/day) for the first 50 minutes of the test; however, after significant drawdown was observed in the well such that the water level approached the depth of the pump intake, the flow rate was stepped down to 57 L/min (82,100 L/day) which was maintained for the remainder of the test.

During each pumping test, water levels were monitored in OW-1, the dormant test well(s), and four water supply wells belonging to residences along Ariss Glen Drive (42, 46, 50 and 54).

Compared to the estimated water demand of up to 36,000 L/day for the proposed 16-lot subdivision (see Section 5.1.1 for background on this estimate), these pumping rates are considered to be sufficient for the purposes of assessment of water supply.

3.5.1 Bedrock Aquifer Water Quality

During the pumping tests at test wells TW-01, TW-02, and TW-03, water quality samples were collected from the pumping well discharge at each well during the first hour and the last hour of the pumping tests. The samples were submitted to a CALA-SCC accredited laboratory to be analyzed for the following: routine comprehensive analysis (including major anions, cations, nutrients, hardness, and other parameters), colour, turbidity, metals (total), and microbiological parameters (e.coli, total coliforms, fecal coliforms). The laboratory certificates of Analyses are included in Appendix G.

The results of the water quality analyses are presented in Tables 4a and 4b and were compared to the standards set forth in O.Reg. 169/03 Ontario Drinking Water Standards (ODWS) for the maximum acceptable concentrations (MAC) and the Aesthetic Objectives (A/O). The reported results indicate an exceedance of the ODWS Aesthetic Objective for the parameter hardness in all six samples, from all three test wells. This is typical of the bedrock formation (i.e., Guelph/Amabel) as it is known to be high in dissolved minerals associated with the calcareous nature of limestone bedrock. The reported hardness concentrations can be readily treated through the use of conventional water softener treatment systems.

Nitrate concentrations were reported at concentrations below the detection limit (<0.10 mg/L) in all samples collected from the test wells.

A single exceedance of the ODWS maximum acceptable concentrations standard was reported for the microbiological parameter Total Coliforms (reported as 1 CFU/100mL, vs. standard of 0 CFU/100mL) at TW-01. The reported exceedance was for the second sample that was collected near the end of the test, whereas the first sample collected at the beginning was reported as zero. It is possible that the reported exceedance is a result of a sample handling and/or collection error rather than representative of the actual aquifer condition. Furthermore, Procedure D-5-5 states,

> "*For the purposes of the assessment described by this Guideline, Total Coliform counts of less than 6 per 100 ml of sample (and 0 for E. Coli and fecal coliforms) shall be considered as indicative of acceptable water quality*".

As such, based on the guidance provided in Procedure D-5-5, the detection of total coliforms at TW-01 is not considered to constitute an obstacle to the proposed development. It is recommended that the proposed houses be furnished with domestic water treatment systems capable of disinfection (e.g., UV irradiation units).

3.5.2 Bedrock Aquifer Water Quantity

To assess water quantity in the bedrock aquifer, drawdown data was collected during the pumping tests through the use of dataloggers that were installed in the pumping wells and the observation wells located on-site and off-site (i.e., nearby private water wells). Refer to Appendix H for the pumping data of the test wells presented on drawdown vs. time graphs.

The drawdown data was then analyzed using curve-matching techniques facilitated by AquiferTest software. The pumping test data collected from observations wells OW-01, 5763 6 Line, and TW-03 (during pumping of TW-02) were analyzed using the Theis (1935) method. The Theis model fit the data well and indicate that the assumption of confined conditions is reasonable. The aquifer parameters were determined as follows:

- Geometric mean of transmissivity of 3.93×10^{-4} m^2/s (or 34.0 m^2/day)
- Geometric mean of storage of 3.24×10^{-4} (dimensionless)

These values are typical of bedrock systems where a network of fractures permits considerable well discharge but have a relatively limited porosity. Appendix I provides the report output from the Aquifer Test program and Table 5 provides a summary of the observations made during the pumping tests and subsequent recovery.

Recovery rates were rapid for TW-01 and TW-02 with full recovery of these wells occurring within 1 hour. TW-03 exhibited a slower recovery, taking approximately 8.5 hours to full recovery.

The data collected from the nearby residents during the two days of pumping tests are presented on a hydrograph in Chart 7. The maximum interference drawdown recorded during each pumping test at each well is summarized below:

- 54 Ariss Glen Drive
  - Pumping Test 1: 0.61 m
  - Pumping Test 2: 0.39 m
- 50 Ariss Glen Drive
  - Pumping Test 1: 0.58 m
  - Pumping Test 2: 0.38 m
- 46 Ariss Glen Drive
  - Pumping Test 1: 0.51m
  - Pumping Test 2: 0.46 m
- 42 Ariss Glen Drive
  - Pumping Test 1: 0.58 m
  - Pumping Test 2: 0.49 m
- 5763 6 Line East
  - Pumping Test 1: 0.54 m
  - Pumping Test 2: 0.01 m

During the first pumping test, the average of the maximum interference drawdowns recorded at the neighbouring wells was approximately 0.56 m. During the second pumping test the average was approximately 0.43 among the properties located on Ariss Glen Drive, while negligible drawdown was observed at 5763 6 Line.

When considering that the typical available drawdown in local water wells installed in the Guelph Formation (i.e., bedrock) is roughly 10 m, the highest observed interference drawdown at the neighbouring wells is only approximately 6% of the available drawdown in the well.

It is noted that monitoring data collected prior to the start of the pumping tests indicates that water level fluctuations of 0.5 to 1 m over the course of a day is a typical occurrence. It is also noted that immediately prior to the start of Pumping Test 1 a decreasing trend in water levels appears to have already been present (see Chart 7).

Despite this, for the purposes of making a conservative assessment, it is generally assumed that the recorded drawdowns in the neighbouring wells were due to the action of the pumping tests, with the exception of a portion of the drawdown observed at 5763 6 Line East during the latter part of Pumping Test 1. The drawdown data at 5763 6 Line East shows a rapid drawdown of about 0.5 m occurring between the time 4 pm to approximately 5 pm, after which recovery is observed before the end of pumping at TW-03, which is the closest test well to this property. This additional drawdown is likely a result of increased water usage occurring at the 5763 6 Line East well (e.g., for irrigation of gardens) and not as a result of the water taking occurring on-Site: therefore this additional 0.5 m of drawdown is not included in the estimated 0.54 m interference reported above for that well.

4. HYDROGEOLOGICAL CONCEPTUAL SITE MODEL

A hydrogeological conceptual model describes the key hydrogeological features and functions of the Site and also provides a basis for evaluation of potential impacts to the Site. The conceptual model is synthesized from the data and information collected during desktop study and field investigation.

Topographically, the site is generally flat with a gentle relief towards Branch C of Kurtz Drain and is generally at similar elevations to surrounding lands. However, adjacent lands to the north (and a small northern portion of the Site) exhibit some undulating terrain consistent with physiographic mapping that shows drumlin landforms in these areas, and the remaining areas as till plains.

The soils encountered during the geotechnical investigation were reported as sandy silt with trace clay that extended to termination in all boreholes (i.e., > 6 mbgs). A small layer of sand and gravel was observed interbedded between the sandy silt at two boreholes (i.e., BH2 and BH5) with thicknesses of 0.3 m and 0.44 m, which are likely laterally-discontinuous based on the separation distance and other boreholes located between these two boreholes that did not encounter this layer.

The sandy silt material was subjected to grain size analyses and was characterized as having a relatively low hydraulic conductivity (i.e., on the order of 10^{-8} m/s), and thus are considered to form an aquitard, generally impeding the rate of groundwater flow. Based on groundwater levels measured across the Site within this sandy silt aquitard, it appears that there is some potential for lateral groundwater seepage through this stratum in the direction of Branch C of the Kurtz

Drain. This indicates that groundwater is at least occasionally contributing to the flow of this drain (i.e., groundwater discharge conditions) as nearby groundwater levels were observed at higher elevations than the Branch C Drain. However, these contributions are limited by the low hydraulic conductivity of the overburden materials.

The peak seasonal groundwater level at the Site approaches ground surface across much of the Site, a phenomenon that is often observed in surficial till aquitards in the Guelph area. As the soils are “tight”, groundwater flow through these soils occurs slowly. As a result, during periods of frequent precipitation or snow melt (e.g., late winter and spring), water infiltrates into the ground faster than it can be drained through the deeper strata: during these periods groundwater levels approach ground surface and remain elevated for extended periods of time. During the summer and fall, when evapotranspiration rates are high, groundwater levels decrease steadily by as much as 2 to 4 metres. In late fall, as precipitation increases and evapotranspiration decreases, groundwater levels increase to seasonal high levels. During these periods groundwater levels would be expected to rise. Sustained periods where water levels remain near the seasonal high may be exacerbated by overland flows contributed by the uplands to the north of the Site and the presence of closed depressions, which may prevent runoff and encourage groundwater infiltration.

The existing groundwater chemistry in the shallow overburden is reported as moderately mineralized but is suitable for discharge to surface during any potential construction dewatering activities. Existing nitrate concentrations were reported to be well below the ODWS of 10 mg/L, indicating that pre-existing nitrate concentrations pose no obstacle to the proposed use of Class 4 (leaching bed-type) sewage systems.

With the advancement of test wells on-Site and the subsequent completion of pumping tests, the test water wells have been found to be suitably productive for household use. The subcrop of the bedrock formation at the test well locations was encountered between 18.9 mbgs to 22.9 mbgs and is described as gray/brown limestone. The test wells were observed to have an available drawdown ranging from 12.0 m to 17.0 m, and the piezometric head was observed to be highest at the east of the Site (TW-03 = 343.6 masl approx.) and lowest at the west (TW-01 = 339.9 masl approx.). Based on the linear configuration of the test wells, the bedrock groundwater flow direction can not be confirmed definitely, however it is inferred that groundwater flow direction within the bedrock aquifer is generally toward the west to southwest in the direction of the Grand River. The groundwater quality from the test wells was deemed suitable for domestic consumption.

The overlying overburden is described as clay and stones (inferred to be till) to surface. Due to the thickness and fine texture of this overburden material, it is interpreted that there is a significant hydraulic separation between the surface and bedrock.

5. 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 the potential receptors. The proposed development for the Site is anticipated to utilize private water wells and septic systems which present the potential for impacts to groundwater quantity and quality, respectively. As such, this assessment will consider both types of impacts.

5.1 WATER SUPPLY ASSESSMENT

5.1.1 Estimation of Allowable Flows

The results of the pumping tests indicate transmissivity and storage similar to those found at other subdivisions also serviced by water wells installed in the Guelph Formation. However, the suitability of an aquifer to meet the needs of a particular development depends on the water demands of that development.

Regarding the proposed development, a design flow of 2,250 L/lot/day will be used, which represents the peak flow demand rate of 450 L/person/day (as stipulated in D-5-5) for a four-bedroom house with 5 residents. Although this is considered a conservative estimate as the peak flow rate is an overestimate of the average consumption rate, it nonetheless serves the function of being an indicator of aquifer performance and sustainability. For a 16-lot subdivision, this results in a total demand of 36,000 L/day.

The Modified Moell Method (Maathuis and Van Der Kamp, 2006) was used to determine an estimated sustainable flow based on the pumping test data. In conceptual terms, this method allows for the calculation of the estimated flow rate that a well can sustain for a period of 20 years (Q_{20}).

This method of calculation is as follows:

$$Q_{20} = Q_t \frac{H_A}{s_{100} + 5\Delta s}$$

Where

Q_{20} is the sustainable flow rate of the well (L/min)
Q_t is the pumping rate used during the pumping test (L/min)
H_A is the height of the water column above the top of the aquifer (m)
s_{100} is the drawdown measured at a time of 100 minutes into the pumping test (m)
Δs is the drawdown per log cycle of time (m)

For the purposes of providing a more conservative estimate, a safety factor of 0.7 was applied to the Modified Moell method result.

Table 6 provides a summary of the long-term allowable flows (Q_{20}) estimated for each test well. The average of these Q_{20} flow rates is just over 49,000 L/d (geometric mean of about 47,400 L/d), with individual test wells ranging from 35,800 L/day (TW-02) to 67,800 L/day (TW-03).

Considering that the estimated demand of a single well will be up to 2,250 L/d and the demand of the entire subdivision is about 36,000 L/d, this demonstrates that the local bedrock aquifer is more than capable of supporting private wells for long-term domestic usage.

5.1.2 Zone of Influence and Drawdown Effects

The pumping of water from one well may influence the groundwater levels in another well, and hence water supply available to other nearby water well users may be affected. As a result, it is important to determine whether a proposed development is likely to cause a significant reduction in water supply for existing water well users.

Drawdown Influence on Existing Off-Site Wells

To determine long-term drawdown influence effects, a Theis (1935) analysis was conducted using the aquifer properties obtained through the AquiferTest analyses from TW-01, TW-02, and TW-03 pumping tests:

- transmissivity (geometric mean) = 3.93×10^{-4} m^2/s
- storage (geometric mean) = 3.24×10^{-4}.

The Theis analysis was applied assuming:

- the subdivision is serviced by 16 identical pumping wells (one for each of the proposed lots) equally spaced along the length of the Site, located in the anticipated rear-yard area of the lots (with consideration for the Ontario Building Code minimum set-backs from the property line);
- each well will be pumped continuously at a rate of 2,250 L/day for a period of 20 years; and
- that the principle of superposition holds (i.e., the influence on a subject well can be calculated by summing the individual drawdowns imparted by each of the 16 wells pumping on-site).

Computations were completed to determine the estimated potential interference drawdown that would be experienced by a series of existing off-site wells. Of the wells that were subject to these calculations, the highest estimated potential interference drawdown was approximately 0.87 m (see Table 7a). Noting that the typical available drawdown (i.e., height of water column above the top of the aquifer) in water wells within the study area is typically larger than 10 m, this estimated interference drawdown represents about 8% of the available drawdown at this well, which is considered to be acceptably small for a time horizon of 20 years.

Furthermore, the design pumping rate of 2,250 L/day from each of the 16 pumping wells used in the analysis is considered to be an overly conservative estimate of the daily water taking. It assumes that the peak flow rate stipulated in Procedure D-5-5 (i.e., 2,250 L/day, for a four-bedroom lot) is maintained continuously over the period of 20 years. Please refer to Table 7a for a summary of Theis (1935) analysis conducted using the peak flow rate.

For purposes of comparison, the interference drawdowns were estimated again assuming an average usage rate of 1,000 L/lot/day. From these calculations, the maximum interference drawdown was estimated to be approximately

0.39 m, which is approximately 3% of the available drawdown. Based on this analysis, it is anticipated that the water taking on-Site will have minimal drawdown effects at nearby water wells.

Drawdown Influence Between Proposed On-Site Wells

A similar estimation method was undertaken to determine the anticipated effect that the wells of the proposed subdivision may have on each other. Please refer to Table 7c for a summary of Theis (1935) analysis conducted to determine drawdown between on-Site wells.

Due to its location near the centre of the proposed development, lot 8 is expected to experience the largest interference drawdown among all proposed lots in the subdivision. Assuming that the other 15 wells are being pumped at a typical usage rate of approximately 1000 L/lot/day continuously for a period of 20 years, the expected long-term drawdown at this well is calculated to be approximately 0.38 m. In comparison to the available drawdown observed at the test wells on-Site (average H_A = 15 m), the estimated interference drawdown is less than 3% of the available drawdown in the well. This is a relatively small amount of drawdown and falls within the range already accounted for by the factor of safety (0.7) applied in the Modified Moell Method calculation for long-term allowable flow.

Therefore, these interference analyses demonstrate that the proposed development is expected to have minimal impact on the quantity of water available to existing and proposed water well users.

5.2 WATER QUALITY

5.2.1 Private Sewage Systems and Nitrogen Attenuation Calculations

With respect to on-site sewage systems, the chemical species of primary concern for environmental impacts is nitrogen, particularly in the form of nitrate, which can cause adverse impacts to potable groundwater supply and receiving surface waters.

As such, it is necessary to ensure that the nitrogen output of the proposed development will be attenuated to less than 10 mg/L or lower as per the health-based Ontario Drinking Water Standard (2002). Procedure D-5-4 (MOEE 1996) provides a method of estimating attenuation by dilution and that only sewage effluent and local infiltration (i.e., net precipitation going to groundwater recharge) are eligible to be used as diluents. This procedure is considered to be conservative as it does not account for natural attenuation mechanisms that occur within the on-site sewage system and receiving soil, nor does it account for dilution with groundwater.

The nitrogen attenuation calculations have been completed with the understanding that: sixteen (16) lots are proposed to be developed, each with a single-detached house equipped with four (4) bedrooms.

For the residential development, the attenuated nitrogen concentration will be calculated using the following formula, which is based on the predictive assessment approach established in Procedure D-5-4 (MECP 1996):

$$C = \frac{N\Delta t}{(P - E)(1 - r)A + Q\Delta t}$$

Where:

C is the attenuated nitrogen concentration (mg/L)

N is the nitrogen loading (16 lots by 40,000 mg/day/lot)

Δt is the time interval (365 days/year)

P is annual precipitation (917 mm/year, Environment Canada Climate Normals for Shand Dam)

E is annual evapotranspiration (550 mm/year, Ministry of Natural Resources, 1984)

r is the runoff coefficient (0.3, MTO)

A is the gross area of the lots (77,700 m^2, total)

Q is the rate of sewage effluent generation (16,000 L/d total, based on 1,000 L/lot/day per Procedure D-5-4)

Based on the proposed development plan for sixteen residential lots to be serviced by on-site sewage systems, the total nitrogen loading for the proposed development is approximately 640,000 mg/d. This is based on a value of 40,000 mg/lot/d set by Procedure D-5-4 (MECP 1996).

Procedure D-5-4 also sets a maximum allowable quantity of sewage effluent that may be used in the attenuation calculation (1,000 L/lot/d) and so the total rate of sewage effluent generation used in the calculation is 16,000 L/d.

The effective hydrologic water input, accounting for evapotranspiration and runoff is estimated to be about 19,968.9 m^3/yr based on an infiltration rate of 257 mm/yr. This infiltration rate was obtained by taking the difference between precipitation (946 mm/yr, Environment Canada 2018) and evapotranspiration (550 mm/yr, Ontario Ministry of Natural Resources 1984) and discounting the result by 30% due to losses to runoff (Ontario Ministry of Transportation 1997).

Working through the above equation using these values results in an attenuated nitrogen concentration of 9.05 mg/L (see below):

$$C = \frac{N\Delta t}{(P-E)(1-r)A + Q\Delta t} = \frac{16(40{,}000)(365)}{(917-550)(1-0.3)(77{,}700) + 16{,}000(365)} = 9.05\ mg/L$$

This concentration remains below the 10 mg/L limit for specified by the Ontario Drinking Water Standards for nitrate.

It is noted that the Procedure D-5-4 nitrogen attenuation predictive assessment is generally conservative as it only accounts for attenuation of nitrogen by dilution with groundwater recharge. It does not include other natural processes, such as denitrification, assimilation by plants, or sorption to soil media, all of which would have an attenuating affect on nitrogen concentration.

Therefore, based on this predictive assessment of nitrogen attenuation, the proposal to develop 16 residential lots on the Site is considered to be feasible: the impact of the sewage system on local groundwater resources is expected to be within acceptable limits.

5.2.2 Potential Water Quality Effects on Surface Water

Branch C of Kurtz Drain intersects the Site, crossing north-south through its center, and discharges to Hopewell Creek approximately 1.5 m south of the Site.

With respect to the potential impact of sewage systems on surface water, the main parameter of interest is ammonia. However, in domestic septic system applications the ammonia in sewage effluent readily undergoes nitrification to form nitrate and so the risk of impact to Kurtz Drain is considered to be very low. In the case of the Site, the risk is also reduced because of the relatively fine-textured soil materials, which will impede groundwater seepage and promote adsorption and sequestration of other parameters of potential concern (e.g., phosphorus).

Kurtz Drain will be further protected by ensuring that the septic systems are constructed in accordance with the clearance distances specified in the *Ontario Building Code: Table 8.2.1.6.B*. which states that a minimum clearance distance of 15 m must be maintained between any proposed distribution piping (i.e., in the tile bed) and a stream. As described in Section 6 of this report, tile bed construction will be designed such that these clearance distances are maintained.

Therefore, water quality impacts to Kurtz Drain (and by extension, Hopewell Creek) are not expected.

5.2.3 Potential Water Quality Effects on Well Users

It has previously been identified that, though the Site does not lie within a Source Water Protection policy area, numerous water well records are attributable to the properties within 500 metres of the subject Site. As such, the existing water well users near the Site have been identified as receptors.

It is noted that the predictive assessment for nitrogen attenuation (see Section 5.2.1) has identified that the sewage uses on the proposed development are not expected to cause concentrations of nitrate in the shallow groundwater to exceed 10 mg/L, which is the Ontario Drinking Water Standard maximum acceptable concentration for nitrate.

In addition, many of the well users have water wells that are constructed to bedrock: due to the significant depth to bedrock (i.e., on average 20 mbgs) and the presence of a thick layer of till overburden extending to surface, there is

limited hydraulic connection between the near surface and the underlying bedrock aquifer. Thus, the potential for the on-site sewage systems to impact the bedrock aquifer is considered limited.

The MECP well record search identified a single record of an overburden water supply well (MECP Well ID: 6702205) attributed to the address 5767 Wellington County Road 86 which neighbours the Site to the west, separated by the existing Kissing Bridge trailway. Impacts to this well by the proposed development are considered to be unlikely because of the relatively low hydraulic conductivity of the intervening soil, the distance from the proposed development (over 120 m from the nearest proposed lot), and its location upgradient (groundwater flow direction in the western part of the Site is southeasterly).

Therefore, the risk for water quality impacts associated with the proposed private sewage systems to affect private water wells in the vicinity of the Site is considered to be low.

6. SEWAGE SYSTEM FEASIBILITY

The *Ontario Building Code* (OBC) specifies the way in which an on-site sewage system (flows under 10,000 L/d) is to be designed and constructed. The size of such a system will depend on many factors, including sewage effluent load, the "T-time" of the underlying soil, and what level of treatment is provided prior to discharge to the septic bed. It is worthwhile to perform preliminary sizing of on-site sewage systems to determine whether they will be feasible for a proposed development.

In the geotechnical report for the Site, CMT Engineering Inc. provides estimated "T-time" values for different types of soils encountered in the subsurface investigation. Because the septic system will be installed near the surface, it is desirable to choose a "T-time" that corresponds to shallow soils and which provides an upper bound (i.e., conservative) estimate of the "T-time" that might be encountered in the location where the septic bed will be installed.

As discussed in Section 2.6.1, CMT estimated the "T"-time for three samples taken from the predominant shallow soil material encountered (i.e., sandy silt). Among these estimates, the highest "T"-time was 30 min/cm.

Assuming that the proposed lots will be constructed with 4-bedroom houses, Part 8 of the OBC specifies a sewage generation rate of 2,000 L/d.

Based on these parameters, a preliminary sizing of the leaching bed can be undertaken. Assuming construction as a filter bed (see Article 8.7.5 of the *Ontario Building Code*), the leaching bed will involve a stone layer and a filter medium layer of areas as follows:

$$A_{stone} = \frac{Q}{75}$$

$$A_{filter} = \frac{QT}{850}$$

Where:

Q is the sewage design flow for the proposed dwelling (assumed 2,000 L/day for a 4-bedroom dwelling)

T is the "T"-time of the native soil (30 min/cm)

Based on the equations above, the stone layer must be at least 27 m^2 in size and the filter medium must be at least 71 m^2 in size.

In addition to this, the ensure effective transfer of effluent into the underlying soil, a "mantle" must be provided (see Article 8.7.5.2(2) and 8.7.4.2(1)) such that the surface loading rate on the area comprising the mantle and filter medium layer is no greater than 8 L/m^2/d and that the mantle extends for a distance of at least 15 m downgradient from the edge of the stone layer.

To determine the appropriate size of the mantle, the dimensions of the stone layer and filter medium layer must be determined. Accounting for clearances from property line (3 m) and structures (5 m) as well as the need to raise the filter bed by 1.5 m to provide sufficient clearance from seasonal high groundwater levels (3 m each side of the bed), the maximum filter bed length will be 14 m less than the length of the area available. Assuming a typical setback of 24 m

between the proposed dwelling and the front property line, the maximum allowable length of the filter bed will be 10 m. This assumes that the distribution pipe in the filter bed is oriented north-south (i.e., running from the house to the front property line).

Therefore, the dimensions of the components of the filter bed are as follows:

- Stone Layer: 10 m long by 2.7 m wide (27 m^2)
- Filter Medium Layer: 10 m long by 7.1 m wide (71 m^2)

The surface loading on the mantle plus filter medium layer must be no greater than 8 L/m^2/d. Taking the sewage flow rate of 2,000 L/d, dividing by the maximum surface loading rate of 8 L/m^2/d and then subtracting the 71 m^2 already accounted for in the filter medium layer, the required mantle area is 179 m^2. Dividing this by the length of the stone layer, the mantle must extend for another 17.9 m beyond the edge of the filter medium layer. Coincidentally, this will also satisfy the requirement for the mantle to extend 15 m beyond the edge of the stone layer.

The overall dimensions of the leaching bed are therefore 10 m long by 25 m wide (250 m^2 overall). A filter bed of this size is expected to be accommodated in the front yard area of the proposed lots while respecting the required clearances from property lines, structures, and wells (which will be located in the rear yard area).

Therefore, the servicing of the proposed dwellings with *Ontario Building Code*-compliant Class 4 sewage systems Class 4 sewage systems is considered to be feasible.

It is noted that this preliminary sizing exercise only serves to indicate the feasibility of providing private sewage servicing to the proposed dwelling. There may be a variety of designs and leaching bed types that will be feasible to construct on a given lot in the proposed development. Some lots may have unique dimensions or geometry that will require a different layout than what is presented in this section.

It is therefore the responsibility of the builder or homeowner to have the septic systems designed and installed by a competent party (e.g., licensed sewage system installer) based on a site-specific investigation to confirm soil and groundwater conditions.

7. CONSTRUCTION DEWATERING

Groundwater control is a key factor to consider when entering into the construction phase of any project, as it can result in unforeseen project delays and substantial costs if not adequately addressed. The construction of the proposed development will include the excavation of basements at each of the lots. In local residential construction, basement floors are typically situated approximately 1.2 to 1.8 mbgs.

The CMT geotechnical investigation conducted grain size analyses on the prevalent soil material on-Site (i.e. sandy silt) to characterize the hydraulic conductivity of these materials. The analyses provided hydraulic conductivity (k) values ranging from $4.1x10^{-8}$ m/s to $1.2x10^{-8}$ m/s.

Seasonal groundwater levels on-site have been observed to be as high as ground surface as some of the monitoring wells. However, based on the characteristics and prevalence of the sandy silt material on-site which is considered to be an aquitard (i.e., provides significant resistance to the movement of groundwater), and the shallow excavation depths required for the construction of the basements, it is not anticipated that a water taking approval in the form of an Environmental Activity Sector Registry (EASR) registration will be required (i.e., discharge flows < 50,000 L/d).

However, due to the presence of the surface water feature on-Site (i.e., the Kurtz Drain), erosion and sediment control facilities shall be deployed to prevent the release of sediment-laden water into Kurtz Drain via overland flow from the Site. Erosion and sediment control facilities (e.g., check dams, geotextile filter bags) are to be sized, selected and installed by the contractor. Where practicable, it is recommended that the discharge location (i.e., end-of-pipe) be placed at least 30 m away from Kurtz Drain: where this is not practicable, it is recommended that the discharge location be chosen to maximize the distance between Kurtz Drain and the discharge location.

8. BASEMENTS OF RESIDENCES

Municipalities in the Wellington-Waterloo area typically require that basement elevations for houses be set above the seasonal high groundwater level (SHGWL) by some clearance height (typically 0.3 m to 0.5 m). For the purposes of this

assessment, the SHGWL is taken to coincide with the maximum groundwater level recorded (or that would be recorded) by a monitoring well at that location.

Based on data collected from June 2021 to June 2023 (see Charts 1-6, and Figure 7), the water levels measured on-Site indicated SHGWL ranging from about ground surface (e.g., at BH1, BH5, and BH6) to nearly 2 m below ground surface (e.g., BH-4). In local residential construction, basement floors are typically situated approximately 1.2 to 1.8 mbgs. As such, it appears that there is potential for basement floors to be set at elevations below the seasonal groundwater levels.

It is recommended that, where feasible, the area grading design be adapted to raise basements such that the basement floor elevation is at least 0.3 m above the interpreted SHGWL.

In cases where grading is constrained by the existing adjacent developments and drainage features such that this clearance cannot be achieved, the recommended approach will depend on the soil types encountered during basement excavation.

In cases where only silty till soils are encountered, foundation drainage (i.e., weeping tile) as specified in the *Ontario Building Code* is expected to be suitable to mitigate potential impacts to basements. This is because rate of seepage through the silty soils is expected to be low and typical foundation drains would be expected to provide sufficient drainage capacity to mitigate potential for groundwater seepage into basements.

The rate of drainage required to protect basements can be estimated by assuming steady-state flow conditions entering into the foundation drains. Typical flows were modeled as flow to a one-sided trench which has length equal to the perimeter of the house (a house with dimensions of 20 m by 20 m was assumed) using the closed-form equation below based on the Dupuit-Forchheimer assumption of horizontal flow in an unconfined aquifer:

$$Q = \frac{xk(H^2 - h^2)}{R_0}$$

Where

x is the total perimeter of the excavation (120 m, from a 30 m by 30 m excavation)

k is the hydraulic conductivity of the soil ($4x10^{-8}$ m/s)

H is the initial height of the groundwater level above an impermeable layer at depth (assumed to be 3.6 m)

h is the target height of the groundwater level above an impermeable layer at depth (assumed to be 1.8 m)

R_0 is the radius of influence, determined using the Sichardt equation, $R_0=3000(H-h)(k^{0.5})$

The target drawdown (H-h) was taken as 1.8 m which reflects a condition in which the assumed groundwater level is at surface and the foundation drain is located at 1.8 mbgs. Because there is no well-defined depth to an impermeable boundary (i.e., silt till is extensive and predominant), and the silt till material forms a very thick layer, the height of groundwater H is taken to be twice the drawdown.

The resulting volume of water entering into the foundation drains was determined to be about 2,500 L/d. Assuming a sump pump output of 20 L/min, a sump pump would have to run approximately 5 minutes per hour during periods of high groundwater in winter and spring. This is considered an upper estimate for sump pump running time because in the post-development condition there are many factors which tend to reduce groundwater recharge and increase runoff at the lot level, such as the increase in impermeable surfaces (e.g., roads, rooftops) and the provision of consistent surface drainage by grading. These factors would provide further reduction of risk to basements. Furthermore, the equation above tends to yield an over-estimate in fine-textured soils because it does not account for the development of capillary suction in the gravity drainage of fine-textured soils: these suction effects can significantly limit the amount of water that can drain out from the formation and lead to much reduced seepage rates, especially in unconfined conditions under low differential head.

Based on the estimate given by the Sichardt equation, the zone of influence of the foundation drainage will be very limited, extending to only about 1.1 m from the foundation drain. This is due to the relatively low hydraulic conductivity of the soils being addressed in this assessment. Therefore, the long-term operation of foundation drains in these silt/till soil conditions is not expected to affect the water supply available to nearby wells.

However, where the basement excavation encounters sand and/or gravel soils below the SHGWL, the rates of seepage may be much higher and so it is recommended that such houses be constructed with waterproofed foundations according to the *Ontario Building Code* to protect against seepage and to resist hydrostatic pressures.

Due to the importance of soil conditions in this determination, it is recommended that foundation excavations be inspected by a professional geotechnical engineer at the time of construction to determine whether waterproofing will be required or whether foundation drainage will be sufficient.

To mitigate noise associated with regular sump pump operation during periods of high groundwater, the building designer may consider constructing a separate sump pit outside the basement (i.e., on the exterior of the foundation wall).

9. GROUNDWATER MONITORING PROGRAM

Based on GM BluePlan's experience at nearby developments, it is expected that a groundwater monitoring program will be required by the Township of Guelph/Eramosa to confirm that the proposed on-site private sewage systems are not negatively impacting local groundwater resources or nearby water wells. Therefore, the following monitoring program is proposed.

An invitation letter will be hand-delivered to residences within 100 m of the proposed development inviting water well users to join the monitoring program. The monitoring program would consist of monitoring for both quality (sampling and analysis of untreated water from the residence well) and quantity (i.e., water level). Water levels will be monitored continuously by a datalogger installed in the well (if accessible).

Monitoring events are proposed to be semi-annually (spring/fall) as follows:

- **Baseline**: one spring and one fall monitoring event before construction begins.
- **During Construction**: semi-annual monitoring events until 90% buildout is achieved.
- **Post-Construction**: semi-annual monitoring events until 3 years have passed since 90% buildout (i.e., a total of six events)

At each monitoring event, the groundwater level data will be downloaded from the datalogger and a sample of untreated well water will be collected and analyzed for the following parameters:

- Sodium and chloride,
- nitrate, nitrite, and ammonia,
- turbidity,
- and microbiological parameters (E.coli, fecal coliforms, total coliforms).

10. SUMMARY

A hydrogeological study has been completed to support a draft plan application for a proposed development consisting of 16 residential lots on a 7.77 ha parcel described with the civic address 5782 6 Line E, Ariss, ON; and further described as Part of Lot 17m Concession 4, Geographic Township of Pilkington. The study comprised of several aspects, including desktop study of available geological and hydrogeological information, field activities such as groundwater monitoring, groundwater sampling and groundwater quality analyses.

The findings of the Study are as follows:

- A conceptual site plan indicates that the development may contain 16 residential lots, each to be serviced with private on-site sewage systems, and private water supply wells.
- Topographically, the Site is relatively flat with minor undulations observed along the northeast.
- Hydrologically, surface drainage on the western portion of the Site tends toward the Branch C of the Kurtz Drain. The Eastern portion of the Site partially tends to towards Branch C, while other portions tend towards the south where Branch E of the Kurtz Drain exists.
- The stratigraphy of the geological materials encountered on-site tend to follow the following sequence:
    - Sand and Gravel Fill (only at BH-6)
    - Native Sand and gravel (only at BH-4)
    - Sandy Silt (with occasional sand and gravel lenses, such as at BH-2)

- Information from the MECP Water Well Information System indicates 68 domestic water supply wells within 500 m of the Site. The average depth of penetration into bedrock is approximately 20 m, and the average pumping rate from the wells is 49.2 L/min.
- The Site is not within a Wellhead Protection Area (WHPA).
- The shallow groundwater on-site is moderately mineralized and typical of the hydrogeological environment of the Site with elevated calcium and magnesium. Elevated sodium and chloride concentrations were observed at the boreholes BH-2 and BH-6 inferred to be attributed to nearby road salt application. Elevated concentrations of potassium were also observed which are commonly associated with agricultural practices (e.g. soil fertilization).
- Nitrate concentrations in the shallow groundwater ranged from 0.25 mg/L to 2.16 mg/L and are a result of historical/current agricultural practices. The reported concentrations are well below the 10 mg/L limit of existing background nitrate levels in the shallow groundwater stipulated in the MECP's Procedure D-5-4.
- Groundwater in the bedrock aquifer was found to be moderately mineralized with elevated concentrations of calcium and magnesium, typical of the Guelph Formation bedrock aquifer. Nitrate concentrations were below the laboratory detection limit. Though one sample from TW-02 indicated a Total Coliform count of 1 CFU/100 m. Though this is an exceedance of the applicable Ontario Drinking Water Quality Standard, based on the guidance provided in D-5-5 this is not considered to be an obstacle for the development of private servicing by wells.
- A nitrogen attenuation calculation was performed for the proposed development as per MECP's Procedure D-5-4. Based on a preliminary draft plan with 16 lots, the proposed development is anticipated to meet the 10 mg/L requirement for attenuated nitrogen.
- The estimated percolation ("T"-times) for the soils on-site ranged from 20 min/cm to 30 min/cm.
- Preliminary estimates of on-site sewage system sizing indicate that the lot sizes presently proposed by the draft plan are suitable to accommodate on-site sewage systems built in accordance with the *Ontario Building Code (OBC)*.
- Groundwater levels have been observed as shallow as ground surface in some locations on-site. As such, the septic beds may be required to be raised up to 1.5 m above ground to achieve the required separation distance from the groundwater table outlined in *Section 8* of the *OBC*.
- Based on available nearby well records, the thickness of the overburden and the predominance of fine-textured and till materials is considered to provide significant separation between the underlying bedrock aquifer and the proposed on-site sewage systems.
- Pumping test results indicate that the bedrock aquifer has an average transmissivity on the order of 3.9×10^{-4} m^2/s and average storage coefficient on the order of 3.2×10^{-4} (dimensionless). Analysis of pumping test data indicates that the bedrock aquifer is generally highly productive has confirmed that the aquifer is suitable for domestic supply in the long-term.
- The effect of drawdown influence caused by the pumping of the proposed pumping wells is expected to be minor and will not cause significant impacts to water supply availability at wells on neighbouring properties or between lots within the subdivision proposed for the Site.
- Due to the nature of the development (i.e., residential, private septic systems built according to *OBC*), surface water impacts to Kurtz Drain via groundwater are not anticipated.
- It has been identified that seasonal high groundwater levels are relatively shallow in some parts of the Site and may intersect basement elevations. Though the predominant soil type (i.e., silt till) means that the potential risk to basements is relatively low if protected by *OBC*-compliant foundation drainage, there is elevated risk where basements would intersect saturated sand and gravel soils (e.g., in the easterly part of the Site).
- It is not anticipated that a water taking approval in the form of an Environmental Activity Sector Registry (EASR) registration will be required for construction dewatering activities.

11. CONCLUSIONS AND RECOMMENDATIONS

A hydrogeological study has been conducted in respect of a residential development proposed for a 7.77-ha parcel at 5782 6 Line E, Ariss, Township of Guelph-Eramosa Township.

The study concludes that the proposed development of 16 lots, privately serviced for both water (private wells) and sewage (septic systems), can be supported by the local hydrogeological system.

Respecting the proposed development, we recommend that:

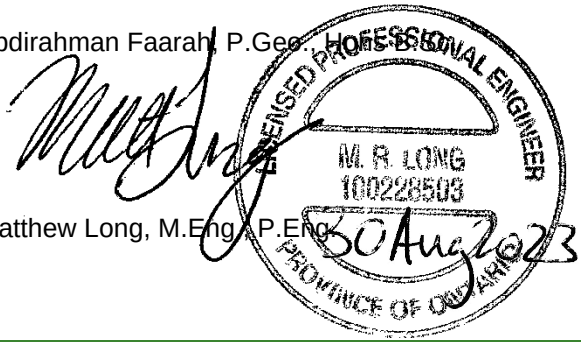
1. the proposed development be constructed with individual private servicing for water (i.e., private wells) and for sewage (i.e., Class 4 septic systems);
2. private water wells for the proposed subdivision are recommended to be:
    - constructed in accordance with O.Reg. 903 by a licensed water well driller
    - installed to draw from the bedrock aquifer and
    - constructed with watertight casing and continuous annular seal extending from the surface and seated in the bedrock
3. household drinking water systems include disinfection units (e.g., UV irradiation units) to provide protection against microbiological pathogens;
4. a door-to-door water well survey be completed for all properties within 500 m of the Site prior to application for Site Plan Approval;
5. groundwater monitoring in the overburden monitoring wells continue until the Site Plan stage and the data collected to that point be used to develop an interpreted seasonal high groundwater level for each proposed lot;
6. the overburden monitoring wells, once monitoring has concluded and they are no longer needed, be decommissioned by a licensed well drilling contractor in accordance with O.Reg. 903;
7. the site grading be designed such that, where feasible, each basement floor will achieve a clearance of at least 0.5 m above the seasonal high groundwater level;
8. where grading cannot feasibly achieve the 0.5 m clearance between basement floor and seasonal high groundwater level, an inspection of the soils at that location shall be conducted by a professional geotechnical engineer to determine whether the basement of that lot shall be of waterproof construction (per the requirements of the *Ontario Building Code*);
9. septic systems shall be constructed by a licensed septic system installer in accordance with
    - the results of a site-specific investigation to confirm soil (i.e., “T”-time) and groundwater (i.e., raised bed height or clearance requirements);
    - the requirements of Part 8 of the *Ontario Building Code.*
10. any construction dewatering shall be accompanied by appropriate erosion and sediment controls to prevent discharge-related impacts and that the point of construction dewatering discharge (i.e., end of pipe) be located at least 30 m from any surface water body (e.g., Kurtz Drain or any of its branches). Where it is not practicable to achieve 30 m separation from Kurtz Drain or its branches, the discharge location shall be selected in an attempt to maximize the separation distance.
11. a well monitoring program be implemented in accordance with the details provided in Section 9 of this report.

All of which is respectfully submitted.

GM BLUEPLAN ENGINEERING LIMITED

Per:

Abdirahman Faarah, P.Geo., Hons. B.Sc.



Matthew Long, M.Eng., P.Eng.

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12. STATEMENT OF LIMITATIONS

The information in this report is intended for the sole use of Will-O-Homes Inc. 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 reflect the conditions of the Site as of June 20, 2023.

13. REFERENCES

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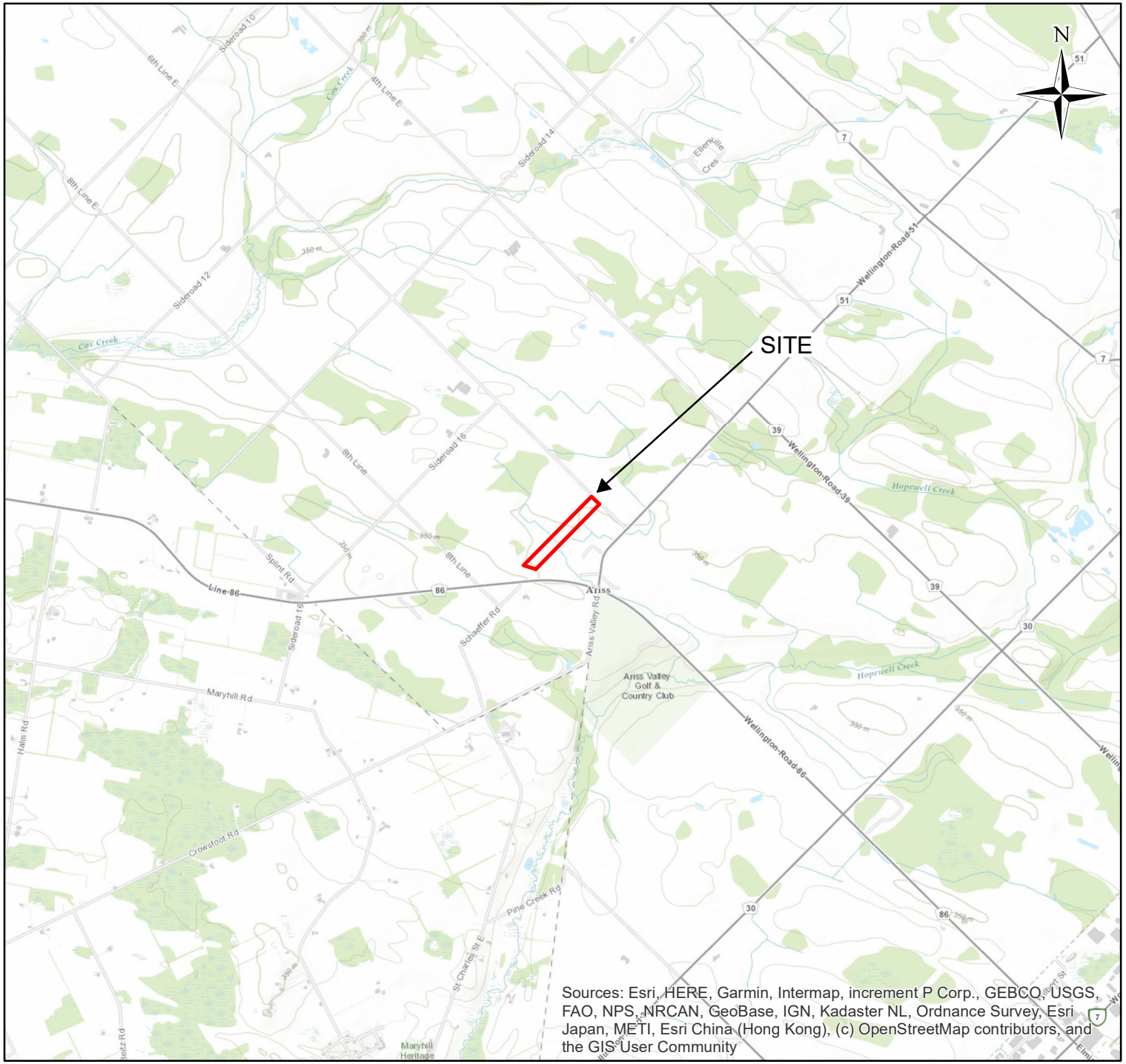
FIGURES



Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Site Boundary

Scale: 1: 50,000
January 2023

Figure 1:
Site Location

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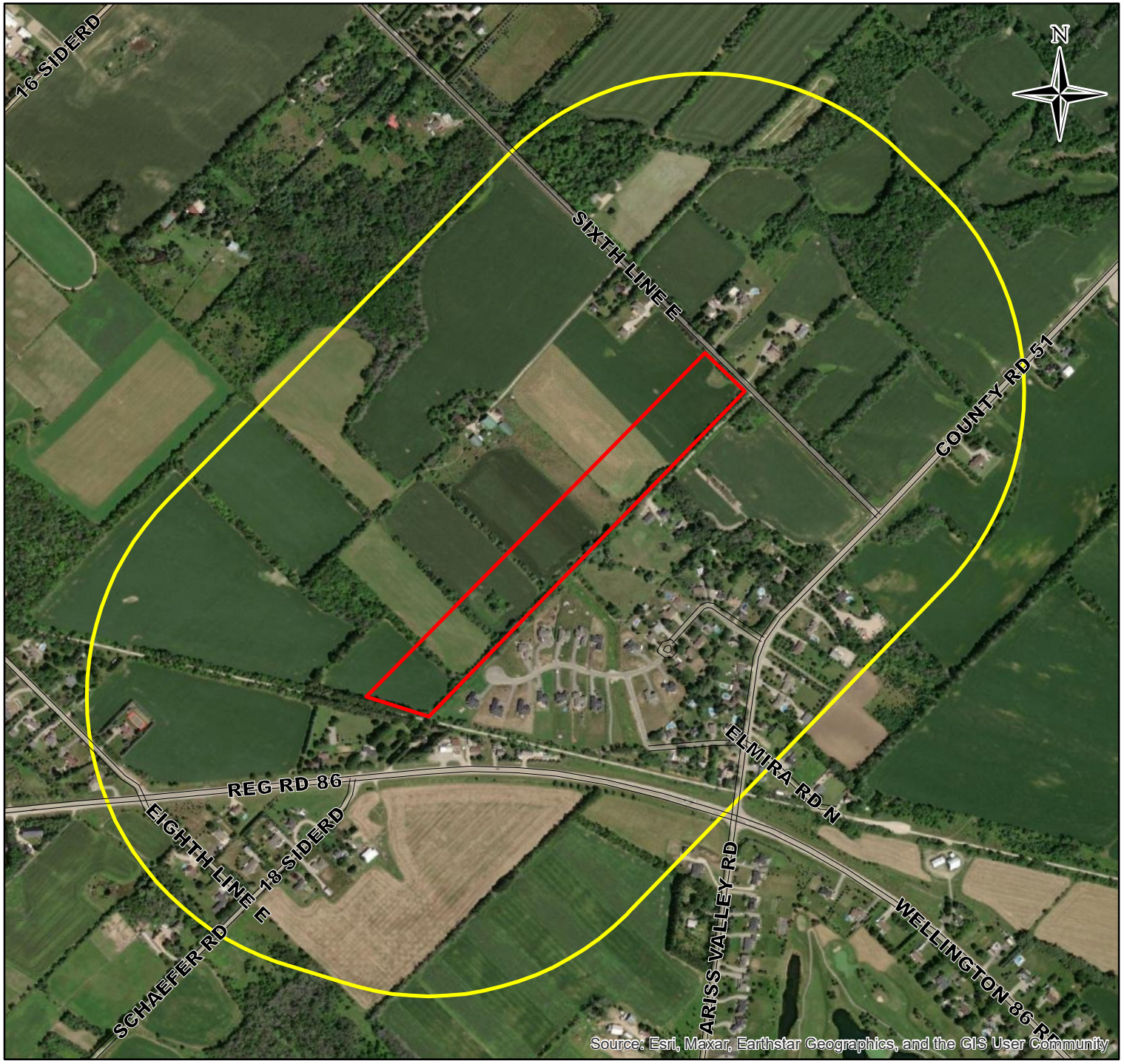

Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Roads
Study Area (500m)
Site Boundary

Scale: 1: 10,000
January 2023

Figure 2:
Study Area Layout

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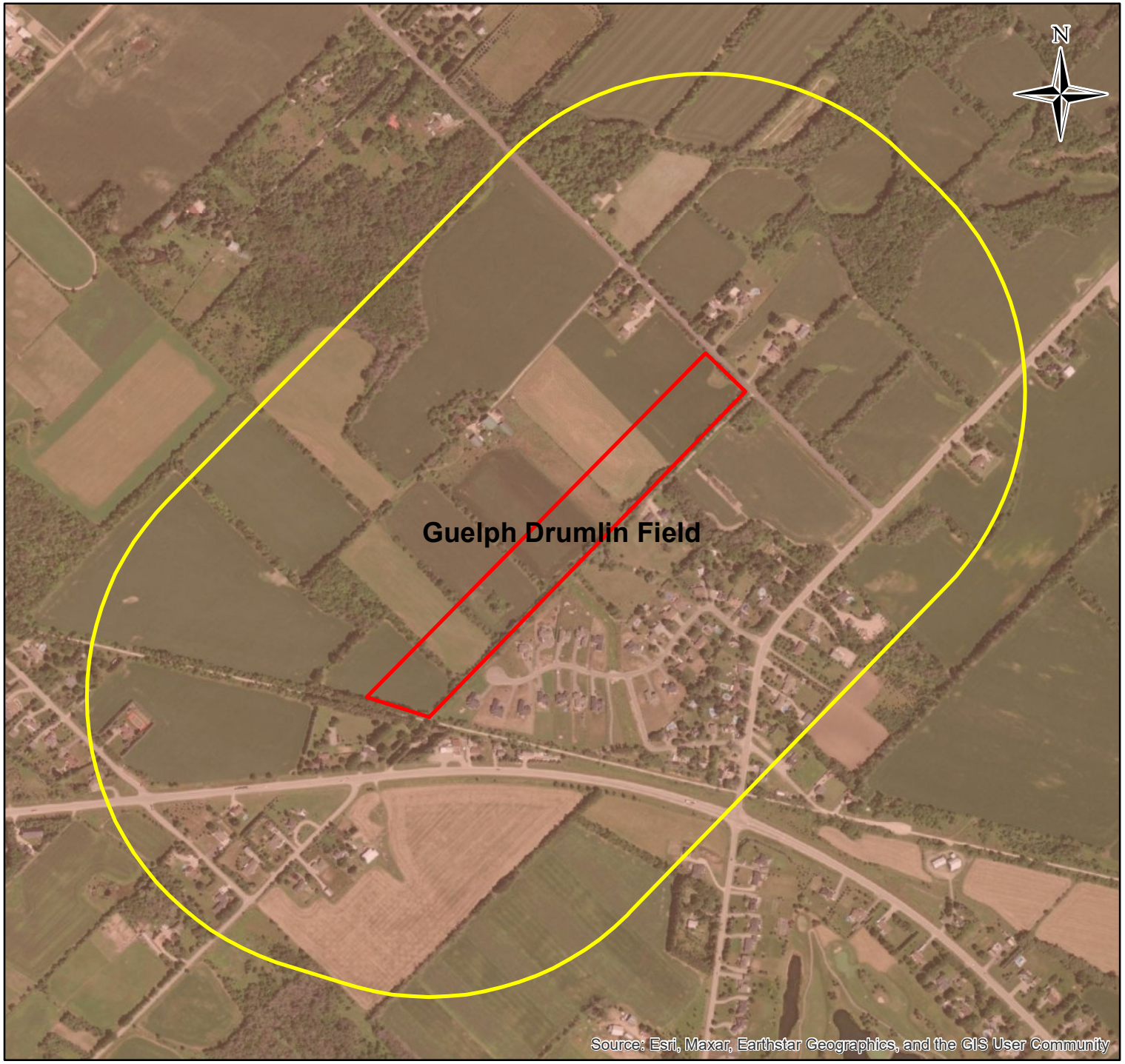

Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Study Area (500m)
Site Boundary

Physiographic Regions

UNIT, REGION

11, Guelph Drumlin Field

Scale: 1: 10,000
January 2023

Figure 3a:
Physiographic Regions

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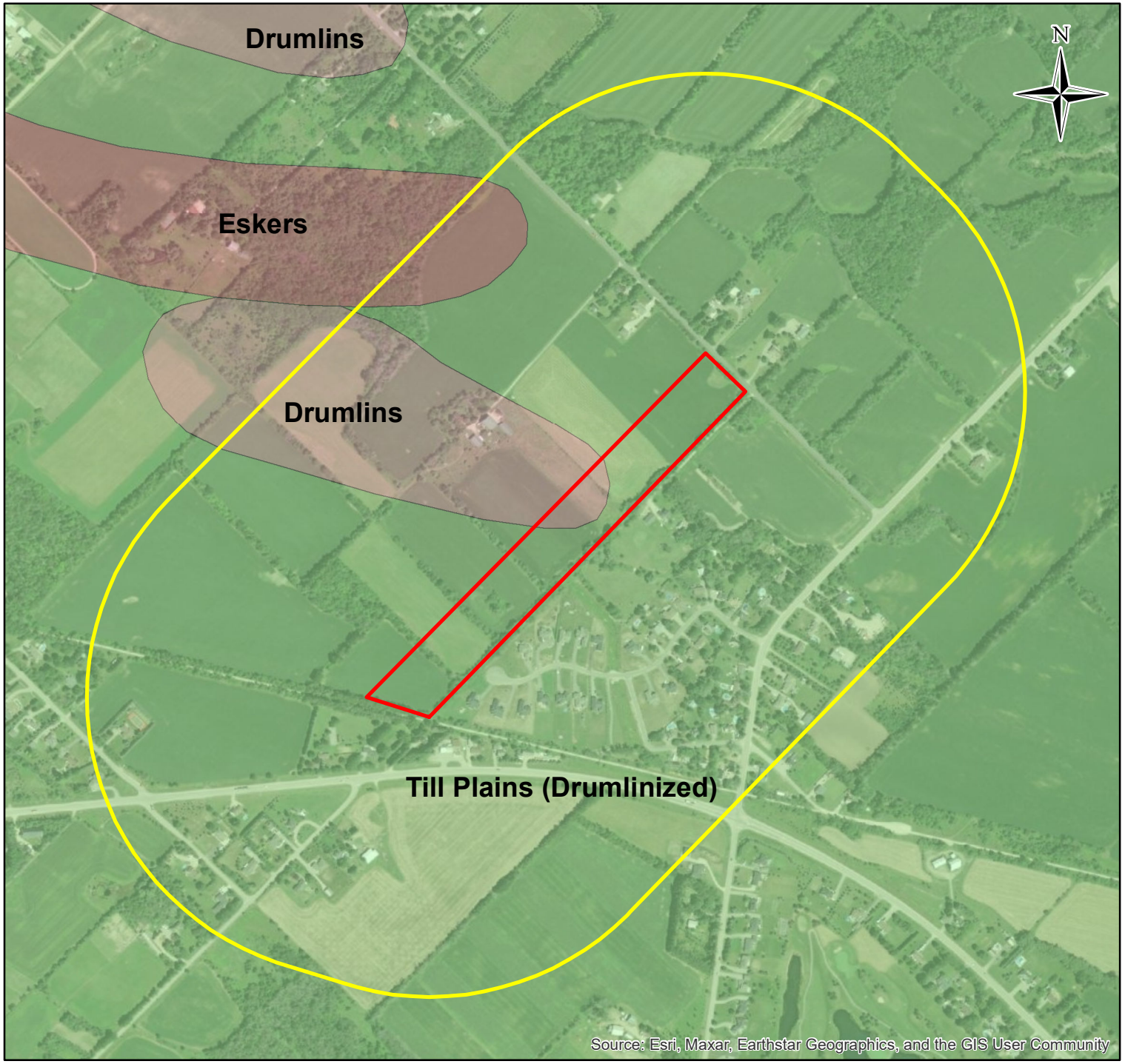

Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Study Area (500m)
Site Boundary

Physiography of Southern Ontario

Drumlins
Eskers
Till Plains (Drumlinized)

Scale: 1: 10,000
January 2023

Figure 3b:
Physiographic Landforms

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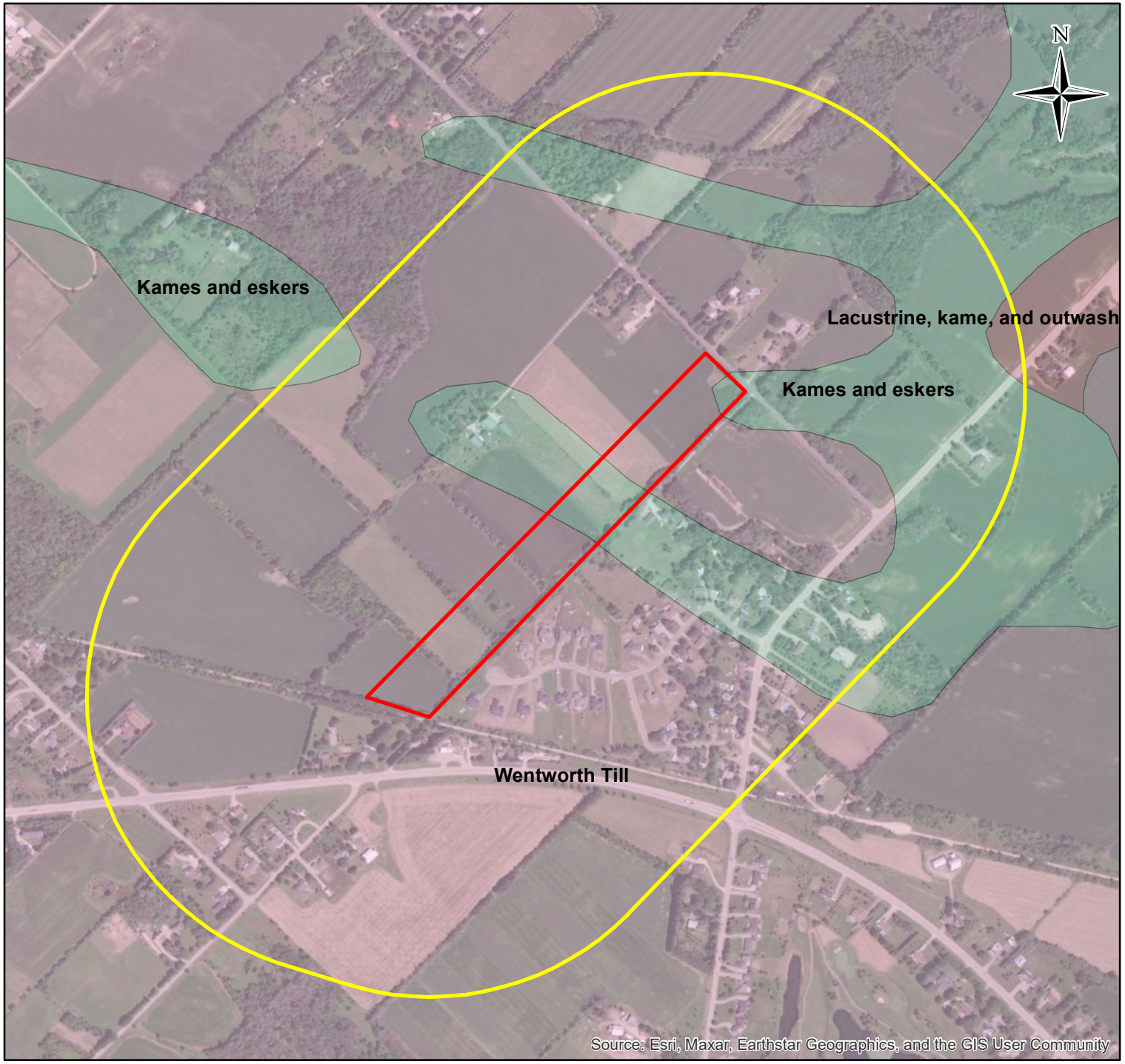

Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Study Area (500m)
Site Boundary

Surficial Geology of Ontario

Kames and eskers
Lacustrine, kame, and outwash
Wentworth Till

Scale: 1: 10,000
January 2023

Figure 4:
Surficial Geology

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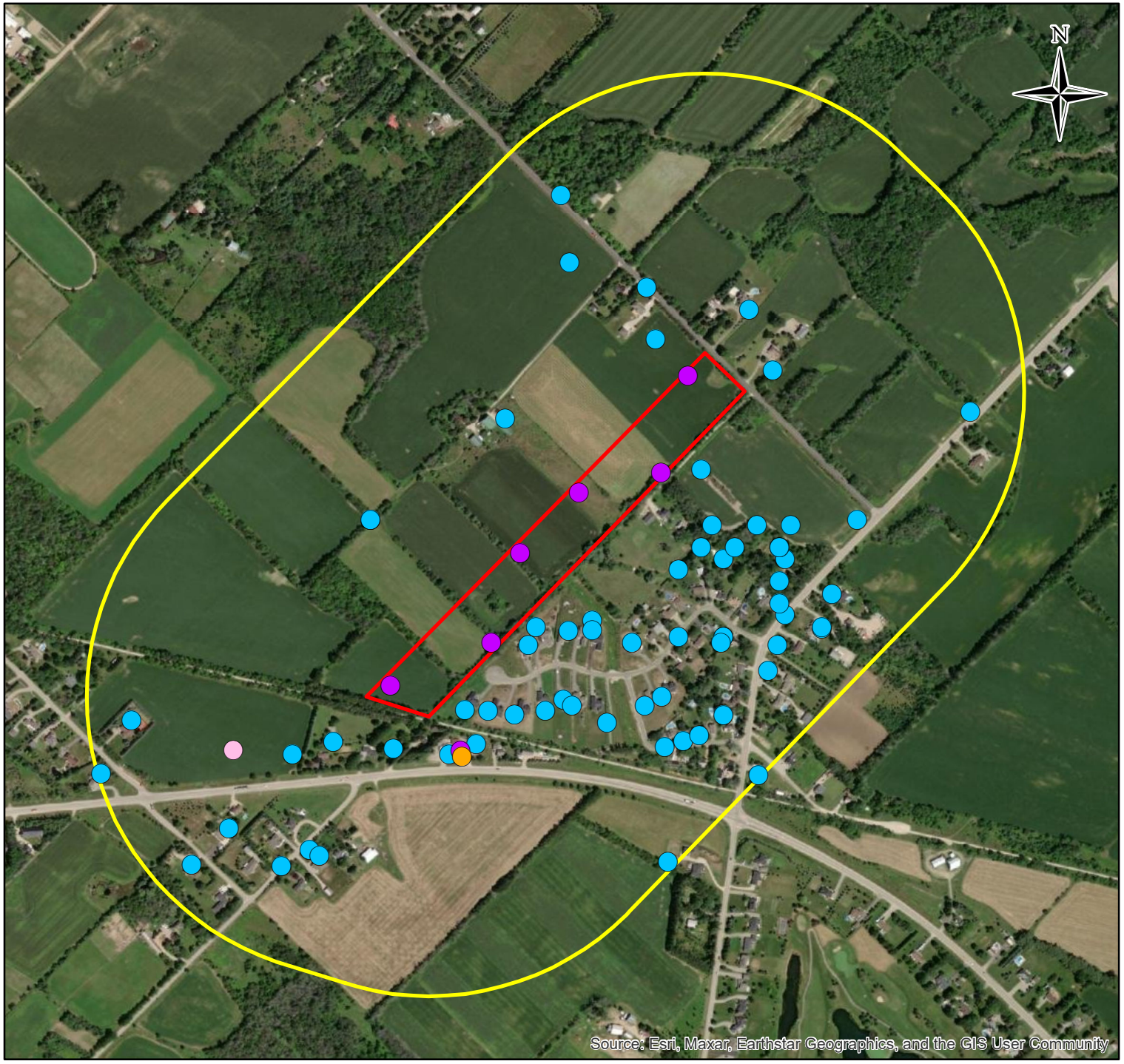

Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Well Use

- Abandonment
- Commerical
- Domestic
- Monitoring
- Study Area (500m)
- Site Boundary

Scale: 1: 10,000
August 2023

Figure 5:
MECP Water Well Records

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Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Monitoring Wells (CMT 2021)

Site Boundary

Scale: 1: 4,000
August 2023

Figure 6:
Site Investigation Locations

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Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Monitoring Wells (CMT 2021)
SHGWL Contours (2022-01)
Site Boundary

Scale: 1: 4,000
August 2023

Figure 7:
Seasonal High Groundwater Levels

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Project: 420099-2
Hydrogeological Study
5782 6th Line
Ariss, ON

Part of Lot 17,
Concession 4,
Geo. Twp. of Pilkington

Residents Wells (Monitored)
Test Wells
Site Boundary
Roads

Scale: 1: 5,000
August 2023

Figure 8:
Bedrock Wells Involved in Pumping Tests

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)	Penetration Into Bedrock (m)	Total Depth of Well (m)	Static Water Level (m)	Pumping Test Duration (hr)	Pumping Rate During Test (LPM)	Recommended Pumping Rate (GPM)	Date Drilled	Notes
Wells on-Site																		
7390669	5782 6 Line E	17	4	550559	4825097	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/13/2021	Monitoring wells drilled as part of this hydrogeological study.
7390670	5782 6 Line E	17	4	550739	4825173	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/13/2021	
7390683	5782 6 Line E	17	4	550896	4825441	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/13/2021	
7390684	5782 6 Line E	17	4	550791	4825334	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/13/2021	
7390685	5782 6 Line E	17	4	551042	4825477	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/26/2021	
7390686	5782 6 Line E	17	4	551091	4825650	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	6.1	~	~	~	~	5/26/2021	
Wells within Study Area (500m)																		
6701348	~	29	5	551595	4825586	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.7	8.8	30.5	4.3	3.0	45.4	~	8/19/1958	
6702203	~	18	4	550712	4824992	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.1	9.4	30.5	4.0	4.0	45.4	7	4/3/1965	
6702205	~	17	4	550456	4824996	Guelph/Eramosa	Wellington	Domestic	Overburden	~	~	16.5	9.2	24.0	18.9	5	8/6/1967	
6702207	~	18	4	551055	4824781	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.5	7.0	26.5	8.2	2.0	56.8	10	3/30/1967	
6702208	~	18	4	551049	4824987	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.8	6.7	26.5	0.0	3.0	56.8	10	12/7/1967	Reportedly artesian conditions.
6703143	~	29	6	551264	4825223	Guelph/Eramosa	Wellington	Domestic	Bedrock	16.8	10.0	26.8	3.7	2.0	45.4	10	10/3/1968	
6703612	~	18	4	550564	4824983	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.0	10.9	32.9	5.2	5.0	18.9	5	10/23/1969	
6704404	~	17	4	550384	4824973	Guelph/Eramosa	Wellington	Domestic	Bedrock	25.0	12.8	37.8	10.7	3.0	45.4	10	9/25/1972	
6704663	~	24	1	551217	4824937	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.4	23.7	41.1	1.5	3.0	30.3	6	5/28/1973	
6704860	~	18	4	550414	4824803	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.1	17.0	38.1	6.1	1.0	56.8	15	10/15/1973	
6705013	~	17	4	550879	4825853	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.9	26.0	47.9	6.1	2.0	37.9	10	3/18/1974	
6705105	~	17	3	550864	4825973	Guelph/Eramosa	Wellington	Domestic	Bedrock	28.4	12.7	41.1	5.5	2.0	37.9	10	5/23/1974	
6705809	~	18	4	550364	4824773	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.3	32.6	54.9	6.1	2.0	30.3	8	10/2/1975	
6706182	~	18	4	550664	4824973	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.4	10.6	32.0	4.6	1.0	56.8	15	4/29/1976	
6706743	~	17	4	550764	4825573	Guelph/Eramosa	Wellington	Domestic	Bedrock	25.3	14.3	39.6	9.2	1.0	37.9	10	7/19/1978	
6706744	~	18	4	551264	4825323	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	13.1	31.4	4.9	1.0	37.9	10	7/21/1978	
6707327	~	29	6	551234	4825123	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.1	11.6	28.7	3.1	1.0	49.2	15	7/17/1980	
6707435	~	18	4	551154	4825043	Guelph/Eramosa	Wellington	Domestic	Bedrock	16.8	12.8	29.6	3.1	6.0	45.4	15	7/4/1980	
6707451	~	18	4	551074	4825303	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	12.2	30.5	30.5	1.0	567.8	150	6/17/1981	Recommended pumping rate appears to be a data entry error in the record and is maybe 150 GPM
6707452	~	18	4	551214	4825383	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.0	12.5	30.5	3.1	2.0	1135.6	150	6/19/1981	
6707453	~	18	4	551154	4825323	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.1	13.4	30.5	3.1	2.0	75.7	15	6/10/1981	
6707506	~	18	4	551154	4825183	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.4	10.0	27.4	4.0	1.0	113.6	30	8/1/1981	
6707507	~	18	4	551154	4825183	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.1	10.3	27.4	3.7	1.0	113.6	30	8/1/1981	
6707508	~	18	4	551114	4825343	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.8	10.7	30.5	4.3	1.0	56.8	12	9/3/1981	
6707909	~	18	4	551254	4825243	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.0	13.1	31.1	4.6	2.0	75.7	15	6/4/1984	
6707993	~	18	4	551114	4825483	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	12.2	30.5	5.5	2.0	30.3	8	7/20/1984	
6708014	~	18	4	551254	4825283	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.5	10.7	30.2	4.6	2.0	30.3	8	5/18/1983	
6708015	~	18	4	551074	4825183	Guelph/Eramosa	Wellington	Domestic	Bedrock	16.8	13.1	29.9	18.3	2.0	30.3	8	4/24/1983	
6708108	~	18	4	551254	4825343	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	11.3	29.6	3.7	2.0	454.2	15	9/11/1984	
6708201	~	18	4	551134	4825383	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	14.0	32.3	4.9	3.0	45.4	10	4/24/1985	
6708202	~	18	4	551254	4825343	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.0	15.5	33.5	3.4	2.0	30.3	7	4/25/1985	
6708203	~	18	4	551174	4825343	Guelph/Eramosa	Wellington	Domestic	Bedrock	16.8	13.7	30.5	3.7	2.0	113.6	15	5/18/1985	
6708204	~	18	4	551254	4825343	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.0	10.0	28.0	4.6	1.0	113.6	15	6/5/1985	
6708263	~	18	4	551082	4824997	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.0	11.6	29.6	3.7	2.0	56.8	15	6/17/1985	
6708379	~	17	4	551274	4825383	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	11.3	29.6	3.1	2.0	94.6	20	9/2/1983	
6708453	~	18	4	551150	4825173	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.2	8.8	28.0	3.7	1.0	94.6	25	5/9/1986	
6708587	~	17	4	550203	4824776	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.3	13.1	35.4	3.1	1.0	37.9	10	11/18/1986	
6709196	~	17	4	551033	4825716	Guelph/Eramosa	Wellington	Domestic	Bedrock	16.8	12.5	29.3	6.1	2.0	45.4	10	10/16/1987	
6709905	~	17	4	550096	4825034	Guelph/Eramosa	Wellington	Domestic	Bedrock	24.4	7.9	32.3	14.3	1.0	34.1	9	8/18/1989	
6712028	~	17	3	551242	4825660	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.9	6.4	29.3	2.4	1.0	37.9	10	7/30/1996	
6712315	~	29	6	551348	4825260	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.3	20.4	42.7	6.4	1.0	22.7	6	7/31/1997	
6712486	~	17	4	550523	4825393	Guelph/Eramosa	Wellington	Domestic	Bedrock	21.4	15.5	36.9	9.2	1.0	56.8	15	3/6/1998	
6712529	~	17	4	550523	4825393	Guelph/Eramosa	Wellington	Domestic	Bedrock	24.7	18.0	42.7	24.4	1.0	37.9	10	5/14/1998	
6712873	~	29	6	551251	4825169	Guelph/Eramosa	Wellington	Domestic	Bedrock	20.7	9.8	30.5	9.2	1.0	56.8	15	10/26/1998	

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)	Penetration Into Bedrock (m)	Total Depth of Well (m)	Static Water Level (m)	Pumping Test Duration (hr)	Pumping Rate During Test (LPM)	Recommended Pumping Rate (GPM)	Date Drilled	Notes
Wells within Study Area (500m)																		
6712876	~	18		551393	4825393	Guelph/Eramosa	Wellington	Domestic	Bedrock	15.9	78.3	94.2	6.1	1.0	26.5	7	11/13/1998	
6713334	~	17	5	550042	4824939	Guelph/Eramosa	Wellington	Domestic	Bedrock	24.4	66.4	90.8	3.7	1.0	45.4	12	4/26/2000	
6713945	~	7		551111	4825007	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	13.4	31.1	5.2	1.0	75.7	20	12/7/2001	
6714027	~	29	6	551330	4825198	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.5	11.6	31.1	8.2	1.0	94.6	25	2/16/2002	
6715079	~	29	6	551330	4825201	Guelph/Eramosa	Wellington	Domestic	Bedrock	20.1	22.5	42.6	2.2	1.0	136.3	36	7/3/2004	
6715174	~	17	3	551017	4825809	Guelph/Eramosa	Wellington	Domestic	Bedrock	25.0	5.5	30.5	7.6	3.0	37.9	10	11/1/2004	
6715185	~	17	4	550270	4824841	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.9	26.5	49.4	8.5	1.0	56.8	15	9/15/2004	
6715466	~			550684	4824980	Guelph/Eramosa	Wellington	Monitoring	Overburden	~	~	4.5	~	~	~	~	7/14/2005	
7166048	~	18	4	550432	4824792	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.9	33.5	56.4	8.5	1.0	56.8	15.0	7/21/2011	
7173695	~	18	4	550687	4824970	Guelph/Eramosa	Wellington	Commerical	Bedrock	21.4	9.1	30.5	7.9	1.0	37.9	10.0	7/12/2011	
7195806	~	17	3	551200	4825769	Guelph/Eramosa	Wellington	Domestic	Bedrock	22.6	37.1	59.7	1.9	1.0	37.9	10.0	1/16/2013	
7249482	~	17	4	550278	4824981	Guelph/Eramosa	Wellington	Abandonment	~	~	~	~	2.4	~	~	~	9/18/2015	
7268886	~	18	4	550946	4825030	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	25.0	42.7	6.7	2.0	30.3	8.0	6/27/2016	
7292593	~	18	4	550920	4825213	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	17.0	34.7	7.0	1.0	56.8	15.0	7/26/2017	
7292594	~	18	4	550805	4825169	Guelph/Eramosa	Wellington	Domestic	Bedrock	23.8	14.3	38.1	7.0	1.0	56.8	15.0	7/28/2017	
7292595	~	18	4	550836	4825052	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	25.6	43.3	6.7	1.0	56.8	15.0	7/31/2017	
7292611	~	18	4	550877	4825194	Guelph/Eramosa	Wellington	Domestic	Bedrock	11.9	25.9	37.8	6.1	1.0	45.4	12.0	6/21/2017	
7307963	~	18	4	551014	4825060	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.9	18.9	37.8	4.3	1.0	37.9	10.0	3/6/2018	
7307964	~	18	4	550868	4825071	Guelph/Eramosa	Wellington	Domestic	Bedrock	18.3	25.6	43.9	7.0	1.0	45.4	12.0	2/28/2018	
7307965	~	18	4	550883	4825061	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	25.6	43.3	5.5	1.0	45.4	12.0	3/5/2018	
7316456	~	18	4	550692	4825053	Guelph/Eramosa	Wellington	Domestic	Bedrock	20.7	65.3	86.0	7.3	1.0	45.4	12.0	6/14/2018	
7316457	~	18	4	550819	4825201	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.4	19.2	36.6	5.8	1.0	56.8	15.0	6/18/2018	
7316458	~	18	4	550991	4825173	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.7	18.9	36.6	6.7	1.0	56.8	15.0	6/15/2018	
7355225	~	18	4	550781	4825044	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.2	24.1	43.3	6.7	1.0	45.4	12.0	11/2/2018	
7355226	~	18	4	550733	4825051	Guelph/Eramosa	Wellington	Domestic	Bedrock	19.8	17.4	37.2	6.4	1.0	37.9	10.0	11/14/2018	
7355227	~	18	4	551044	4825076	Guelph/Eramosa	Wellington	Domestic	Bedrock	20.1	11.0	31.1	6.1	1.0	56.8	15.0	11/13/2018	
7355228	~	18	4	550920	4825195	Guelph/Eramosa	Wellington	Domestic	Bedrock	17.4	13.7	31.1	5.5	1.0	56.8	15.0	11/12/2018	

~ - indicates data unavailable

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650 Woodlawn Rd. W. Block C, Unit 2, Guelph, ON N1K 1B8
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Table 2: Monitoring Well Details and Water Level Observations

			Water Level											
Well ID	Ground Elev.	TOC Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.	Depth	Elev.
(--)	(masl)	(masl)	(mbTOC)	(masl)	(mbTOC)	(masl)	(mbTOC)	(masl)	(mbTOC)	(masl)	(mbTOC)	(masl)	(mbTOC)	(masl)
Date Measured:			18-Jun-21		26-Nov-21		3-Jun-22		9-Dec-22		10-Feb-23		20-Jun-23	
BH-1	349.23	350.22	2.438	347.78	1.155	349.07	2.001	348.22	~	~	1.27	348.95	1.89	348.33
BH-2	345.71	346.62	2.401	344.22	1.876	344.75	2.171	344.45	2.99	343.63	1.90	344.73	2.35	344.27
BH-3	345.50	346.57	2.5	344.07	1.969	344.60	2.309	344.26	~	~	~	~	~	~
BH-4	350.28	351.30	4.302	347.00	3.824	347.48	4.094	347.21	5.95	345.35	5.19	346.11	4.07	347.23
BH-5	347.10	348.10	2.762	345.34	1.488	346.61	2.42	345.68	4.786	343.31	1.72	346.38	2.533	345.57
BH-6	349.17	350.12	1.67	348.44	1.15	348.96	1.62	348.50	2.63	347.49	1.12	349.00	1.63	348.48

m bTOC - metres below top of casing of well.
TOC - Top of Casing
m ASL - metres above Sea Level
Elev. - Elevation
~ - Not Measured

Table 3a: Results of Shallow Groundwater Quality Analyses - General Chemistry and Organic Parameters

	Sample ID	BH-1	BH-2	BH-4	BH-5	BH-6
	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Sampling Date	2023-02-10	2023-02-10	2023-02-10	2023-02-10	2023-02-10
Parameters	**Criteria 1** **PWQO**	**Concentration**				
Bicarb. Alkalinity (calc. as CaCO3) (mg/L)		270	280	270	260	240
Calculated TDS (mg/L)		370	320	370	370	510
Carb. Alkalinity (calc. as CaCO3) (mg/L)		2.8	3.1	2.6	2.7	2.3
Hardness (CaCO3) (mg/L)		330	220	330	310	360
Conductivity (umho/cm)		640	550	610	640	990
Orthophosphate (P) (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
pH	6.5:8.5	8.06	8.08	8.02	8.04	8.00
Dissolved Sulphate (SO4) (mg/L)		58	7.6	71	68	32
Alkalinity (Total as CaCO3) (mg/L)		270	280	270	270	250
Dissolved Chloride (Cl-) (mg/L)		11	17	2.8	13	140
Nitrite (N) (mg/L)		<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N) (mg/L)		2.16	0.27	<0.10	0.25	<0.10
Nitrate + Nitrite (N) (mg/L)		2.16	0.27	<0.10	0.25	<0.10
Total Ammonia-N (mg/L)		<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Organic Carbon (mg/L)		0.69	2.1	0.95	0.87	1.20

Notes:

1. Criteria are from the Ontario Provincial Water Quality Objectives (Criteria 1). Criteria are indicated by: **White Text**
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. ---- represents sample parameters that were not analyzed; ~ = No value specified.
5. BV Labs Job Number: C343999

Table 3b: Results of Groundwater Quality Analyses - Metals Parameters

	Sample ID	BH-1	BH-2	BH-4	BH-5	BH-6
	Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
	Sampling Date	2023-02-10	2023-02-10	2023-02-10	2023-02-10	2023-02-10
Parameters	**Criteria 1** **PWQO**	**Concentration**				
Dissolved Aluminum (Al) (ug/L)		5.2	5.7	<4.9	6.4	<4.9
Dissolved Antimony (Sb) (ug/L)	20	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As) (ug/L)	100	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba) (ug/L)		67	43	84	110	110
Dissolved Beryllium (Be) (ug/L)	11	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B) (ug/L)	200	26	71	17	67	48
Dissolved Cadmium (Cd) (ug/L)	0.2	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca) (ug/L)		65,000	41,000	77,000	62,000	75,000
Dissolved Chromium (Cr) (ug/L)		<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co) (ug/L)	0.9	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu) (ug/L)	5	1.2	1	1.6	0.99	1.7
Dissolved Iron (Fe) (ug/L)	300	<100	<100	<100	<100	<100
Dissolved Lead (Pb) (ug/L)	5	<0.50	<0.50	<0.50	1.1	<0.50
Dissolved Magnesium (Mg) (ug/L)		40,000	29,000	34,000	37,000	42,000
Dissolved Manganese (Mn) (ug/L)		<2.0	9	<2.0	7.8	3.3
Dissolved Molybdenum (Mo) (ug/L)	40	6.7	15	21	5.6	14
Dissolved Nickel (Ni) (ug/L)	25	<1.0	1.5	1	<1.0	<1.0
Dissolved Phosphorus (P) (ug/L)		<100	<100	<100	<100	<100
Dissolved Potassium (K) (ug/L)		2,600	2,800	1,800	2,400	1,800
Dissolved Selenium (Se) (ug/L)	100	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si) (ug/L)		6,200	6,600	5,000	4,900	6,700
Dissolved Silver (Ag) (ug/L)	0.1	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na) (ug/L)		12,000	40,000	4,100	19,000	64,000
Dissolved Strontium (Sr) (ug/L)		300	300	130	550	550
Dissolved Thallium (Tl) (ug/L)	0.3	<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)	5	2.4	0.92	1.5	2.5	0.64
Dissolved Vanadium (V) (ug/L)	6	1	0.55	0.55	0.77	0.5
Dissolved Zinc (Zn) (ug/L)	30	<5.0	<5.0	<5.0	<5.0	<5.0

Table 4a: Results of Water Quality Analyses from Test Water Wells - General Chemistry and Microbiological Parameters

		Sample ID	TW-01-S1	TW-01-S2	TW-02-S1	TW-02-S2	TW-03-S1	TW-03-S2
		Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		Screened Interval (m asl)	309.48 - 326.05	309.48 - 326.05	300.35 - 325.05	300.35 - 325.05	300.66 - 326.59	300.66 - 326.59
		Sampling Date	2023-06-19	2023-06-19	2023-06-20	2023-06-20	2023-06-19	2023-06-19
Parameters	**Criteria 1**	**Criteria 2**	**Concentration**					
	ODWS - MAC	**OWDS - A/O**						
Bicarb. Alkalinity (calc. as CaCO3) (mg/L)			180	180	180	180	200	200
Calculated TDS (mg/L)		**500**	190	190	190	190	220	220
Carb. Alkalinity (calc. as CaCO3) (mg/L)			2.4	2.3	2.5	2.6	2.2	2.7
Hardness (CaCO3) (mg/L)		**80:100**	**120**	**120**	**130**	**130**	**170**	**170**
Colour (TCU)		**5**	<2	<2	<2	<2	<2	<2
Conductivity (umho/cm)			390	350	350	350	410	400
Orthophosphate (P) (mg/L)			<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH (pH)		**6.5:8.5**	8.17	8.15	8.17	8.18	8.07	8.15
Dissolved Sulphate (SO4) (mg/L)		**500**	4.2	3.9	3.6	3.4	6.9	5.2
Turbidity (NTU)		**5**	0.8	0.1	0.6	0.36	1.9	0.4
Alkalinity (Total as CaCO3) (mg/L)		**30:500**	180	180	180	180	200	210
Dissolved Chloride (Cl) (mg/L)		**250**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrite (N) (mg/L)	1		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N) (mg/L)	10		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Ammonia-N (mg/L)			0.090	0.10	0.19	0.19	0.31	0.28
Dissolved Organic Carbon (mg/L)			0.56	0.5	0.9	0.81	1.2	1.2
Fecal coliform (CFU/100mL)			0	0	0	0	0	0
Background (CFU/100mL)			550	28	450	59	280	6
Total Coliforms (CFU/100mL)	0		0	1	0	0	0	0
Escherichia coli (CFU/100mL)	0		0	0	0	0	0	0

Notes:

1. Criteria are from the *Ontario Drinking Water Standards Maximum Acceptable Concentration* (Criteria 1) and *Aesthetic Objectives* (Criteria 2).
Criteria are indicated by:
White Text for Criteria 1, Underlined for Criteria 2.
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; ~ = No value specified.
6. Bureau Veritas Laboratory job number: C3I0050, C3I1767

Table 4b: Results of Water Quality Analyses from Test Water Wells - Metals Parameters

		Sample ID	TW-01-S1	TW-01-S2	TW-02-S1	TW-02-S2	TW-03-S1	TW-03-S2
		Sample Description	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
		Screened Interval (m asl)	309.48 - 326.05	309.48 - 326.05	300.35 - 325.05	300.35 - 325.05	300.66 - 326.59	300.66 - 326.59
		Sampling Date	2023-06-19	2023-06-19	2023-06-20	2023-06-20	2023-06-19	2023-06-19
Parameters	**Criteria 1**	**Criteria 2**	**Concentration**					
	ODWS - MAC	**ODWS - A/O**						
. Aluminum (Al) (ug/L)			22	<4.9	5.5	<4.9	6.9	<4.9
. Antimony (Sb) (ug/L)	6		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
. Arsenic (As) (ug/L)	10		1.8	1.7	1	<1.0	<1.0	<1.0
. Barium (Ba) (ug/L)	1000		34	32	39	41	40	43
. Beryllium (Be) (ug/L)			<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
. Boron (B) (ug/L)	5000		68	68	61	62	59	57
. Cadmium (Cd) (ug/L)	5		<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
. Calcium (Ca) (ug/L)			27000	26000	28000	28000	40000	39000
. Chromium (Cr) (ug/L)	50		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
. Cobalt (Co) (ug/L)			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
. Copper (Cu) (ug/L)		**1000**	<0.90	<0.90	1.1	<0.90	<0.90	<0.90
. Iron (Fe) (ug/L)		**300**	110	<100	120	110	**340**	<100
. Lead (Pb) (ug/L)	10		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
. Magnesium (Mg) (ug/L)			13000	13000	15000	14000	17000	17000
. Manganese (Mn) (ug/L)		**50**	12	9.5	5.1	4.2	15	7.2
. Molybdenum (Mo) (ug/L)			4.6	4.5	4.6	4.1	1.2	0.81
. Nickel (Ni) (ug/L)			<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
. Phosphorus (P) (ug/L)			<100	<100	<100	<100	<100	<100
. Potassium (K) (ug/L)			710	690	770	770	1000	1100
. Selenium (Se) (ug/L)	50		<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
. Silicon (Si) (ug/L)			5500	5400	5600	5600	5400	5400
. Silver (Ag) (ug/L)			<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
. Sodium (Na) (ug/L)		**200000**	30000	30000	26000	26000	24000	24000
. Strontium (Sr) (ug/L)			240	230	310	310	580	640
. Thallium (Tl) (ug/L)			<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
. Titanium (Ti) (ug/L)			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
. Uranium (U) (ug/L)	20		0.33	0.31	0.43	0.38	0.12	0.1
. Vanadium (V) (ug/L)			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
. Zinc (Zn) (ug/L)		**5000**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes:

1. Criteria are from the *Ontario Drinking Water Standards Maximum Acceptable Concentration* (Criteria 1) and *Aesthetic Objectives* (Criteria 2).
Criteria are indicated by:
White Text for Criteria 1, Underlined for Criteria 2.
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; ~ = No value specified.
6. Bureau Veritas Laboratory job number: C3I0050, C3I1767

Table 4b: Results of Water Quality Analyses from Test Water Wells - Metals Parameters

Table 5: Summary of Observations from Pumping Tests

	Elevations								
Pumping Well	Ground	Static WL[t]	Top of Aquifer	H_A	Average Test Flow	Pumping Duration	Maximum Δs	Δs/log cycle	Recovery Time
(--)	(masl)	(masl)	(masl)	(m)	(L/min)	(hours)	(m)	(m)	(minutes)
TW-01*	346.8	339.9	327.9	12.0	76	6	12.72	1.8	60
TW-02	348.5	340.9	325.7	15.3	57	6	15.6[Y]	2	40
TW-03*	348.1	343.6	326.5	17.1	76	6	8.94	1	523

Static WL: Elevation of water surface in well immediately before pumping that well for aquifer performance test.

masl: metres above sea level

Maximum Δs: Maximum drawdown, the drawdown at the end of pumping.

Recovery Time: Time for well to recover 90% of its maximum drawdown.

Q_t: Well discharge (or pumping) rate during the test.

**-Denotes wells that were tested concurrently*

[t] - assumes a stickup well casing of 0.61 m.

[Y] -drawdown near end of test where Q = 57 L/min

Table 6: Estimated Allowable Flow Rates for Water Supply Wells in the Bedrock Aquifer

								Estimated Allowable Flow	
Well ID	Test Flow	Duration of Pumping	H_A	s_{100}	Δs/log cycle	Volume Discharged	Recovery Time	Long-Term Flow	Service Capacity
(--)	(L/min)	(hours)	(m)	(m)	(m)	(L)	(min)	(L/d)	(# of Lots[3])
TW-01[1]	76	6	12.0	11.9	1.8	27,360	60	43,900	19.5
TW-02	57	6	15.3	14.5	2.0	20,520	*40*	35,800	15.9
TW-03[1]	76	6	17.1	14.3	1.00	27,360	*523*	67,800	30.1

1- Denotes wells that were tested concurrently

2- Assuming 16 lots

3- Assuming a design domestic usage rate of 2,250 L/lot/day

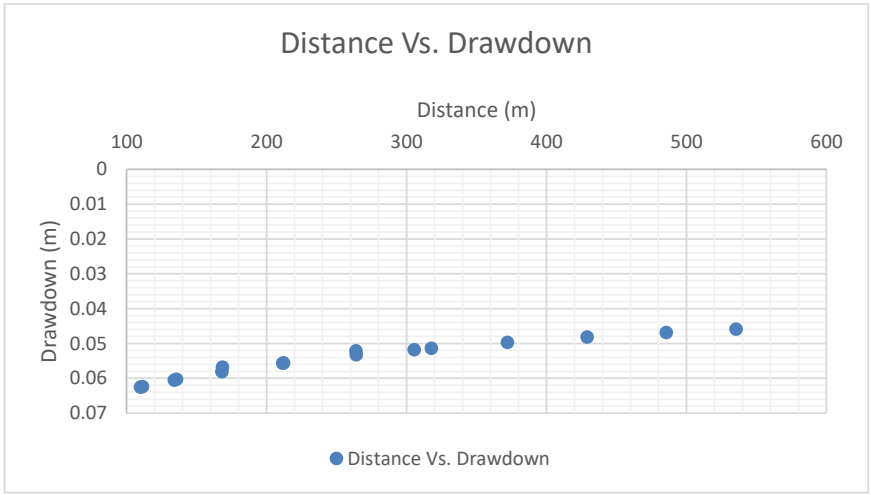
Italics - Estimated by extrapolation

Table 7a: Estimated Interference Drawdown on an Existing Off-Site Well due to Long-Term Well Usage by Proposed Development at Peak Flows

Unit Flow =	2.25	m^3/lot/day
# of Lots =	16	lots
Design Flow =	36	m^3/day
Time =	7300	days
T (geomean) =	33.955	m^2/day
S (geomean) =	3.24E-04	unitless

$$u = \frac{r^2 S}{4Tt} \qquad s = \frac{Q}{4\pi T} \mathrm{w}(u)$$

Lot # Pumping Well	Distance to Observation Well (m)	Drawdown (m)
6	110	0.0626
16	535.4	0.0459
2	263.9	0.0521
9	168.4	0.0568
1	305.4	0.0518
3	211.5	0.0557
4	168.1	0.0581
5	135.8	0.0603
7	111.3	0.0624
8	134	0.0605
10	212.2	0.0556
11	264.1	0.0533
12	317.7	0.0514
13	372.1	0.0497
14	429	0.0482
15	485.6	0.0469
	Total Drawdown =	0.8713



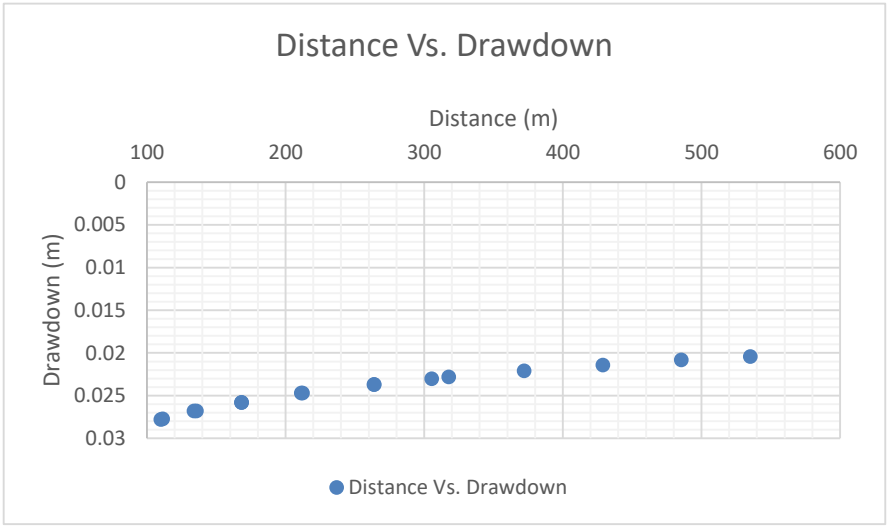
GM BluePlan Engineering Ltd.
Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
650 Woodlawn Rd. W. Block C, Unit 2, Guelph, ON N1K 1B8
www.GMBluePlan.ca

Table 7b: Estimated Interference Drawdown on an Existing Off-Site Well due to Long-Term Well Usage by Proposed Development at Typical Flows

Unit Flow =	1.00	m^3/lot/day
# of Lots =	16	lots
Design Flow =	16	m^3/day
Time =	7300	days
T (geomean) =	33.955	m^2/day
S (geomean) =	3.24E-04	unitless

$$u = \frac{r^2 S}{4Tt} \qquad s = \frac{Q}{4\pi T} \mathrm{w}(u)$$

Lot # Pumping Well	Distance to N.Well	Drawdown (m)
6	110	0.0278
16	535.4	0.0204
2	263.9	0.0237
9	168.4	0.0258
1	305.4	0.023
3	211.5	0.0247
4	168.1	0.0258
5	135.8	0.0268
7	111.3	0.0277
8	134	0.0268
10	212.2	0.0247
11	264.1	0.0237
12	317.7	0.0228
13	372.1	0.0221
14	429	0.0214
15	485.6	0.0208
	Total Drawdown =	0.388



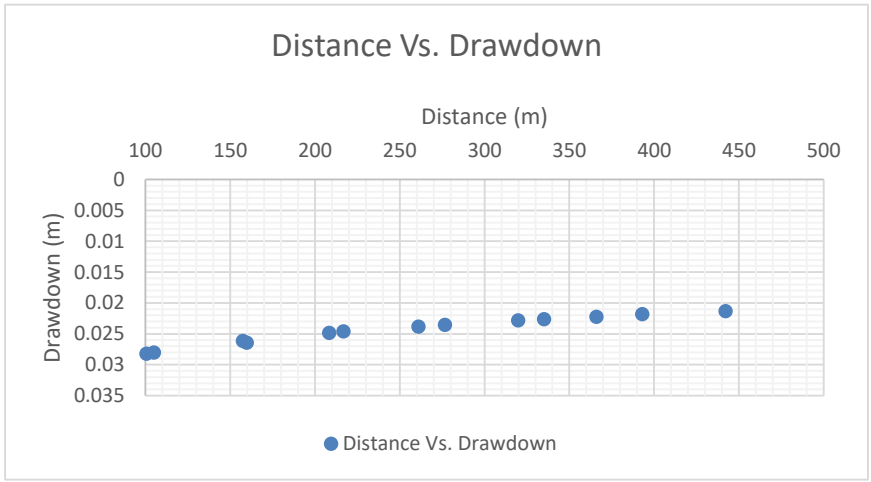
GM BluePlan Engineering Ltd.
Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
650 Woodlawn Rd. W. Block C, Unit 2, Guelph, ON N1K 1B8
www.GMBluePlan.ca

Table 7c: Estimated Interference Drawdown on Proposed Wells due to Long-Term Pumping of Other Wells in the Proposed Development

Unit Flow =	1.00	m^3/lot/day
# of Lots =	16	lots
Design Flow =	16	m^3/day
Time =	7300	days
T (geomean) =	33.955	m^2/day
S (geomean) =	3.24E-04	unitless

$$u = \frac{r^2 S}{4Tt} \qquad s = \frac{Q}{4\pi T} \mathrm{w}(u)$$

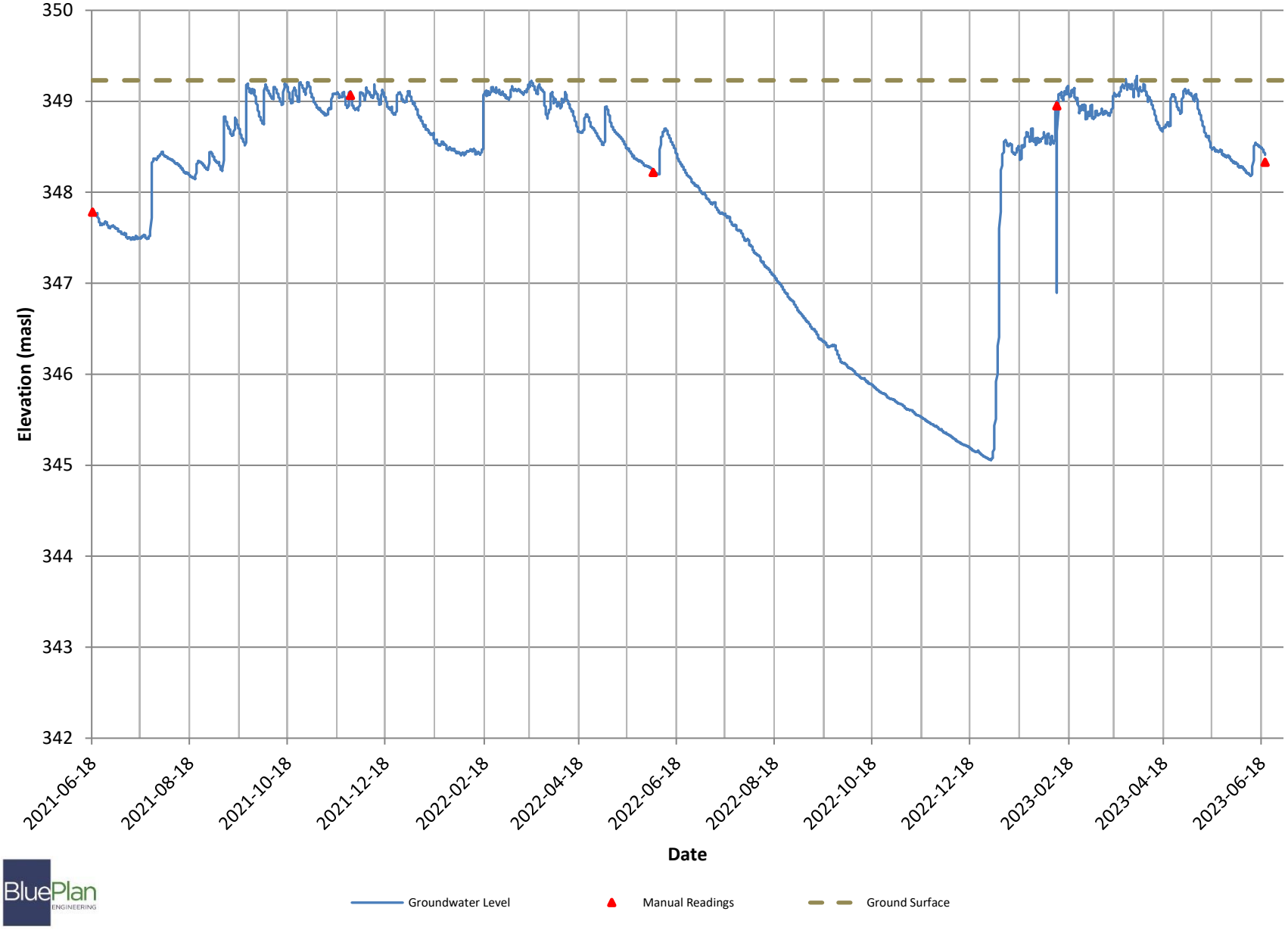
Lot # Pumping Well	Distance to Observation Well (m)	Drawdown (m)
7	49.7	0.0315
6	105.1	0.028
5	157.5	0.0261
4	208.5	0.0248
3	261.1	0.0238
2	319.9	0.0228
1	366	0.0222
9	47.6	0.0317
10	100.8	0.0282
11	159.9	0.0264
12	216.9	0.0246
13	276.7	0.0235
14	335.1	0.0226
15	393	0.0218
16	442.2	0.0213
	Total Drawdown (m) =	0.38



GM BluePlan Engineering Ltd.
Guelph, Owen Sound, Listowel, Kitchener, Exeter, Hamilton, GTA
650 Woodlawn Rd. W. Block C, Unit 2, Guelph, ON N1K 1B8
www.GMBluePlan.ca

CHARTS

Chart 1: Hydrograph of BH1



BluePlan ENGINEERING

Chart 2: Hyrdogrpah of BH2

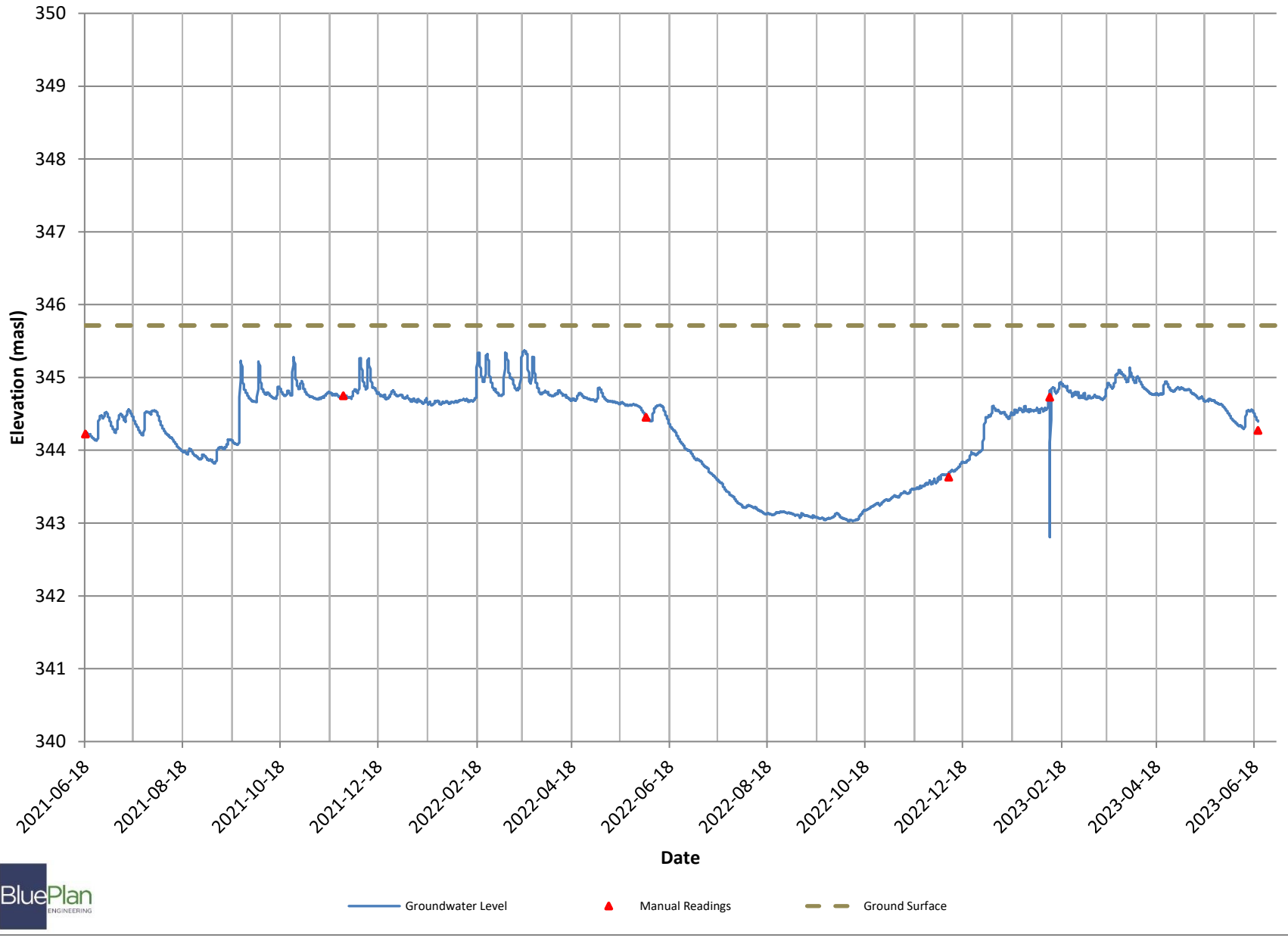
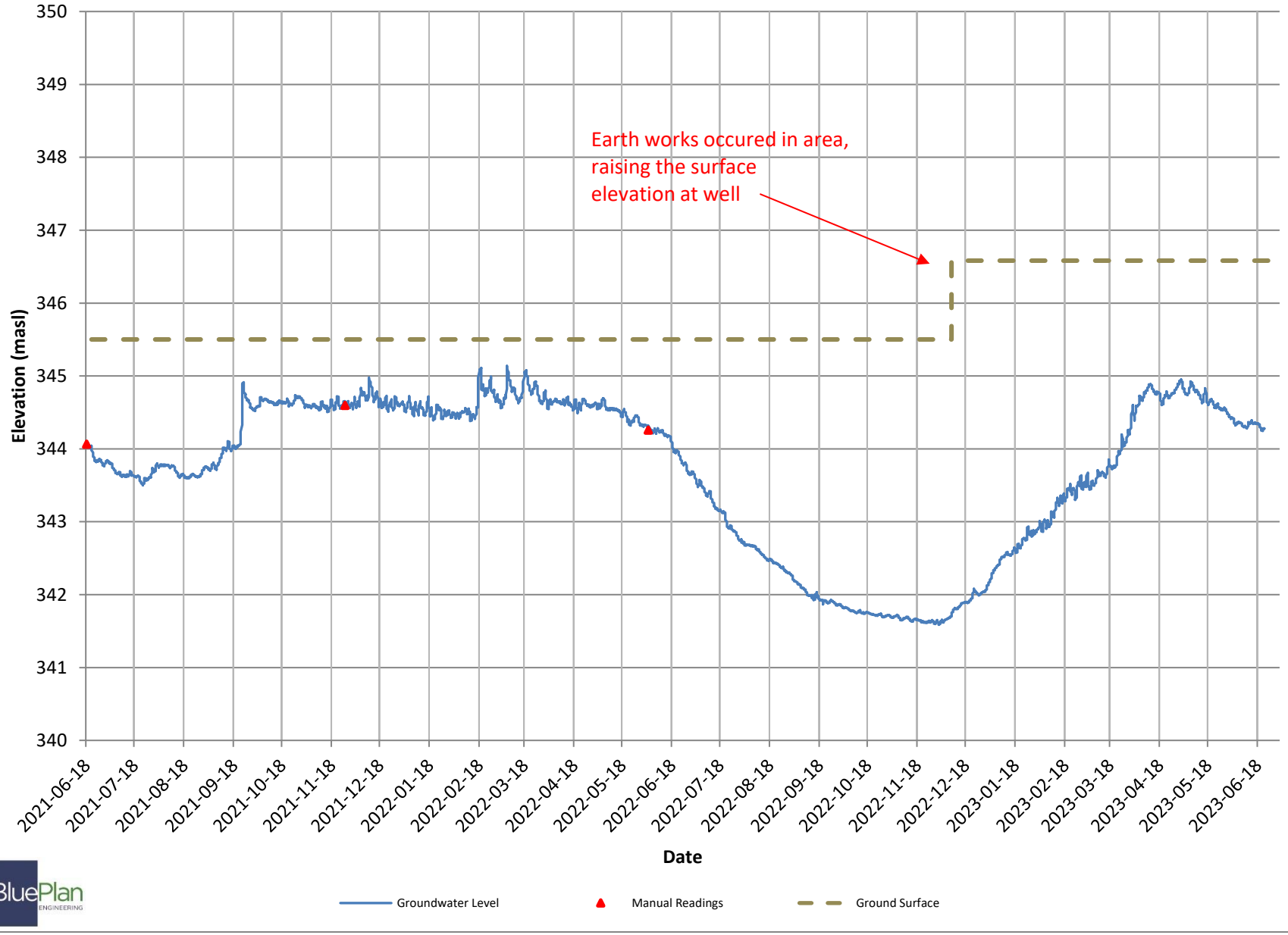
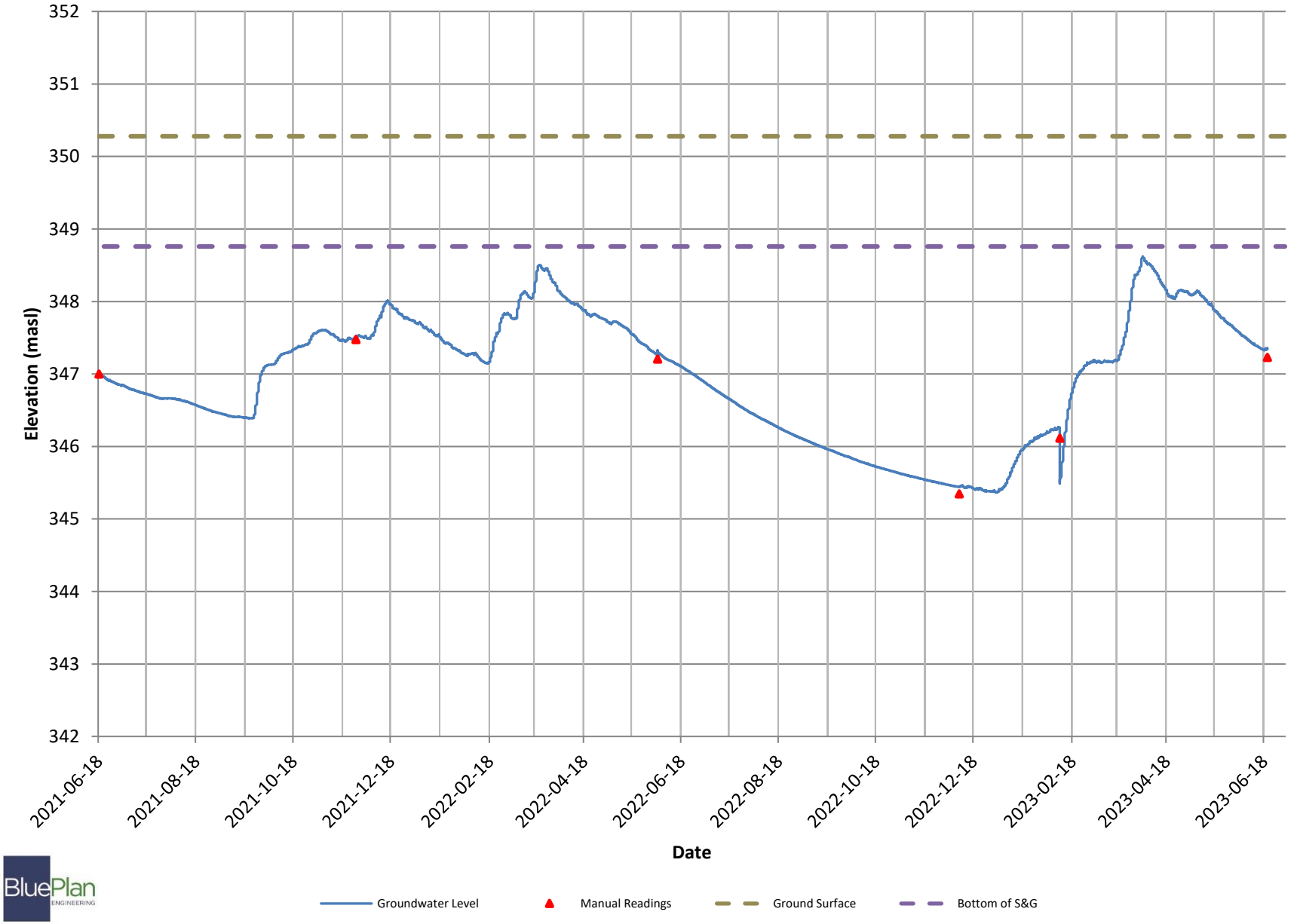


Chart 3: Hydrograph of BH3



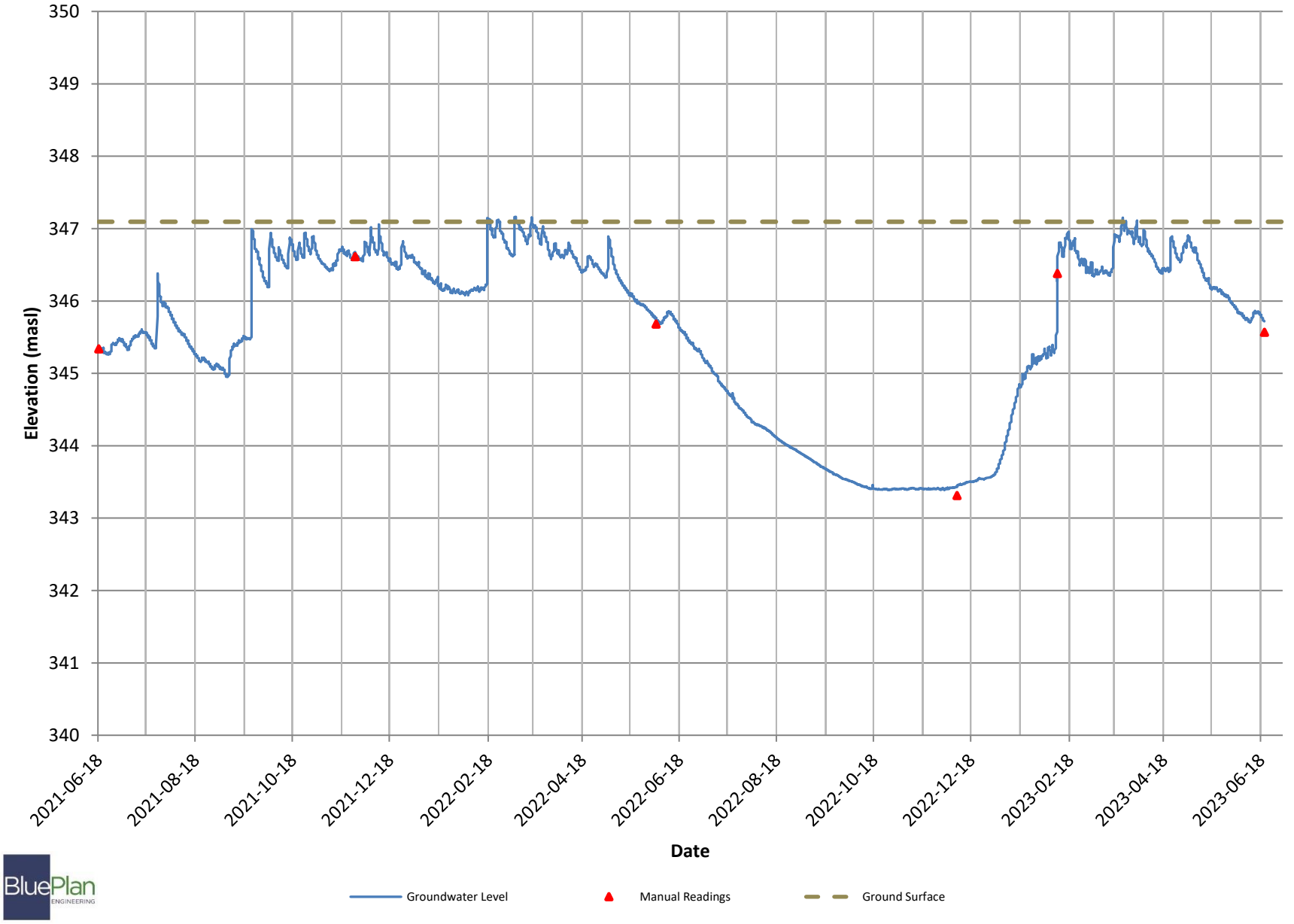
BluePlan ENGINEERING

Chart 4: Hydrograph of BH4



BluePlan ENGINEERING

Chart 5: Hydrograph of BH5



BluePlan ENGINEERING

Chart 6: Hydrograph of BH6

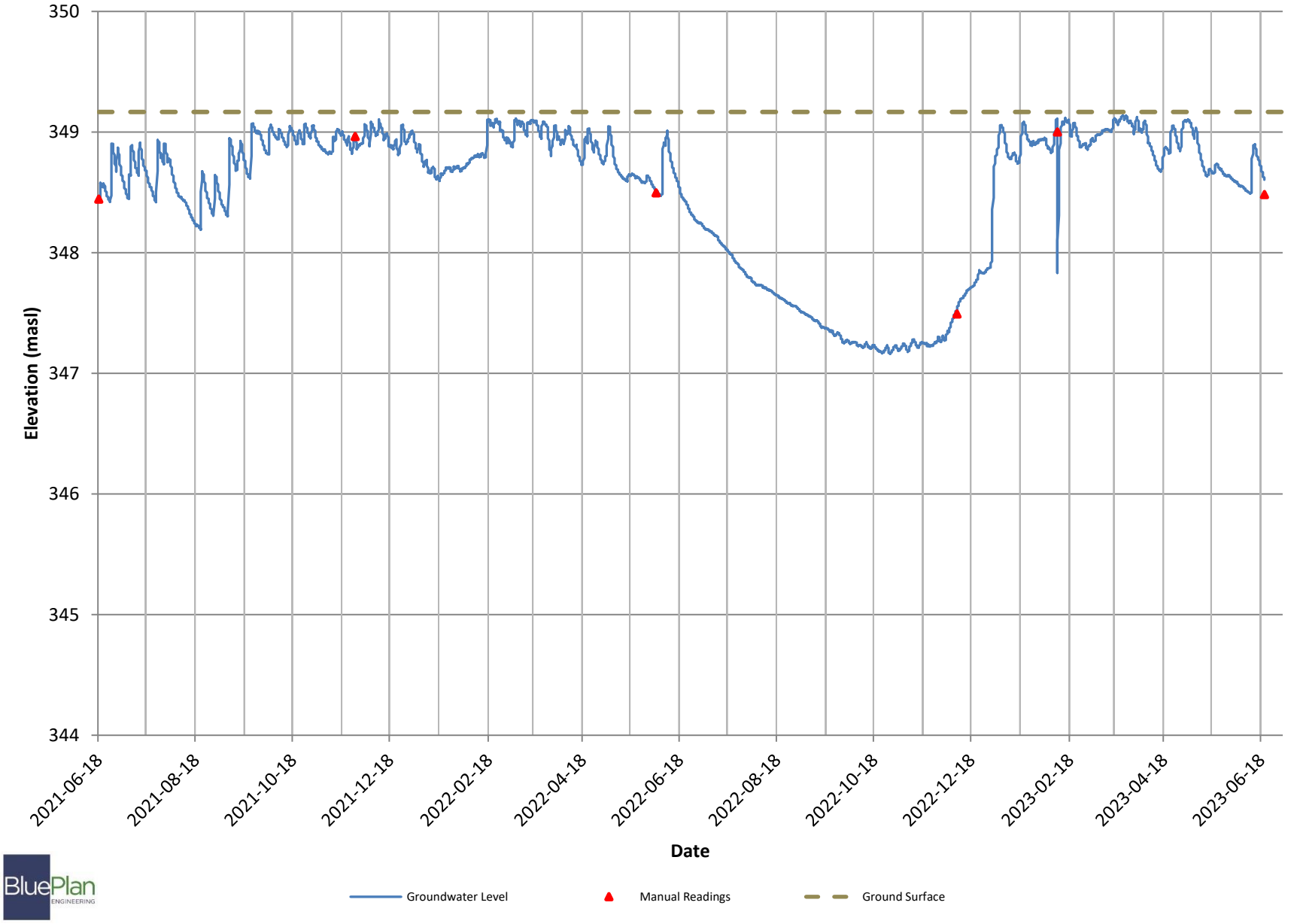
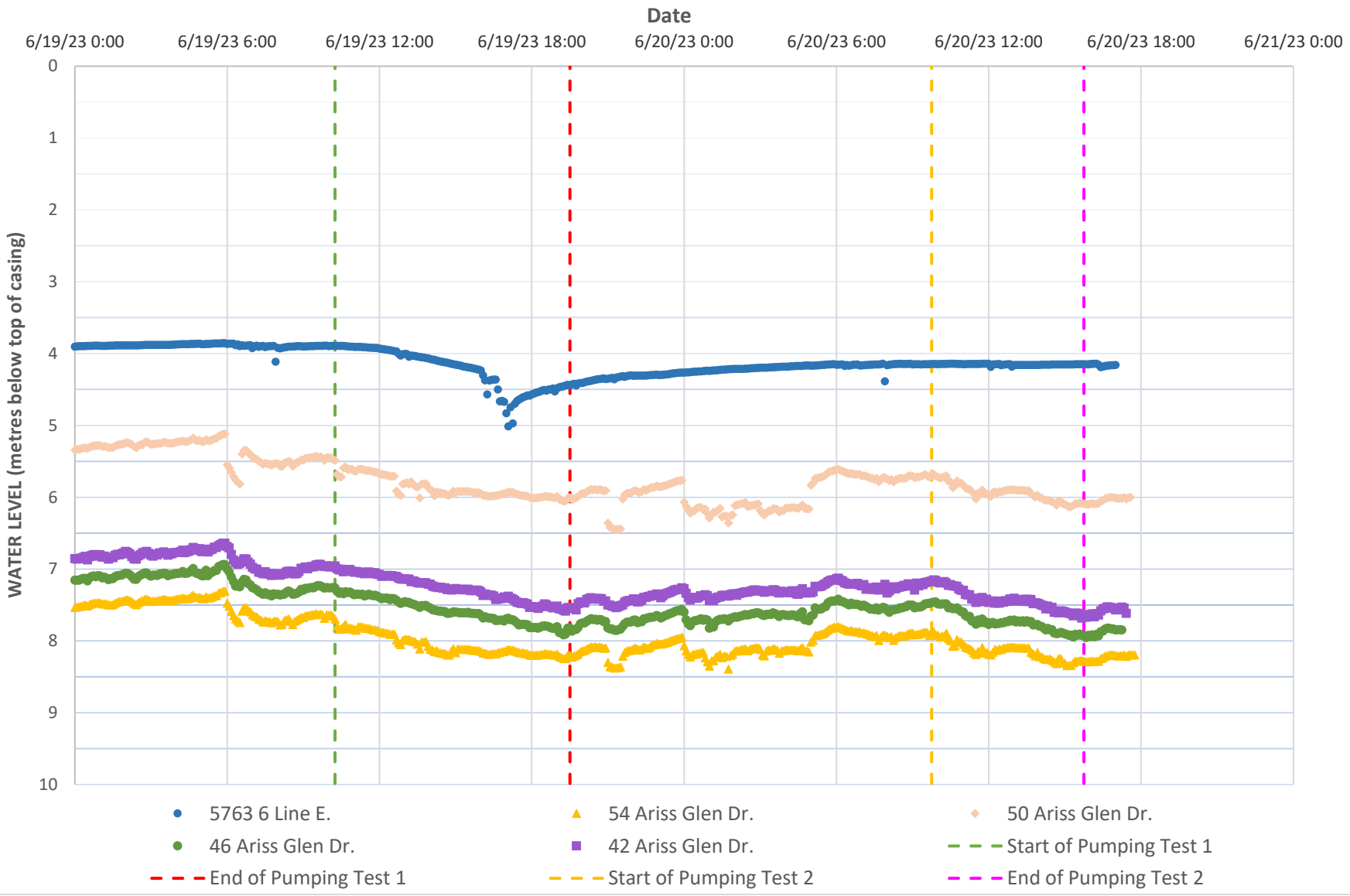
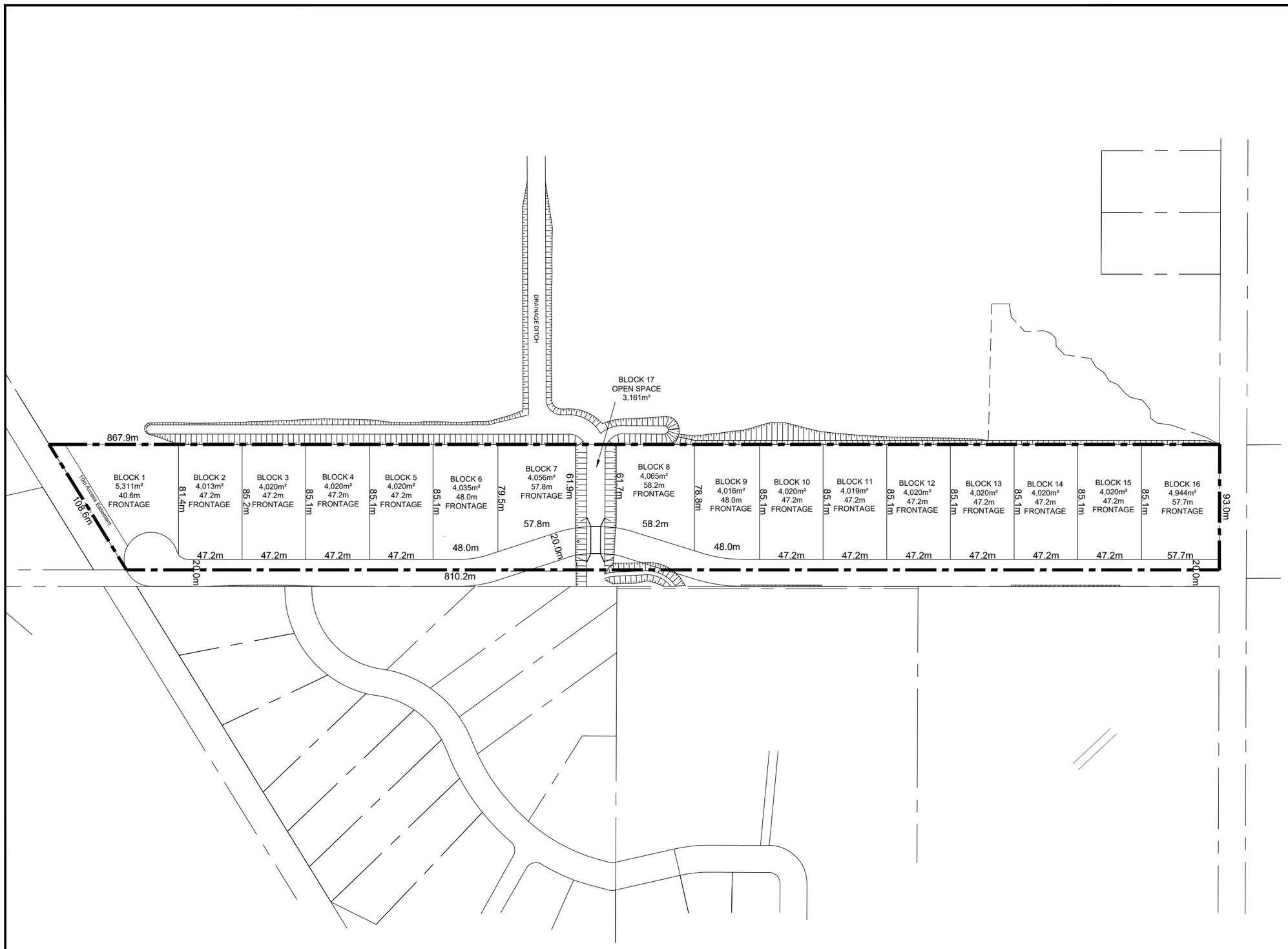
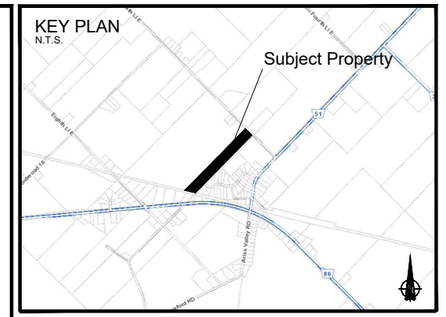


Chart 7: Hydrograph of Neighbouring Wells During On-Site Pumping Tests



APPENDIX A:
PROPOSED DRAFT PLAN





DRAFT PLAN OF SUBDIVISION

Part of Lot 17, Concession 4
Geographic Township of Guelph-Eramosa
Township of Guelph-Eramosa

5782 6th Line East - Kurtz Municipal Drain

LAND USE SCHEDULE

DESCRIPTION	LOTS/BLKS.	UNITS	AREA (ha.)
Single Detached Residential	1-16	16	6.66
Open Space	17		0.31
Roads			0.80
Total		16	7.77

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) Sandy silt trace gravel
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 OXFORD.

OWNERS SIGNATURE _____ 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.

SURVEYORS SIGNATURE _____ DATE _____

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

REVISIONS

Date: June 9, 2022	Drawn By: E.F	Dwg. File Name:dp19274a.dwg
Scale: 1:285 metric	Project No.: 19274	

APPENDIX B:
MECP WATER WELL RECORDS

UTM: Z E

5 R N

Elev. 5 R 1153

Basin 23 b

ONTARIO

The Water-well Drillers Act, 1954

Department of Mines

GROUND WATER BRANCH
67 No 1348
SEP 23 1958
ONTARIO WATER RESOURCES COMMISSION

Water-Well Record

County or Territorial District WELLINGTON Township, Village, Town or City PILKINGTON Guelph

Village, Town or City ARISS ONT

Address R R No 3 ARISS ONT

Date completed 17 AUGUST 1958
(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 4 1/4 INCH

Length(s) 71 FT

Type of screen NONE

Length of screen NONE

ROCK

Pumping Test

Static level 14 FT

Pumping rate 12 G P M

Pumping level 24 FT

Duration of test 3 HRS

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Dug well	0	45	90 - 100'	86 FT	FRESH
Clay & Stones	45	65			
GRAVEL	65	70			
SAND	70	71			
BROWN ROCK	71	78			
GREY ROCK	78	95			
BLACK ROCK	95	100			

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

FARM

Is water clear or cloudy? CLEAR

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

UPLAND

Drilling firm J. L. GRAHAM

Address RR 3 GUELPH ONT

Name of Driller J. L. GRAHAM

Address RR 3 GUELPH ONT

Licence Number 102

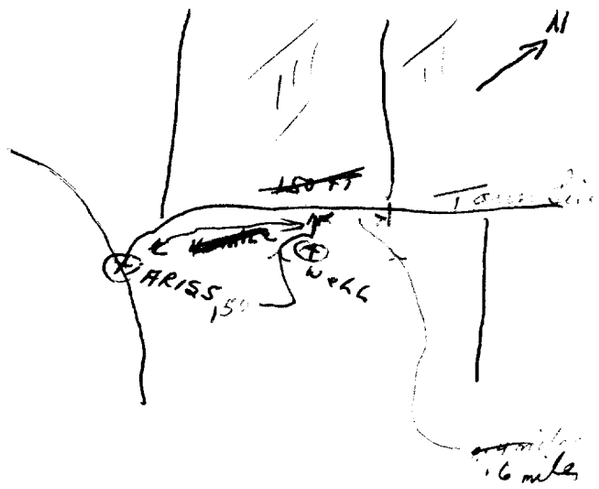
I certify that the foregoing statements of fact are true.

Date Aug 19/58 J L Graham
Signature of Licensee

J. L. GRAHAM DRILLING
R.R. #3, GUELPH, ONT.

Location of Well

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



Form 5

CSS.S8

(650)

UTM Z E N

6. R 5 Con 5 Lot 18

Elev. R 1/1/35

Basin 23

The Ontario Water Resources Commission Act

WATER WELL RECORD

WATER RESOURCES DIVISION JUL 30 1965 ONTARIO WATER RESOURCES COMMISSION

67 No 2203

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

Con. 4 E.G.R. Lot 18 Date completed April 3 1965 (day / month / year)

[redacted] ress R.R. #1 ARISS

Casing and Screen Record

Inside diameter of casing 4 1/6 "

Total length of casing 72 Feet

~~Type of screen~~

~~Length of screen~~

~~Depth to top of screen~~

Diameter of finished hole 4 1/6

Pumping Test

Static level 13 Feet

Test-pumping rate 12 G.P.M.

Pumping level 25 Feet

Duration of test pumping 4 hours

Water clear or cloudy at end of test clear

Recommended pumping rate 7 G.P.M.

with pump setting of 30 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
~~Top~~ soil	0	1		
Clay	1	69	80	
Brown lime stone	69	100	100	fresh

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

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

Drilling or Boring Firm Albert Earley

Address 202 Reeve St Guelph

Licence Number 1498

Name of Driller or Borer Albert Earley

Address 202 Reeve St

Date April 3 1965

Albert Earley

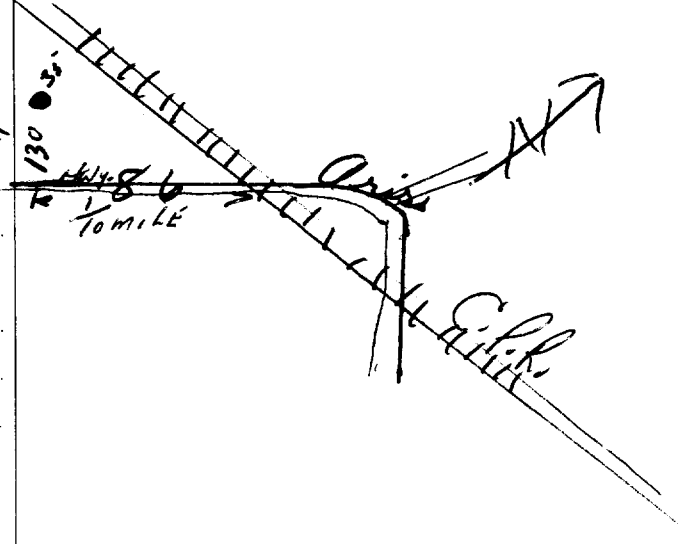
(Signature of Licensed Drilling or Boring Contractor)

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

UTM Z GRE E

N

Elev. S R 1/1/50

67 No 2205

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 2 3 County or District Pickington Wellington Township, Village, Town or City Pitkington Hellington

Con. 4 G.R.E. Lot Part of 17 Date completed 6 (day) aug (month) 67 (year)

[redacted] ess RR1 Arisa

Casing and Screen Record

Inside diameter of casing 30"

Total length of casing 5-4'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 30"

Pumping Test

Static level 30'

Test-pumping rate 5 G.P.M.

Pumping level 40'

Duration of test pumping 24 hr

Water clear or cloudy at end of test clear

Recommended pumping rate 5 G.P.M.

with pump setting of 52 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)
Brown clay	0	5		
Blue clay	5	50	40'	fresh.
Sand	50	54		

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 LONE STAR WELL DIGGING

Address 176 STRASBURG ROAD KITCHENER

Licence Number 115

Name of Driller or Borer J. Moore

Address as above

Date 6 aug 67

J. Moore

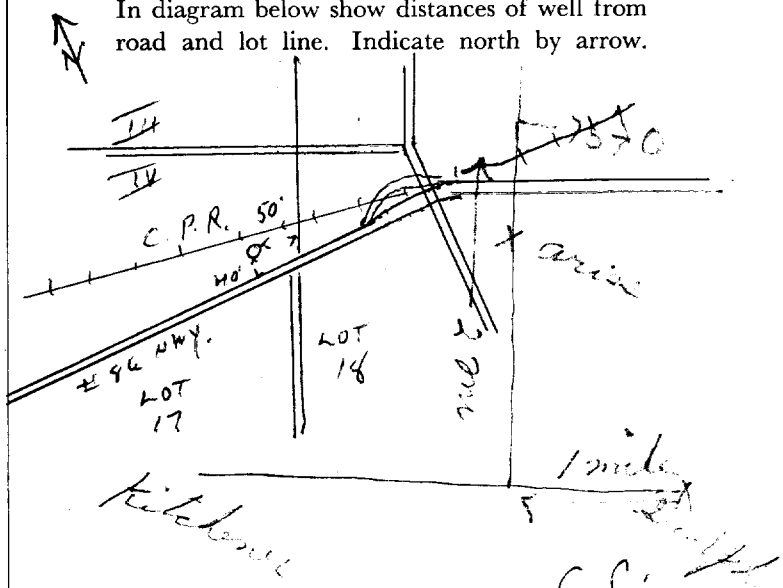
(Signature of Licensed Drilling or Boring Contractor)

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 17 E
R 16 N
Elev. 5 R 1 3 2

DIVISION
OCT 24 1967
67 No. 2207
ONTARIO WATER RESOURCES COMMISSION

7

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 23 County or District Wellington Township, Village, Town or City Pelkington

Con. IV Lot 18 Date completed 30 (day) MAR (month) 1967 (year)

[redacted] ress Bresalau

Casing and Screen Record

Inside diameter of casing 7" O.D.

Total length of casing 65'

Type of screen —

Length of screen —

Depth to top of screen

Diameter of finished hole 7" O.D.

Pumping Test

Static level 27'

Test-pumping rate ~~43~~ 15 G.P.M.

Pumping level 43

Duration of test pumping 2 hrs.

Water clear or cloudy at end of test clear

Recommended pumping rate 10 or less G.P.M.

with pump setting of 45 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		
Sandy soil	1	10		
dry gravel	10	15		
Shardpan	15	64		
Limestone	64	87	83-87'	fresh

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

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

Drilling or Boring Firm R.E. Laughlin Water Wells Supply Ltd.

Address Bresalau

Licence Number 2603

Name of Driller or Borer Bryan Corey

Address R.R. #3 Waterloo

Date Jun 9/67

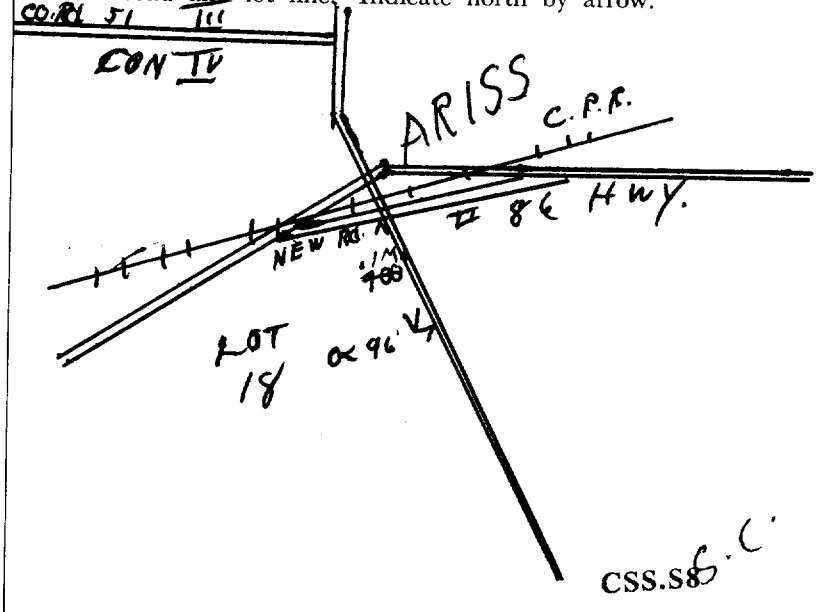
R. E. McLaughlin
(Signature of Licensed Drilling or Boring Contractor)

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.



UTM Z E
R N
Elev. R

67 No 22087

The Ontario Water Resources Commission Act

WATER WELL RECORD

Basin 23
County or District Wellington
~~Township, Village, Town or City~~ TWP. PILKINGTON Arriss
Con. 4 TV G.R.E. Lot 18 + 19 18
Date completed 7 (day) Dec (month) 1967 (year)
Owner [redacted] (print in block letters)
Address P.O ARISS

Casing and Screen Record [redacted]

Inside diameter of casing 4 1/4 i D
Total length of casing 67 Feet
~~Type of screen~~
~~Length of screen~~
~~Depth to top of screen~~
Diameter of finished hole 4 1/4 i D

Pumping Test

Static level Over flow 2 GPM. at grd. level
Test-pumping rate 15 G.P.M.
Pumping level 20 Feet
Duration of test pumping 3 hours
Water clear or cloudy at end of test clear
Recommended pumping rate 10 G.P.M.
with pump setting of 20 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	0	6		
clay stones	6	22		
sandy clay	22	35		
Grey clay	35	50		
sand	50	65		
Lime rock	65	80	80	
Blue rock	80	87	87	fresh

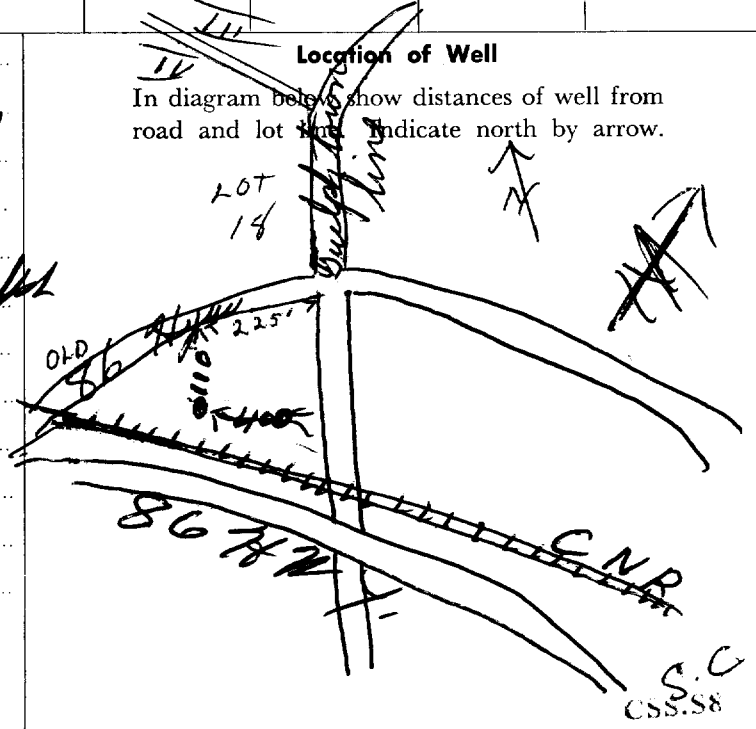
For what purpose(s) is the water to be used? House
D.
Is well on upland, in valley, or on hillside? upland
Drilling or Boring Firm Albert Earley
Address 202 Neeve St Guelph
Licence Number 2324
Name of Driller or Borer Albert Earley
Address 202 Neeve St
Date Dec 7 1967
Albert Earley
(Signature of Licensed 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 lines. Indicate north by arrow.



Con VI
17 55125 0 Div. 5
5 48250 0 0 Lot 29
5 1145
23

40 P/W

7

6703143

CODED

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Wellington

Township, Village, ~~Town~~ or City GUELPH ~~Guiss~~

Lot 29

Date completed 3 (day) Oct (month) 1968 (year)

[redacted] ess RR.2 Guiss

Casing and Screen Record

Inside diameter of casing 4 Y/16 ID

Total length of casing 70 Feet

~~Type of screen~~

~~Length of screen~~

~~Depth to top of screen~~

Diameter of finished hole 4 Y/16 ID

Pumping Test

Static level 12 Feet

Test-pumping rate 12 G.P.M.

Pumping level 40

Duration of test pumping 2 hours

Water clear or cloudy at end of test clear

Recommended pumping rate 10 G.P.M.

with pump setting of 40 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)
sand	0	15		
stones	15	20		
gravel clay	20	30		
Blue clay	30	33		
gravel	33	45		
clay stone	45	55		
Old rock	55	65	75	fresh
Lime rock	65	88	88	

For what purpose(s) is the water to be used? house 29

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

Drilling or Boring Firm Albert Earley

Address 202 Reeve St Guelph

Licence Number 2861

Name of Driller or Borer Albert Earley

Address 202 Reeve St

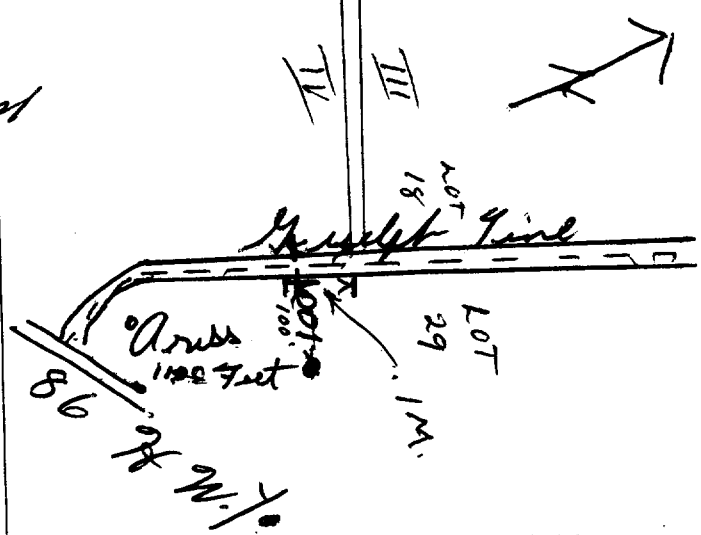
Date Oct 3 1968

Albert Earley

(Signature of Licensed Drilling or ~~Boring~~ Contractor)

Location of Well

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



Form 7

OWRC COPY

CSS.88

40P/9W

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 | 6703612 | MUNICIP. 67011 | CON. GR E C 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Pilkington	Concession 4 GRE	018

[redacted] ghway #86, Ariss, Ontario.

DATE COMPLETED 10 48-53 69 — DAY 23 MO. Oct. YR. ~~1969~~

UTM ING 824760 RC. 4 | ELEVATION 11150 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
BROWN	HARDPAN	STONES	HARD	0	29
GRAY	CLAY			29	41
GRAY	CLAY	GRAVEL	FINE	41	72
BROWN	LIMESTONE		HARD	72	108

31 | 00296/14/2 | 00041/20S | 00722/05/11 | 01986/15

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0108	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
6 5/8	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.231	0	~~73~~ 0073
04	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		73	0108
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

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	0005 GPM.	05 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
017 FEET	065 FEET	061 FEET	065 FEET	065 FEET	065 FEET

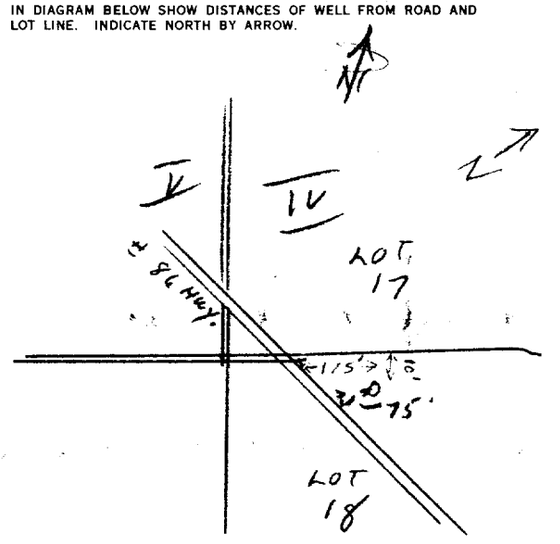
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM.	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	070 FEET	0005 GPM.

--000.1 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: McLAUGHLIN WATER WELLS & SUPPLY | LICENCE NUMBER: 3428

ADDRESS: BRESLAU ONT.

NAME OF DRILLER OR BORER: L. WEBBER | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: R. McLaughlin | SUBMISSION DATE: DAY 27 MO. NOV YR. 69

OWRC COPY

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3515 | DATE RECEIVED 09 0370

DATE OF INSPECTION 7/7/70 | INSPECTOR T/I

REMARKS:

CSS.58 7

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

ONTARIO

for 9c'

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11 | 6704663 | MUNICIP. 67.005 | CON. Div. B. 9 01

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wat 22	Guelph	1 Div. B	25-27 ~~23~~ 024

[redacted] Chris. Arriss

DATE COMPLETED 48-53: DAY 28 MO 05 YR 73

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

1 6704663 11 551203 4824714 4 1130 4 24 MAR 20, 1975 50 17

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	3
grey	CLAY	Course Sand	Soaft	3	57
Grey	Limestone	Black Rock	HARD	57	80
grey	Limestone		m. Hard	80	95
Brown	Brown Rock		m. Hard	95	135

31 | 0003 01 | 0057 205/P | 0080 215 | 0095 215 | 0135 226

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0085	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0120	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	~~80~~ 0080
			80	135
	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	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE GPM	DURATION OF PUMPING HOURS	MINS
1 ☒ PUMP ~~2 BAILER~~	008	03	00

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	1 ☐ PUMPING 2 ☒ RECOVERY
005 FEET	040 FEET	☒ MINUTES 020 FEET	30 MINUTES FEET
		45 MINUTES FEET	60 MINUTES FEET

IF FLOWING GIVE RATE GPM	PUMP INTAKE SET AT FEET	WATER AT END OF TEST 1 ☒ CLEAR 2 ☐ CLOUDY
	55	

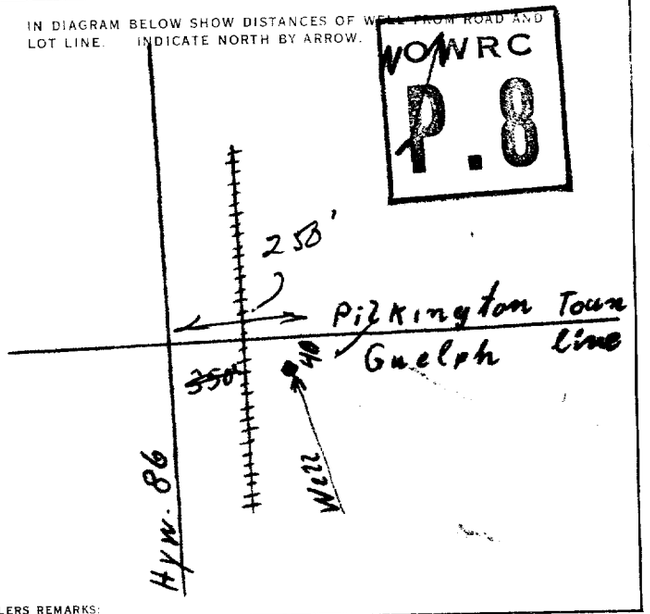
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING FEET	RECOMMENDED PUMPING RATE GPM
☒ SHALLOW ☐ DEEP	110	006

50-53 ~~000.2~~ GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

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

WORC P.8



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: Rudy's Drilling — LICENCE NUMBER: 2332

ADDRESS: R.R. I Hillsburg. Ont.

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: 130773

DATE OF INSPECTION — INSPECTOR

REMARKS: CSS.S8 — P — WI

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

40P/9W

Ontario

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11

6704860 | MUNICIP. 6701 | CON. GR S. C 104

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	PILKINGTON	4 GRS.	018

[redacted] R#1 ARISS, ONT.

DATE COMPLETED: DAY 15 MO. Oct YR. 73

UTM ZONE 24580 | RC | ELEVATION 1130 | RC | 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
		Top soil		0	1
Brown		clay gravel		1	25
Brown		Clay		25	69
Light brown		rock		69	75
		Large stones		75	125

31 | 0001 | 02 | 0025 | 10 | 05 | 1/1 | 0006 | 9 | 16 | 05 | 0075 | 16 | 21 | 6 | 1/2 | 5 | 1/2 |

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0075	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0125	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
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE	244	0	0072 / 72 0125
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0015 GPM	01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	45 MINUTES	60 MINUTES
020 FEET	047 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	047 FEET	047 FEET	047 FEET

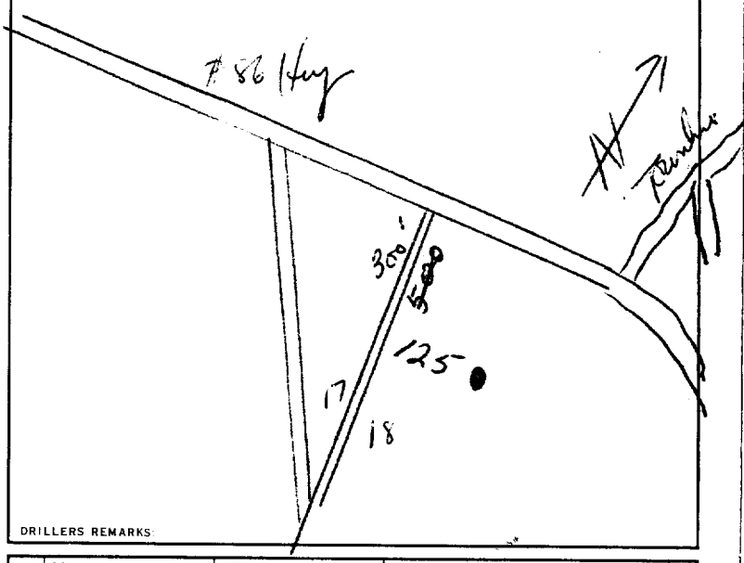
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	60 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	060 FEET	0015 GPM

50-53: 0006

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: 12 — 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: Albert Earley — LICENCE NUMBER: 1906

ADDRESS: 202 Neeve St Guelph

NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley — SUBMISSION DATE: DAY ____ MO. Oct YR. 73

OFFICE USE ONLY

DATA SOURCE 58: 1 — CONTRACTOR 59-62: 1906 — DATE RECEIVED 63-68: 06 12 73

DATE OF INSPECTION — INSPECTOR

REMARKS: CSS.S8

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

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11 | 6705105 | MUNICIP. 67011 | CON. GR E | 03

COUNTY OR DISTRICT: Wellington Cty | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Pilkington Twsp | CON., BLOCK, TRACT, SURVEY, ETC.: Con 3 GRS | LOT: 017

[redacted] R 1 Aniso rd | DATE COMPLETED: DAY 23 MO. 05 YR. 74

NG 25750 | RC 5 | ELEVATION 1160 | 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
			clay	0	60
			gravel	60	93
			hard grey rock	93	135

31 | 0060 05 | 0093 11 | 0135 22 73

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0135	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	188	0	0100
	4 ☒ OPEN HOLE		100	135
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			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	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: 00 10 GPM. | DURATION OF PUMPING: 02 HOURS 00 MINS.

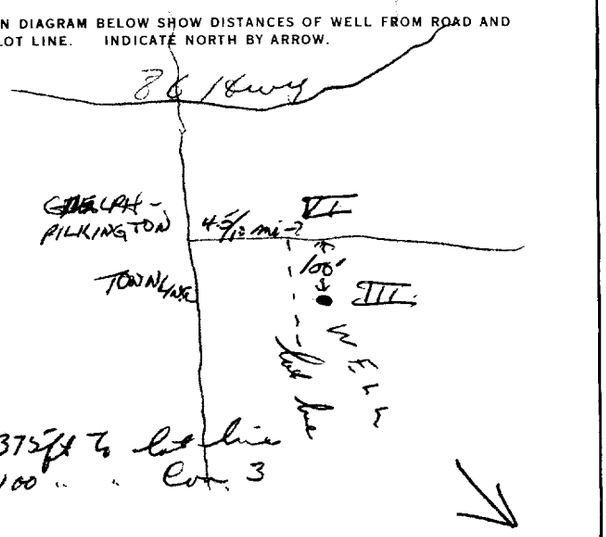
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
018 FEET	070 FEET		FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
GPM.	FEET	1 ☒ CLEAR 2 ☐ CLOUDY	☐ SHALLOW ☒ DEEP	080 FEET	0010 GPM.

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 5025

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 1

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

WATER USE 01

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

METHOD OF DRILLING 1

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Charles Hall | LICENCE NUMBER: 2521

ADDRESS: 251 Speedvale Ave E Guelph

NAME OF DRILLER OR BORER: Harvey Hall | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Charles Hall | SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 2521 | DATE RECEIVED 03 07 74

DATE OF INSPECTION Jun 22/77 | INSPECTOR

REMARKS:

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The Ontario Water Resources Act

WATER WELL RECORD

40P/9W

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11 | 6705809 | MUNICIP. 67011 | CON. GR E | 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELL	PILLINGTON	4 GRS	018

OWNER (SURNAME FIRST) [redacted] ARISS

ADDRESS [redacted] AR1 [redacted] ARISS

DATE COMPLETED 02 M 10 YR 75

WELL ID NUMBER	RC	ELEVATION	RC	BASIN CODE
[illegible]824550	5	1135	5	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 fill		0	3
		clay stones		3	25
		clay gravel		35	73
brown		hard		13	70
Grey		soft		10	110
Blue		rock		110	125
brown		rock		125	130

31 0003 11 11 91 | 0935 05 12 | 0073 05 11 | 0090626 | 01 10226 | 01 25326

32 01 80626

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0140	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL — #3
0178	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL — #3
	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	0076
			76	[illegible]
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			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.)

PUMPING TEST

71

PUMPING TEST METHOD	PUMPING RATE GPM	DURATION OF PUMPING HOURS	MINS
1 ☒ PUMP 2 ☐ BAILER	0008	02	00

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
020 FEET	070 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	070 FEET	070 FEET	070 FEET	070 FEET

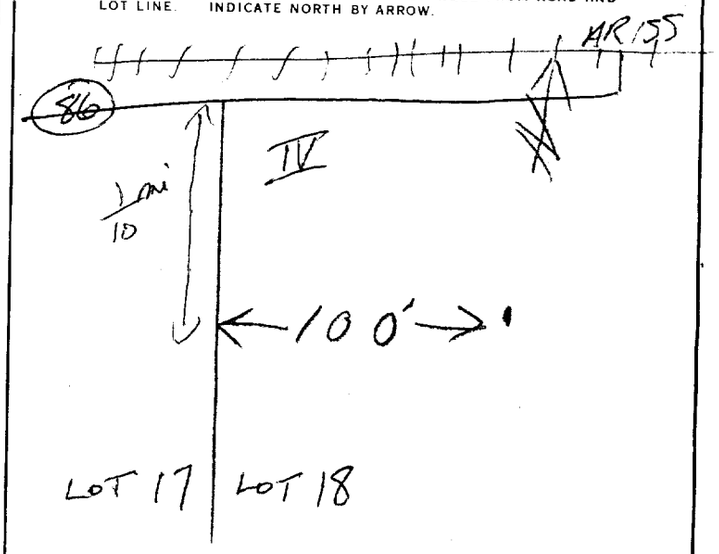
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMP RATE
☐ SHALLOW ☒ DEEP	080 FEET	0008 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 5024

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
Albert Earley	1906

ADDRESS 202 Moore St Penetanguishene

NAME OF DRILLER OR BORER	LICENCE NUMBER
Albert Earley	1906

SIGNATURE OF CONTRACTOR Albert Earley

SUBMISSION DATE DAY 2 MO. Oct YR. 75

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	1906	091275

DATE OF INSPECTION Jan 22/77 INSPECTOR MT

REMARKS: CSS.58

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FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

40 P/A

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11 | 6706182 | MUNICIP 67011 | CON. GR E | 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELL	LOT 18 CON 4 PILKINGTON	CON 4 GRS	018

[redacted] ARISS

DATE COMPLETED: DAY 29 MO. 04 YR. 76

UTM: 3247500 | RC. 5 | ELEVATION 1135 | 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
		Top soil		0	1
brown		clay stones		1	70
brown		rock		70	85
blue		rock		85	95
Grey		rock		95	105

31 | 00011 02 | 00706 0512 | 00856 26 | 00953 26 | 01052 26

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
010 3	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0105	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	0075
			75	[redacted]
	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	PUMPING RATE GPM	DURATION OF PUMPING HOURS	MINS
1 ☒ PUMP 2 ☐ BAILER	0015		

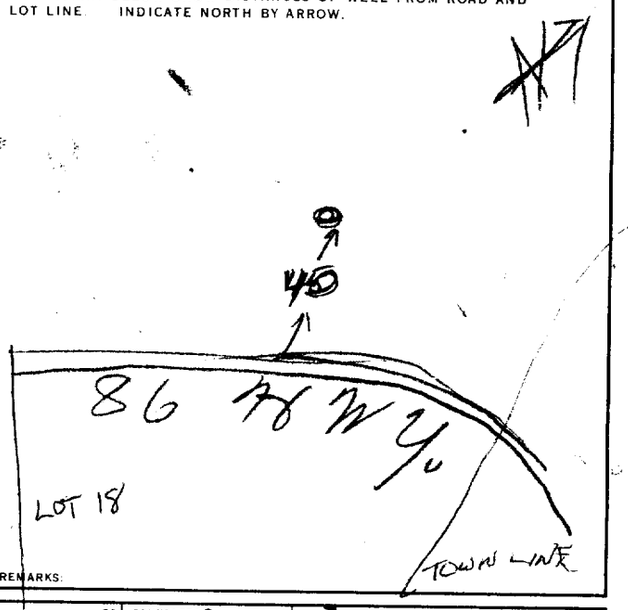
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
015 FEET	075 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	076 FEET	075 FEET	075 FEET	075 FEET

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
	90	1 ☒ CLEAR 2 ☐ CLOUDY	☒ SHALLOW ☐ DEEP	080	0015

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 5024

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: Albert Earley | LICENCE NUMBER: 1906

ADDRESS: 202 Meeve St Guelph

NAME OF DRILLER OR BORER: Albert Earley | LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley | SUBMISSION DATE: DAY 20 MO. July YR. 76

OFFICE USE ONLY

DATA SOURCE 58: 1 | CONTRACTOR 59-62: 1906 | DATE RECEIVED 63-68: 60976

DATE OF INSPECTION: Jun 22/77 | INSPECTOR: MT

REMARKS:

P

WI

MINISTRY OF THE ENVIRONMENT COPY

CSS.S8

FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario 25/78

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

(11) 6706743 MUNICIP 67011 CON GR E 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Pilkington	4	017 17

[redacted] R# 2 Ariss Ont.

DATE COMPLETED DAY 18 MO. 07 YR. 78

NORTHING 12535a RC 5 EASTING ELEVATION 1150 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
Brown	Top Soil			0.	1
Brown	Clay	Sand-Stones		1	15
Gray	Clay	Sand Stones		15	83
Gray	Rock			83	125
M.Brown	Rock			125	138
			Total Depth 138 ft.		

(31) 0001602 0015605281 2 0083205281 2 0125212 0130612

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0130 (195)	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
05 (5¼)	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0087
05 (5¼)	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		87	0130 (138)
	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

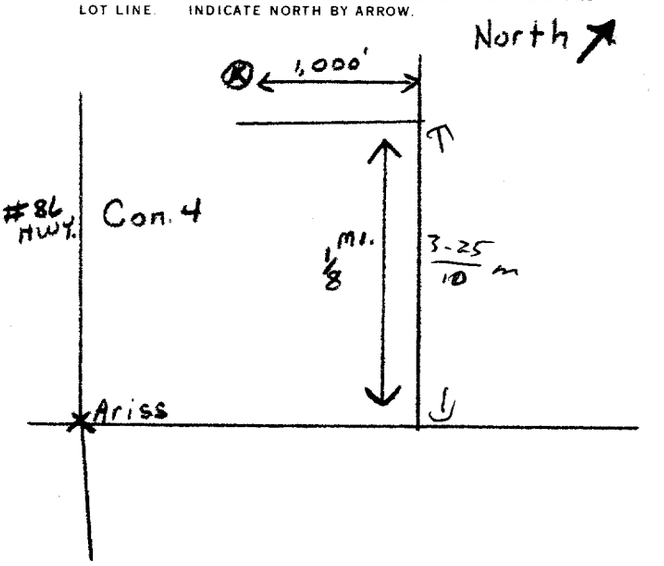
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER
PUMPING RATE: 0010 GPM
DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
030 FEET	045 FEET	030 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: 065 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 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 12
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: Graham Well Drilling Ltd. LICENCE NUMBER: 2336
ADDRESS: Guelph, Ont.
NAME OF DRILLER OR BORER: Jim Wilson 10R LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: R.H. Graham SUBMISSION DATE: DAY 20 MO. Jul YR. 78

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 2336 | DATE RECEIVED 080878
DATE OF INSPECTION July 1979 | INSPECTOR
REMARKS: CSS.S8 | P | WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

Ontario 27/78

40P/9W

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

11 6706744

MUNICIP. 67011 CON. GR E 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
Wellington	Pilkington	Con. 4	018 pt.18

[redacted] 262 Liverpool St. Guelph, Ont.

DATE COMPLETED DAY 21 MO Jul. YR. 78

UTM 325100 5 ELEVATION 1140 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
Brown	Clay	Sand - Stones		0	15
Gray	Clay	Sand - Stones		15	60
L.Brown	Rock			60	90
Gray	Rock			90	103
			Total Depth 103 ft.		

31 0015805528 12 0060205528 12 0090612 75 0103212

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0100	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 5	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	0064
05 5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		64	0103
	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
016 FEET	040 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	016 FEET	FEET	FEET	FEET

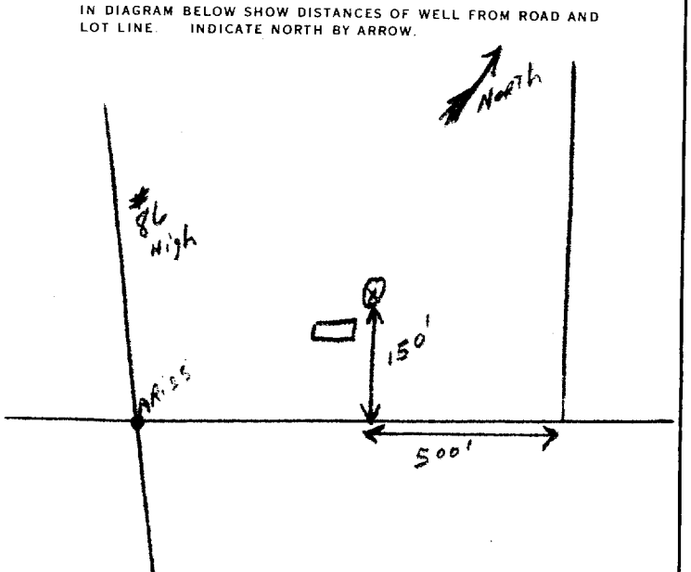
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	070 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 ☒ 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: Graham Welll Drilling Ltd. LICENCE NUMBER: 2336
ADDRESS: Guelph, Ont.
NAME OF DRILLER OR BORER: Jim Wilson LOR LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: [signature] SUBMISSION DATE DAY 21 MO Jul. YR. 78

OFFICE USE ONLY

DATA SOURCE 1 58 CONTRACTOR 2336 59-62 DATE RECEIVED 030878 63-68 80
DATE OF INSPECTION July 1979 INSPECTOR EJ
REMARKS: P WI

CBS.58

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

Ministry of the Environment
Ontario

The Ontario Water Resources Act 40 Pgc

WATER WELL RECORD

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

11 6707327 MUNICIP 67005 CON. DIV D 06

COUNTY OR DISTRICT [redacted] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE [redacted]

CON., BLOCK, TRACT, SURVEY, ETC. 6 DIV D

LOT 029

DATE COMPLETED DAY 17 MO July YR 80

[redacted] RR2 Orrs

UTM 17 551220 4824900 RC ELEVATION 1130 RC BASIN CODE 23

21

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
Brown		clay stones		1	56
		Lime rock		56	94

30 0001 02 0036 03 12 0094 15 12

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0093	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
05"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE	188	0000 60	0940

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.)

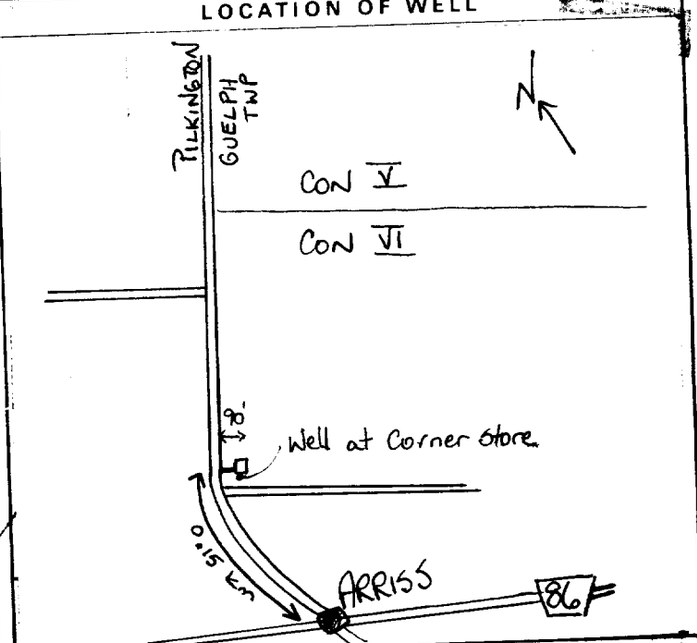
71 PUMPING TEST

METHOD	PUMPING RATE	DURATION OF PUMPING	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
1 ☒ PUMP 2 ☐ BAILER	0013 GPM	01 HOURS 00 MINS	010 FEET	011 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	011 FEET	011 FEET	011 FEET	011 FEET

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 20 FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 020 FEET | RECOMMENDED PUMPING RATE: 0015 GPM

LOCATION OF WELL



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; 9 ☐ NOT USED; ☐ OTHER

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: Albert Earley | LICENCE NUMBER: 1906

ADDRESS: 202 Reserve St Guelph

NAME OF DRILLER OR BORER: Albert Earley | LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley | SUBMISSION DATE DAY 17 MO July YR 80

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1906 | DATE RECEIVED 281080

DATE OF INSPECTION Aug 9/85 | INSPECTOR KW

REMARKS: CSS.88

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pg C

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

11 — 6707435 — MUNICIP 670 W — CON GR E — LOT 04

COUNTY OR DISTRICT: Wellington
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Pilkington
CON., BLOCK, TRACT, SURVEY, ETC: 4
LOT: 16
ADDRESS OF WELL LOCATION: RR 1 Ariss
DATE COMPLETED: DAY 04 MO July YR 80
UTM ZONE: 17 — EASTING: 8248.20 — RC — ELEVATION: 1130 — RC — 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
Brown		Top soil		0	1
Brown		Clay stones		1	55
Brown		Lime rock		55	95
Blue		rock		95	97

AUG 21 1986
JUN 23 1986

31: 0001 02 — 0055 6815 17 — 0095 6115 12 — 0097 3112
32:

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0097	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	0060
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		60	0097
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			0097
	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

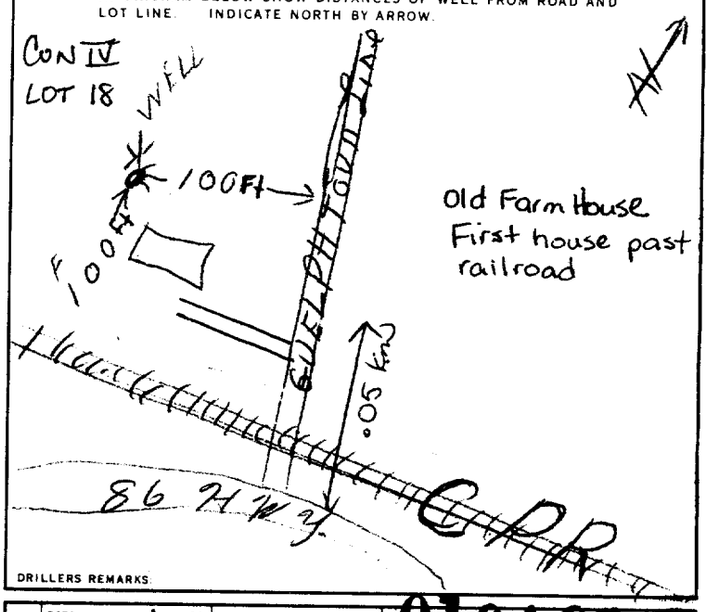
PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0012 GPM
DURATION OF PUMPING: 06 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
010 FEET	010 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	010 FEET	010 FEET	010 FEET	010 FEET

IF FLOWING GIVE RATE: GPM
PUMP INTAKE SET AT: 20 FEET
WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 020 FEET
RECOMMENDED PUMPING RATE: 0015 GPM

LOCATION OF WELL

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



DRILLERS REMARKS:

FINAL STATUS OF WELL 1	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE 01	1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING 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: Albert Carley — LICENCE NUMBER: 1906
ADDRESS: 202 Reeve St Guelph Ont
NAME OF DRILLER OR BORER: Albert Carley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: Albert Carley — SUBMISSION DATE: DAY 4 MO July YR 80

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 1906 — DATE RECEIVED: 010481
DATE OF INSPECTION: Aug 14/85 — INSPECTOR:
REMARKS: CSS.SS

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

6707451

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

11

MUNICIP 670 11 | CON. GR E | 04

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PUSLINCH
CON., BLOCK, TRACT, SURVEY, ETC: 4
LOT: 018 18
ADDRESS OF WELL LOCATION: [redacted] ARISS
DATE COMPLETED: DAY 17 MO June YR 81
UTM NORTHING 8,25,080 | RC 4 | ELEVATION 1140 | RC | 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
		clay stones		0	60
brown		Lime rock		60	90
blue		rock		90	100

JUN 23 1981

31 | 0960 05 12 | 0109 06 15 12 | 0109362

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0090 to 0100	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
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	64 00
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE		64	1000
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

61 PLUGGING & SEALING RECORD

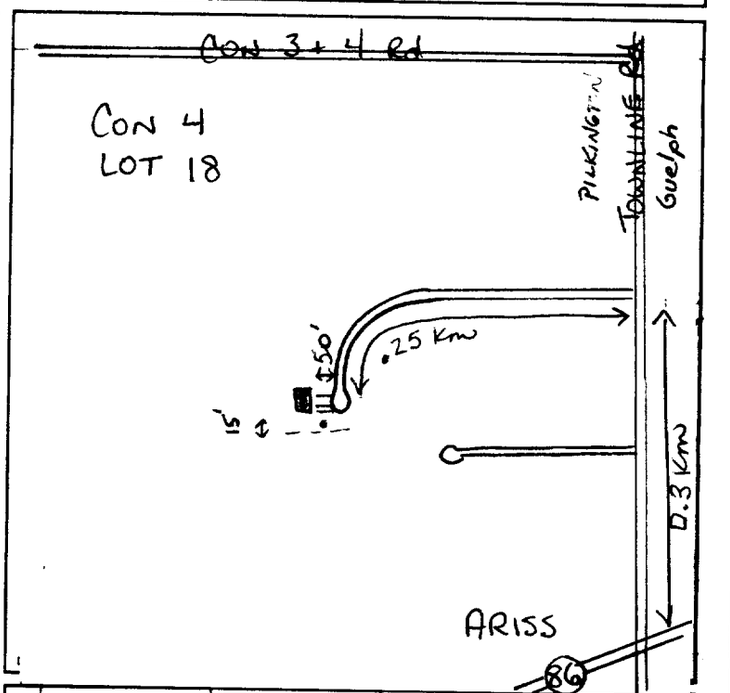
DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0150 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
100 FEET	200 FEET	200 FEET	200 FEET	200 FEET	200 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 90 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 400 FEET
RECOMMENDED PUMPING RATE: 1500 GPM



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: Albert Corley — LICENCE NUMBER: 1906
ADDRESS: 202 Meeve St Guelph
NAME OF DRILLER OR BORER: Albert Corley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: Albert Corley
SUBMISSION DATE: DAY 17 MO June YR 81

MINISTRY OF THE ENVIRONMENT COPY

OFFICE USE ONLY

DATA SOURCE 58 | CONTRACTOR 59-62: 1906 | DATE RECEIVED 63-68: 260681
DATE OF INSPECTION: Aug 14/85 | INSPECTOR: KW
REMARKS:

CSS.S8

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pgc

6707452

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

11

MUNICIP. G7011 | CON. GR E | LOT 04

COUNTY OR DISTRICT: WELL

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PUSLINCH

CON., BLOCK, TRACT, SURVEY, ETC.: 4

[redacted]

RR. 2 ARISS

DATE COMPLETED: DAY 19 MO June YR 81

WATER: 8251160 | RC: 4 | ELEVATION: 1140 | RC: 4 | 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
		clay stones		0	59
Brown		Lime rock		59	90
Blue		rock	Broken rock	90	100

JUN 23 1981

31: 0059 | 0512 | 0090 | 0512 | 0109 | 0127

32:

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0098	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0100	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	0062
			62	0100
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

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

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

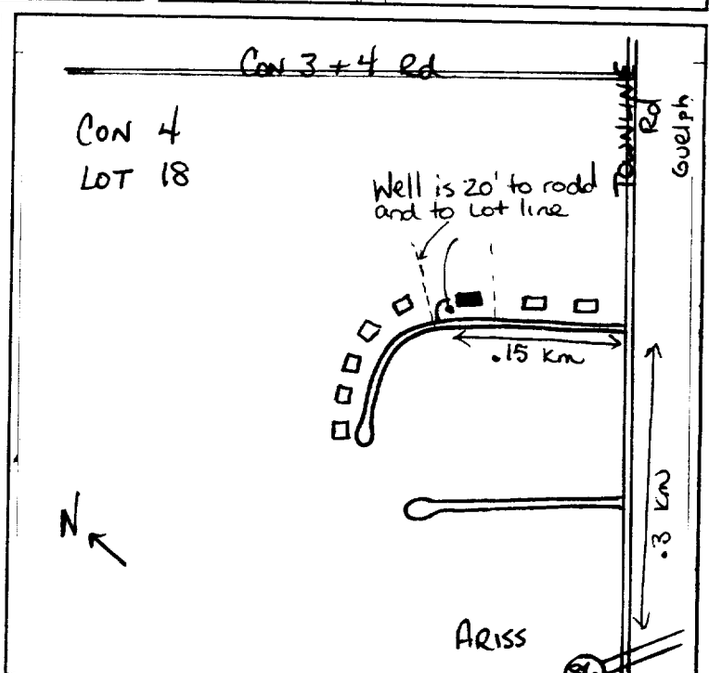
PUMPING TEST METHOD: 1 ☐ PUMP 2 ☐ BAILER

PUMPING RATE: 0300 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
010 FEET	015 FEET		015 FEET	015 FEET	015 FEET	015 FEET

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 90 FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 040 FEET | RECOMMENDED PUMPING RATE: 0150 GPM



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

CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley | LICENCE NUMBER: 1906

ADDRESS: R02 Moore St Guelph

NAME OF DRILLER OR BORER: Albert Earley | LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley | SUBMISSION DATE: DAY 19 MO. June YR 81

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 1906 | DATE RECEIVED: 260681

DATE OF INSPECTION: Aug 14/85 | INSPECTOR: KM

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 4c

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

11 6707453

MUNICIP. 67011 CON. GR E LOT 018

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
WELLINGTON	PILKINGTON	LOT 10 PLAN 689	018
[redacted] R.R. 2	ARISS	DATE COMPLETED DAY 10 MO June YR 81	

UTM ZONE 17 NORTHING 25100 RC 4 ELEVATION 1140 RC 4 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
		clay stones		0	56
Brown		rock		56	65
Gray		"		65	70
		Lime rock		70	95
Blue		rock		95	100

JUN 23 1986

AUG 21 1985

0056 0512 0065 0612 0070 0712 0095 1512 0100 3112

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0080	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0097	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	0060
			60	0100
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0100
	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.)

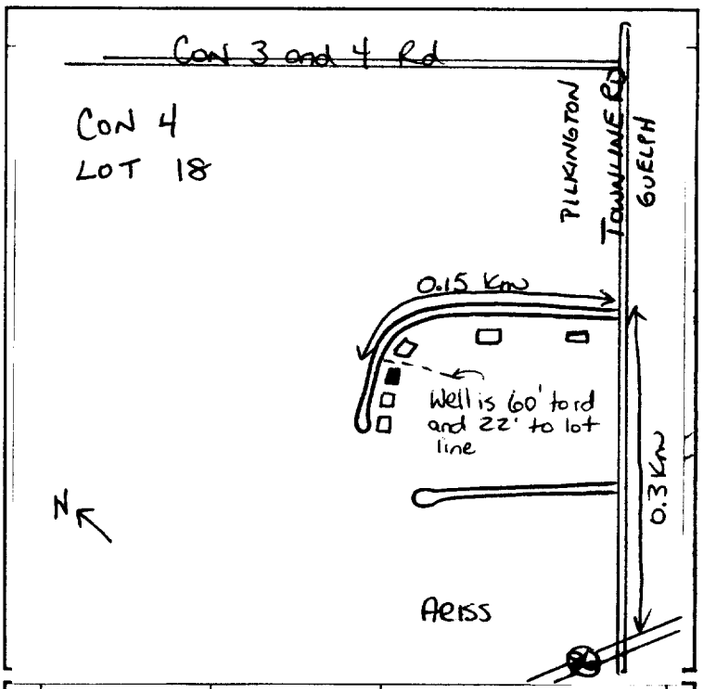
71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0020 GPM	02 HOURS 00 MINS

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

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	80 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☒ SHALLOW ☐ DEEP	040 FEET	0015 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

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Albert Earley	1906
ADDRESS	
202 Neeve St Guelph	
NAME OF DRILLER OR BORER	LICENCE NUMBER
Albert Earley	1906
SIGNATURE OF CONTRACTOR	SUBMISSION DATE
Albert Earley	DAY 10 MO June YR 81

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	1906	260681
DATE OF INSPECTION	INSPECTOR	
Aug 14/85		

REMARKS:

CSS.S8

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pgs

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

11 6707506 MUNICIP 6701 CON GR E 04A

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
[redacted]	Wellington	4	018

[redacted] #1 Ariss, Ontario

DATE COMPLETED: DAY 01 MO 08 YR 81

UTM ZONE | NORTHING 24960 | EASTING | RC 4 | ELEVATION 1130 | RC 4 | 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
		clay stones		0	57
		Lime soft		57	85
		Blue shale		85	90

JUN 23 1986

AUG 21 1986

31 0052 05/12 0085 15/12 9983/7

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0085	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0090	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	0061
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		0061	0095
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			0095
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	KP	000	

SCREEN

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

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	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0030 GPM	01 HOURS 00 MINS

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

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	
GPM	6 FEET	1 ☒ 2 L	UDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☒ SHALLOW ☐ DEEP	020 FEET	0030 GPM

Con 3 + 4 Rd

Con 4
Lot 18
(survey lot #3)

Township Line

Well 50' to rd

Lot 1 | Lot 2 | Lot 3 | Lot 4

200'

.15 Km

Ariss

86

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley — LICENCE NUMBER: 1906

ADDRESS: 202 Reserve St Guelph

NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR — SUBMISSION DATE: DAY ____ MO. ____ YR. ____

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1906 | DATE RECEIVED 01 10 87

DATE OF INSPECTION: Aug 14/85 — INSPECTOR: KP

REMARKS:

CSS...8

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 6707507 MUNICIP. 6701 COR. GRE 04

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PUSLINCH
[redacted]
CON., BLOCK, TRACT, SURVEY, ETC.: PLAN 669 con 4
LOT: 018
RR#1 Aress LIVERPOOL ST. A. GUELPH
DATE COMPLETED: DAY 01 MO 08 YR. 85
UTM NORTHING 8241960 RC 4 ELEVATION 1130 RC 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
	Clay	stones		0	56
	Lime	rock		56	85
	Blue	shale		85	90

JUN 23 1986
AUG 21 1986

31 0056 05 12 0065 15 12 0090 37
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0065	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0090	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
05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0060
			60	0090
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0090
	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: 0030 GPM
DURATION OF PUMPING: 01 HOURS 00 MINS
WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
012 FEET	014 FEET	014 FEET	014 FEET	014 FEET	014 FEET

IF FLOWING GIVE RATE: GPM
PUMP INTAKE SET AT: 60 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: 6 SHALLOW ☐ DEEP
RECOMMENDED PUMP SETTING: 020 FEET
RECOMMENDED PUMPING RATE: 0030 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

CON 3 + 4 Rd

CON 4
LOT 18
(Survey LOT 4)

Township Rd

Well is buried
Corner house

35'
75'
15'

ARISS
86

CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley — LICENCE NUMBER: 1906
ADDRESS: 202 Reserve St Guelph
NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: [signature] — SUBMISSION DATE: DAY 9 MO. 9 YR. 85

MINISTRY OF THE ENVIRONMENT COPY

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 1906 — DATE RECEIVED: 01 10 87
DATE OF INSPECTION: Aug 14 85 — INSPECTOR: KM
REMARKS:

CSS.S8

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pgc

42/81

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

11 6707508 MUNICIP 67011 CON. GR E 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT 018 17&18
Wellington	Pilkington	4	

[redacted] dro) Harvard Ave., Guelph, Ont.

DATE COMPLETED DAY 03 MO ~~Sept~~ 09 YR 81

UTM 17 225120 RC 4 ELEVATION 1140 RC 4 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
Brown	Clay	Gravel		0	12
Gray	Clay	Gravel		12	65
L. Gray	Rock			65	80
M. Gray	Rock			80	95
D. Gray	Rock			95	100

JUN 23 1986

Total Depth 100

731 00/2 00/5 11 | 0065 205 11 | 0080 212 | 0095 214 | 0100 212

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0095	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0100	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 0067	
05"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		67 0100	
	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.)

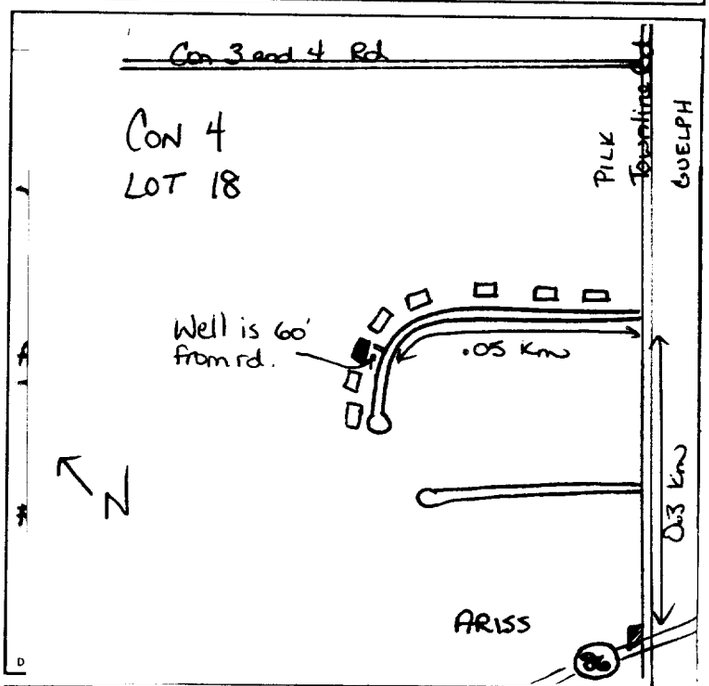
71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0015 GPM	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
014 FEET	050 FEET	014 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	070 FEET	0012 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

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Graham Well Drilling Ltd.	2336
ADDRESS: Guelph, Ontario	
NAME OF DRILLER OR BORER: Robert Graham	LICENCE NUMBER
SIGNATURE OF CONTRACTOR: R.W. Graham	SUBMISSION DATE: DAY 30 MO Sept YR 81

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	2336	06 10 81
DATE OF INSPECTION: Aug 14/85	INSPECTOR: KM	
REMARKS:		

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pgc

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

11 6707909 MUNICIP 67011 CON GR E 04

COUNTY OR DISTRICT: Wellington
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PILKINGTON
CON, BLOCK, TRACT, SURVEY, ETC: 4 Area
018 18
[redacted] 295 SOUTHGATE DR. GUELPH
DATE COMPLETED: DAY 04 MO 06 YR 84
UTM 325020 RC 4 ELEVATION 1130 RC 4 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
Brown		clay and stones		0	59
		Lime rock		59	84
		Gray rock		84	102

JUN 25 1986
AUG 21 1986

31 0059 6084 1512 0084 1512 0102 1212
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0095	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0102	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	0063
			0063	0102
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		63	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.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0020 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

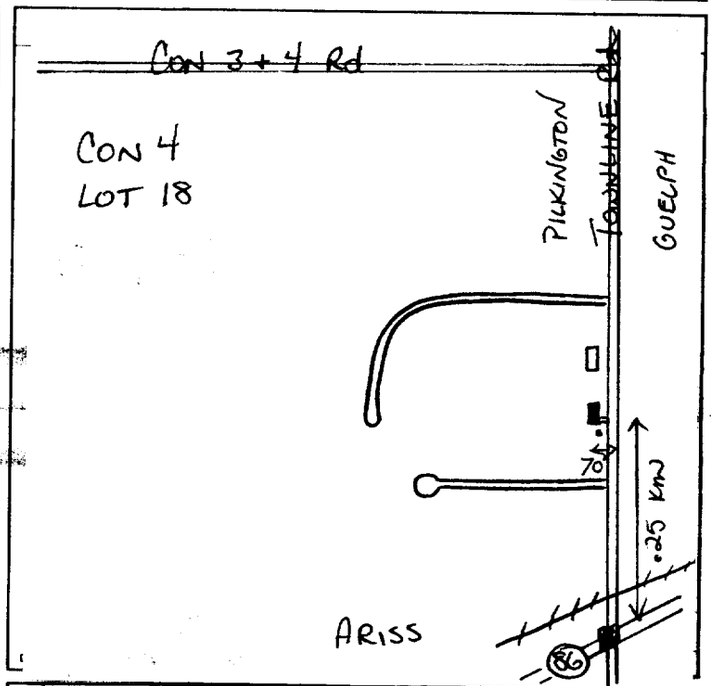
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
015 FEET	040 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	040 FEET	040 FEET	040 FEET	040 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 60 FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 040 FEET
RECOMMENDED PUMPING RATE: 0015 GPM

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 ☐ 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: Albert Earley — LICENCE NUMBER: 1906
ADDRESS: 202 Reeve St Guelph
NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR:
SUBMISSION DATE: DAY 14 MO. 12 YR 84

MINISTRY OF THE ENVIRONMENT COPY

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1906 — DATE RECEIVED 230884
DATE OF INSPECTION: Aug 14/85 — INSPECTOR: KM
REMARKS:

CSS.S8

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pgc

1. PRINT ONLY IN SPACES PROVIDED
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11 — 6707993 — MUNICIP 670 11 — CON. GR E — 04

COUNTY OR DISTRICT: WELL — TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PILKINGTON — CON., ~~BLOCK, TRACT, SURVEY, ETC.~~: 4 — 018 18

[redacted] VERAL DEL. ARISS NOB: 130

DATE COMPLETED: DAY 20 MO 07 YR 84

25260 — RC 4 — ELEVATION 1130 — RC 4 — 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
Brown		clay and stones		0	60
Brown		Lime rock		60	75
Grey		rock		75	100

JUN 25 1986

31 — 0060 605 12 — 0073 615 12 — 010 02 12

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0080	1 ☑ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
~~0086~~	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
0100	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
05	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ ~~OPEN HOLE~~	188	0	0067
~~17~~			~~17~~	~~0100~~
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		67	0100
	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	DURATION OF PUMPING
1 ☑ PUMP 2 ☐ BAILER	0008 GPM	02 HOURS 00 MINS

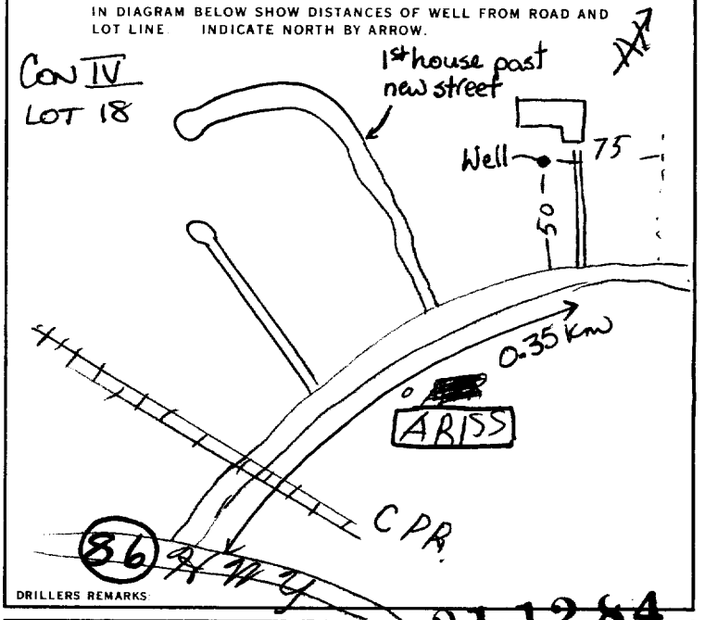
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
018 FEET	060 FEET	1 ☑ PUMPING 2 ☐ RECOVERY	060 FEET	060 FEET	060 FEET	060 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	70 FEET	1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☑ DEEP	070 FEET	0008 GPM

7103 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: Albert Earley — LICENCE NUMBER: 1906

ADDRESS: 202 Reeve St Guelph

NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley — SUBMISSION DATE: DAY 20 MO. 7 YR 84

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 1906 — DATE RECEIVED: 31 12 84

DATE OF INSPECTION: Aug 14 85 — INSPECTOR: KW

REMARKS

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Ministry of the Environment
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WATER WELL RECORD

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11

6708014

MUNICIP. 67011 CON. GRE 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY ETC.	LOT
Wellington	Pilkington	4	~~018~~ 18

[redacted] ~~5 Southgate Drive~~ Lot 7 Plan 689

DATE COMPLETED: DAY 18 MO. 05 ~~May~~ YR. 83

~~25060~~ RC. 4 ELEVATION ~~1130~~ BASIN CODE ~~25~~ ~~General Delivery~~ ARISS

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
Brown		clay and stones Fill		0	4
Black		Top soil		4	6
Gray		clay and stones		6	64
Lime		rock		64	99

JUN 23 1986

31 0004 05 201 | 0006 802 | 0064 20 12 | 0099 15 12

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0098	1 ☐ FRESH #5 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	TO
05 7/8	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ~~☒ OPEN HOLE~~	188	0 / 68	0068 / ~~0099~~
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0099
	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.)

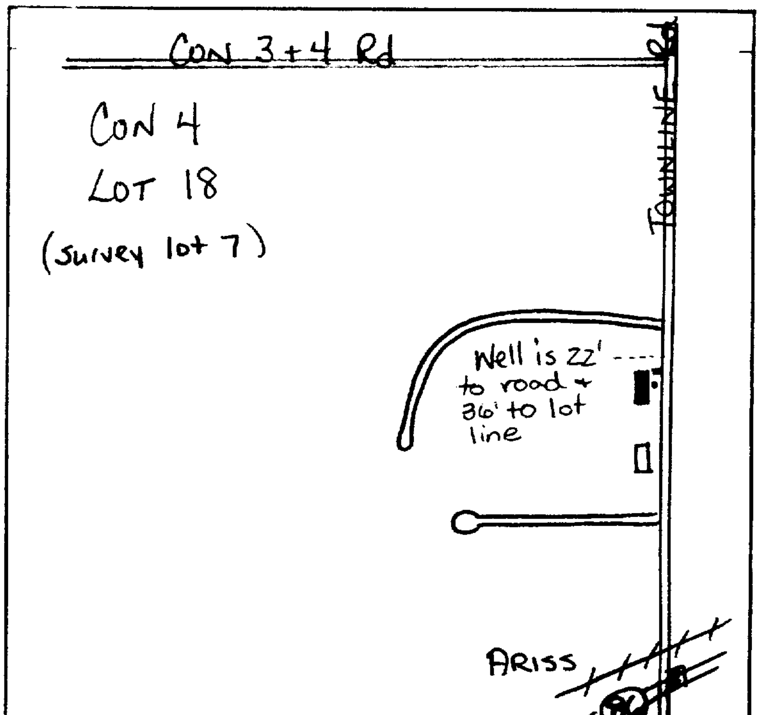
71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE: 0008 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
015 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

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: 060 FEET
RECOMMENDED PUMPING RATE: 0008 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

CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley — LICENCE NUMBER: 1906
ADDRESS: 202 Neeve St Guelph
NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: Albert Earley — SUBMISSION DATE: DAY 19 MO. May YR. 83

OFFICE USE ONLY

DATA SOURCE: 1 — CONTRACTOR: 1906 — DATE RECEIVED: 060783
DATE OF INSPECTION: Aug 1/85 — INSPECTOR: KM
REMARKS: changed from 6707714

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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(11) 6708108 MUNICIP 670 11 CON GR E DH

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
WELLINGTON	PUSLINGTON	4	018

[redacted] 19 ARISS GLEN DR., ARISS

DATE COMPLETED DAY 11 MO 09 YR 84

[illegible] 25 120 RC 4 ELEVATION 1130 RC 4 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
Brown		clay and stones		0	35
		clay and Gravel		35	60
Brown		rock		60	75
Gray		rock		75	90
Blue		rock		90	97

JUN 25 1986

(31) 003 16 05 12 0060 05 11 00 21 6 12 0090 12 00 [illegible] 3 12

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0096	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
05	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	188	0	0065
			~~0097~~	
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		65	0097
	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	0120 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	040 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	040 FEET	040 FEET	040 FEET	040 FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	60 FEET	1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☐ DEEP	040 FEET	0015 GPM

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	LICENCE NUMBER
Albert Earley	1906
ADDRESS: 202 N eeve St Guelph	
NAME OF DRILLER OR BORER	LICENCE NUMBER
Albert Earley	1906
SIGNATURE OF CONTRACTOR: Albert Earley	SUBMISSION DATE: DAY 11 MO SEPT YR 84

LOCATION OF WELL

7104

Con 3 and 4 Rd

Con 4
LOT 18

Toronto Rd

Well is 60' from rd in small bush by driveway

911

200'

N

0.3 Km

ARISS

(86)

OFFICE USE ONLY

SOURCE 1 1906 DATE OF INSPECTION Aug 14/85 INSPECTOR

15 01 85 KW

REMARKS

CSS.S8

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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11 6708201 MUNICIP 670,11 CON. GR E 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT 018 PART 18
WELLINGTON	PILKINGTON	~~E-W~~ CON. 4	

[redacted] GENERAL DEL. ARISS

DATE COMPLETED DAY 24 MO 04 YR 85

UTM 25 160 | MC 14 | ELEVATION 1140 | RC 14 | 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
Brown		clay stones		0	30
Gray		clay stones		30	60
Brown		Lime rock		60	70
Gray		rock		70	75
		Lime rock		75	106

JUN 25 1986 OCT 09 1986

AUG 21 1986

31 003060512 006240512 007060512 007520512 010601512

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13: 105	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
15-18	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
~~188~~ 05	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	~~065~~ 56
			~~65~~ 56	~~106~~ 106
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		656	106
	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	002	03 00

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
016 FEET	045 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	045 FEET	045 FEET	045 FEET	045 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
	80	1 ☒ CLEAR 2 ☐ CLOUDY	☐ SHALLOW ☐ DEEP	060	0010

FINAL STATUS OF WELL 1

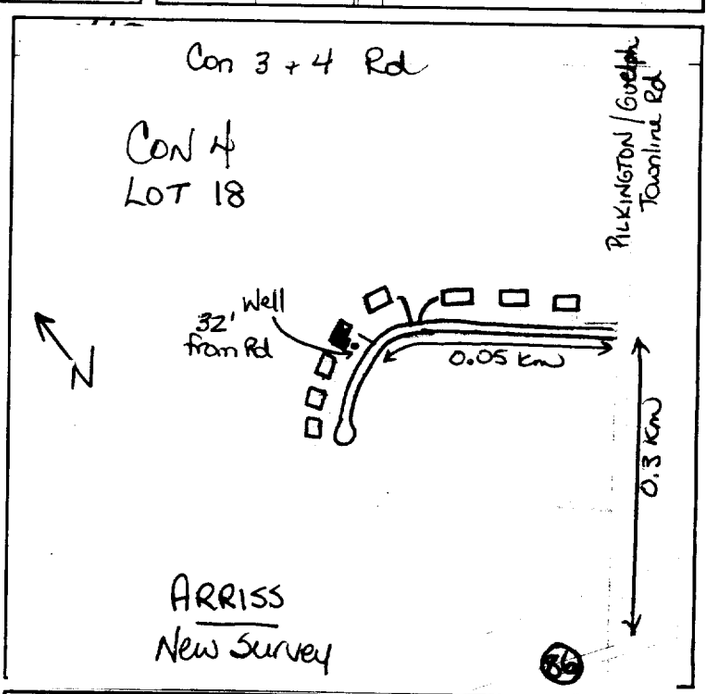
1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

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: Albert Earley — LICENCE NUMBER: 1906

ADDRESS: 202 Reeve St Guelph

NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR: Albert Earley — SUBMISSION DATE: DAY 24 MO April YR 84

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1906 — DATE RECEIVED 18 06 85

DATE OF INSPECTION Aug 14 85 — INSPECTOR KM

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

40P9c

1. PRINT ONLY IN SPACES PROVIDED
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(11) 6708202 MUNICIP 67011 CON. GRE 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., ~~BLOCK, TRACT, SURVEY, ETC.~~	LOT
WELLINGTON	PILKINGTON TWP. ARISS	4	018 18

[redacted] GENERAL DELIVERY ARISS ~~5 SOUTHGATE DR GUELPH~~

DATE COMPLETED DAY 25 MO 04 YR 85

[redacted] 25120 RC 4 ELEVATION 1140 RC 4 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
Brown		clay + stones		0	20
Grey		clay + stones		20	59
Brown		rock		59	75
Grey		rock		75	90
Brown		rock		90	110

JUN 25 1985

(31) 0020605121 0059205121 0075612 0090912 0110612

32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0110	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
06	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188		0059
05	1 ☐ ~~STEEL~~ 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		59	0110
	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: 008 GPM
DURATION OF PUMPING: 02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
011 FEET	060 FEET	060 FEET	060 FEET	060 FEET	060 FEET

WATER LEVELS DURING: 1 ☑ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 90 FEET
WATER AT END OF TEST: 1 ☑ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP
RECOMMENDED PUMP SETTING: 066 FEET
RECOMMENDED PUMPING RATE: 007 GPM

FINAL STATUS OF WELL: 1

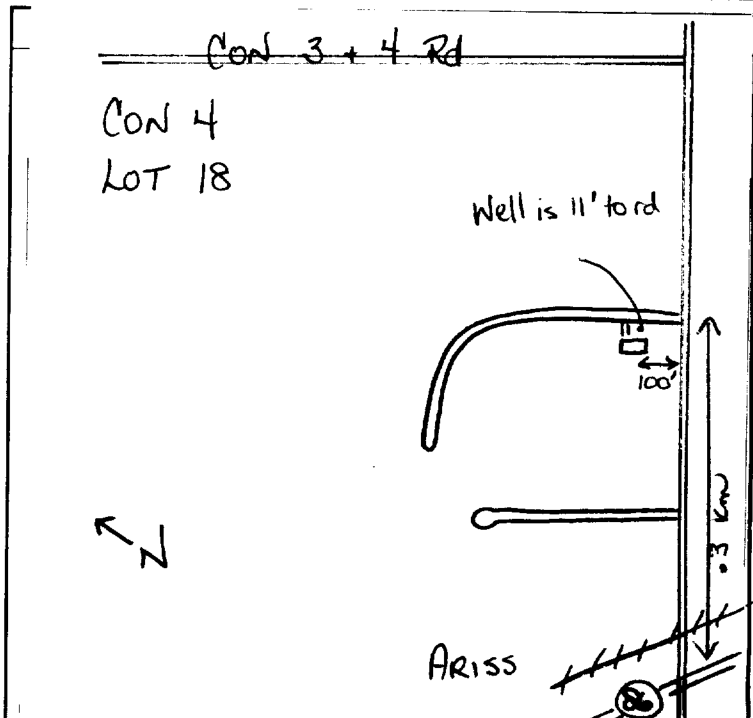
1 ☑ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

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



CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley | LICENCE NUMBER: 1906
ADDRESS: 202 Neeve St. Guelph
NAME OF DRILLER OR BORER: Albert Earley | LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR:
SUBMISSION DATE: DAY 25 MO. 04 YR. 85

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 1906 | DATE RECEIVED: 18 06 85
DATE OF INSPECTION: Aug 14/85 | INSPECTOR: KW
REMARKS: CSS.S8

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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(11) 6708203 MUNICIP 670,11 CON. GR E 04

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PILKINGTON TWP ARISS
CON., BLOCK, TRACT, SURVEY, ETC: 4
LOT: 18
[redacted]
ERAL DELIVERY ARISS
DATE COMPLETED: DAY 18 MO 05 YR 85
25 120 RC 4 ELEVATION 1140 RC 4 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
		Clay + stones		0	55
Brown		rock		55	80
Grey		rock		80	90
Blue		rock		90	100

JUN 25 1985

(31) 0055 0512 0080 6/2 0090 2/2 0100 3/2
(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0100	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	60
			60	100
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		60	0100
	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

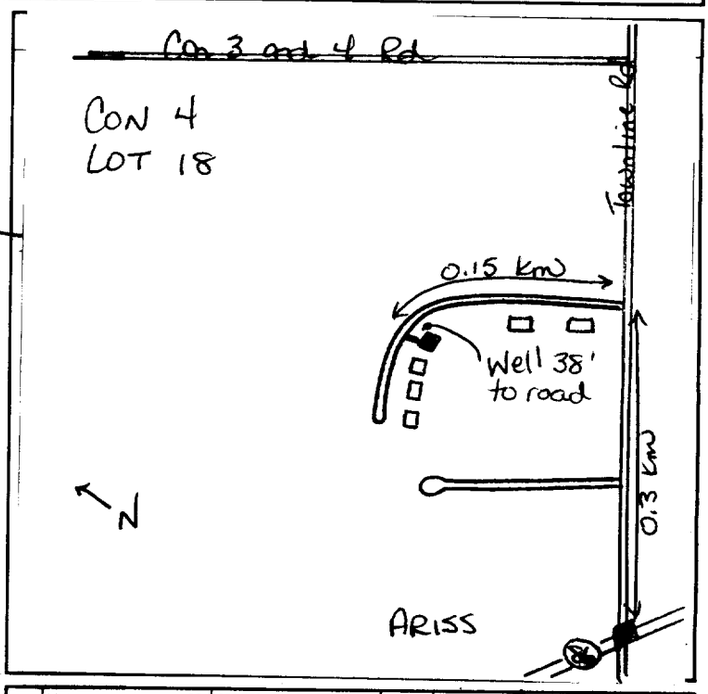
PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☑ PUMP 2 ☐ BAILER	0030 GPM	02 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
02 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	80 FEET	1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☑ DEEP	040 FEET	0015 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



CONTRACTOR

NAME OF WELL CONTRACTOR: Albert Earley — LICENCE NUMBER: 1906
ADDRESS: 202 Neeve St. Guelph
NAME OF DRILLER OR BORER: Albert Earley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: Albert Earley — SUBMISSION DATE: DAY 18 MO 05 YR 85

OFFICE USE ONLY

DATA SOURCE 1 — CONTRACTOR 1906 — DATE RECEIVED 18 06 85
DATE OF INSPECTION: Aug 14/85 — INSPECTOR: KM
REMARKS: CSS.S8

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

20
10 Pgs

1. PRINT ONLY IN SPACES PROVIDED
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(11) 6708204 MUNICIP. 670 11 CON. GR E 04

COUNTY OR DISTRICT: WELLINGTON
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: PUSLINCH
CON., BLOCK, TRACT, SURVEY, ETC.: 4
LOT: 018 98
[redacted] NOB 1B0 GENERAL DELIVERY ARISS
DATE COMPLETED: DAY 05 MO 06 YR 85
ELEVATION: 1140 RC 4 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
Brown		clay and stones		0	59
Brown		rock		59	92
		Broken rock	90 to 92		

JUN 25 [illegible]

(31) 4959605172 0092612

(32)

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0091	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	0064
			~~64~~	~~92~~
04	1 STEEL 2 GALVANIZED 3 CONCRETE 4 OPEN HOLE			64 0697
	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

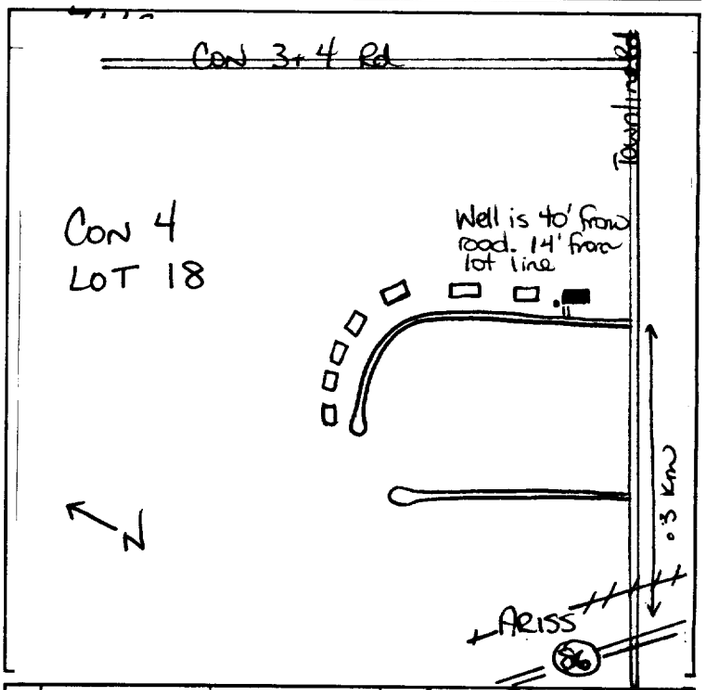
DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

(71) PUMPING TEST

PUMPING TEST METHOD: 1 PUMP 2 BAILER
PUMPING RATE: 0080 GPM
DURATION OF PUMPING: HOURS MINS
STATIC LEVEL: 015 FEET
WATER LEVEL END OF PUMPING: 020 FEET
WATER LEVELS DURING: 1 PUMPING 2 RECOVERY

15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
020 FEET	020 FEET	020 FEET	020 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 60 FEET
WATER AT END OF TEST: 1 CLEAR 2 CLOUDY
RECOMMENDED PUMP TYPE: SHALLOW DEEP
RECOMMENDED PUMP SETTING: 040 FEET
RECOMMENDED PUMPING RATE: 0015 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 5 COMMERCIAL 6 MUNICIPAL 7 PUBLIC SUPPLY 8 COOLING OR AIR CONDITIONING 9 NOT USED OTHER

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: Albert Carley — LICENCE NUMBER: 1906
ADDRESS: 202 Neeve St Guelph
NAME OF DRILLER OR BORER: Albert Carley — LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR
SUBMISSION DATE: DAY 05 MO 06 YR 85

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 1906 DATE RECEIVED: 18 06 85
DATE OF INSPECTION: Aug 14/85 INSPECTOR: KM
REMARKS

CSS.S8

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FORM NO. 0506—4—77 FORM 7

12

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 6708263 MUNICIP CON.

COUNTY OR DISTRICT [redacted] | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE PUSLINGTON TOWNSHIP | CON., BLOCK, TRACT, SURVEY, ETC. CON 4 | LOT 2

[redacted] ENERAL DELIVERY ARRISS | DATE COMPLETED DAY 17 MO 6 YR 85

ING 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
		clay stones		0	58
Brown		rock		58	70
Gray		rock		70	97

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
97	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
[redacted]	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	62
5"			62	97
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

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

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

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

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☐ BAILER	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
12 FEET	15 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
☒ SHALLOW ☐ DEEP	40 FEET	15 GPM

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: Albert Earley | LICENCE NUMBER: 1906

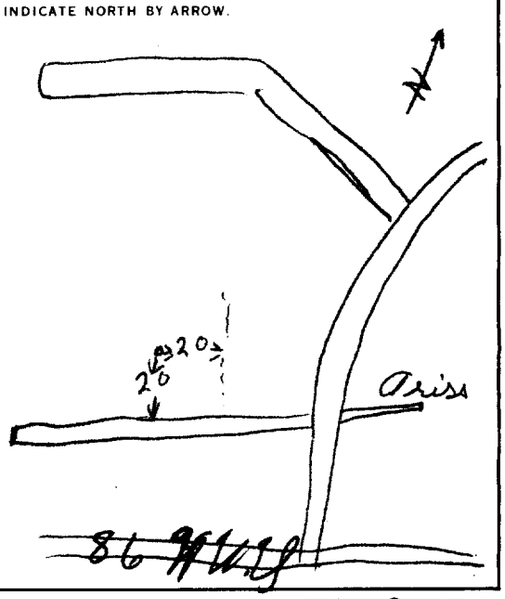
ADDRESS: 202 Meeve St Guelph

NAME OF DRILLER OR BORER: Albert Earley | LICENCE NUMBER: 1906

SIGNATURE OF CONTRACTOR | SUBMISSION DATE DAY 17 MO. 6 YR. 85

7120 LOCATION OF WELL

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



DRILLERS REMARKS

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | DATE RECEIVED 03 09 85

DATE OF INSPECTION | INSPECTOR

REMARKS

CSS.ES

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FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

40 Pge

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

(11) 6708379 | MUNICIP 67011 | CON GR E | LOT 04

COUNTY OR DISTRICT: Wellington
TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Puslinch
CON, BLOCK, TRACT, SURVEY, ETC: C4
LOT: 017 17
DATE COMPLETED: DAY 02 MO Sept YR 83
[redacted], ARISS
UTM: 25 160 | RC | ELEVATION 1140 | RC | 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
		clay stones		0	60
		Lime rock		60	93
Blue		Bt rock		93	97

JUN 25 1986

(21) 0860 05 12 | 0093 15 | 0097 3/2
32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
096	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
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 [redacted]E	188	0	06
			65	97
05	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		6	97
	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 GPM	DURATION OF PUMPING HOURS	MINS
1 ☑ PUMP 2 ☐ BAILER	0025	02	00

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
10 FEET	30 FEET	1 ☑ PUMPING 2 ☐ RECOVERY	030 FEET	30 FEET	030 FEET	30 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
	60	1 ☑ CLEAR 2 ☐ CLOUDY	☐ SHALLOW ☑ DEEP	040	0020

FINAL STATUS OF WELL (54)

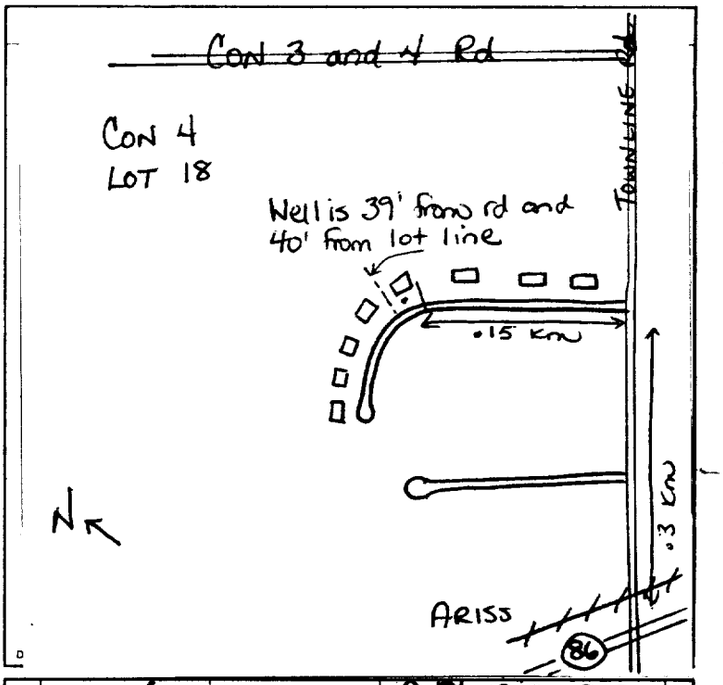
1 ☑ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED POOR QUALITY; 7 ☐ UNFINISHED

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) 7

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: Albert Earley | LICENCE NUMBER: 1906
ADDRESS: 202 Mcnee St Guelph
NAME OF DRILLER OR BORER: Albert Early | LICENCE NUMBER: 1906
SIGNATURE OF CONTRACTOR: Albert Early | SUBMISSION DATE: DAY 2 MO Sept YR 83

OFFICE USE ONLY

DATA SOURCE 1 (58) | CONTRACTOR 1906 (59-62) | DATE RECEIVED 07 10 83 (66-68)
DATE OF INSPECTION: Aug 14/85 | INSPECTOR: KW
REMARKS: changed from 6603579

FORM NO. 0506—4—77 FORM 7

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

6708453

1. PRINT ONLY IN SPACES PROVIDED
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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Wellington	Pilkington	G.R.E. Con. 4	18

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Verdone Homes Ltd.	400 Speedvale Ave. W. Guelph, Ont.	DAY 9 MO 5 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
brown	clay			0	17
grey	clay	stones		17	63
brown	limestone			63	92

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
92	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	66
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		66	92
	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 ☐ AIR 2 ☐ BAILER	25 GPM	1 HOURS ___ MINS

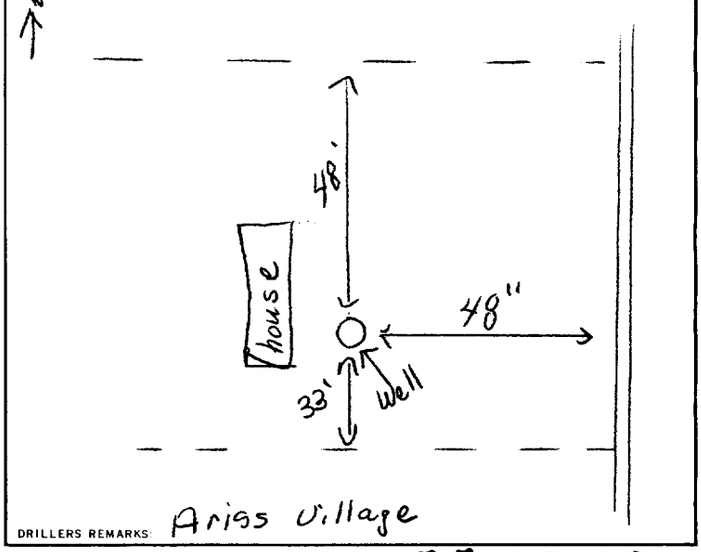
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
12 FEET	14 FEET	1 ☐ PUMPING 2 ☐ RECOVERY	FEET	FEET	FEET	14 FEET

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
☒ SHALLOW ☐ DEEP	30 FEET	25 GPM

LOCATION OF WELL

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



DRILLERS REMARKS: Arriss Village

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
Hugh Morrison Water Well Drilling Ltd.	

ADDRESS
R.R. 5 Mount Forest, Ontario.

NAME OF DRILLER OR BORER	LICENCE NUMBER
Hugh Morrison	3740

SIGNATURE OF CONTRACTOR	SUBMISSION DATE
Hugh Morrison	DAY ___ MO. ___ YR. ___

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
		110686

DATE OF INSPECTION	INSPECTOR

REMARKS

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Ministry of the Environment
Ontario

76/86

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The Ontario Water Resources Act

WATER WELL RECORD

6708587

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	PILKINGTON	GRE CON 4	4

14 WOODBROUGH Rd. GUELPH, ONT

DATE COMPLETED: DAY 018 MO. 011 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
BROWN	SAND	CLAY		0	18
GREY	CLAY	GRAVEL		18	73
"	ROCK			73	85
L. BROWN	"			85	98
M. BROWN				98	116
			TOTAL DEPTH	116	ft.

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
116	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	75
5	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		75	116
	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	10 GPM	1 HOURS ___ MINS

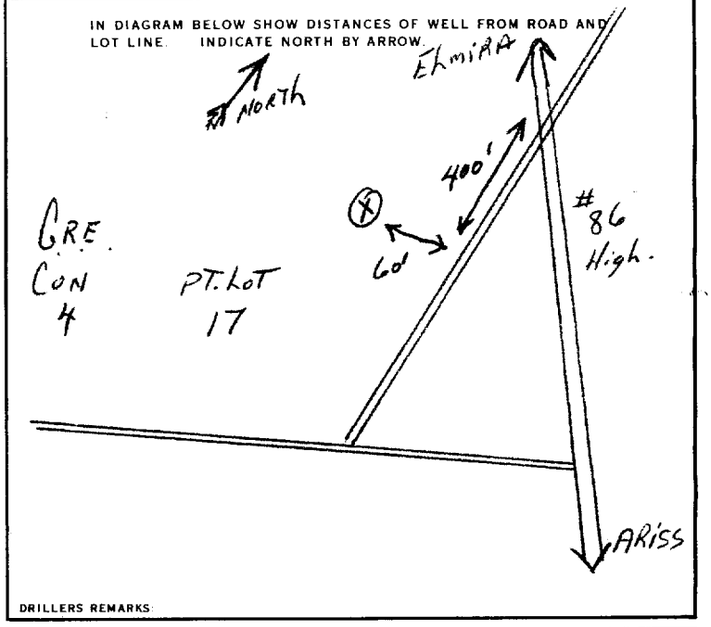
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
10 FEET	50 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	10 FEET	FEET	FEET	FEET

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	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	LICENCE NUMBER
GRAHAM WELL DRILLING LTD.	2336

ADDRESS: GUELPH, ONT

NAME OF DRILLER OR BORER	LICENCE NUMBER
R. GRAHAM	

SIGNATURE OF CONTRACTOR: R. Graham

SUBMISSION DATE: DAY 030 MO. 011 YR. 86

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
		051286

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 6709196 MUNICIP CON. BLOCK 23

COUNTY OR DISTRICT: Wellington Co. | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Pilkington Twp. | CON., BLOCK, TRACT, SURVEY, ETC: Con 4 | LOT: 17

[redacted] RR 2 Erin Ont.

DATE COMPLETED: DAY 16 MO 10 YR 87

HING | 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
	Clay & Limestone	Stones		0	55
				55	96

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
95	1 ☒ FRESH 3 ☐ SULPHUR 4 ☐ 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"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	59
4"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		59	96
	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: 12 GPM

DURATION OF PUMPING: 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
20 FEET	30 FEET		FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE: GPM

PUMP INTAKE SET AT: FEET

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

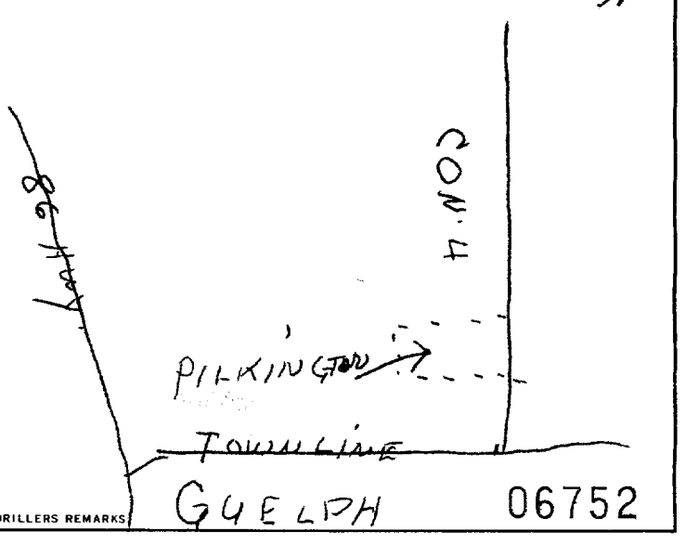
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

RECOMMENDED PUMP SETTING: 30 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: 06752

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 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING ☐ OTHER ☐ 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: HARVEY HILL | LICENCE NUMBER: 2564

ADDRESS: RR1 ELORA ONT.

NAME OF DRILLER OR BORER: Donald Hill | LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Harvey Hill | SUBMISSION DATE: DAY 15 MO 4 YR 88

OFFICE USE ONLY

CONTRACTOR: 2564 | DATE RECEIVED: APR 20 1988

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 — 6709905 — MUNICIP 6701 — CON. G.R. E — 104

COUNTY OR DISTRICT: [redacted] — TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Pilkington — CON: 4 — BLOCK, TRACT, SURVEY, ETC. — LOT: 17

ADDRESS OF WELL LOCATION: RR#1 Ariss Ont. NOB 1B0 — DATE COMPLETED: DAY 18 MO 8 YR 89

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
Brown	Top Soil			0	1
Grey	clay & Gravel			1	60
	Loose Gravel			60	80
Grey	clay & Granite	Bolder			
Light	Brown Rock			80	95
Med.	Grey Rock			95	100
Light	Brown Rock			100	106
		6" casing shoe			

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
106	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
6"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC	.188	0	81
6"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		81	106
	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 — PUMPING RATE: 9 GPM — DURATION OF PUMPING: 1 HOURS ___ MINS

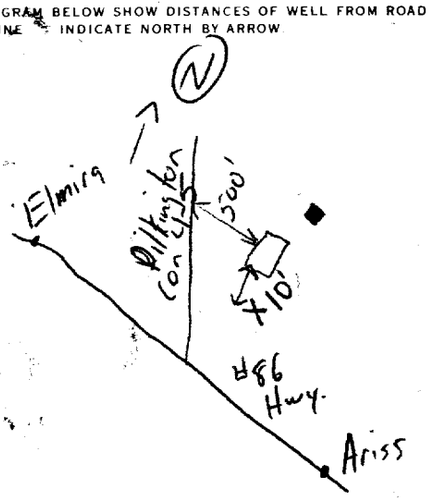
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☒ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
47 FEET	FEET	47 FEET	FEET	FEET	FEET

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: 85 FEET — RECOMMENDED PUMPING RATE: 9 GPM

LOCATION OF WELL

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



57750

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: Henry R. Hanlon Well Drilling — WELL CONTRACTOR'S LICENCE NUMBER: 2063

ADDRESS: RR#5 Guelph Ont.

NAME OF WELL TECHNICIAN: Henry R Hanlon — WELL TECHNICIAN'S LICENCE NUMBER: T-0590

SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature] — SUBMISSION DATE: DAY 01 MO 09 YR 89

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 2663 — DATE RECEIVED: AUG 31 1989

DATE OF INSPECTION — INSPECTOR

REMARKS

CSS.ES

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FORM NO. 0506 (11/86) FORM 9

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 (1 2)

6712028

Municipality 67011 (10 14) Con. GR E 03 (15 22 23 24)

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
[redacted]	PILKINGTON TWP	CON 3 EGR	17
	Address RR #2 ARISS ONT N0B 1B0	**Date completed** 30 (day) 07 (month) 96 (year) (48-53)	

Northing RC Elevation RC Basin Code (i ii iii iv)

21 (2 T M 10 12 17 18 24 25 26 30 31 47)

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth – feet From	Depth – feet To
BROWN	CLAY	SAND, STONES		0	17
GREY	CLAY	ROCKS		17	75
GREY	LIMESTONE			75	96

31

32 (12 14 19 21 32 43 64 75 80)

41 WATER RECORD

Water found at – feet	Kind of water		
90' (10-13) TO 96'	1 [X] Fresh	3 [ ] Sulphur	14
	2 [ ] Salty	4 [ ] Minerals	
		5 [ ] Gas	
(15-18)	1 [ ] Fresh	3 [ ] Sulphur	19
	2 [ ] Salty	4 [ ] Minerals	
		6 [ ] Gas	
(20-23)	1 [ ] Fresh	3 [ ] Sulphur	24
	2 [ ] Salty	4 [ ] Minerals	
		6 [ ] Gas	
(25-28)	1 [ ] Fresh	3 [ ] Sulphur	29
	2 [ ] Salty	4 [ ] Minerals	
		6 [ ] Gas	
(30-33)	1 [ ] Fresh	3 [ ] Sulphur	34
	2 [ ] Salty	4 [ ] Minerals	
		6 [ ] Gas	

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
(10-11) 6.250	1 [X] Steel (12) 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic	.188	72' (13 17)	78'
(17-18) 6.125	1 [ ] Steel (19) 2 [ ] Galvanized 3 [ ] Concrete 4 [X] Open hole 5 [ ] Plastic		78'	96' (20-23)
(24-25)	1 [ ] Steel (26) 2 [ ] Galvanized 3 [ ] Concrete 4 [ ] Open hole 5 [ ] Plastic			(27 30)

SCREEN

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

61 PLUGGING & SEALING RECORD

[X] Annular space [ ] Abandonment

Depth set at – feet From	To	Material and type (Cement grout, bentonite, etc.)
0 (10-13)	20 (14-17)	HOLEPLUG
(18-21)	(22-25)	
(26-29)	(30-35)	(80)

71 PUMPING TEST

Pumping test method (10) 1 [X] Pump 2 [ ] Bailer

Pumping rate (11-14) 10 GPM

Duration of pumping 1 (15 16) Hours 0 (17 18) Mins

Water levels during 1 [X] Pumping 2 [ ] Recovery (25)

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
7' 9" (19-21) feet	18' 3" (22-24) feet	15' 7" (26 28) feet	16' 9" (29-31) feet	17' 7" (32 34) feet	18' 3" (35-37) feet

If flowing give rate (38-41) GPM

Pump intake set at 40 feet

Water at end of test (42) [X] Clear [ ] Cloudy

Recommended pump type [ ] Shallow [X] Deep

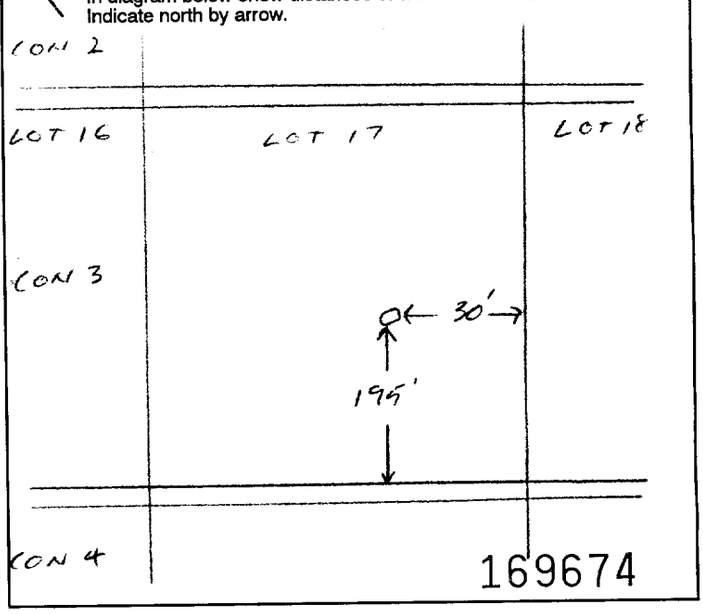
Recommended pump setting (43-45) 40 feet

Recommended pump rate (46 49) 10 GPM

(50-53)

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 [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 (55-56)

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 (57)

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	Well Contractor's Licence No.
MEADOWBANK DRILLING SERVICE	6865
Address Box 416 FLORA ONT N0B 1S0	
Name of Well Technician Jim BROADFOOT	**Well Technician's Licence No.** T0370
Signature of Technician/Contractor Jim Broadfoot	**Submission date** day mo yr

MINISTRY USE ONLY

Data source (58)	Contractor (59-62) 6865	Date received (63-68) AUG 22 1996 (80)
Date of inspection	Inspector	
Remarks		CSS.ES

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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 | 6712315 | Municipality 67005 | Con. DIV D 06

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
WELLINGTON	GUELPH TWP	DIV D CON VI	29

Owner's surname	First name	Address	Date completed
FRISIA FARMS LTD		RR #1 ARISS ONT N0B 1A0	31 (day) 07 (month) 97 (year)

21 | 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	To
	TOP SOIL			0	2
GREY	CLAY +	ROCKS		2	46
GREY	HARDPAN			46	53
GREY	CLAY	GRAVEL		53	73
BROWN	LIMESTONE			73	89
GREY	LIMESTONE			89	108
BROWN	LIMESTONE			108	140

31
32

41 WATER RECORD

Water found at - feet	Kind of water
95	☑ Fresh
110	☑ Fresh
140	☑ Fresh

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	To
6 1/4	☑ Steel	.188	+2	78
6 1/8	☑ Open hole		78	140

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	To	Material and type (Cement grout, bentonite, etc.)
0	20	BENTONITE

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
☑ Pump ☐ Bailer	6 GPM	1 Hours 0 Mins

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
21' 5" feet	76' 6" feet	55' 7" feet	68' 4" feet	74' 0" feet	76' 6" feet

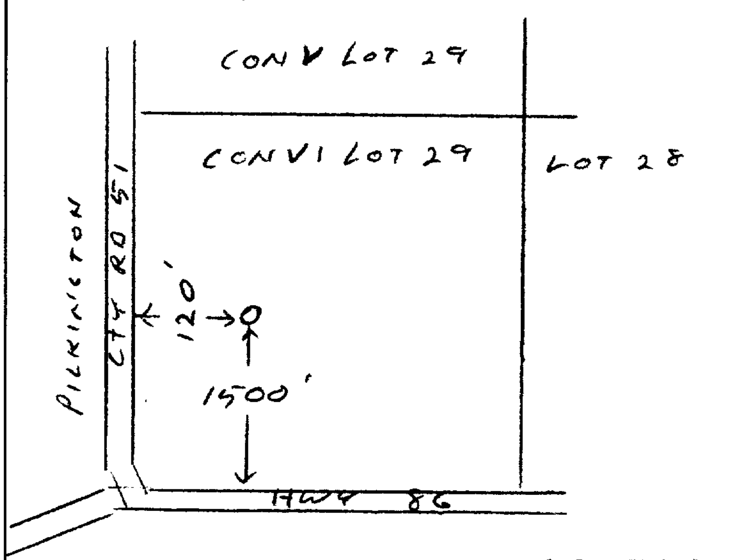
Water levels during: ☐ Pumping ☐ Recovery

If flowing give rate: GPM | Pump intake set at: 100 feet | Water at end of test: ☑ Clear ☐ Cloudy

Recommended pump type: ☐ Shallow ☑ Deep | Recommended pump setting: 100 feet | Recommended pump rate: 6 GPM

LOCATION OF WELL

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



184506

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor	Well Contractor's Licence No.
MEADOWBANK DRILLING SERVICES	6865

Address: BOX 416 ELORA ONT N0B 1S0

Name of Well Technician	Well Technician's Licence No.
JIM BROADFOOT	T0370

Signature of Technician/Contractor: Jim Broadfoot | Submission date: 06 (day) 08 (mo) 97 (yr)

MINISTRY USE ONLY

Data source | Contractor 6865 | Date received AUG 14 1997
Date of inspection | Inspector
Remarks
CSS.S8

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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 — 6712486 — Municipality 6701 1 — Con CON 04

County or District [redacted] | Township/Borough/City/Town/Village PILKINGTON | Con | block | tract | survey, etc. 4 | Lot 17

Address R.R.#1 ARISS ONT. | Date completed 06 03 98 (day month 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
	TOP SOIL			0	2
BROWN	CLAY	STONES		2	20
BROWN	CLAY	SAND, GRAVEL		20	70
LIGHT BROWN	LIMESTONE		SOFT, BROKEN	70	78
MED BROWN	LIMESTONE			78	85
GREY	LIMESTONE			85	95
GREY BROWN	LIMESTONE			95	115
MED BROWN	LIMESTONE			115	121
			TOTAL = 121 FT.		
		6" CASING DRIVE SHOE			

31

32

41 WATER RECORD

Water found at – feet	Kind of water
85	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
115	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
121	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 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+3	78
6"	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		78	121
	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	20	BENSEAL

71 PUMPING TEST

Pumping test method: 1 ☑ Pump 2 ☐ Bailer | Pumping rate 15 GPM | Duration of pumping 1 Hours Mins

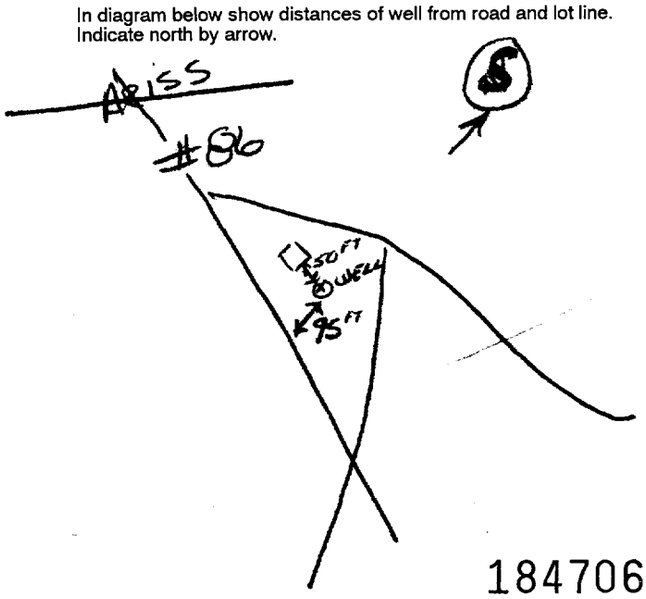
Static level	Water level end of pumping	Water levels during: 1 ☑ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
30 feet	80 feet	40 feet	60 feet	80 feet	80 feet

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

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☑ Deep	100 feet	15 GPM

LOCATION OF WELL

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



184706

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 used 10 ☐ Other

METHOD OF CONSTRUCTION

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

Name of Well Contractor	Well Contractor's Licence No.
HANLON WELL DRILLING LTD	2663
Address: R.R. #5 GUELPH ONT N1H 6J2	
Name of Well Technician: HENRY R HANLON	Well Technician's Licence No. 1-0590
Signature of Technician/Contractor	Submission date: 01 04 98 (day mo yr)

MINISTRY USE ONLY

Data source	Contractor	Date received
	2663	MAR 25 1998
Date of inspection	Inspector	
Remarks		

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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 | 6712529 | Municipality 67011 | Con. GR E 04

County or District [redacted] | Township/Borough/City/Town/Village PILKINGTON | Con. block tract survey, etc. 4 | Lot 17

Address RR#1 DRISS ONT. | Date completed 14/05/98 (day/month/year)

21 | T M | Northing | 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
	TOP SOIL			0	2
BROWN	CLAY	SAND + GRAVEL		2	81
MED.	BROWN	LIMESTONE		81	100
MED GREY BROWN	LIMESTONE			100	120
MED BROWN	LIMESTONE			120	140
			TOTAL = 140		
		6" CASING	DRIVE SHOE		

31

32

41 WATER RECORD

Water found at – feet	Kind of water
100	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
120	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
140	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 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+2	84
6"	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		84	140
	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	20	BENSEAL

71 PUMPING TEST

Pumping test method: 1 ☑ Pump 2 ☐ Bailer | Pumping rate: 10 GPM | Duration of pumping: ..... Hours ..... Mins

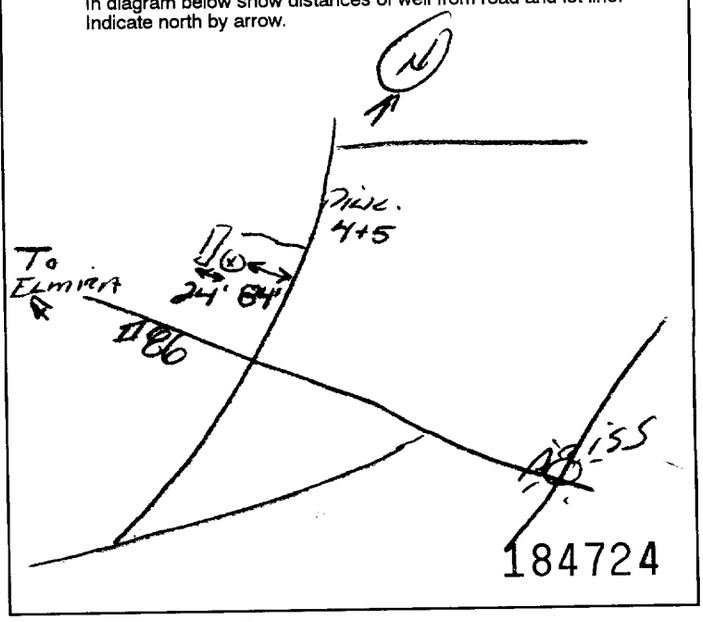
Static level	Water level end of pumping	Water levels during: 1 ☑ Pumping 2 ☐ Recovery — 15 minutes	30 minutes	45 minutes	60 minutes
80 feet	120 feet	90 feet	100 feet	110 feet	120 feet

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: 130 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.



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 used
10 ☐ Other .....

METHOD OF CONSTRUCTION

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

Name of Well Contractor: HAYHOE WELL DRILLING LTD | Well Contractor's Licence No.: 2663

Address: RR #5 GUELPH ONT. N1H 6J2

Name of Well Technician: HENRY R HAYHOE | Well Technician's Licence No.: T-0590

Signature of Technician/Contractor: [signature] | Submission date: 01 05 98 (day mo yr)

MINISTRY USE ONLY: Data source | Contractor: 2663 | Date received: MAY 22 1998

Date of inspection | Inspector

Remarks

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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 | 6712873 | Municipality 67005 | Con DIM D 06

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	GUELPH	VI	29
	Address	Date completed	26 day 10 month 98 year

21 | 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
BR.	CLAY	STONES		0	22
GR	CLAY	STONES		22	28
	SAND	GRAVEL		28	32
GR.	CLAY	STONES		32	68
	ROCK LEDGES			68	72
BR & GR	LIMESTONE			72	100

31
32

41 WATER RECORD

Water found at – feet	Kind of water
78-83	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
90 TO 100	☑ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
6"	☑ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	.188	0	75
6 1/8	☐ Steel ☐ Galvanized ☐ Concrete ☑ Open hole ☐ Plastic		75	100
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ 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	To	Material and type (Cement grout, bentonite, etc.)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
☐ Pump ☐ Bailer AIR	15 GPM	1 Hours 30 Mins

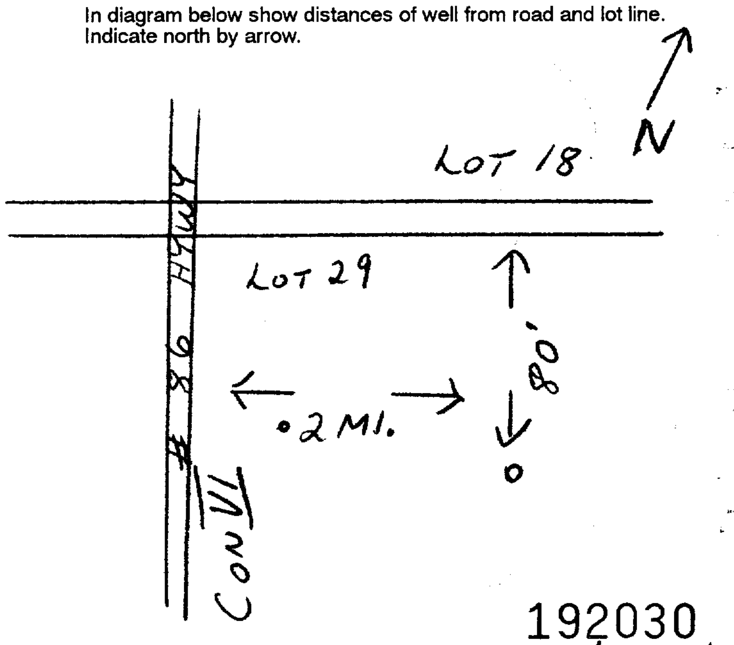
Static level	Water level end of pumping	Water levels during ☑ Pumping ☐ Recovery: 15 minutes	30 minutes	45 minutes	60 minutes
30 feet	40 feet	40 feet	40 feet	40 feet	40 feet

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

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☑ Deep	60 feet	15 GPM

LOCATION OF WELL

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



192030
TWC 100+ replaced 18/401

FINAL STATUS OF WELL

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

WATER USE

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

METHOD OF CONSTRUCTION

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

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: 26 day 12 mo 98 yr

MINISTRY USE ONLY

Data source	Contractor	Date received
	3317	JAN 07 1999
Date of inspection	Inspector	
Remarks		CSS.ES9

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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 — 6712876 — Municipality 67911 — Con.

County or District: WELLINGTON
Township/Borough/City/Town/Village: PILKINGTON
Con block tract survey, etc.: W
Lot: 18
Address: # 5742 CTY RD. #39, RR#2 ARISS ONT. N0B 1B0
Date completed: 13 (day) 11 (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
BR.	CLAY, SAND,	GRAVEL LAYERS		0	16
GR.	CLAY	STONES		16	52
LT. BR	LIMESTONE			52	68
GR.	LIMESTONE			68	95
BR.	LIMESTONE			95	285
GR.	LIMESTONE			285	309

31
32

41 WATER RECORD

Water found at – feet	Kind of water
300 FT 305	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	562"
6 1/8	1 [ ] Steel 2 [ ] Galvanized 3 [ ] Concrete 4 [x] Open hole 5 [ ] Plastic		562"	309
	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

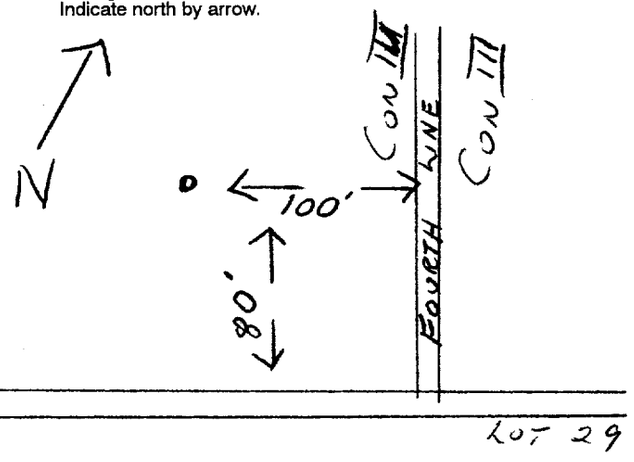
Pumping test method: 1 [ ] Pump 2 [ ] Bailer — AIR
Pumping rate: 7 GPM
Duration of pumping: 1 Hours 30 Mins

Static level	Water level end of pumping	Water levels during: 1 [x] Pumping 2 [ ] Recovery			
20 feet	147 feet	15 minutes: 147 feet	30 minutes: 147 feet	45 minutes: 147 feet	60 minutes: 147 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: [x] Clear [ ] Cloudy
Recommended pump type: [ ] Shallow [x] Deep
Recommended pump setting: 175 feet
Recommended pump rate: 7 GPM

LOCATION OF WELL

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



192042

TWC 10+

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: LANG WELL DRILLING LTD.
Well Contractor's Licence No.: 3317
Address: R.R.1 HILLSBURGH ONT.
Name of Well Technician: ROY LANG
Well Technician's Licence No.: T-0158
Signature of Technician/Contractor: R. Lang
Submission date: 26 (day) 12 (mo) 98 (yr)

MINISTRY USE ONLY

Data source: 58
Contractor: 3317 (59-62)
Date received: JAN 07 1999 (63-68)
Date of inspection:
Inspector:
Remarks: CSS.ES9

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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 **6713334** Municipality 67011 Con. GR E 05

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	PILKINGTON TWP	CON 5 SGR	17
	Address: R.R # 1, ACTON	Date completed: 26 day 04 month 00 year	

21 UTM 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
BROWN	CLAY	STONES		0	17
GREY	CLAY	GRAVEL		17	80
GREY	LIMESTONE			80	101
WHITE	LIMESTONE			101	123
BROWN	LIMESTONE	GREY LIMESTONE LAYERS.		123	298

31

32

41 WATER RECORD

Water found at - feet	Kind of water
120	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
288	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ 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
Ø6"	1 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+1	83
Ø6"	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		83	298
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
N/A		
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	39	BENSEAL

71 PUMPING TEST

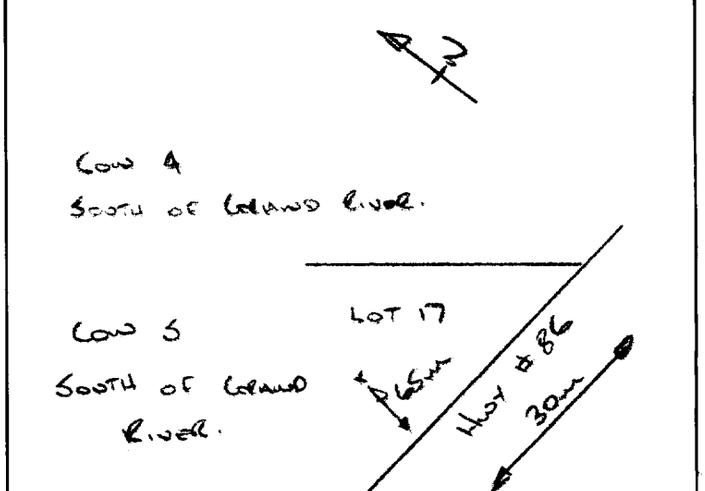
Pumping test method: ☐ Pump ☑ Bailer
Pumping rate: 12 GPM
Duration of pumping: 1 Hours 30 Mins

Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☑ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
12 feet	feet	feet	feet	26 feet	21 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	85 feet	☑ Clear ☐ Cloudy
Recommended pump type: ☐ Shallow ☑ Deep	Recommended pump setting: 85 feet	Recommended pump rate: 12 GPM

LOCATION OF WELL

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



214148

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.
HIGHLAND WATER WELLS	2576
Address: BOX 141, DURHAM, ONT. N0G 1R0	
Name of Well Technician	Well Technician's Licence No.
NIGEL POPPLETON	T230
Signature of Technician/Contractor	Submission date: day 5 mo 5 yr 00

MINISTRY USE ONLY

Data source	Contractor	Date received
	2576	MAY 15 2000
Date of inspection	Inspector	
Remarks		

CSS.ES0

0506 (11/98) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

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 **6713945** Municipality 6701 1 Con. GR E

County or District: WELLINGTON
Township/Borough/City/Town/Village: GUELPH / ERAMOSA
Con block tract survey, etc.: PLAN 689
Lot: 7
Address: 2 PINKINGTON
Date completed: 07 day 12 month 01 year

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
BLACK	TOP SOIL			0	2
BROWN	CLAY	STONES / GRAVEL		2	58
WHITE	LIMESTONE			58	102
			TOTAL = 102 FT.		
		6 1/4" CASING	DRIVE SHOE		

31
32

41 WATER RECORD

Water found at - feet	Kind of water
90	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
102	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
UNKNOWN	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 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+1	58
5 1/2	1 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	55	75
5 1/2	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		75	102

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	2	GENSEAL

PUMPING TEST

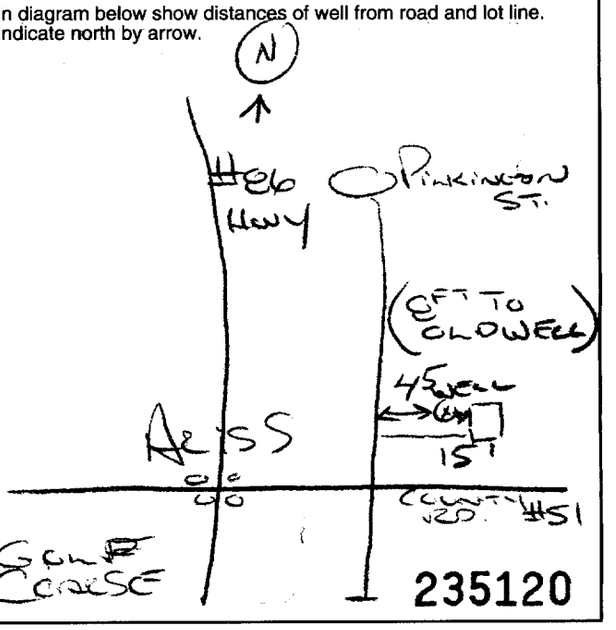
71 Pumping test method: 1 ☑ Pump 2 ☐ Bailer
Pumping rate: 20 GPM
Duration of pumping: 1 Hours Mins

Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
17 feet	18 feet	☐ Pumping ☐ Recovery	16 feet	18 feet	18 feet	16 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: 50 feet
Recommended pump rate: 20 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 ☑ 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: HANNEN WELL DRILLING LTD
Well Contractor's Licence No.: 2663
Address: RR #5 GUELPH N1H 6J2
Name of Well Technician: JOHN WHITNEY
Well Technician's Licence No.: 2790
Signature of Technician/Contractor:
Submission date: 27 day 12 mo 01 yr

MINISTRY USE ONLY

Data source: Contractor 2663
Date received: DEC 27 2001
Date of inspection:
Inspector:
Remarks:

0506 (07/00) Front Form 9

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Ontario **Ministry of the Environment**

The Ontario Water Resources Act
WATER WELL RECORD

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

11 (1 2) **6714027**

Municipality 67005 (10 14) Con. DIV D (15 22 23 24) 06

County or District [redacted] | Township/Borough/City/Town/Village GUELPH / FRAMOSA | Con block tract survey, etc. 6 DIV-D (25-27) | Lot 29

Address 54 MONTBECK GUELPH | Date completed 16 (day) 02 (month) 02 (year) (48-53)

21 (1 2) | UTM (10) | Northing (12 17) | RC (18) | Elevation (24 25) | RC (26) | Basin Code (30) | ii (31) | 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	STONES		0	20
GREY	CLAY	SAND + STONES		20	64
BIEGE	LIMESTONE		SOFT + BROKEN	64	67
BROWN + GREY	LIMESTONE			67	102
			TOTAL = 102 FT.		
		6 1/4" CASING	DRIVE SHOE		

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

41 WATER RECORD

Water found at - feet	Kind of water
80 (10-13)	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
102 (15-18)	1 ☑ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
(20-23) HAT STRUCK	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4 (10-11)	1 ☑ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	+2	67 (13-16)
6 1/4 (17-18)	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		67	102 (20-23)
(24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33) | Diameter (34-38) inches | Length (39-40) feet

Material and type | Depth at top of screen (41-44) feet (30)

61 PLUGGING & SEALING RECORD

☑ Annular space ☐ Abandonment

Depth set at - feet From	To	Material and type (Cement grout, bentonite, etc.)
0 (10-13)	20 (14-17)	BENSEAL
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10) 1 ☑ Pump 2 ☐ Bailer | Pumping rate (11-14) 25 GPM | Duration of pumping (15-16) 1 Hours (17-18) Mins

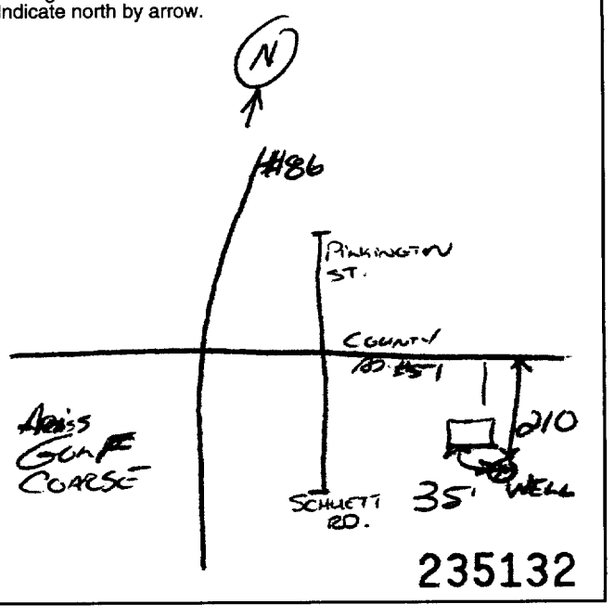
Static level	Water level end of pumping	Water levels during (25) 1 ☑ Pumping 2 ☐ Recovery	15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
27 feet (19-21)	27 feet (22-24)		27 feet	27 feet	27 feet	27 feet

If flowing give rate (38-41) GPM | Pump intake set at feet | Water at end of test (42) ☑ Clear ☐ Cloudy

Recommended pump type ☐ Shallow ☑ Deep | Recommended pump setting (43-45) 80 feet | Recommended pump rate (46-49) 25 GPM (50-53)

LOCATION OF WELL

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



235132

FINAL STATUS OF WELL (54)

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

WATER USE (55-56)

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

METHOD OF CONSTRUCTION (57)

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

Name of Well Contractor HANNON WELL DRILLING LTD | Well Contractor's Licence No. 2663

Address RR#5 GUELPH N1H 6J2

Name of Well Technician JOHN WHITNEY | Well Technician's Licence No. T-2790

Signature of Technician/Contractor | Submission date 01 02 02 (day mo yr)

MINISTRY USE ONLY

Data source (58) | Contractor 2663 (59-62) | Date received APR 19 2002 (63-68) (80)

Date of inspection | Inspector

Remarks CSS.ES2

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0506 (07/00) Front Form 9

Ontario Ministry of the Environment

04-37 K

Well T ... mber below)
A 005645
A 005645

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

MUN 6305 CON D V D 06 LOT 29

Well Owner's Information and Location of Well Information

[redacted]

WELLINGTON | GUELPH TWP | 29 | 6 Div D

RR#/Street Number/Name: 7225 WELLINGTON RD 51 | City/Town/Village: ARASS | Site/Compartment/Block/Tract etc.

GPS Reading | NAD: 83 | Zone: 17 | Easting: 551330 | Northing: 4825201 | Unit Make/Model: GARMIN ETREX | Mode of Operation: [X] 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
BROWN	GRAVEL			0	1.8
	CLAY	SAND		1.8	5.5
	GRAVEL			5.5	8.8
GREY	CLAY	GRAVEL		8.8	20.1
BROWN	LIMESTONE			20.1	22.6
	GRAVEL			22.6	23.2
GREY	LIMESTONE			23.2	42.6

FINAL DEPTH 76'

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	23.6	23
23.6	42.6	15.6

Water Record

Water found at ___ Metres / Kind of Water

- 23 m [X] 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 [X] Clear and sediment free [ ] Other, specify

Chlorinated [X] Yes [ ] No

Construction Record

Casing

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
	[X] Steel [ ] Fibreglass [ ] Plastic [ ] Concrete [ ] Galvanized	.48	+.7	22.1
	[ ] Steel [ ] Fibreglass [ ] Plastic [ ] Concrete [ ] Galvanized			
	[ ] Steel [ ] Fibreglass [ ] Plastic [ ] Concrete [ ] Galvanized			

Screen

Outside diam	Material	Slot No.	Depth From	Depth To (Metres)
14	[X] Steel [ ] Fibreglass [ ] Plastic [ ] Concrete [ ] Galvanized	MAASS SANDBLOCKER	22.2	23.1

No Casing or Screen

[ ] Open hole

Test of Well Yield

Pumping test method: Pump

Pump intake set at - (metres) 21

Pumping rate - (litres/min) 36

Duration of pumping 1 hrs + 0 min

Final water level end of pumping 8.9 metres

Recommended pump type. [ ] Shallow [X] Deep

Recommended pump depth. 21 metres

Recommended pump rate. 36 (litres/min)

If flowing give rate - (litres/min)

If pumping discontinued, give reason.

	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level		7.25		
1	1	7.75	1	8.10
2	2	7.82	2	7.86
3	3	7.87	3	7.80
4	4	7.92	4	7.77
5	5	7.96	5	7.74
10	10	8.07	10	7.67
15	15	8.15	15	7.64
20	20	8.21	20	7.62
25	25	8.26	25	7.60
30	30	8.31	30	7.59
40	40	8.40	40	7.59
50	50	8.51	50	7.59
60	60	8.90	60	7.58

Plugging and Sealing Record [X] Annular space [ ] Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	7	BENTONITE SLURRY	.2

Method of Construction

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

Water Use

[X] Domestic [ ] Industrial [ ] Public Supply [ ] Other
[ ] Stock [ ] Commercial [ ] Not used
[ ] Irrigation [ ] Municipal [ ] Cooling & air conditioning

Final Status of Well

[X] 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: MEADOWBANK DRILLING SERVS. | Well Contractor's Licence No.: 6865

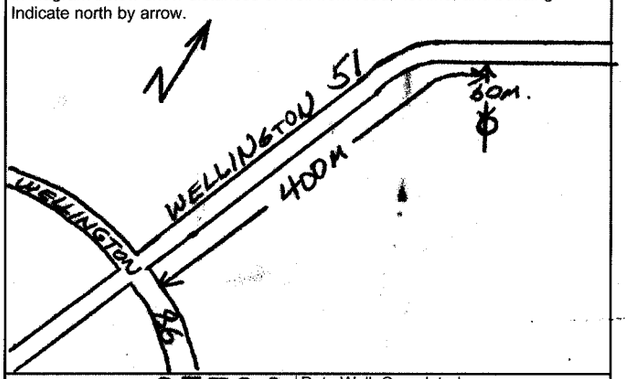
Business Address (street name, number, city etc.): RR 1 FLORA ON N0B 1S0

Name of Well Technician (last name, first name): HUGH BRADFOOT | Well Technician's Licence No.: T1897

Signature of Technician/Contractor: X [signature] | 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 05764 | Date Well Completed YYYY 2004 MM 07 DD

Was the well owner's information package delivered? [X] Yes [ ] No | Date Delivered YYYY MM DD

Ministry Use Only

Data Source | Contractor 6865

Date Received SEP 15 2004 | Date of Inspection YYYY MM DD

Remarks | Well Record Number 6715079

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

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Ontario Ministry of the Environment

Well Tag Number (Plate number below) A010287

A010287.

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

75-04

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 6701 1 CON GR E 04 LOT 17

Well Owner's Information and Location of Well Information

[redacted]

WELLINGTON PEEL TWP 27 024

RR#/Street Number/Name: 5276 6TH LINE RR#1 ARISS

City/Town/Village: ARISS

Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 17 | Easting 551017 | Northing 4825809

Unit Make/Model: GARMIN

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
BROWN	CLAY	STONES		0	18
GREY	CLAY	STONES		18	65
GREY	CLAY	GRAVEL		65	82
GREY	ROCK			82	100
			TOTAL DEPTH	100'	

Hole Diameter

Depth From	Depth To	Diameter
0	20	8 3/4"
20	100	6"

Water Record

Water found at	Kind of Water		
100 FT	☒ 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	Material	Wall thickness	Depth From	Depth To
Casing				
6"	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	.188	+2	83
	☐ 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		83 FT	100 FT

Test of Well Yield

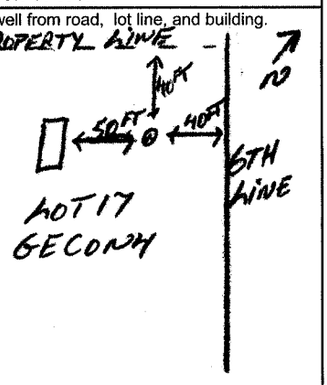
Pumping test method	Draw Down Time min	Draw Down Water Level	Recovery Time min	Recovery Water Level
Pump intake set at - 70 FT	Static Level	25 FT		49 FT
Pumping rate - 10 GPM	1	30	1	45
Duration of pumping 3 hrs + 0 min	2	34	2	43
Final water level end of pumping 49	3	36	3	41
Recommended pump type. ☐ Shallow ☒ Deep	4	38	4	39
Recommended pump depth. 70	5	39	5	38
Recommended pump rate. 10 GPM	10	43	10	33
If flowing give rate - (litres/min)	15	47	15	29
	20	49	20	26
	25	49	25	25
If pumping discontinued, give reason.	30	49	30	25
	40	49	40	25
	50	49	50	25
	60	49	60	25

Plugging and Sealing Record ☒ Annular space ☐ Abandonment

Depth set at - From	Depth set at - To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	20 FT	BENTONITE SLURRY	

Location of Well

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



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

Audit No. Z 10359

Date Well Completed: YYYY 04 MM 11 DD 01

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

Date Delivered: YYYY 04 MM 11 DD 01

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#3 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 Tim Wilson

Date Submitted: YYYY 04 MM 11 DD 30

Ministry Use Only

Data Source

Contractor: 2336

Date Received: YYYY MM DD DEC 07 2004

Date of Inspection: YYYY MM DD

Remarks

Well Record Number: 6715174

0506E (09/03)

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

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Ontario Ministry of the Environment

Well Tag Number (Plate #): A007149 / A007149

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 1720 CON [redacted] LOT [redacted]

[redacted]

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

Township: Guelph / Eramosa

Lot: 17

Concession: 8

RR#/Street Number/Name: 8th Line E 4th Con RR#1

City/Town/Village: ORTON

Site/Compartment/Block/Tract etc.

GPS Reading: NAD 83 | Zone 17 | Easting 550270 | Northing 4824RR#1

Unit Make/Model: MEGGITT SPECTRUM

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 (FT.)	Depth To (FT.)	Depth From (m)	Depth To (m)
BROWN	CLAY	STONES		0	25	0	7.62
BROWN	CLAY	SAND / GRAVEL		25	75	7.62	22.86
LIGHT BROWN	LIMESTONE		BROKEN	75	77	22.86	23.47
MED. BROWN	LIMESTONE			77	85	23.47	25.91
MED GREY	LIMESTONE			85	162	25.91	49.38

TOTAL = 162' / 49.38 m

6¼ / 40.32 CASING DRIVE SHOE

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	6.09	25.4
6.09	49.38	15.87

Water Record

Water found at Metres / Kind of Water

49.38 m ☑ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other: CONTINUED

☐ 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				
15.87 / 6¼	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	0.48 / .188	0.61 / +2	23.47 / 77
	☐ 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		23.47 / 77	49.38 / 162

Test of Well Yield

Pumping test method: SUBMERSIBLE PUMP

	Draw Down Time (min)	Draw Down Water Level (Metres)	Recovery Time (min)	Recovery Water Level (Metres)
Pump intake set at - (metres) 120	Static Level	28		57
Pumping rate (litres/min) 60M 15	1	33	1	52
Duration of pumping 1 hrs + ___ min	2	35	2	53
Final water level end of pumping 57 FT metres	3	37	3	51
Recommended pump type. ☐ Shallow ☑ Deep	4	40	4	50
Recommended pump depth. 120 FT metres	5	45	5	40
Recommended pump rate. 15 GPM (litres/min)	10	57	10	36
	15	57	15	33
If flowing give rate - (litres/min)	20	57	20	28
	25	57	25	
If pumping discontinued, give reason.	30	57	30	
	40	57	40	
	50	57	50	
	60	57	60	

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	6.09	QUICK GROUT	

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: HANNON WELL DRILLING LTD — Well Contractor's Licence No.: 2663

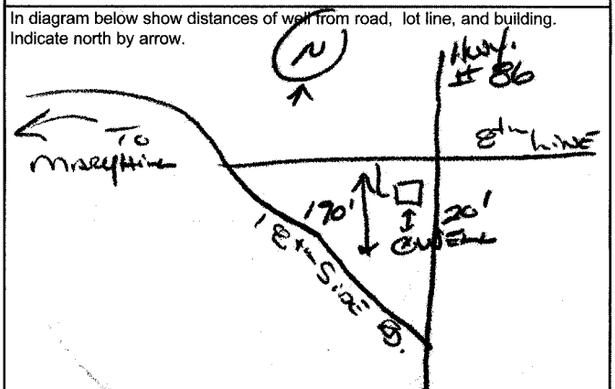
Business Address (street name, number, city etc.): RR #5 GUELPH ONT. N1H 6J2

Name of Well Technician (last name, first name): HAWKINS JAMES — Well Technician's Licence No.: T-427

Signature of Technician/Contractor: X [signature] — Date Submitted YYYY/MM/DD: 2004/10/01

Location of Well

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



Audit No. Z 17932

Date Well Completed YYYY/MM/DD: 2004/09/15

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

Date Delivered YYYY/MM/DD: 2004/09/15

Ministry Use Only

Data Source	Contractor: 2663
Date Received YYYY/MM/DD: DEC 03 2004	Date of Inspection YYYY/MM/DD
Remarks	Well Record Number: 6715185

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

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

Well Ta... (See Below) **A099562**

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
	Emerald Homes		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
43 Pintail Drive Elmira Ont	Wellington	Ont.	N3B3G8	5196694157

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
7159 Schaeffer	Guelph / Eramosa	18	4

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Ariss	Ontario	N0B1B0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	550432	4824792		

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	Gravel	Fill		0	6'
Brown	Clay	Sand / stones		6'	18'
Grey	Clay	Sand / Stones		18'	75'
White	Limestone	grey	Broken	75'	100'
Brown	Limestone			100'	185'
			Total 185'		
		6¼" 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	90gal

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
	steel	.188	+2	75'

Construction Record - Screen

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

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	10
20	185	6⅛

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 80

Pumping rate (l/min / GPM): 15

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 76.8

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

Recommended pump depth (m/ft): 130

Recommended pump rate (l/min / GPM): 15

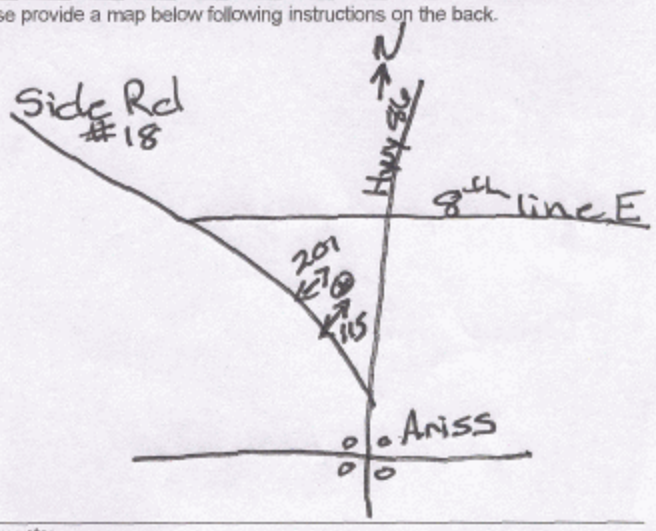
Well production (l/min / GPM): 15

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	27.8		
1	35.9	1	65
2	41.5	2	57.2
3	46.9	3	53.3
4	50.5	4	50.1
5	53.9	5	45.2
10	62.6	10	34.5
15	69.1	15	30.8
20	71.1	20	30.5
25	72.7	25	
30	74.2	30	
40	75.5	40	
50	76.2	50	
60	76.8	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.
Hanlon Well Drilling Ltd	2663

Business Address (Street Number/Name)	Municipality
5896 County Rd. #7 RR#5	Guelph

Province	Postal Code	Business E-mail Address
Ont.	N1H6J2	hanlonwelldrilling@bellnet.ca

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

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3309		2011 07 21

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

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

Date Work Completed: Y Y Y Y M M D D

Ministry Use Only

Audit No. z124739

Received JUL 26 2011

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Ministry's Copy

41-11

Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. A102288

A102288

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
	KURTZ AUCTIONS INC.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
5757 WELLINGTON RD. #86 RR#1	ARISS	ON	N0B1B0	5198360342

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5757 WELLINGTON RD #86	PILKINGTON	18	4 GRE

County/District/Municipality	City/Town/Village	Province	Postal Code
WELLINGTON	ARISS	Ontario	N0B1B0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	550687	4824970		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY	STONES		0	22
GREY	CLAY	STONES		22	70
BROWN	LIMESTONE			70	100
			TOTAL DEPTH 100FT		

Annular Space

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

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/8	STEEL	.188	+3	75
6 1/8	OPEN HOLE		75	100

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	Other, specify
98FT	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	20	8 3/4
20	100	6 1/8

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 70FT

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

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 45FT

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

Recommended pump depth (m/ft): 70FT

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

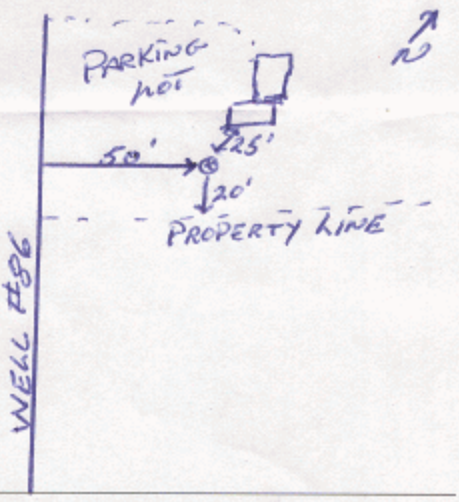
Well production (l/min / GPM): 12GPM

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	26FT		
1	29	1	40
2	31	2	35
3	33	3	33
4	35	4	30
5	37	5	28
10	42	10	26
15	45	15	26
20	45	20	26
25	45	25	26
30	45	30	26
40	45	40	26
50	45	50	26
60	45	60	26

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.
JIM WILSON WELL DRILLING LTD	7385

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
551 EBYCREST RD.	WATERLOO	ON.	N2J4G8	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
5196482412	WILSON JIM

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T19214	Jim Wilson	2011 07 29

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2011 07 12	2011 07 12

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Measurements recorded in: ☐ Metric ☑ Imperial

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

Well Record

Regulation 903 Ontario Water Resources Act

Page i of 1

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5772 Hwy 86	Guelph / Eramosa	Pt 17	4E

County/District/Municipality	City/Town/Village	Province	Postal Code
Wellington	Ariss	Ontario	N0B 1B0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	550278	4824981		

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
			Decommission stone well		
			according to Reg 903	0	24
Lo	O	Sand	75.30 ft³		

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
24	23	Sand	12.56 ft³
23	22	Bentonite chips	12.56 ft³
22	12	Sand and stones	125.60 ft³
12	6	Bentonite / sand	75.30 ft³

Method of Construction

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

Well Use

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

Construction Record - Casing

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

N/A

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*
	☐	☐	☐	
	☐	☐	☐	
	☐	☐	☐	

N/A

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)*

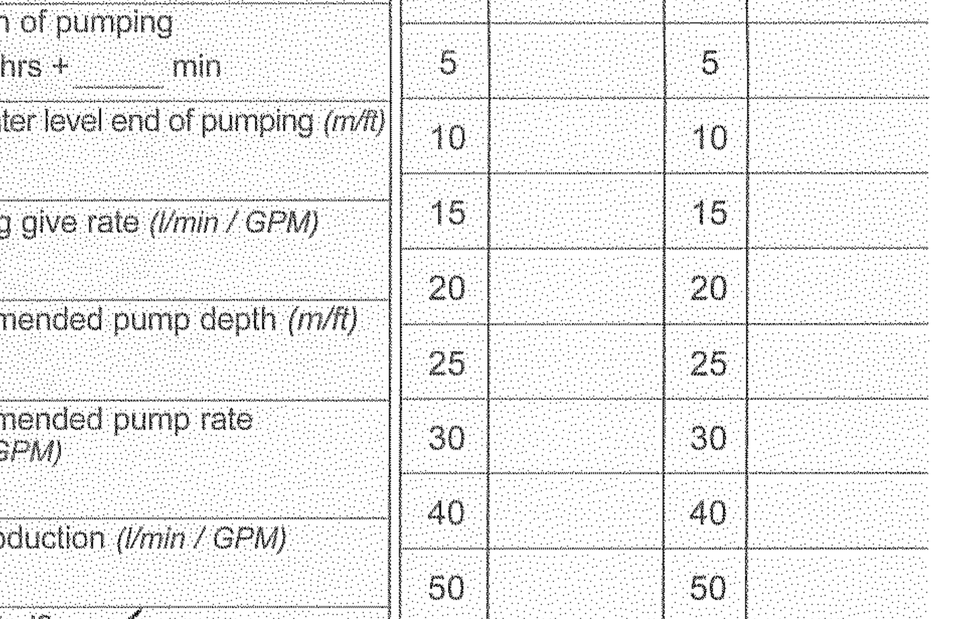
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☑ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	8		
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.
Martin Well Drilling Inc.	7557

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
Box 60 Alma	Wellington	Ontario	N0B 1A0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
5198469162	Martin Mike	3430	Mike Martin	2015 09 18

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2015 09 18

Ministry Use Only

Audit No. Z218798

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0506E (2014/11)

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 193007 **Tag#: A193007**

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
	GRANITE HOMES EAST INC		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH ROAD SOUTH	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550946	4825030		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES FILL			0	5ft
BROWN	CLAY & STONES			5ft	21ft
GRAY	CLAY & STONE			21ft	58ft
GRAY	LIMESTONE			58ft	140ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	61ft	BENTONITE SLURRY 60gal	

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	61ft
6in	open hole		61ft	140ft

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	
28ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested	☐ Other, *specify*
37ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested	☐ Other, *specify*
(m/ft) ☐ Gas	☐ Fresh ☐ Untested	☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	61ft	8.75in
61ft	140ft	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): 60ft

Pumping rate (l/min / GPM): 8gpm

Duration of pumping: 2 hrs + 0 min

Final water level end of pumping (m/ft): 41ft

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

Recommended pump depth (m/ft): 60ft

Recommended pump rate (l/min / GPM): 8gpm

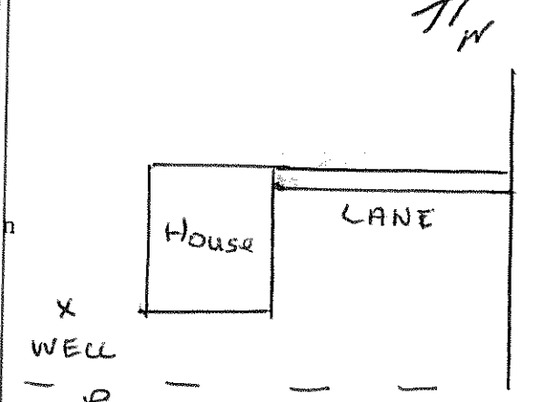
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	22ft			
1			1	
2			2	
3			3	
4			4	
5	31ft		5	25ft
10	35ft		10	22ft
15	38ft		15	
20	40ft		20	
25	41ft		25	
30			30	
40			40	
50			50	
60	41ft		60	22ft

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	Province	Postal Code	Business E-mail Address
251 ELDON ST GODERICH		ONT	N7A3R9	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
	KEITH LANG	T446	K. Lang	

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No		2016 6 27

Ministry Use Only

Audit No. Z234431

Received AUG 15 2016

506E (2014/11)

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(For Sticker and/or Print Below)* 205281 **Tag#: A205281**

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H 5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4S of GR

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	550920	4825213		

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 & STONE			0	21ft
GRAY	CLAY & STONES			21ft	58ft
BROWN	LIMESTONE			58ft	114ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	61ft	BENTONITE SLURRY 40 GAL	

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	61ft
6in	open hole		61ft	114ft

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	Hole Diameter Depth (m/ft) From	To	Diameter (cm/in)
109ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*	0	61ft	8.75in
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	61ft	114ft	6in
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			

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	

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	

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)*: 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping *(m/ft)*: 26ft

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

Recommended pump depth *(m/ft)*: 40ft

Recommended pump rate *(l/min / GPM)*: 15gpm

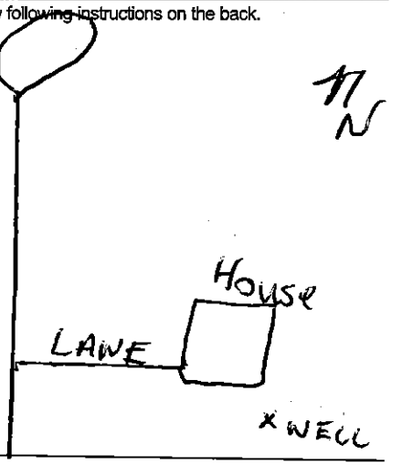
Well production *(l/min / GPM)*:

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	23ft		
1		1	
2		2	
3		3	
4		4	
5	25ft	5	24ft
10		10	
15	26ft	15	23ft
20		20	
25		25	
30		30	
40		40	
50		50	
60	26ft	60	23ft

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No		2017 7 26

Ministry Use Only
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AUG 17 2017
Received

0506E (2014/11) **Ministry's Copy**

Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Enter Number and/or Print Below) 205282 Tag#: A205282

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4 S of GR

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	550805	4825169		

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 & STONES			0	21ft
GRAY	CLAY & STONES			21ft	78ft
BROWN	LIMESTONE			78ft	125ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	81ft	BENTONITE SLURRY 45gal	

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	81ft
6in	open hole		81ft	125ft

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
118ft	☒ Fresh ☐ Untested	☐ Gas	☐ Other, specify
	☐ Fresh ☐ Untested	☐ Gas	☐ Other, specify
	☐ Fresh ☐ Untested	☐ Gas	☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	81ft	8,75in
81ft	125ft 6in	

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	

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		

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): 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 26ft

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

Recommended pump depth (m/ft): 40ft

Recommended pump rate (l/min / GPM): 15gpm

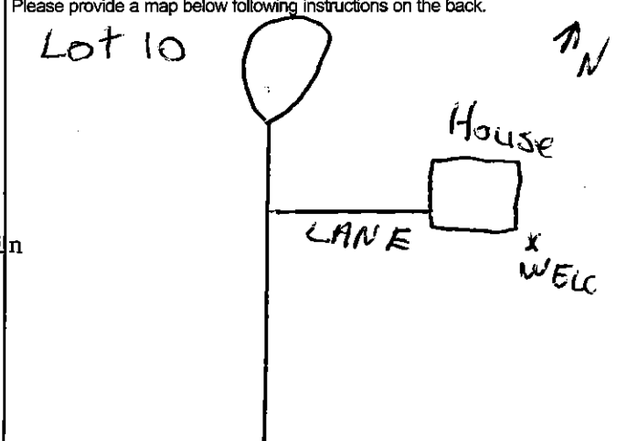
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		23ft		
1			1	
2			2	
3			3	
4			4	
5		24ft	5	24ft
10			10	
15			15	
20		25ft	20	
25			25	
30		26ft	30	23ft
40			40	
50			50	
60		26ft	60	23ft

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

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

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

Date Work Completed: 2017 728

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Audit No. Z250174

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Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): 205278 **Tag#: A205278**

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4 S of GR

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	550836	4825052		

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 & STONES			0	20ft
GRAY	CLAY & STONES			20ft	58ft
BROWN	LIMESTONE			58ft	142ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	63ft	BENTONITE SLURRY 40gal	

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	63ft
6in	open hole		63ft	142ft

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	Hole Diameter Depth From (m/ft)	Depth To (m/ft)	Diameter (cm/in)
134ft ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	0	63ft	8.75in
136ft ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	63ft	142ft	6in
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 60ft

Pumping rate (l/min / GPM): 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 41ft

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

Recommended pump depth (m/ft): 60ft

Recommended pump rate (l/min / GPM): 15gpm

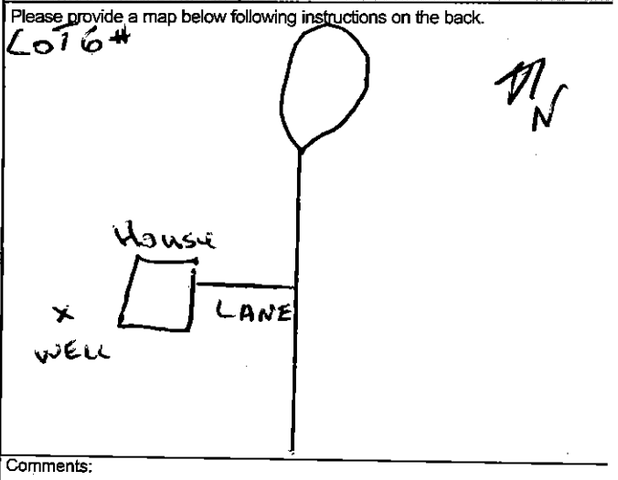
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	22ft		
1	24ft	1	
2	26ft	2	
3	28ft	3	
4	29ft	4	
5	30ft	5	26ft
10	35ft	10	24ft
15	38ft	15	22ft
20	40ft	20	
25	40ft	25	
30	41ft	30	
40		40	
50		50	
60	41ft	60	22ft

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	

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 (Y Y Y Y M M D D)
T446	K Lang.	

Well owner's information package delivered	Date Package Delivered (Y Y Y Y M M D D)	Ministry Use Only
☒ Yes ☐ No	Date Work Completed: 2017 7 31	Audit No. Z250173
		AUG 17 2017 Received

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Ontario — Ministry of the Environment and Climate Change

Well Tag No. (Place Sticker and/or Print Below): 205296 Tag#: A205296

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4S of G R

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	550877	4825194		

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	FILL			0	8ft
BROWN	CLAY & STONES			8ft	21ft
GRAY	CLAY & STONES			21ft	39ft
GRAY	LIMESTONE			39ft	124ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	43ft	BENTONITE SLURRY 50gal	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6¼	steel	.188	0	43ft
6in	open hole		43ft	124ft

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
118ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	0	43ft	8.75in
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify	43ft	124ft	6in
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

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

Pumping rate (l/min / GPM): 12gpm

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): 12gpm

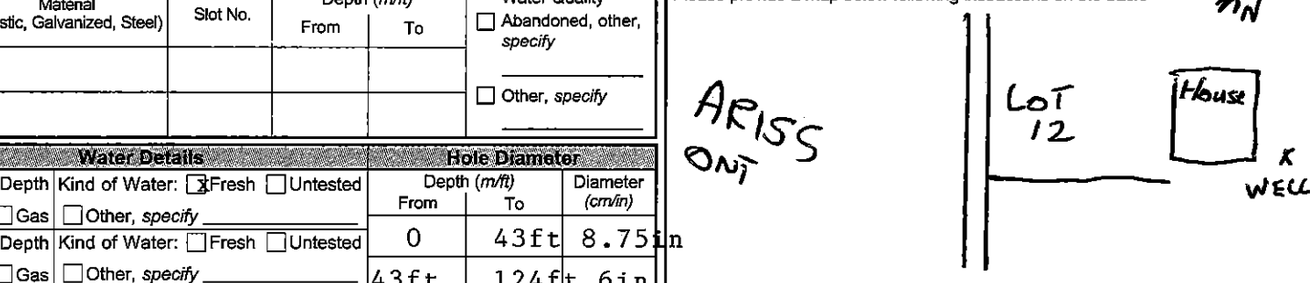
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No — PPM 95

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

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.
KEITHJLANG WELL DRILLING INC	7154

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

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: Y Y Y Y M M D D

Date Work Completed: 2017 6 21

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Audit No. Z250159

Received AUG 17 2017

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Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 21943 Tag#: A 219437

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	5 S OF GR

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	551014	4825060		

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 STONES CLAY			0	26ft
GRAY	CLAY & STONES			26ft	62ft
GRAY	LIMESTONE			62ft	124ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	65ft	BENTONITE SLURRY	60gal

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4	steel	.188	0	65ft
6in	open hole		65ft	124ft

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	
115ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*	
122ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	65ft	8.75in
65ft	124ft	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): 60ft

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

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 54ft

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

Recommended pump depth (m/ft): 60ft

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

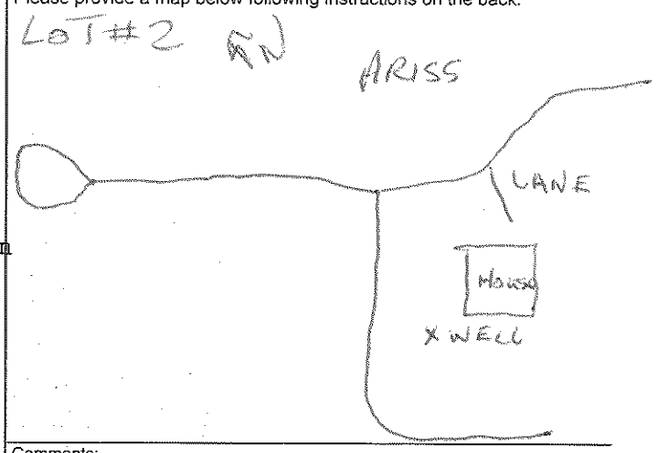
Well production (l/min / GPM): _____

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	14ft		
1		1	
2		2	
3		3	
4		4	
5	27ft	5	29ft
10	31ft	10	23ft
15	35ft	15	19ft
20	38ft	20	15ft
25	41ft	25	14ft
30	44ft	30	
40	47ft	40	
50	49ft	50	
60	51ft	60	14ft

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	

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: 2018 3 6

Ministry Use Only

Audit No. Z270778

Received MAR 19 2018

0506E (2014/11)

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 219419 Tag#: A 219419

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNIT 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	5 S OF GR

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	550868	4825071		

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 STONES CLAY			0	26ft
GRAY	CLAY & STONES			26ft	60ft
GRAY	LIMESTONE			60ft	144ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	64ft	BENTONITE SLURRY 70gal	

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	64ft
6in	open hole		64ft	144ft

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	
102ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*	
135ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*	
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	64ft	8.75in
64ft	144ft	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): 50ft

Pumping rate (l/min / GPM): 12gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 42ft

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

Recommended pump depth (m/ft): 50ft

Recommended pump rate (l/min / GPM): 12gpm

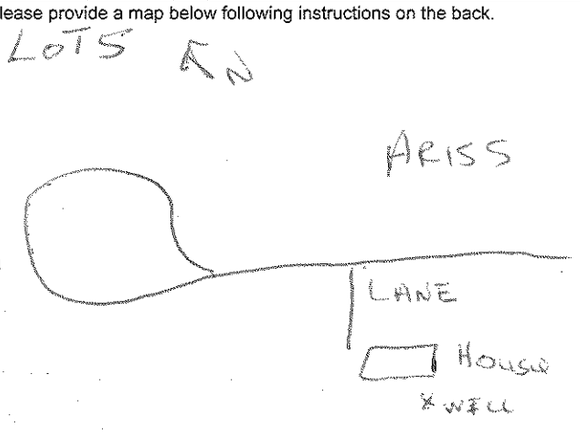
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	23ft		
1		1	
2		2	
3		3	
4		4	
5	34ft	5	28ft
10	36ft	10	24ft
15	37ft	15	23ft
20	38ft	20	
25	39ft	25	
30	40ft	30	
40	42ft	40	
50	42ft	50	
60	42ft	60	23ft

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	

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: 2018 2 28

Ministry Use Only

Audit No. Z270776

Received MAR 19 2018

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below) 219438 Tag#: A 219438

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	5 S OF GR

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	550883	4825061		

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 STONES CLAY			0	22ft
GRAY	CLAY & STONES			22ft	58ft
GRAY	LIMESTONE			58ft	142ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	62ft	BENTONITE SLURRY 60gal	

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	62ft
6in	open hole		62ft	142ft

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	Hole Diameter Depth From (m/ft)	Depth To (m/ft)	Diameter (cm/in)
136ft ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	0	62ft	8.75in
(m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify	62ft	142ft	6in
(m/ft) ☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 50ft

Pumping rate (l/min / GPM): 12gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 38ft

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

Recommended pump depth (m/ft): 50ft

Recommended pump rate (l/min / GPM): 12gpm

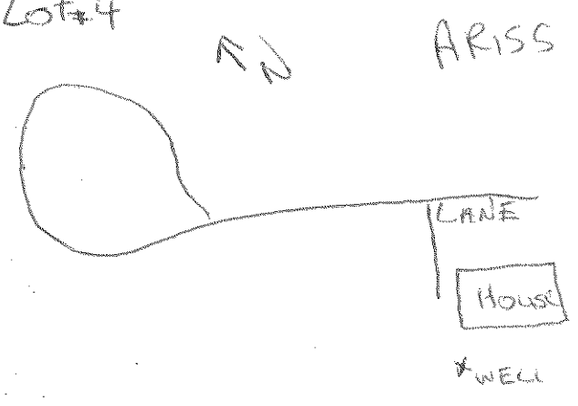
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	18ft		
1		1	
2		2	
3		3	
4		4	
5	23ft	5	24ft
10	24ft	10	20ft
15	27ft	15	19ft
20	29ft	20	18ft
25	31ft	25	
30	33ft	30	
40	35ft	40	
50	37ft	50	
60	38ft	60	18ft

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	Province	Postal Code	Business E-mail Address
251 ELDON ST GODERICH		ONT	N7A3R9	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
	KEITH LANG	T446	K. Lang	

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

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

Date Work Completed: 2018 3 5

Ministry Use Only

Audit No. Z270777

Received MAR 19 2018

0506E (2014/11) Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* Tag#: A 219487

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550692	4825053		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	29ft
GRAY	CLAY & STONES			29ft	68ft
BROWN	LIMESTONE			68ft	175ft
GRAY	LIMESTONE			175ft	282ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	72ft	BENTONITE SLURRY	60gal

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	72ft
6in	open hole		72ft	282ft

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	
132ft	☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*
279ft	☐ Gas	☒ Fresh ☐ Untested ☐ Other, *specify*
	☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	72ft	8.75in
72ft	282ft	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): 120ft

Pumping rate (l/min / GPM): 12gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 87ft

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

Recommended pump depth (m/ft): 120ft

Recommended pump rate (l/min / GPM): 12gpm

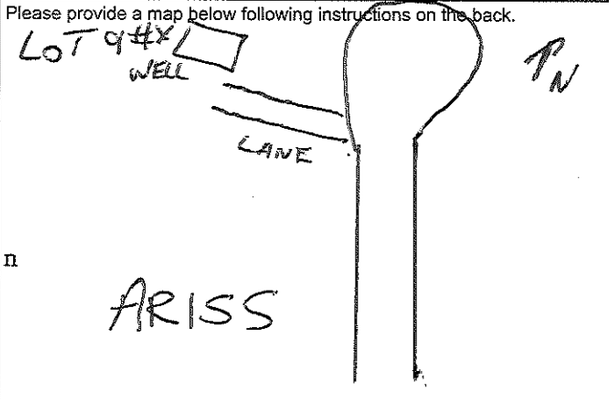
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	24ft		
1		1	
2		2	
3		3	
4		4	
5	48ft	5	49ft
10	64ft	10	37ft
15	73ft	15	28ft
20	79ft	20	23ft
25	83ft	25	
30	85ft	30	
40	87ft	40	
50		50	
60	87ft	60	24ft

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.
EITH ANG WELL DRILLING INC	7154

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

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: Y Y Y Y M M D D

Date Work Completed: 2018 6 14

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Audit No. Z287011

Received: AUG 13 2018

Ministry's Copy

Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 219478 **Tag#: A 219478**

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550819	4825201		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			-0	27ft
GRAY	CLAY & STONES			27ft	57ft
BROWN	LIMESTONE			57ft	120ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	61ft	BENTONITE SLURRY 50gal	

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	61ft
6in	open hole		61ft	120ft

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas
115ft	☒ Fresh ☐ Untested ☐ Other, *specify* ____	☐ Gas
	☐ Fresh ☐ Untested ☐ Other, *specify* ____	☐ Gas
	☐ Fresh ☐ Untested ☐ Other, *specify* ____	☐ Gas

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	61ft	8.75in
61ft	120ft	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): 50ft

Pumping rate (l/min / GPM): 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 26ft

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

Recommended pump depth (m/ft): 50ft

Recommended pump rate (l/min / GPM): 15gpm

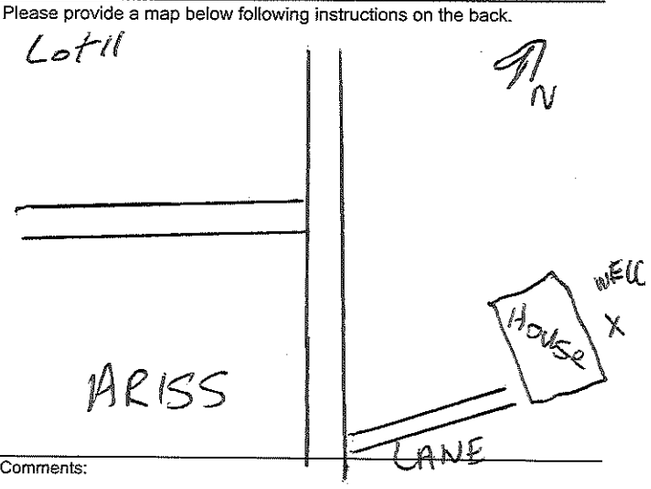
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		19ft		
1			1	
2			2	
3			3	
4			4	
5		23ft	5	20ft
10	26ft		10	19ft
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60		26ft	60	19ft

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	Province	Postal Code	Business E-mail Address
51 ELDON ST GODERICH		ONT	N7A3R9	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
	KEITH, LANG	T446	K. Lang	Y Y Y Y M M D D

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	Y Y Y Y M M D D	2018 6 18

Ministry Use Only

Audit No. Z287014

AUG 13 2018

Received

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Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 219488 Tag#: A 219488

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
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNITE 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	550991	4825173		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	26ft
GRAY	CLAY & STONES			26ft	58ft
BROWN	LIMESTONE			58ft	120ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	62ft	BENTONITE SLURRY 50gal	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6¼	steel	.188	0	62ft
6in	open hole		62ft	120ft

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*
116ft	☐	
	☐	☐ Fresh ☐ Untested ☐ Other, *specify*
	☐	☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	62ft	8.75in
62ft	120ft	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): 60ft

Pumping rate (l/min / GPM): 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 34ft

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

Recommended pump depth (m/ft): 60ft

Recommended pump rate (l/min / GPM): 15gpm

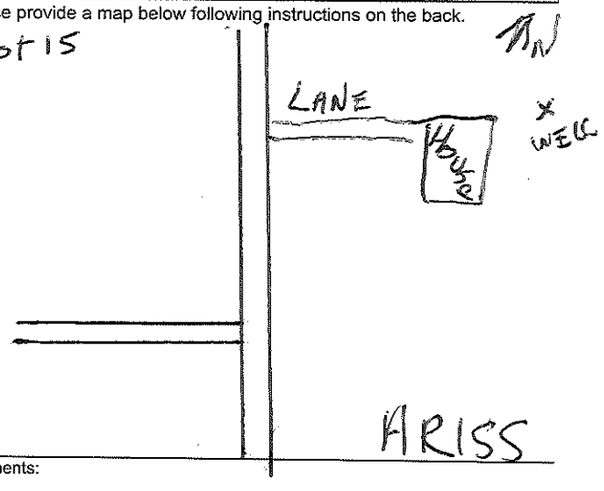
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		22ft		
1			1	
2			2	
3			3	
4			4	
5		28ft	5	25ft
10		32ft	10	22ft
15		38ft	15	
20		34ft	20	
25			25	
30			30	
40			40	
50			50	
60		34ft	60	22ft

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	

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	Y Y Y Y M M D D

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	Y Y Y Y M M D D	2018 6 15

Ministry Use Only

Audit No. Z287013

Received AUG 13 2018

0506E (2014/11)

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* Tag#: A 235572

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNIT 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550781	4852594		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	35ft
GRAY	CLAY & STONES			35ft	63ft
BROWN	LIMESTONE			63ft	142ft

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	66ft	BENTONITE SLURRY	100gal
		BENSEAL BENTONITE	

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
6½	steel	.188	0	66ft
6in	open hole		66ft	142ft

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	Other, *specify*
134ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	66ft	8.75in
66ft	142ft	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): 80ft

Pumping rate (l/min / GPM): 12gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 70ft

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

Recommended pump depth (m/ft): 80ft

Recommended pump rate (l/min / GPM): 12gpm

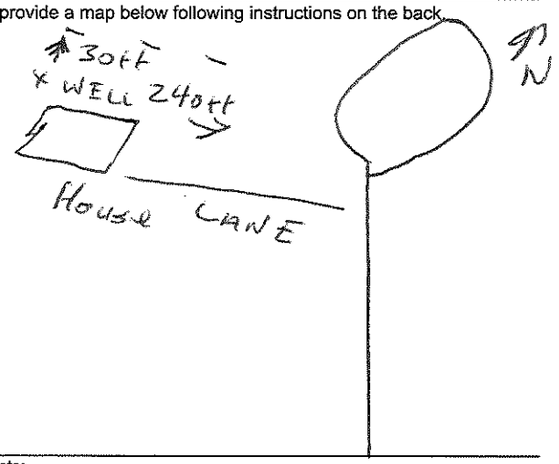
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No 70ppm

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		22ft		
1		26ft	1	61ft
2		30ft	2	54ft
3		33ft	3	48ft
4		36ft	4	42ft
5		38ft	5	37ft
10		49ft	10	26ft
15		61ft	15	23ft
20		64ft	20	22ft
25		66ft	25	
30		68ft	30	
40		70ft	40	
50			50	
60		70ft	60	22ft

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	

Province	Postal Code	Business E-mail Address
ONT	N7A3R8	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
519-524-8159	

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
t446	KEITH LANG	2018/11/22 (Y Y Y Y M M D D)

Well owner's information package delivered	Date Package Delivered
☒ Yes ☐ No	2018/11/22 (Y Y Y Y M M D D)

Date Work Completed: 2018/11/2 (Y Y Y Y M M D D)

Ministry Use Only

Audit No. Z287084

NOV 28 2018

Received

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: Tag#: A 235577

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNIT 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550733	4825051		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	34ft
GRAY	CLAY & STONES			34ft	65ft
GRAY	LIMESTONE			65ft	122ft
		USE CENTRALIZERS			

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	69ft	BENTONITE SLURRY	90gal

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	69ft
6in	open hole		69ft	122ft

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	Other, specify
109ft	☐	☐ Fresh ☐ Untested	
117ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	69ft	8.75in
69ft	122ft	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): 80ft

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

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 57ft

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

Recommended pump depth (m/ft): 80ft

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

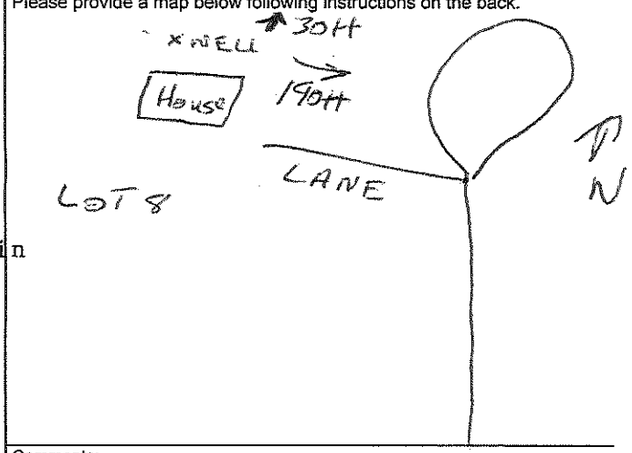
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No PPM 100

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	21ft		
1	24ft	1	51ft
2	27ft	2	46ft
3	29ft	3	41ft
4	31ft	4	38ft
5	33ft	5	34ft
10	44ft	10	25ft
15	53ft	15	23ft
20	55ft	20	22ft
25	56ft	25	21ft
30	57ft	30	
40	57ft	40	
50	57ft	50	
60	57ft	60	21ft

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	Province	Postal Code	Business E-mail Address
251 ELDON ST GODERICH		ONT	N7A3R9	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
519-524-8159	KEITH LANG	T446	K. Lang	2018 11 22

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

Date Package Delivered: 2018 11 22

Date Work Completed: 2018 11 14

Ministry Use Only

Audit No. Z287085

Received NOV 28 2018

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 2: Tag#: A 235578

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNIT 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	551044	4825076		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	37ft
GRAY	CLAY & STONES			37ft	66ft
GRAY	LIMESTONE			66ft	102ft
		USE CENTRALIZERS			

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	70ft	BENTONITE SLURRY	90al

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	70ft
6in	open hole		70ft	102ft

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	Other, specify
95ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	70ft	8.75in
70ft	102ft	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): 15gpm

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 25ft

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

Recommended pump depth (m/ft): 40ft

Recommended pump rate (l/min / GPM): 15gpm

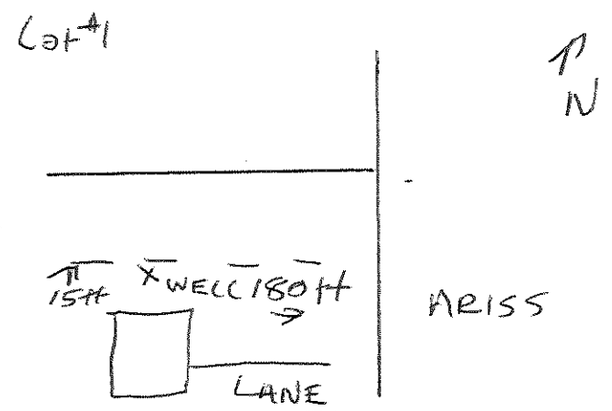
Well production (l/min / GPM):

Disinfected? ☒ Yes ☐ No ppm110

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	20)FT			
1	21ft	1	22ft	
2	21ft	2	22ft	
3	22ft	3	22ft	
4	22ft	4	21ft	
5	22ft	5	21ft	
10	23ft	10	20ft	
15	23ft	15		
20	24ft	20		
25		25		
30		30		
40		40		
50		50		
60	24ft	60	20ft	

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	

Province	Postal Code	Business E-mail Address
ONT	N7A3R9	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
519-524-8159	KEITH LANG

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
t446	K. Lang	2018 11 22 (Y Y Y Y M M D D)

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2018 11 22 (Y Y Y Y M M D D)	2018 11 13 (Y Y Y Y M M D D)

Ministry Use Only

Audit No. Z287086

NOV 28 2018

Received

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* 235557 Tag#: A235557

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 3

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
GRANITE HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
7 EDINBURGH RD SOUTH UNIT 1	GUELPH	ONT	N1H5N8	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	18	4

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	550920	4825195		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	34ft
GRAY	CLAY & STONES			34	57ft
GRAY	LIMESTONE			57ft	102ft
		USE CENTRALIZERS			

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed *(m³/ft³)*
0	60ft	BENTONITE SLURRY	90gal

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	60ft
6in	open hole		60ft	102ft

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*
94ft		
		Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
		Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	60ft	8.75in
60ft	102ft	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)*: 15gpm

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)*: 15gpm

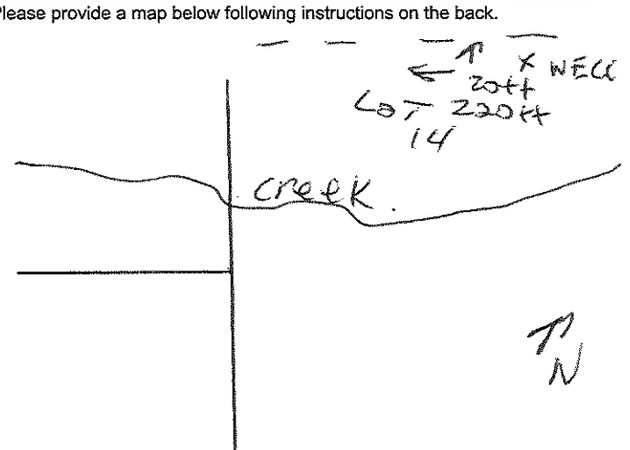
Well production *(l/min / GPM)*:

Disinfected? ☒ Yes ☐ No 120ppm

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		18ft		
1		19ft	1	22ft
2		20ft	2	22ft
3		20ft	3	22ft
4		21ft	4	21ft
5		21ft	5	21ft
10		22ft	10	20ft
15		22ft	15	19ft
20		23ft	20	19ft
25		23ft	25	18ft
30		23ft	30	
40		24ft	40	
50		24ft	50	
60		24ft	60	18ft

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	

Province	Postal Code	Business E-mail Address
ONT	N7A3R9	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
519-524-8159	KEITH LANG

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T446	K. Lang	2018 11 22

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

Date Package Delivered: 2018 11 22

Date Work Completed: 2018 11 12

Ministry Use Only

Audit No. Z287087

NOV 28 2018 Received

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333645

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: WILL-O-HOMES	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
CAN	ON	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	550559	4825097	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3/8 HOLEPLUG	0.27
8	20	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	0.25	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/13

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 06:40:21 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

JMD6 C298

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333646

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: WILL-O-HOMES	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
		[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	550739	4825173	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3/8 HOLEPLUG	0.27
8	20	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	0.25	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/13

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 06:48:12 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

MWEF QOYU

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333647

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: WILL-O-HOMES	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
CAN	ON	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	550896	4825441	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3\8 HOLEPLUG	0.27
8	20	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	0.25	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/13

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 06:55:16 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

4F9A KTTC

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333648

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization	Email Address
WILL-O-HOMES	[redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
CAN	ON	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	550791	4825334	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3/8 HOLEPLUG	0.27
8	20	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	0.25	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/13

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 07:01:33 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

475U 2AFR

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333649

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization	Email Address
WILL-O-HOMES	[redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
CAN	ON	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	551042	4825477	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3/8 HOLEPLUG	0.27
8	12	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	10	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/26

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 07:11:00 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

6DHC T8ZI

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 333650

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: WILL-O-HOMES	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
CAN	ON	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	5782	6TH LINE E	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
ARISS	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	551091	4825650	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

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

				(ft)	(ft)
Brown	Silt	Clay		0	10
Grey	Silt		Dense	10	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	3/8 HOLEPLUG	0.27
8	20	#2 SAND	0.41

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. 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) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
1.5	Plastic	0.75	-3	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
1.75	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	4

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

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

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2021/05/26

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
CMT DRILLING INC	7366

Business Address

Unit Number	Street Number	Street Name *
1	1011	INDUSTRIAL CRES

City/Town/Village *	Province	Postal Code *
ST CLEMENTS	ON	N0B 2M0

Business Telephone Number	Business Email Address
519-699-5775	info@cmtinc.net

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
BLACK	CHRIS	3711

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
BLACK	CHRIS	cblack@cmtinc.net

Signature		Date Submitted (yyyy/mm/dd)
Chris Black	Digitally signed by Chris Black Date: 2021.06.25 07:17:39 -04'00'	2021/06/25

17. Ministry Use Only

Audit Number

FRA8 752J

APPENDIX C:
GEOTECHNICAL BOREHOLE LOGS (CMT 2021)

CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 1

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-13
GROUND ELEVATION: 349.18 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
0	**Topsoil:** Loose, dark brown, silty, organic topsoil, moist (380 mm)	0.00, 349.18	SPT 1	49	1-1-1-1 (2)	2 kPa; 17.2 %	
	Sandy Silt: Very loose, grey-brown sandy silt, some clay, trace gravel, moist	0.38, 348.80					
1	becoming loose	0.76, 348.42	SPT 2	100	2-2-7-5 (9)	9; 12.3 %	Bentonite Seal Water Level: 347.86 m (1.32 mbgs)
2	becoming compact, brown	1.52, 347.66	SPT 3	100	5-7-13-13 (20)	20; 10.4 %	38mm Riser
3	becoming dense	2.29, 346.89	SPT 4	100	9-17-23-33 (40)	40; 8.6 %	
	becoming very dense, sand and silt	3.05, 346.13	SPT 5	100	35-50-50-50 (100)	>>; 350 kPa; 11.6 %	
4			MC5 6	100		350 kPa; 7.8 %	#2 Sand Pack
	becoming grey	4.57, 344.61	SPT 7	100	20-20-30-50 (50)	50; 350 kPa; 7.2 %	38mm Slotted Screen
5			MC5 8	100		250 kPa; 7.8 %	
6	Bottom of borehole at 6.10 m, Elevation 343.08 m.						

CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 2

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-13
GROUND ELEVATION: 345.58 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	GRAPHIC LOG	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
		Topsoil: Loose, dark brown, silty, organic topsoil, moist (610 mm)	0.00, 345.58	SPT 1	49	0-1-2-2 (3)	3; 16.8	
1		**Sandy Silt:** Loose, brown sand and silt, trace clay, wet	0.61, 344.97	SPT 2	100	1-2-2-21 (4)	4; 17.6	Bentonite Seal
		Sand and Gravel: Compact, reddish brown sand and gravel, trace silt, wet	1.22, 344.36					Water Level: 344.16 m (1.42 mbgs)
2		**Sandy Silt:** Compact, brown sand and silt, trace clay and gravel, moist	1.68, 343.90	SPT 3	100	4-11-12-8 (23)	23; 12.1	38mm Riser
		becoming very dense and sandy with some clay	2.29, 343.29	SPT 4	100	50-50-50-50 (100)	>>; 6.1	
3				SPT 5	100	47-50-50-50 (100)	>>; 5.5	
		becoming grey	3.66, 341.92					
4				MC5 6	100		6.4	#2 Sand Pack
				SPT 7	49	42-50-50-50 (100)	>>; 5.9	38mm Slotted Screen
5								
				MC5 8	100		6.5	
6								

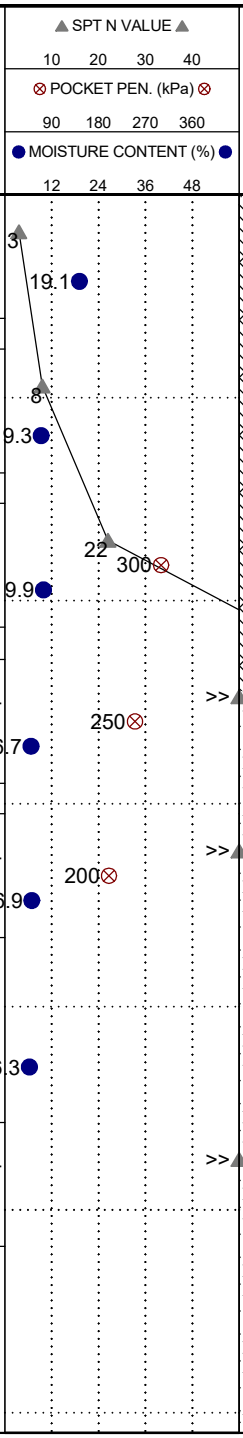
Bottom of borehole at 6.10 m, Elevation 339.48 m.

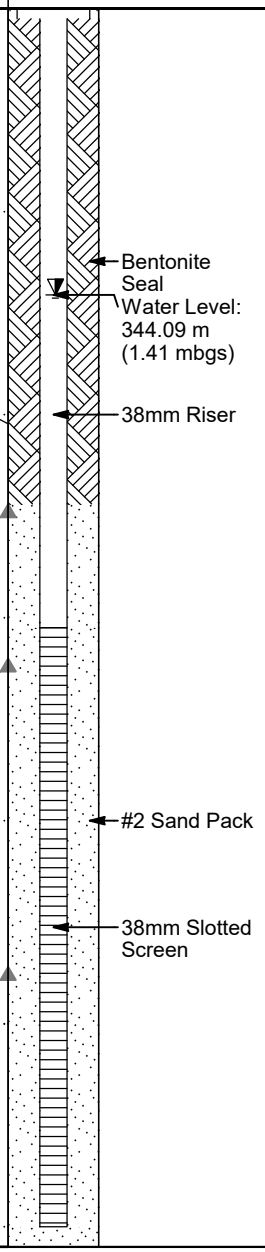
CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 3

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-13
GROUND ELEVATION: 345.50 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
	Topsoil: Loose, dark brown, silty, organic topsoil, moist (610 mm)	0.00, 345.50	SPT 1	49	1-1-2-3 (3)
1	**Sandy Silt:** Loose, brown sandy silt, some clay, trace gravel, moist	0.61, 344.89	SPT 2	100	2-2-6-8 (8)
	becoming compact	1.52, 343.98	SPT 3	100	9-11-11-11 (22)
2	Oxidation staining observed				
	becoming very dense	2.29, 343.21	SPT 4	100	13-48-37-50 (85)
3	becoming grey	3.05, 342.45	SPT 5	100	32-50-50-50 (100)
4			MC5 6	100	
5			SPT 7	100	50-50-50-50 (100)
6			MC5 8	100	





Bottom of borehole at 6.10 m, Elevation 339.40 m.

CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 4

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-13
GROUND ELEVATION: 350.22 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
0	**Topsoil:** Loose, dark brown, silty, organic topsoil, moist (610 mm)	0.00, 350.22	SPT 1	49	0-1-1-3 (2)
1	**Sand and Gravel:** Compact, brown sand and gravel, trace silt, moist	0.61, 349.61	SPT 2	49	11-8-11-11 (19)
2	**Sandy Silt:** Compact, brown sandy silt, some clay and gravel, moist	1.52, 348.70	SPT 3	100	3-5-7-8 (12)
	becoming grey and wet Oxidation staining observed	2.29, 347.93	SPT 4	100	4-7-8-11 (15)
3	becoming moist	3.05, 347.17	SPT 5	100	5-8-7-14 (15)
4			MC5 6	100	
5			SPT 7	100	9-13-15-18 (28)
6			MC5 8	100	

SPT N VALUE: 10 20 30 40
POCKET PEN. (kPa): 90 180 270 360
MOISTURE CONTENT (%): 12 24 36 48

Plotted values: 2, 15.3, 19, 6.1, 12, 8.9, 15, 8.8, 15, 250, 9.4, 150, 8.5, 28, 100, 8.6, 200, 8

WELL DIAGRAM: Bentonite Seal; 38mm Riser; Water Level: 347.04 m (3.18 mbgs); #2 Sand Pack; 38mm Slotted Screen

Bottom of borehole at 6.10 m, Elevation 344.12 m.

CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 5

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-26
GROUND ELEVATION: 347.45 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	SPT N VALUE / POCKET PEN. (kPa) / MOISTURE CONTENT (%)	WELL DIAGRAM
	Topsoil: Loose, dark brown, silty, organic topsoil, moist (300 mm)	0.00, 347.45	SPT 1	49	2-2-2-3 (4)	4, 23, 13.1	
	Sandy Silt: Loose, brown sand and silt, trace clay and gravel, moist	0.30, 347.15					
1	becoming dense	0.76, 346.69	SPT 2	49	8-14-18-12 (32)	32	Bentonite Seal
	becoming compact and sandy with some clay	1.52, 345.93	SPT 3	100	12-10-9-14 (19)	19, 250, 9	Water Level: 345.92 m (1.53 mbgs)
2							38mm Riser
	becoming dense and grey	2.29, 345.16	SPT 4	100	7-14-18-18 (32)	32, 450, 9.9	
3			SPT 5	100	12-17-16-42 (33)	33, 450, 8.5	
4			MC5 6	100		450, 16.3	#2 Sand Pack
	Sand and Gravel: Very dense, brown sand and gravel, trace silt, saturated	4.27, 343.18					
	Sandy Silt: Very dense, brown sand and silt, trace clay and gravel, moist	4.57, 342.88	SPT 7	100	17-27-37-50 (64)	>>, 450, 12.9	38mm Slotted Screen
5	becoming grey and sandy with some clay	5.03, 342.42				7.4	
			MC5 8	100		300, 12.1	
6							

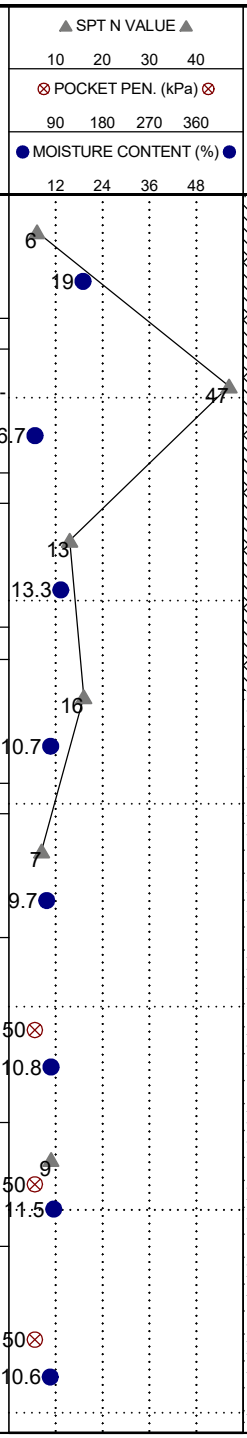
Bottom of borehole at 6.10 m, Elevation 341.35 m.

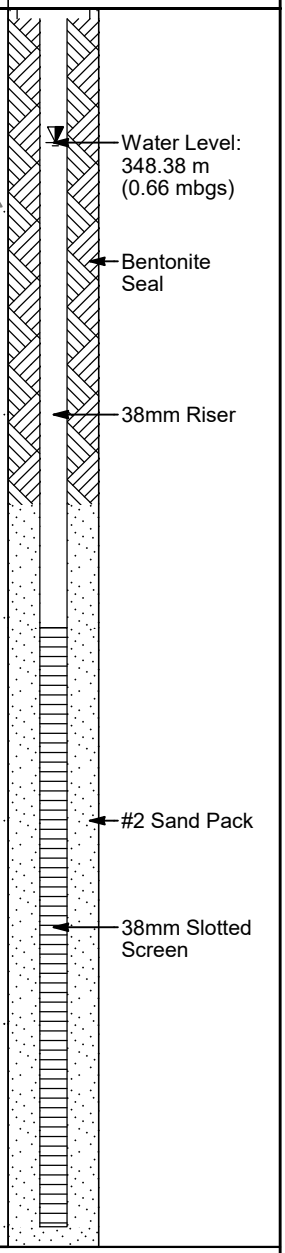
CMT Engineering Inc.
1011 Industrial Crescent
St. Clements, Ontario, N0B 2M0
Telephone: 519-699-5775
Fax: 519-699-4664

BOREHOLE NUMBER 6

PROJECT: Proposed Development
PROJECT ADDRESS: 5782 6th Line East
PROJECT NUMBER: 21-209
PROJECT LOCATION: Ariss, Ontario
DRILLING DATE: 21-5-26
GROUND ELEVATION: 349.04 m
DRILLING CONTRACTOR: CMT Drilling Inc.
LOGGED BY: J. Feeney
DRILLING EQUIPMENT: Geoprobe 7822DT
SAMPLING METHOD: SPT

DEPTH (m)	MATERIAL DESCRIPTION	Depth, Elevation (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)
0	**Topsoil:** Loose, dark brown, silty, organic topsoil, moist (610 mm)	0.00, 349.04	SPT 1	49	1-2-4-5 (6)
1	**Sand and Gravel Fill:** Dense, brown sand and gravel fill, trace silt, moist (1,680 mm)	0.61, 348.43	SPT 2	74	15-24-23-15 (47)
	becoming compact and saturated	1.52, 347.52	SPT 3	16	9-6-7-6 (13)
2					
	Sandy Silt: Compact, brown sand and silt, some clay, trace gravel, moist	2.29, 346.75	SPT 4	100	4-7-9-8 (16)
3	becoming loose	3.05, 345.99	SPT 5	100	2-2-5-6 (7)
4			MC5 6	100	
			SPT 7	100	4-4-5-6 (9)
5			MC5 8	100	
6	Bottom of borehole at 6.10 m, Elevation 342.94 m.				

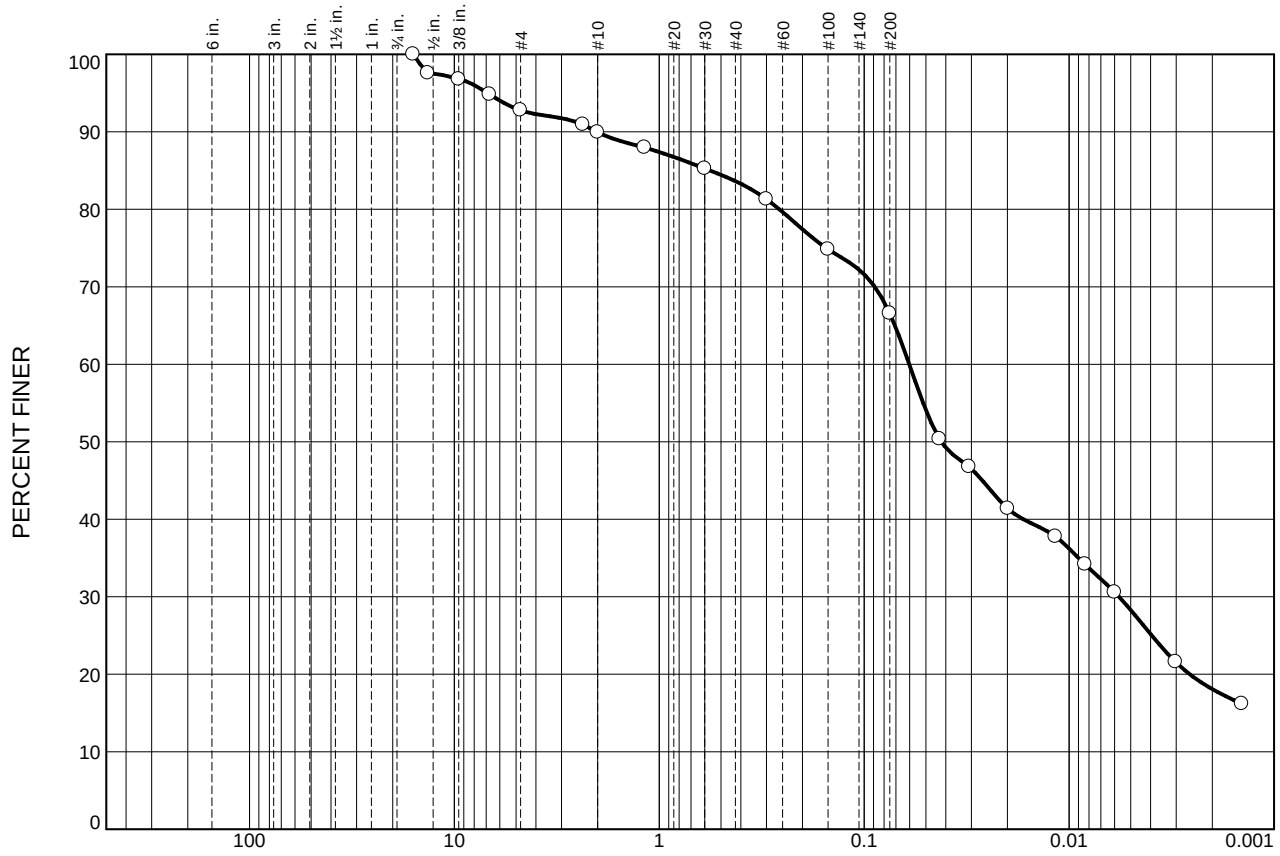




BOREHOLE LOG WITH WELL2 21-209.GPJ CMT_TEMPLATE_2020-05-15.GDT 21-6-9

APPENDIX D:
GRAIN SIZE ANALYSES (CMT 2021)

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.2	2.9	6.3	17.0	48.5	18.1

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH1	4	2.29-2.90m	sandy silt, some clay, trace gravel	ML
				Estimated Coefficient of Permeability; k = 1.22 x 10^{-6} cm/sec	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

St. Clements, ON

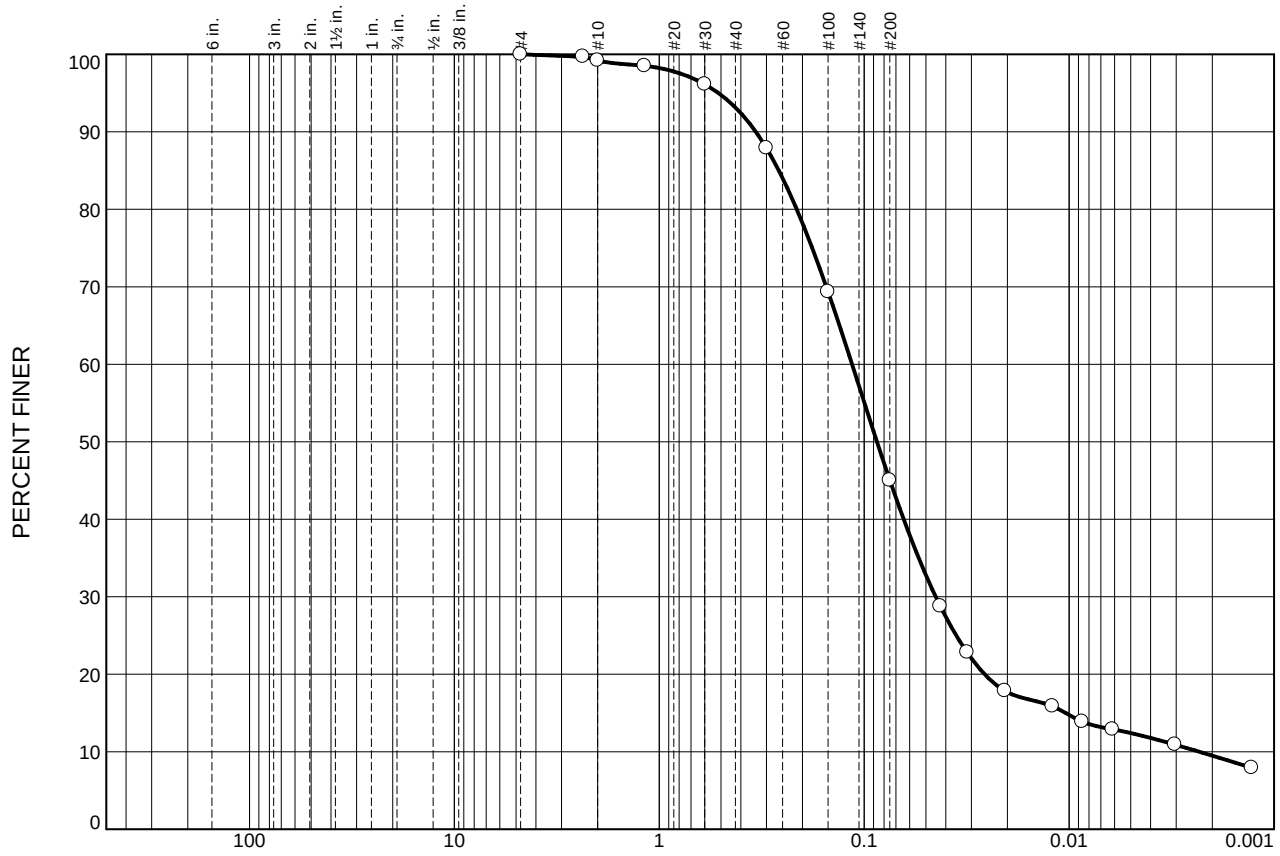
Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209

Figure 1

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	0.8	6.1	48.1	35.5	9.5

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH2	2	0.76-1.37m	sand and silt, trace clay	SM
				Estimated Percolation Rate; T = 20 min/cm	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

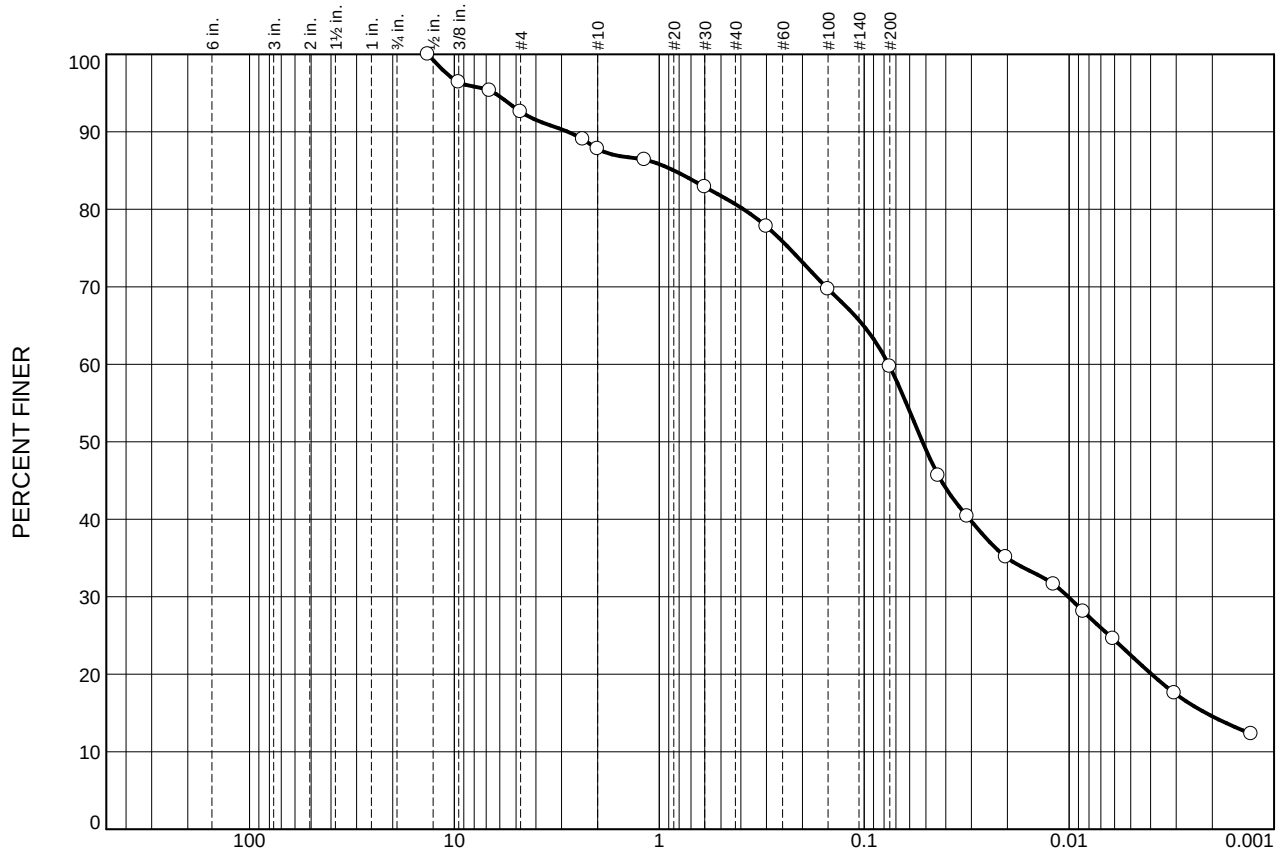
St. Clements, ON

Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209 **Figure** 2

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.4	4.8	7.1	21.0	45.1	14.6

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH3	5	3.05-3.66m	sandy silt, some clay, trace gravel	ML
				Estimated Coefficient of Permeability; k = 2.44 x 10^{-6} cm/sec	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

St. Clements, ON

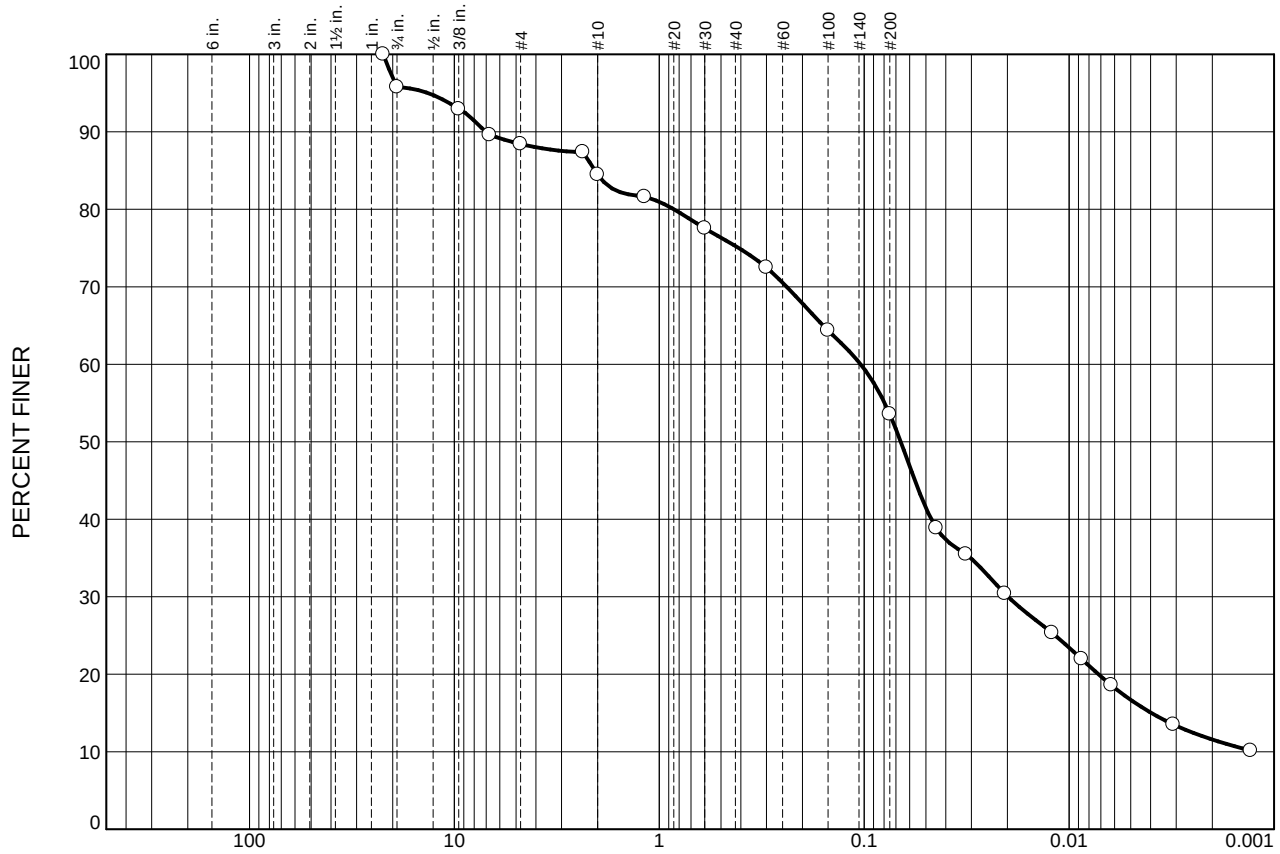
Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209

Figure 3

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	4.2	7.4	3.9	9.2	21.7	42.0	11.6

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH4	3	1.52-2.13m	sandy silt, some clay, and gravel	ML
				Estimated Percolation Rate; T = 25min/cm	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

St. Clements, ON

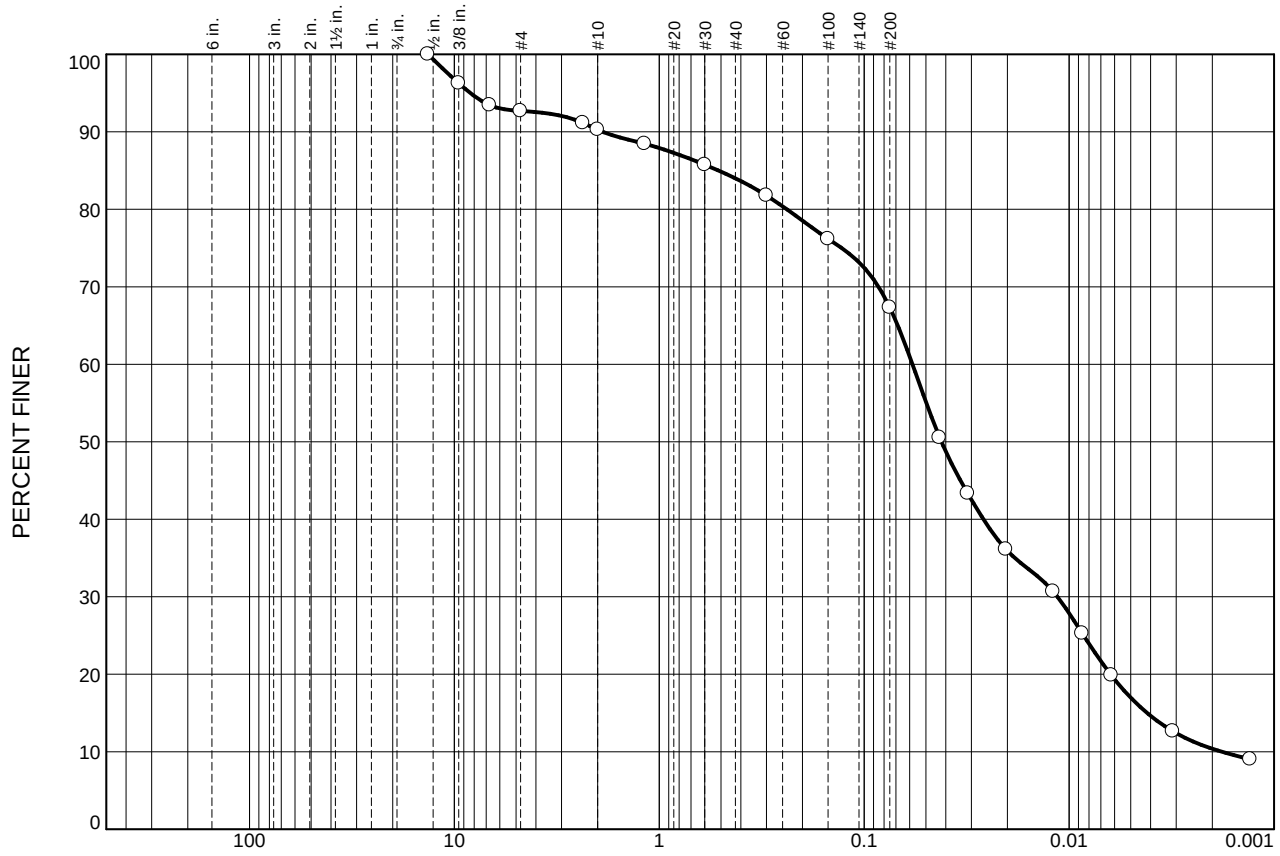
Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209

Figure 4

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	7.3	2.4	6.3	16.7	56.9	10.4

SOIL DATA

SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH5	3	1.52-2.13m	sandy silt, some clay, trace gravel	ML
				Estimated Percolation Rate; T = 30 min/cm	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

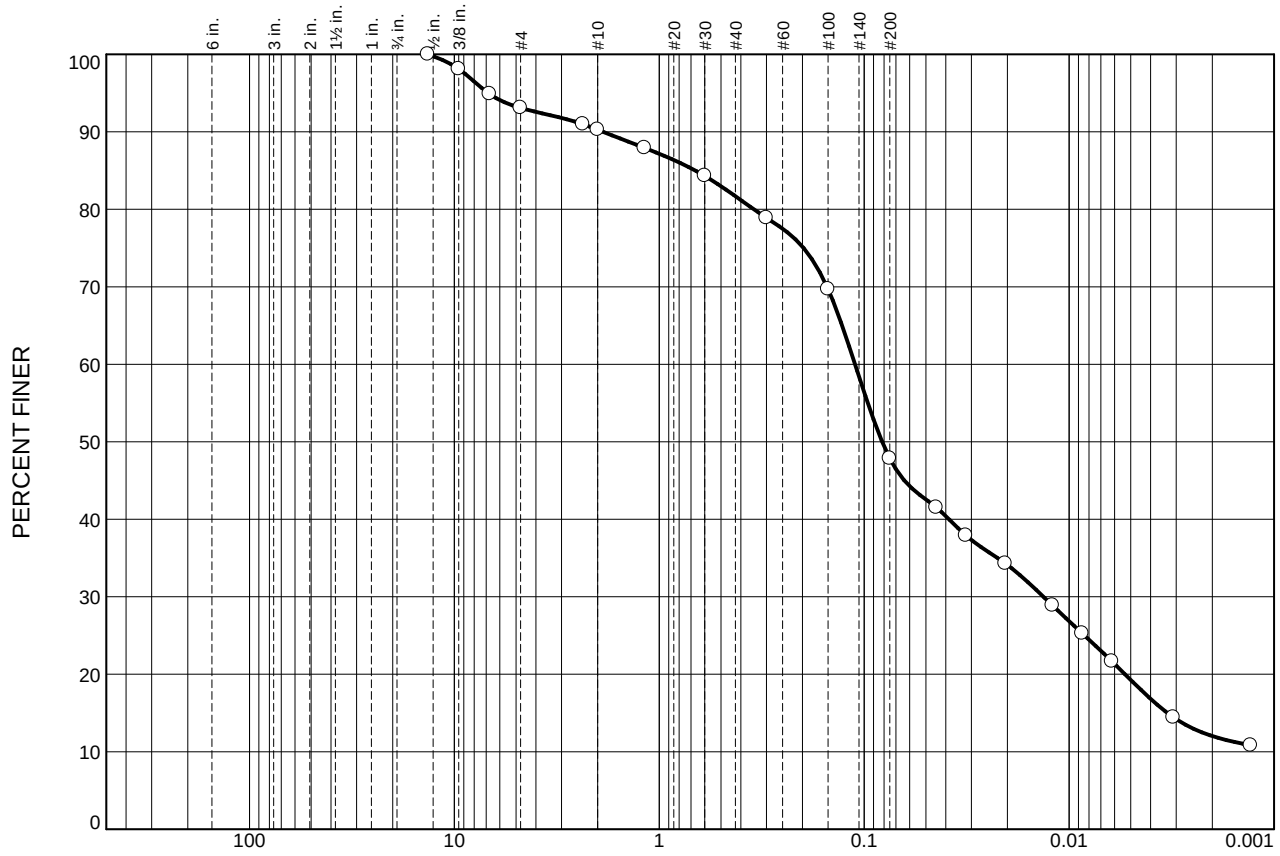
St. Clements, ON

Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209 **Figure** 5

Particle Size Distribution Report



	% Cobbles	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	6.9	2.8	8.6	33.9	35.8	12.0

SOIL DATA					
SYMBOL	SOURCE	SAMPLE NO.	DEPTH (ft.)	Material Description	USCS
○	BH6	5	3.05-3.66m	sand and silt, some clay, trace gravel	SM
				Estimated Coefficient of Permeability; k = 4.08 x 10^{-6} cm/sec	
				Sampled by JF of CMT Engineering Inc., May 13, 2021	
				Tested by JM of CMT Engineering Inc., May 28, 2021	

CMT Engineering Inc.

St. Clements, ON

Client: Will-O Homes

Project: 5782 6th Line East
Ariss, Ontario

Project No.: 21-209 **Figure** 6

APPENDIX E:
LABORATORY CERTIFICATE OF ANALYSIS OF SHALLOW GROUNDWATER QUALITY

Your Project #: 420099-2
Site Location: ARISS
Your C.O.C. #: 822162-10-01

Attention: Abdi Faarah

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

Report Date: 2023/02/17
Report #: R7513552
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C343999
Received: 2023/02/14, 08:54

Sample Matrix: Ground Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	5	N/A	2023/02/15	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	5	N/A	2023/02/15	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	5	N/A	2023/02/16	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	5	N/A	2023/02/15	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	5	N/A	2023/02/15	CAM SOP-00446	SM 23 5310 B m
Hardness (calculated as CaCO3)	5	N/A	2023/02/16	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	5	N/A	2023/02/16	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	5	N/A	2023/02/16		
Anion and Cation Sum	5	N/A	2023/02/16		
Total Ammonia-N	5	N/A	2023/02/16	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	5	N/A	2023/02/16	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	5	2023/02/15	2023/02/15	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	5	N/A	2023/02/16	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	5	N/A	2023/02/16		Auto Calc
Sat. pH and Langelier Index (@ 4C)	5	N/A	2023/02/16		Auto Calc
Sulphate by Automated Turbidimetry	5	N/A	2023/02/16	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids (TDS calc)	5	N/A	2023/02/16		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report.

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Your Project #: 420099-2
Site Location: ARISS
Your C.O.C. #: 822162-10-01

Attention: Abdi Faarah

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

Report Date: 2023/02/17
Report #: R7513552
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C343999

Received: 2023/02/14, 08:54

Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
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:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

RCAP - COMPREHENSIVE (GROUND WATER)

Bureau Veritas ID		VBG897			VBG897			VBG898		
Sampling Date		2023/02/10 12:30			2023/02/10 12:30			2023/02/10 13:00		
	UNITS	BH-1	RDL	QC Batch	BH-1 Lab-Dup	RDL	QC Batch	BH-2	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	7.04	N/A	8505208				6.32	N/A	8505208
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	270	1.0	8505205				280	1.0	8505205
Calculated TDS	mg/L	370	1.0	8505211				320	1.0	8505211
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.8	1.0	8505205				3.1	1.0	8505205
Cation Sum	me/L	7.09	N/A	8505208				6.20	N/A	8505208
Hardness (CaCO3)	mg/L	330	1.0	8505206				220	1.0	8505206
Ion Balance (% Difference)	%	0.380	N/A	8505207				0.910	N/A	8505207
Langelier Index (@ 20C)	N/A	0.858		8505209				0.711		8505209
Langelier Index (@ 4C)	N/A	0.609		8505210				0.462		8505210
Saturation pH (@ 20C)	N/A	7.20		8505209				7.37		8505209
Saturation pH (@ 4C)	N/A	7.45		8505210				7.61		8505210
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	8507702				<0.050	0.050	8507702
Conductivity	umho/cm	640	1.0	8505428				550	1.0	8505428
Dissolved Organic Carbon	mg/L	0.69	0.40	8506504				2.1	0.40	8506504
Orthophosphate (P)	mg/L	<0.010	0.010	8505684	<0.010	0.010	8505684	<0.010	0.010	8505684
pH	pH	8.06		8505410				8.08		8505410
Dissolved Sulphate (SO4)	mg/L	58	1.0	8505679	60	1.0	8505679	7.6	1.0	8505679
Alkalinity (Total as CaCO3)	mg/L	270	1.0	8505418				280	1.0	8505418
Dissolved Chloride (Cl-)	mg/L	11	1.0	8506667				17	1.0	8506667
Nitrite (N)	mg/L	<0.010	0.010	8504649				<0.010	0.010	8504649
Nitrate (N)	mg/L	2.16	0.10	8504649				0.27	0.10	8504649
Nitrate + Nitrite (N)	mg/L	2.16	0.10	8504649				0.27	0.10	8504649
Metals										
Dissolved Aluminum (Al)	ug/L	5.2	4.9	8507959	<4.9	4.9	8507959	5.7	4.9	8507959
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	8507959	<0.50	0.50	8507959	<0.50	0.50	8507959
Dissolved Arsenic (As)	ug/L	<1.0	1.0	8507959	<1.0	1.0	8507959	1.9	1.0	8507959
Dissolved Barium (Ba)	ug/L	67	2.0	8507959	68	2.0	8507959	43	2.0	8507959
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	8507959	<0.40	0.40	8507959	<0.40	0.40	8507959
Dissolved Boron (B)	ug/L	26	10	8507959	26	10	8507959	71	10	8507959

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

RCAP - COMPREHENSIVE (GROUND WATER)

Bureau Veritas ID		VBG897			VBG897			VBG898		
Sampling Date		2023/02/10 12:30			2023/02/10 12:30			2023/02/10 13:00		
	UNITS	BH-1	RDL	QC Batch	BH-1 Lab-Dup	RDL	QC Batch	BH-2	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	8507959	<0.090	0.090	8507959	<0.090	0.090	8507959
Dissolved Calcium (Ca)	ug/L	65000	200	8507959	65000	200	8507959	41000	200	8507959
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	8507959	<5.0	5.0	8507959	<5.0	5.0	8507959
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	8507959	<0.50	0.50	8507959	<0.50	0.50	8507959
Dissolved Copper (Cu)	ug/L	1.2	0.90	8507959	1.2	0.90	8507959	1.0	0.90	8507959
Dissolved Iron (Fe)	ug/L	<100	100	8507959	<100	100	8507959	<100	100	8507959
Dissolved Lead (Pb)	ug/L	<0.50	0.50	8507959	<0.50	0.50	8507959	<0.50	0.50	8507959
Dissolved Magnesium (Mg)	ug/L	40000	50	8507959	40000	50	8507959	29000	50	8507959
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	8507959	<2.0	2.0	8507959	9.0	2.0	8507959
Dissolved Molybdenum (Mo)	ug/L	6.7	0.50	8507959	6.7	0.50	8507959	15	0.50	8507959
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	8507959	<1.0	1.0	8507959	1.5	1.0	8507959
Dissolved Phosphorus (P)	ug/L	<100	100	8507959	<100	100	8507959	<100	100	8507959
Dissolved Potassium (K)	ug/L	2600	200	8507959	2600	200	8507959	2800	200	8507959
Dissolved Selenium (Se)	ug/L	<2.0	2.0	8507959	<2.0	2.0	8507959	<2.0	2.0	8507959
Dissolved Silicon (Si)	ug/L	6200	50	8507959	6200	50	8507959	6600	50	8507959
Dissolved Silver (Ag)	ug/L	<0.090	0.090	8507959	<0.090	0.090	8507959	<0.090	0.090	8507959
Dissolved Sodium (Na)	ug/L	12000	100	8507959	12000	100	8507959	40000	100	8507959
Dissolved Strontium (Sr)	ug/L	300	1.0	8507959	300	1.0	8507959	300	1.0	8507959
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	8507959	<0.050	0.050	8507959	<0.050	0.050	8507959
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	8507959	<5.0	5.0	8507959	<5.0	5.0	8507959
Dissolved Uranium (U)	ug/L	2.4	0.10	8507959	2.4	0.10	8507959	0.92	0.10	8507959
Dissolved Vanadium (V)	ug/L	1.0	0.50	8507959	1.0	0.50	8507959	0.55	0.50	8507959
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	8507959	<5.0	5.0	8507959	<5.0	5.0	8507959

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

RCAP - COMPREHENSIVE (GROUND WATER)

Bureau Veritas ID		VBG898			VBG899	VBG900		VBG901		
Sampling Date		2023/02/10 13:00			2023/02/10 13:30	2023/02/10 14:30		2023/02/10 16:00		
	UNITS	BH-2 Lab-Dup	RDL	QC Batch	BH-4	BH-5	RDL	BH-6	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L				6.97	7.12	N/A	9.44	N/A	8505208
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				270	260	1.0	240	1.0	8505205
Calculated TDS	mg/L				370	370	1.0	510	1.0	8505211
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.6	2.7	1.0	2.3	1.0	8505205
Cation Sum	me/L				6.90	7.05	N/A	10.0	N/A	8505208
Hardness (CaCO3)	mg/L				330	310	1.0	360	1.0	8505206
Ion Balance (% Difference)	%				0.490	0.460	N/A	3.01	N/A	8505207
Langelier Index (@ 20C)	N/A				0.898	0.825		0.796		8505209
Langelier Index (@ 4C)	N/A				0.650	0.576		0.549		8505210
Saturation pH (@ 20C)	N/A				7.12	7.22		7.21		8505209
Saturation pH (@ 4C)	N/A				7.37	7.47		7.45		8505210
Inorganics										
Total Ammonia-N	mg/L				<0.050	<0.050	0.050	<0.050	0.050	8507702
Conductivity	umho/cm	560	1.0	8505428	610	640	1.0	990	1.0	8505428
Dissolved Organic Carbon	mg/L				0.95	0.87	0.40	1.2	0.40	8506504
Orthophosphate (P)	mg/L				<0.010	0.028	0.010	<0.010	0.010	8505684
pH	pH	8.08		8505410	8.02	8.04		8.00		8505410
Dissolved Sulphate (SO4)	mg/L				71	68	1.0	32	1.0	8505679
Alkalinity (Total as CaCO3)	mg/L	280	1.0	8505418	270	270	1.0	250	1.0	8505418
Dissolved Chloride (Cl-)	mg/L				2.8	13	1.0	140	2.0	8506667
Nitrite (N)	mg/L				<0.010	<0.010	0.010	<0.010	0.010	8504649
Nitrate (N)	mg/L				<0.10	0.25	0.10	<0.10	0.10	8504649
Nitrate + Nitrite (N)	mg/L				<0.10	0.25	0.10	<0.10	0.10	8504649
Metals										
Dissolved Aluminum (Al)	ug/L				<4.9	6.4	4.9	<4.9	4.9	8507959
Dissolved Antimony (Sb)	ug/L				<0.50	<0.50	0.50	<0.50	0.50	8507959
Dissolved Arsenic (As)	ug/L				<1.0	<1.0	1.0	<1.0	1.0	8507959
Dissolved Barium (Ba)	ug/L				84	110	2.0	110	2.0	8507959
Dissolved Beryllium (Be)	ug/L				<0.40	<0.40	0.40	<0.40	0.40	8507959
Dissolved Boron (B)	ug/L				17	67	10	48	10	8507959

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

RCAP - COMPREHENSIVE (GROUND WATER)

Bureau Veritas ID		VBG898			VBG899	VBG900		VBG901		
Sampling Date		2023/02/10 13:00			2023/02/10 13:30	2023/02/10 14:30		2023/02/10 16:00		
	UNITS	BH-2 Lab-Dup	RDL	QC Batch	BH-4	BH-5	RDL	BH-6	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L				<0.090	<0.090	0.090	<0.090	0.090	8507959
Dissolved Calcium (Ca)	ug/L				77000	62000	200	75000	200	8507959
Dissolved Chromium (Cr)	ug/L				<5.0	<5.0	5.0	<5.0	5.0	8507959
Dissolved Cobalt (Co)	ug/L				<0.50	<0.50	0.50	<0.50	0.50	8507959
Dissolved Copper (Cu)	ug/L				1.6	0.99	0.90	1.7	0.90	8507959
Dissolved Iron (Fe)	ug/L				<100	<100	100	<100	100	8507959
Dissolved Lead (Pb)	ug/L				<0.50	1.1	0.50	<0.50	0.50	8507959
Dissolved Magnesium (Mg)	ug/L				34000	37000	50	42000	50	8507959
Dissolved Manganese (Mn)	ug/L				<2.0	7.8	2.0	3.3	2.0	8507959
Dissolved Molybdenum (Mo)	ug/L				21	5.6	0.50	14	0.50	8507959
Dissolved Nickel (Ni)	ug/L				1.0	<1.0	1.0	<1.0	1.0	8507959
Dissolved Phosphorus (P)	ug/L				<100	<100	100	<100	100	8507959
Dissolved Potassium (K)	ug/L				1800	2400	200	1800	200	8507959
Dissolved Selenium (Se)	ug/L				<2.0	<2.0	2.0	<2.0	2.0	8507959
Dissolved Silicon (Si)	ug/L				5000	4900	50	6700	50	8507959
Dissolved Silver (Ag)	ug/L				<0.090	<0.090	0.090	<0.090	0.090	8507959
Dissolved Sodium (Na)	ug/L				4100	19000	100	64000	100	8507959
Dissolved Strontium (Sr)	ug/L				130	550	1.0	550	1.0	8507959
Dissolved Thallium (Tl)	ug/L				<0.050	<0.050	0.050	<0.050	0.050	8507959
Dissolved Titanium (Ti)	ug/L				<5.0	<5.0	5.0	<5.0	5.0	8507959
Dissolved Uranium (U)	ug/L				1.5	2.5	0.10	0.64	0.10	8507959
Dissolved Vanadium (V)	ug/L				0.55	0.77	0.50	0.50	0.50	8507959
Dissolved Zinc (Zn)	ug/L				<5.0	<5.0	5.0	<5.0	5.0	8507959

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: VBG897
Sample ID: BH-1
Matrix: Ground Water

Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8505205	N/A	2023/02/15	Automated Statchk
Chloride by Automated Colourimetry	KONE	8506667	N/A	2023/02/16	Samuel Law
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8506504	N/A	2023/02/15	Gyulshen Idriz
Hardness (calculated as CaCO3)		8505206	N/A	2023/02/16	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Ion Balance (% Difference)	CALC	8505207	N/A	2023/02/16	Automated Statchk
Anion and Cation Sum	CALC	8505208	N/A	2023/02/16	Automated Statchk
Total Ammonia-N	LACH/NH4	8507702	N/A	2023/02/16	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	8504649	N/A	2023/02/16	Chandra Nandlal
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8505209	N/A	2023/02/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8505210	N/A	2023/02/16	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8505211	N/A	2023/02/16	Automated Statchk

Bureau Veritas ID: VBG897 Dup
Sample ID: BH-1
Matrix: Ground Water

Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan

Bureau Veritas ID: VBG898
Sample ID: BH-2
Matrix: Ground Water

Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8505205	N/A	2023/02/15	Automated Statchk
Chloride by Automated Colourimetry	KONE	8506667	N/A	2023/02/16	Samuel Law
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8506504	N/A	2023/02/15	Gyulshen Idriz
Hardness (calculated as CaCO3)		8505206	N/A	2023/02/16	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Ion Balance (% Difference)	CALC	8505207	N/A	2023/02/16	Automated Statchk
Anion and Cation Sum	CALC	8505208	N/A	2023/02/16	Automated Statchk
Total Ammonia-N	LACH/NH4	8507702	N/A	2023/02/16	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	8504649	N/A	2023/02/16	Chandra Nandlal
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai

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TEST SUMMARY

Bureau Veritas ID: VBG898
Sample ID: BH-2
Matrix: Ground Water
Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8505209	N/A	2023/02/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8505210	N/A	2023/02/16	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8505211	N/A	2023/02/16	Automated Statchk

Bureau Veritas ID: VBG898 Dup
Sample ID: BH-2
Matrix: Ground Water
Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai

Bureau Veritas ID: VBG899
Sample ID: BH-4
Matrix: Ground Water
Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8505205	N/A	2023/02/15	Automated Statchk
Chloride by Automated Colourimetry	KONE	8506667	N/A	2023/02/16	Samuel Law
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8506504	N/A	2023/02/15	Gyulshen Idriz
Hardness (calculated as CaCO3)		8505206	N/A	2023/02/16	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Ion Balance (% Difference)	CALC	8505207	N/A	2023/02/16	Automated Statchk
Anion and Cation Sum	CALC	8505208	N/A	2023/02/16	Automated Statchk
Total Ammonia-N	LACH/NH4	8507702	N/A	2023/02/16	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	8504649	N/A	2023/02/16	Chandra Nandlal
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8505209	N/A	2023/02/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8505210	N/A	2023/02/16	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8505211	N/A	2023/02/16	Automated Statchk

Bureau Veritas ID: VBG900
Sample ID: BH-5
Matrix: Ground Water
Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai

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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: VBG900
Sample ID: BH-5
Matrix: Ground Water

Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	8505205	N/A	2023/02/15	Automated Statchk
Chloride by Automated Colourimetry	KONE	8506667	N/A	2023/02/16	Samuel Law
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8506504	N/A	2023/02/15	Gyulshen Idriz
Hardness (calculated as CaCO3)		8505206	N/A	2023/02/16	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Ion Balance (% Difference)	CALC	8505207	N/A	2023/02/16	Automated Statchk
Anion and Cation Sum	CALC	8505208	N/A	2023/02/16	Automated Statchk
Total Ammonia-N	LACH/NH4	8507702	N/A	2023/02/16	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	8504649	N/A	2023/02/16	Chandra Nandlal
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8505209	N/A	2023/02/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8505210	N/A	2023/02/16	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8505211	N/A	2023/02/16	Automated Statchk

Bureau Veritas ID: VBG901
Sample ID: BH-6
Matrix: Ground Water

Collected: 2023/02/10
Shipped:
Received: 2023/02/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8505418	N/A	2023/02/15	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8505205	N/A	2023/02/15	Automated Statchk
Chloride by Automated Colourimetry	KONE	8506667	N/A	2023/02/16	Samuel Law
Conductivity	AT	8505428	N/A	2023/02/15	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8506504	N/A	2023/02/15	Gyulshen Idriz
Hardness (calculated as CaCO3)		8505206	N/A	2023/02/16	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8507959	N/A	2023/02/16	Nan Raykha
Ion Balance (% Difference)	CALC	8505207	N/A	2023/02/16	Automated Statchk
Anion and Cation Sum	CALC	8505208	N/A	2023/02/16	Automated Statchk
Total Ammonia-N	LACH/NH4	8507702	N/A	2023/02/16	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	8504649	N/A	2023/02/16	Chandra Nandlal
pH	AT	8505410	2023/02/15	2023/02/15	Surinder Rai
Orthophosphate	KONE	8505684	N/A	2023/02/16	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8505209	N/A	2023/02/16	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8505210	N/A	2023/02/16	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8505679	N/A	2023/02/16	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8505211	N/A	2023/02/16	Automated Statchk

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GENERAL COMMENTS

Results relate only to the items tested.

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Bureau Veritas Job #: C343999
Report Date: 2023/02/17

QUALITY ASSURANCE REPORT

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8504649	Nitrate (N)	2023/02/16	103	80 - 120	100	80 - 120	<0.10	mg/L	1.3	20
8504649	Nitrite (N)	2023/02/16	NC	80 - 120	109	80 - 120	<0.010	mg/L	2.5	20
8505410	pH	2023/02/15			102	98 - 103			0.078	N/A
8505418	Alkalinity (Total as CaCO3)	2023/02/15			100	85 - 115	<1.0	mg/L	0.15	20
8505428	Conductivity	2023/02/15			105	85 - 115	<1.0	umho/cm	0.54	25
8505679	Dissolved Sulphate (SO4)	2023/02/16	NC	75 - 125	111	80 - 120	<1.0	mg/L	2.8	20
8505684	Orthophosphate (P)	2023/02/16	93	75 - 125	95	80 - 120	<0.010	mg/L	NC	20
8506504	Dissolved Organic Carbon	2023/02/15	96	80 - 120	101	80 - 120	<0.40	mg/L	16	20
8506667	Dissolved Chloride (Cl-)	2023/02/16	NC	80 - 120	103	80 - 120	<1.0	mg/L	3.7	20
8507702	Total Ammonia-N	2023/02/16	99	75 - 125	98	80 - 120	<0.050	mg/L	4.3	20
8507959	Dissolved Aluminum (Al)	2023/02/16	105	80 - 120	101	80 - 120	<4.9	ug/L	6.8	20
8507959	Dissolved Antimony (Sb)	2023/02/16	109	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
8507959	Dissolved Arsenic (As)	2023/02/16	105	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
8507959	Dissolved Barium (Ba)	2023/02/16	104	80 - 120	100	80 - 120	<2.0	ug/L	0.67	20
8507959	Dissolved Beryllium (Be)	2023/02/16	107	80 - 120	100	80 - 120	<0.40	ug/L	NC	20
8507959	Dissolved Boron (B)	2023/02/16	107	80 - 120	96	80 - 120	<10	ug/L	1.6	20
8507959	Dissolved Cadmium (Cd)	2023/02/16	107	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
8507959	Dissolved Calcium (Ca)	2023/02/16	NC	80 - 120	100	80 - 120	<200	ug/L	0.024	20
8507959	Dissolved Chromium (Cr)	2023/02/16	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
8507959	Dissolved Cobalt (Co)	2023/02/16	102	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
8507959	Dissolved Copper (Cu)	2023/02/16	107	80 - 120	101	80 - 120	<0.90	ug/L	4.3	20
8507959	Dissolved Iron (Fe)	2023/02/16	104	80 - 120	98	80 - 120	<100	ug/L	NC	20
8507959	Dissolved Lead (Pb)	2023/02/16	106	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
8507959	Dissolved Magnesium (Mg)	2023/02/16	NC	80 - 120	97	80 - 120	<50	ug/L	0.48	20
8507959	Dissolved Manganese (Mn)	2023/02/16	104	80 - 120	99	80 - 120	<2.0	ug/L	NC	20
8507959	Dissolved Molybdenum (Mo)	2023/02/16	113	80 - 120	106	80 - 120	<0.50	ug/L	0.090	20
8507959	Dissolved Nickel (Ni)	2023/02/16	101	80 - 120	96	80 - 120	<1.0	ug/L	NC	20
8507959	Dissolved Phosphorus (P)	2023/02/16	115	80 - 120	114	80 - 120	<100	ug/L	NC	20
8507959	Dissolved Potassium (K)	2023/02/16	107	80 - 120	102	80 - 120	<200	ug/L	0.76	20
8507959	Dissolved Selenium (Se)	2023/02/16	105	80 - 120	96	80 - 120	<2.0	ug/L	NC	20
8507959	Dissolved Silicon (Si)	2023/02/16	102	80 - 120	99	80 - 120	<50	ug/L	0.66	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
8507959	Dissolved Silver (Ag)	2023/02/16	108	80 - 120	102	80 - 120	<0.090	ug/L	NC	20
8507959	Dissolved Sodium (Na)	2023/02/16	102	80 - 120	98	80 - 120	<100	ug/L	0.85	20
8507959	Dissolved Strontium (Sr)	2023/02/16	104	80 - 120	100	80 - 120	<1.0	ug/L	0.18	20
8507959	Dissolved Thallium (Tl)	2023/02/16	109	80 - 120	98	80 - 120	<0.050	ug/L	NC	20
8507959	Dissolved Titanium (Ti)	2023/02/16	103	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
8507959	Dissolved Uranium (U)	2023/02/16	105	80 - 120	98	80 - 120	<0.10	ug/L	1.9	20
8507959	Dissolved Vanadium (V)	2023/02/16	104	80 - 120	98	80 - 120	<0.50	ug/L	0.29	20
8507959	Dissolved Zinc (Zn)	2023/02/16	104	80 - 120	98	80 - 120	<5.0	ug/L	NC	20

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 spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 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 (absolute difference <= 2x RDL).

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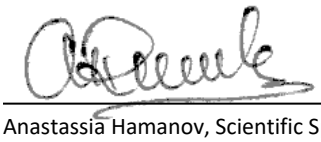
Bureau Veritas Job #: C343999
Report Date: 2023/02/17

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: ARISS
Sampler Initials: AF

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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BUREAU VERITAS

Bureau Veritas Laboratories
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CHAIN OF CUSTODY

14-Feb-23 08:54
Ashton Gibson
C343999
AN4 ENV-1117

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1067 GM BluePlan Engineering Limited	Company Name:		Quotation #:	B47865
Attention:	Joe Rotondi	Attention:	Abdi Farah ; Matt Long	P.O. #:	
Address:	650 Woodlawn Rd W Block C, Unit 2 Guelph ON N1K 1B8	Address:		Project:	420099-2
Tel:	(519) 824-8150 Fax: (519) 824-8089	Tel:	Fax:	Project Name:	Ariss
Email:	~~jrotondi@gamcby.com~~ info@gmblueplan.ca	Email:	abdi.farah@gmblueplan.ca	Site #:	
				Sampled By:	Abdi Farah

Order #: 822162

COC #: C#822162-10-01

Project Manager: Ashton Gibson

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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	Alkalinity	Chloride by Automated Colourimetry	Conductivity	Total Ammonia-N	Nitrate (NO3) and Nitrite (NO2) in Water	Total Phosphorus (Colourimetric)	total/dissolved metals	RCAP - Comprehensive	Nitrates + Nitrites		# of Bottles	Comments
1		BH-1	2023/02/10	12:30	GW									✓	✓		4	
2		BH-2		13:00	GW									✓	✓		4	
3		BH-4		13:30	GW									✓	✓		4	
4		BH-5		14:30	GW									✓	✓		4	
5		BH-6		16:00	GW									✓	✓		4	
6																		
7																		
8																		
9																		
10																		REC'D IN WATERLOO

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
AN / Abdi Farah	23/02/13	16:30	KINJAL PRAJAPATI	2023/02/14	08:54	
			Adam	23/02/14	15:15	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	1/2/1 °C	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* 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.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

3/4/5 627130

APPENDIX F:
WELL RECORDS FOR TEST (BEDROCK) WELLS

Ontario — Ministry of the Environment, Conservation and Parks

Well Tag No. (Place Sticker and/or Print Below) Tag#:A358994

Well Record

Regulation 903 Ontario Water Resources Act

Page 3 of 3

Measurements recorded in: ☐ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
WILL O HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
55 REINHART PLACE P.O BOX 187	PETERSBURG	ONT	N0B2H0	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	17	5

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	550610	4825136		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES SILTY			0	23ft
GRAY	CLAY & STONES			23ft	62ft
BROWN	LIMESTONE			62ft	122ft

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	68ft	BENTONITE SLURRY	120gal

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	68ft
6in	open hole		68ft	122ft

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	Other, specify
116ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	68ft	9.5ft
68ft	122ft	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): 100ft

Pumping rate (l/min / GPM): 20gpm

Duration of pumping: 6 hrs + 0 min

Final water level end of pumping (m/ft): 66ft

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

Recommended pump depth (m/ft): 100ft

Recommended pump rate (l/min/GPM): 20gpm

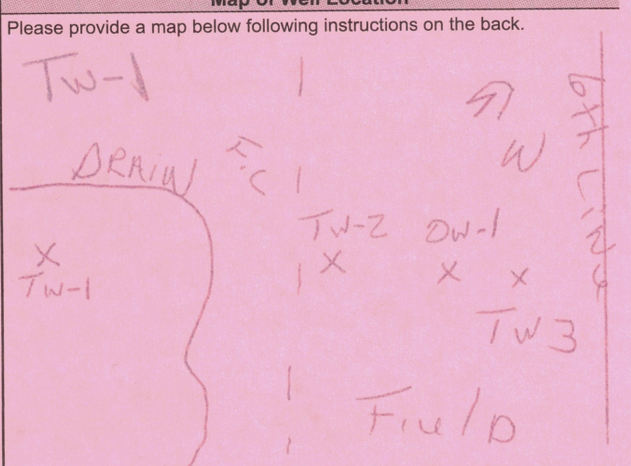
Well production (l/min/GPM):

Disinfected? ☒ Yes ☐ No 150ppm

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	26ft		
1	33ft	1	56ft
2	39ft	2	48ft
3	43ft	3	42ft
4	46ft	4	37ft
5	48ft	5	35ft
10	55ft	10	31ft
15	57ft	15	30ft
20	59ft	20	30ft
25	60ft	25	29ft
30	61ft	30	29ft
40	62ft	40	28ft
50	62ft	50	28ft
60	63ft	60	28ft

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	

Province	Postal Code	Business E-mail Address
ONT	N7A3S9	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
519 524 8154	KEITH LANG

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T446	K. Lang	2023 06 06 (Y Y Y Y M M D D)

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2023 06 13 (Y Y Y Y M M D D)	2023 3 29 (Y Y Y Y M M D D)

Ministry Use Only

Audit No. Z399649

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Well Owner's Copy

Ontario — Ministry of the Environment, Conservation and Parks

Well Tag No. (Place Sticker and/or Print Below) Tag#:A359028

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
WILL O HOMES			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
P.O BOX 55 REINHART PLACE 187	PETERSBURG	ONT	N0B2H0	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	17	5

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD	8 3	17	551083	4825637	

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES			0	23ft
GRAY	CLAY & GRAVEL STONES			23ft	71ft
BROWN	LIMESTONE			71ft	143ft
GRAY	LIMESTONE			143ft	158ft

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	73ft	BENTONITE SLURRY	150gal

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	73ft
6in	open hole		73ft	158ft

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	Other, specify
142ft	☐	☒ Fresh ☐ Untested	
154ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	73ft	9.5in
73ft	158ft	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): 100ft

Pumping rate (l/min / GPM): 20gpm

Duration of pumping: 6 hrs + 0 min

Final water level end of pumping (m/ft)

If flowing give rate (l/min/GPM)

Recommended pump depth (m/ft): 100ft

Recommended pump rate (l/min/GPM): 20gpm

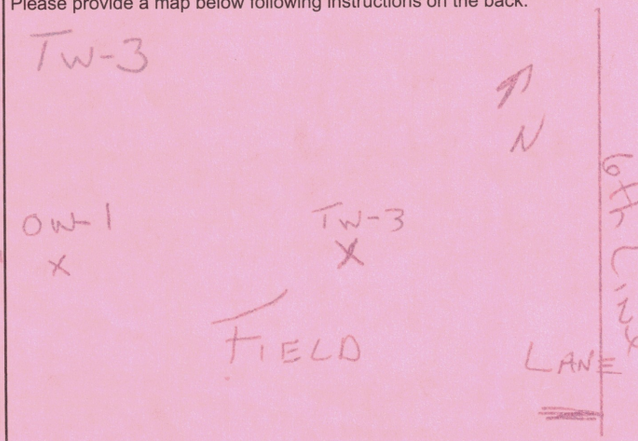
Well production (l/min/GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	18ft		
1	20ft	1	38ft
2	25ft	2	34ft
3	27ft	3	33ft
4	28ft	4	32ft
5	29ft	5	32ft
10	33ft	10	29ft
15	35ft	15	28ft
20	36ft	20	27ft
25	37ft	25	26ft
30	38ft	30	25ft
40	39ft	40	
50	40ft	50	
60	41ft	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	Province	Postal Code	Business E-mail Address
251 ELDON ST GODERICH		ONT	N7A3R9	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
519 524 8139	KEITH LANG	T446	K. Lang	2023 5 16 (Y Y Y Y M M D D)

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2023 5 16 (Y Y Y Y M M D D)	2023 5 16 (Y Y Y Y M M D D)

Ministry Use Only

Audit No. Z399640

Received

Well Owner's Copy

Ontario — Ministry of the Environment, Conservation and Parks

Tag#:A359027

Well Record

Regulation 903 Ontario Water Resources Act

Page 3 of 3

Measurements recorded in: ☐ Metric ☒ Imperial

Well Owner's Information

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

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	17	5

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	550953	4822501		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY STONES GRAVEL			0	24ft
GRAY	CLAY & STONES			24ft	67ft
GRAY	LIMESTONE			67ft	136ft
BROWN	LIMESTONE			136ft	158ft

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	70ft	BENTONITE SLURRY	150gal

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	70ft
6in	open hole		70ft	158ft

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	Hole Diameter Depth From	Hole Diameter Depth To	Hole Diameter Diameter (cm/in)
112ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	0	70ft	9.5in
143ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify	70ft	158ft	6in
153ft (m/ft) ☐ Gas	☒ Fresh ☐ Untested ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason: Pumptest TO BE DONE

Pump intake set at (m/ft) AFTER

Pumping rate (l/min / GPM) 20gpm

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)

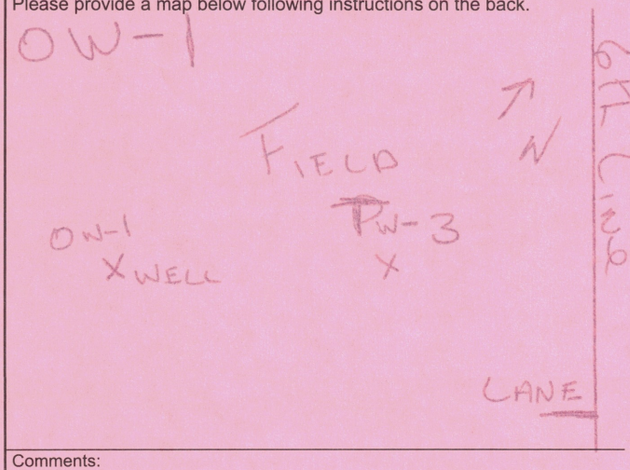
Well production (l/min/GPM)

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	24ft		
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.
KEITH LANG WELL DRILLING INC	7154

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

Province	Postal Code	Business E-mail Address
ONT	N7A3R9	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
519 524 8159	KEITH LANG

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T446	K. Lang	2023 5 17

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

Date Package Delivered: 2023 5 17

Date Work Completed: 2023 5 17

Ministry Use Only

Audit No. Z399641

Received

Well Owner's Copy

Ontario — Ministry of the Environment, Conservation and Parks

Tag#:A359026

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☐ Imperial

Well Owner's Information

First Name	Last Name/Organization	E-mail Address	☐ Well Constructed by Well Owner
WILL O HOMES	inc		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
P.O BOX 5 RR REINHART PLACE 187	PETERSBURG	ONT	N0B2H0	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
	PILKINGTON	17	5

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	551026	4825504		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN	CLAY & STONES GRAVEL			0	31ft
GRAY	CLAY & STONES			31ft	75ft
GRAY	LIMESTONE			75ft	137ft
BROWN	LIMESTONE			137ft	158ft

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	77ft	BENTONITE SLURRY	150gal

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	77ft
6in	openh ole		77ft	158ft

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	Other, specify
126ft	☐	☒ Fresh ☐ Untested	
152ft	☐	☒ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	77ft	9.5in
77ft	158ft	6in

Results of Well Yield Testing

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

If pumping discontinued, give reason: at 50min slowed to 15gpm

Pump intake set at (m/ft): 140ft

Pumping rate (l/min / GPM): 20gpm-15gpm

Duration of pumping: 6hrs + ____ min

Final water level end of pumping (m/ft): 83ft

If flowing give rate (l/min/GPM)

Recommended pump depth (m/ft): 120ft

Recommended pump rate (l/min/GPM): 15gpm

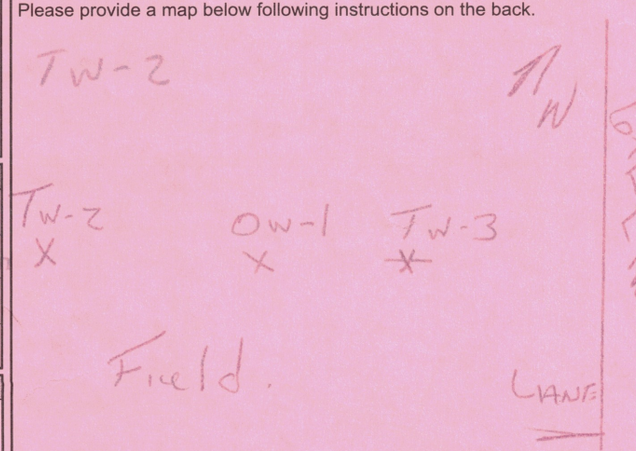
Well production (l/min/GPM)

Disinfected? ☐ Yes ☐ No 150ppm

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		[illegible]		
1	1	123ft	1	79f
2	2	136ft 43ft	2	85ft
3	3	50ft	3	73ft
4	4	55ft	4	59ft
5	5	60ft	5	54ft
10	10	75ft	10	42ft
15	15	84ft	15	37ft
20	20	92ft	20	34ft
25	25	100ft	25	33ft
30	30	108ft	30	32ft
40	40	122ft	40	32ft
50	50	135ft	50	
60	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.
KEITH LANG WELL DRILLING INC	7154

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

Province	Postal Code	Business E-mail Address
ONT	N7A3R9	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
519 524 8159	KEITH LANG

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T446	K. Lang	2023 5 25

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2023 5 25	2023 5 17

Ministry Use Only

Audit No. Z399642

Received

Well Owner's Copy

APPENDIX G:
CERTIFICATES OF ANALYSIS FOR GROUNDWATER QUALITY SAMPLES FROM TEST WELLS

Your Project #: 420099-2
Site Location: .
Your C.O.C. #: 939779-04-01

Attention: Abdi Faarah

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

Report Date: 2023/06/26
Report #: R7689456
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I0050
Received: 2023/06/20, 07:20

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2023/06/22	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2023/06/23	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2023/06/22	CAM SOP-00463	SM 23 4500-Cl E m
Colour	4	N/A	2023/06/26	CAM SOP-00412	SM 23 2120C m
Conductivity	4	N/A	2023/06/22	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2023/06/23	CAM SOP-00446	SM 23 5310 B m
Hardness (calculated as CaCO3)	4	N/A	2023/06/23	CAM SOP 00102/00408/00447	SM 2340 B
Metals Analysis by ICPMS (as received) (2)	4	N/A	2023/06/22	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2023/06/23		
Anion and Cation Sum	4	N/A	2023/06/23		
Total Coliforms/ E. coli, CFU/100mL	4	N/A	2023/06/20	CAM SOP-00551	MECP-E3407
Fecal coliform, (CFU/100mL)	4	N/A	2023/06/20	CAM SOP-00552	
Total Ammonia-N	4	N/A	2023/06/22	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	3	N/A	2023/06/21	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (3)	1	N/A	2023/06/22	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	4	2023/06/21	2023/06/22	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2023/06/22	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2023/06/23		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2023/06/23		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2023/06/22	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids (TDS calc)	4	N/A	2023/06/23		Auto Calc
Turbidity	4	N/A	2023/06/22	CAM SOP-00417	SM 23 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Your Project #: 420099-2
Site Location: .
Your C.O.C. #: 939779-04-01

Attention: Abdi Faarah

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

Report Date: 2023/06/26
Report #: R7689456
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I0050
Received: 2023/06/20, 07:20

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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) Metals analysis was performed on the sample 'as received'.
(3) 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:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

RCAP - COMPREHENSIVE (DRINKING WATER)

Bureau Veritas ID		WDU485		WDU486	WDU487	WDU488		
Sampling Date		2023/06/19 11:08		2023/06/19 12:33	2023/06/19 15:45	2023/06/19 16:55		
COC Number		939779-04-01		939779-04-01	939779-04-01	939779-04-01		
	UNITS	TW-01-S1	QC Batch	TW-01-S2	TW-03-S1	TW-03-S2	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	3.66	8740464	3.66	4.23	4.22	N/A	8740464
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	8740459	180	200	200	1.0	8740459
Calculated TDS	mg/L	190	8740146	190	220	220	1.0	8740146
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.4	8740459	2.3	2.2	2.7	1.0	8740459
Cation Sum	me/L	3.77	8740464	3.71	4.52	4.43	N/A	8740464
Hardness (CaCO3)	mg/L	120	8740138	120	170	170	1.0	8740138
Ion Balance (% Difference)	%	1.49	8740463	0.760	3.34	2.40	N/A	8740463
Langelier Index (@ 20C)	N/A	0.466	8740460	0.442	0.585	0.661		8740460
Langelier Index (@ 4C)	N/A	0.216	8740461	0.192	0.335	0.412		8740461
Saturation pH (@ 20C)	N/A	7.70	8740460	7.71	7.48	7.49		8740460
Saturation pH (@ 4C)	N/A	7.95	8740461	7.96	7.73	7.74		8740461
Inorganics								
Total Ammonia-N	mg/L	0.090	8745089	0.10	0.31	0.28	0.050	8745089
Conductivity	umho/cm	390	8742839	350	410	400	1.0	8742839
Dissolved Organic Carbon	mg/L	0.56	8746572	0.50	1.2	1.2	0.40	8746572
Orthophosphate (P)	mg/L	<0.010	8743432	<0.010	<0.010	<0.010	0.010	8743432
pH	pH	8.17	8742848	8.15	8.07	8.15		8742848
Dissolved Sulphate (SO4)	mg/L	4.2	8743480	3.9	6.9	5.2	1.0	8743480
Alkalinity (Total as CaCO3)	mg/L	180	8742868	180	200	210	1.0	8742868
Dissolved Chloride (Cl-)	mg/L	<1.0	8743476	<1.0	<1.0	<1.0	1.0	8743476
Nitrite (N)	mg/L	<0.010	8743386	<0.010	<0.010	0.010	0.010	8742941
Nitrate (N)	mg/L	<0.10	8743386	<0.10	<0.10	<0.10	0.10	8742941
Metals								
Aluminum (Al)	ug/L	22	8743681	<4.9	6.9	<4.9	4.9	8743681
Antimony (Sb)	ug/L	<0.50	8743681	<0.50	<0.50	<0.50	0.50	8743681
Arsenic (As)	ug/L	1.8	8743681	1.7	<1.0	<1.0	1.0	8743681
Barium (Ba)	ug/L	34	8743681	32	40	43	2.0	8743681
Beryllium (Be)	ug/L	<0.40	8743681	<0.40	<0.40	<0.40	0.40	8743681
Boron (B)	ug/L	68	8743681	68	59	57	10	8743681
Cadmium (Cd)	ug/L	<0.090	8743681	<0.090	<0.090	<0.090	0.090	8743681

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

RCAP - COMPREHENSIVE (DRINKING WATER)

Bureau Veritas ID		WDU485		WDU486	WDU487	WDU488		
Sampling Date		2023/06/19 11:08		2023/06/19 12:33	2023/06/19 15:45	2023/06/19 16:55		
COC Number		939779-04-01		939779-04-01	939779-04-01	939779-04-01		
	UNITS	TW-01-S1	QC Batch	TW-01-S2	TW-03-S1	TW-03-S2	RDL	QC Batch
Calcium (Ca)	ug/L	27000	8743681	26000	40000	39000	200	8743681
Chromium (Cr)	ug/L	<5.0	8743681	<5.0	<5.0	<5.0	5.0	8743681
Cobalt (Co)	ug/L	<0.50	8743681	<0.50	<0.50	<0.50	0.50	8743681
Copper (Cu)	ug/L	<0.90	8743681	<0.90	<0.90	<0.90	0.90	8743681
Iron (Fe)	ug/L	110	8743681	<100	340	<100	100	8743681
Lead (Pb)	ug/L	<0.50	8743681	<0.50	<0.50	<0.50	0.50	8743681
Magnesium (Mg)	ug/L	13000	8743681	13000	17000	17000	50	8743681
Manganese (Mn)	ug/L	12	8743681	9.5	15	7.2	2.0	8743681
Molybdenum (Mo)	ug/L	4.6	8743681	4.5	1.2	0.81	0.50	8743681
Nickel (Ni)	ug/L	<1.0	8743681	<1.0	<1.0	<1.0	1.0	8743681
Phosphorus (P)	ug/L	<100	8743681	<100	<100	<100	100	8743681
Potassium (K)	ug/L	710	8743681	690	1000	1100	200	8743681
Selenium (Se)	ug/L	<2.0	8743681	<2.0	<2.0	<2.0	2.0	8743681
Silicon (Si)	ug/L	5500	8743681	5400	5400	5400	50	8743681
Silver (Ag)	ug/L	<0.090	8743681	<0.090	<0.090	<0.090	0.090	8743681
Sodium (Na)	ug/L	30000	8743681	30000	24000	24000	100	8743681
Strontium (Sr)	ug/L	240	8743681	230	580	640	1.0	8743681
Thallium (Tl)	ug/L	<0.050	8743681	<0.050	<0.050	<0.050	0.050	8743681
Titanium (Ti)	ug/L	<5.0	8743681	<5.0	<5.0	<5.0	5.0	8743681
Uranium (U)	ug/L	0.33	8743681	0.31	0.12	0.10	0.10	8743681
Vanadium (V)	ug/L	<0.50	8743681	<0.50	<0.50	<0.50	0.50	8743681
Zinc (Zn)	ug/L	<5.0	8743681	<5.0	<5.0	<5.0	5.0	8743681

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		WDU485	WDU486	WDU487			WDU487		
Sampling Date		2023/06/19 11:08	2023/06/19 12:33	2023/06/19 15:45			2023/06/19 15:45		
COC Number		939779-04-01	939779-04-01	939779-04-01			939779-04-01		
	UNITS	TW-01-S1	TW-01-S2	TW-03-S1	RDL	QC Batch	TW-03-S1 Lab-Dup	RDL	QC Batch
Inorganics									
Colour	TCU	<2	<2	<2	2	8746775	<2	2	8746775
Turbidity	NTU	0.8	0.1	1.9	0.1	8742695			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		WDU488		
Sampling Date		2023/06/19 16:55		
COC Number		939779-04-01		
	UNITS	TW-03-S2	RDL	QC Batch
Inorganics				
Colour	TCU	<2	2	8746775
Turbidity	NTU	0.4	0.1	8742695

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

MICROBIOLOGY (WATER)

Bureau Veritas ID		WDU485	WDU486	WDU487	WDU488	
Sampling Date		2023/06/19 11:08	2023/06/19 12:33	2023/06/19 15:45	2023/06/19 16:55	
COC Number		939779-04-01	939779-04-01	939779-04-01	939779-04-01	
	UNITS	TW-01-S1	TW-01-S2	TW-03-S1	TW-03-S2	QC Batch
Microbiological						
Fecal coliform	CFU/100mL	0	0	0	0	8740898
Background	CFU/100mL	550	28	280	6	8740880
Total Coliforms	CFU/100mL	0	1	0	0	8740880
Escherichia coli	CFU/100mL	0	0	0	0	8740880
QC Batch = Quality Control Batch						

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: WDU485
Sample ID: TW-01-S1
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8742868	N/A	2023/06/22	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8740459	N/A	2023/06/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	8743476	N/A	2023/06/22	Massarat Jan
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8742839	N/A	2023/06/22	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746572	N/A	2023/06/23	Gyulshen Idriz
Hardness (calculated as CaCO3)		8740138	N/A	2023/06/23	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8743681	N/A	2023/06/22	Azita Fazaeli
Ion Balance (% Difference)	CALC	8740463	N/A	2023/06/23	Automated Statchk
Anion and Cation Sum	CALC	8740464	N/A	2023/06/23	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8740880	N/A	2023/06/20	Farhana Rahman
Fecal coliform, (CFU/100mL)	PL	8740898	N/A	2023/06/20	Yizhou Han
Total Ammonia-N	LACH/NH4	8745089	N/A	2023/06/22	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8743386	N/A	2023/06/22	Chandra Nandlal
pH	AT	8742848	2023/06/21	2023/06/22	Kien Tran
Orthophosphate	KONE	8743432	N/A	2023/06/22	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8740460	N/A	2023/06/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8740461	N/A	2023/06/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8743480	N/A	2023/06/22	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8740146	N/A	2023/06/23	Automated Statchk
Turbidity	AT	8742695	N/A	2023/06/22	Gurparteek KAUR

Bureau Veritas ID: WDU486
Sample ID: TW-01-S2
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8742868	N/A	2023/06/22	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8740459	N/A	2023/06/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	8743476	N/A	2023/06/22	Massarat Jan
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8742839	N/A	2023/06/22	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746572	N/A	2023/06/23	Gyulshen Idriz
Hardness (calculated as CaCO3)		8740138	N/A	2023/06/23	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8743681	N/A	2023/06/22	Azita Fazaeli
Ion Balance (% Difference)	CALC	8740463	N/A	2023/06/23	Automated Statchk
Anion and Cation Sum	CALC	8740464	N/A	2023/06/23	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8740880	N/A	2023/06/20	Farhana Rahman
Fecal coliform, (CFU/100mL)	PL	8740898	N/A	2023/06/20	Yizhou Han
Total Ammonia-N	LACH/NH4	8745089	N/A	2023/06/22	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8742941	N/A	2023/06/21	Chandra Nandlal
pH	AT	8742848	2023/06/21	2023/06/22	Kien Tran
Orthophosphate	KONE	8743432	N/A	2023/06/22	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8740460	N/A	2023/06/23	Automated Statchk

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: WDU486
Sample ID: TW-01-S2
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 4C)	CALC	8740461	N/A	2023/06/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8743480	N/A	2023/06/22	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8740146	N/A	2023/06/23	Automated Statchk
Turbidity	AT	8742695	N/A	2023/06/22	Gurparteek KAUR

Bureau Veritas ID: WDU487
Sample ID: TW-03-S1
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8742868	N/A	2023/06/22	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8740459	N/A	2023/06/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	8743476	N/A	2023/06/22	Massarat Jan
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8742839	N/A	2023/06/22	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746572	N/A	2023/06/23	Gyulshen Idriz
Hardness (calculated as CaCO3)		8740138	N/A	2023/06/23	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8743681	N/A	2023/06/22	Azita Fazaeli
Ion Balance (% Difference)	CALC	8740463	N/A	2023/06/23	Automated Statchk
Anion and Cation Sum	CALC	8740464	N/A	2023/06/23	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8740880	N/A	2023/06/20	Farhana Rahman
Fecal coliform, (CFU/100mL)	PL	8740898	N/A	2023/06/20	Yizhou Han
Total Ammonia-N	LACH/NH4	8745089	N/A	2023/06/22	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8742941	N/A	2023/06/21	Chandra Nandlal
pH	AT	8742848	2023/06/21	2023/06/22	Kien Tran
Orthophosphate	KONE	8743432	N/A	2023/06/22	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8740460	N/A	2023/06/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8740461	N/A	2023/06/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8743480	N/A	2023/06/22	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8740146	N/A	2023/06/23	Automated Statchk
Turbidity	AT	8742695	N/A	2023/06/22	Gurparteek KAUR

Bureau Veritas ID: WDU487 Dup
Sample ID: TW-03-S1
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: WDU488
Sample ID: TW-03-S2
Matrix: Water

Collected: 2023/06/19
Shipped:
Received: 2023/06/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8742868	N/A	2023/06/22	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8740459	N/A	2023/06/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	8743476	N/A	2023/06/22	Massarat Jan
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8742839	N/A	2023/06/22	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746572	N/A	2023/06/23	Gyulshen Idriz
Hardness (calculated as CaCO3)		8740138	N/A	2023/06/23	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8743681	N/A	2023/06/22	Azita Fazaeli
Ion Balance (% Difference)	CALC	8740463	N/A	2023/06/23	Automated Statchk
Anion and Cation Sum	CALC	8740464	N/A	2023/06/23	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8740880	N/A	2023/06/20	Farhana Rahman
Fecal coliform, (CFU/100mL)	PL	8740898	N/A	2023/06/20	Yizhou Han
Total Ammonia-N	LACH/NH4	8745089	N/A	2023/06/22	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8742941	N/A	2023/06/21	Chandra Nandlal
pH	AT	8742848	2023/06/21	2023/06/22	Kien Tran
Orthophosphate	KONE	8743432	N/A	2023/06/22	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	8740460	N/A	2023/06/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8740461	N/A	2023/06/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8743480	N/A	2023/06/22	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8740146	N/A	2023/06/23	Automated Statchk
Turbidity	AT	8742695	N/A	2023/06/22	Gurparteek KAUR

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GENERAL COMMENTS

Results relate only to the items tested.

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Bureau Veritas Job #: C3I0050
Report Date: 2023/06/26

QUALITY ASSURANCE REPORT

GM BluePlan Engineering Limited
Client Project #: 420099-2
Site Location: .
Sampler Initials: AF

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8742695	Turbidity	2023/06/22			99	80 - 120	<0.1	NTU	6.2	20
8742839	Conductivity	2023/06/22			102	85 - 115	<1.0	umho/cm	0.39	10
8742848	pH	2023/06/22			102	98 - 103			0.54	N/A
8742868	Alkalinity (Total as CaCO3)	2023/06/22			96	85 - 115	<1.0	mg/L	1.4	20
8742941	Nitrate (N)	2023/06/21	106	80 - 120	105	80 - 120	<0.10	mg/L	3.7	20
8742941	Nitrite (N)	2023/06/21	105	80 - 120	107	80 - 120	<0.010	mg/L	NC	20
8743386	Nitrate (N)	2023/06/22	103	80 - 120	106	80 - 120	<0.10	mg/L	NC	20
8743386	Nitrite (N)	2023/06/22	103	80 - 120	104	80 - 120	<0.010	mg/L	NC	20
8743432	Orthophosphate (P)	2023/06/22	93	75 - 125	95	80 - 120	<0.010	mg/L	NC	20
8743476	Dissolved Chloride (Cl-)	2023/06/22	NC	80 - 120	96	80 - 120	<1.0	mg/L	0.11	20
8743480	Dissolved Sulphate (SO4)	2023/06/22	NC	75 - 125	99	80 - 120	<1.0	mg/L	0.19	20
8743681	Aluminum (Al)	2023/06/22	103	80 - 120	101	80 - 120	<4.9	ug/L		
8743681	Antimony (Sb)	2023/06/22	112	80 - 120	105	80 - 120	<0.50	ug/L		
8743681	Arsenic (As)	2023/06/22	101	80 - 120	99	80 - 120	<1.0	ug/L		
8743681	Barium (Ba)	2023/06/22	101	80 - 120	99	80 - 120	<2.0	ug/L		
8743681	Beryllium (Be)	2023/06/22	101	80 - 120	97	80 - 120	<0.40	ug/L		
8743681	Boron (B)	2023/06/22	106	80 - 120	102	80 - 120	<10	ug/L		
8743681	Cadmium (Cd)	2023/06/22	104	80 - 120	101	80 - 120	<0.090	ug/L		
8743681	Calcium (Ca)	2023/06/22	NC	80 - 120	98	80 - 120	<200	ug/L		
8743681	Chromium (Cr)	2023/06/22	100	80 - 120	98	80 - 120	<5.0	ug/L		
8743681	Cobalt (Co)	2023/06/22	99	80 - 120	97	80 - 120	<0.50	ug/L		
8743681	Copper (Cu)	2023/06/22	102	80 - 120	99	80 - 120	<0.90	ug/L		
8743681	Iron (Fe)	2023/06/22	101	80 - 120	99	80 - 120	<100	ug/L		
8743681	Lead (Pb)	2023/06/22	101	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
8743681	Magnesium (Mg)	2023/06/22	100	80 - 120	99	80 - 120	<50	ug/L		
8743681	Manganese (Mn)	2023/06/22	100	80 - 120	99	80 - 120	<2.0	ug/L		
8743681	Molybdenum (Mo)	2023/06/22	107	80 - 120	103	80 - 120	<0.50	ug/L		
8743681	Nickel (Ni)	2023/06/22	100	80 - 120	98	80 - 120	<1.0	ug/L		
8743681	Phosphorus (P)	2023/06/22	105	80 - 120	114	80 - 120	<100	ug/L		
8743681	Potassium (K)	2023/06/22	101	80 - 120	99	80 - 120	<200	ug/L		
8743681	Selenium (Se)	2023/06/22	104	80 - 120	101	80 - 120	<2.0	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
8743681	Silicon (Si)	2023/06/22	101	80 - 120	99	80 - 120	<50	ug/L		
8743681	Silver (Ag)	2023/06/22	103	80 - 120	102	80 - 120	<0.090	ug/L		
8743681	Sodium (Na)	2023/06/22	98	80 - 120	98	80 - 120	<100	ug/L		
8743681	Strontium (Sr)	2023/06/22	102	80 - 120	100	80 - 120	<1.0	ug/L		
8743681	Thallium (Tl)	2023/06/22	102	80 - 120	97	80 - 120	<0.050	ug/L		
8743681	Titanium (Ti)	2023/06/22	103	80 - 120	100	80 - 120	<5.0	ug/L		
8743681	Uranium (U)	2023/06/22	113	80 - 120	108	80 - 120	<0.10	ug/L		
8743681	Vanadium (V)	2023/06/22	101	80 - 120	97	80 - 120	<0.50	ug/L		
8743681	Zinc (Zn)	2023/06/22	102	80 - 120	99	80 - 120	<5.0	ug/L		
8745089	Total Ammonia-N	2023/06/22	99	75 - 125	103	80 - 120	<0.050	mg/L	1.1	20
8746572	Dissolved Organic Carbon	2023/06/23	95	80 - 120	98	80 - 120	<0.40	mg/L	1.2	20
8746775	Colour	2023/06/26			100	80 - 120	<2	TCU	NC	25

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 spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 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 (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Farhana Rahman, Senior Analyst

Yizhou Han, Analyst 1

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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20-Jun-23 07:20
Ashton Gibson
C310050

NG WATER CHAIN OF CUSTODY RECORD

Bottle Order #: 939779 COC #: C#939779-04-01

1, Mississauga, Ontario Canada L5N 2L8 www.bvna.com
:800-563-6266 Fax:905-817-5779

Please indicate which regulation applies to the samples being submitted:
☐ 170 ☐ 318/319 ☐ 243 ☐ 170Pb
☒ Not regulated (however water is for human consumption)

INV PK ENV-1492

REPORT TO:

CAM FCD-01101/2 Page of

Company Name: #1067 GM BluePlan Engineering Limited	Same as Invoice To ☐
Attention: Kim Wilkinson	Company Name:
Address: 650 Woodlawn Rd W Block C, Unit 2 Guelph ON N1K 1B8	Attention: Abdi Faarah
Tel: (519) 824-8150 Project:	Address:
Fax: (519) 824-8089 P.O. #: 420099-2	Tel: Fax:
Email: info@gmblueplan.ca	Email: abdi.faarah@gmblueplan.ca

***DRINKING WATER TYPE LEGEND: [R=Raw Water] [T=Treated/POE] [D=Distribution] [P=Plumbing] [S=Standing] [F=Flushed]**

	Sample Identification/Location	Date Sampled	Time Sampled	*WATER TYPE (R,T,D,P,S,F)	MOE/MOH Adverse Notifcation Required? Yes	No	Field Chlorine Free	Total	Field Turbidity	Field pH	Watertrax SPL#	Resample Y/N?	# of Bottles	Total Coliforms/ E. coli, CFU/100mL	Fecal coliform, (CFU/100mL)	Colour	Turbidity	RCAp - Comprehensive
1	TW-01-S1	2023/06/19	11:08	R		✓							5	✓	✓	✓	✓	✓
2	TW-01-S2		12:23	R		✓							5	✓	✓	✓	✓	✓
3	TW-03-S1		15:45	R		✓							5	✓	✓	✓	✓	✓
4	TW-03-S2		16:55	R		✓							5	✓	✓	✓	✓	✓
5																		
6																		
7																		
8																		
9																		
10																		

REC'D IN WATERLOO

MICRO

IT IS MANDATORY THAT ALL NOTIFICATION INFORMATION BELOW BE COMPLETED PRIOR TO ANALYSIS FOR REGULATED DRINKING WATER SUBMISSIONS.

TAT (TURNAROUND TIME):

RUSH TAT MUST HAVE PRIOR APPROVAL

☒ Regular (5-15 Working Days)
☐ RUSH (Specify Below)

Date Due:
RUSH #

ADVERSE NOTIFICATION INFORMATION

Waterworks Name: .
Waterworks Number: .
Address:
Contact:
Tel: Fax:
Cell:
Email:

Medical Officer of Health/Public Health Unit

Name/Region:
Contact:
Address:
Tel:
Fax:
After Hours:

LABORATORY USE ONLY

Received By (Print): TAMSIN DENISON
Received By (Sign):
Date: 2023/06/20 Time: 07.20
Comments
Receiving Temp: 6/6/8°C

Sampled By (Print): Abdi Faarah Sampled By (Sign):
*Relinquished By (Print): Abdi Faarah *Relinquished By (Sign):

Date: 2023/06/19 Time: 19:30
Date: 2023/06/19 Time: 19:30

Cooling Media Present Y/N? Y
Metals Preservation Check Y/N? Y

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

Rupsi / RUPINDER 2023/06/20 16:00 3/2/2

627220
REC'D IN WATERLOO

Exceedance Summary Table – DW for Human Consumption

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 420099-2
Your C.O.C. #: n/a

Attention: Abdi Faarah

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

Report Date: 2023/06/28
Report #: R7692528
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I1767
Received: 2023/06/21, 07:50

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	2	N/A	2023/06/24	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	2	N/A	2023/06/24	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	2	N/A	2023/06/23	CAM SOP-00463	SM 23 4500-Cl E m
Colour	2	N/A	2023/06/26	CAM SOP-00412	SM 23 2120C m
Conductivity	2	N/A	2023/06/24	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	2	N/A	2023/06/22	CAM SOP-00446	SM 23 5310 B m
Hardness (calculated as CaCO3)	2	N/A	2023/06/28	CAM SOP 00102/00408/00447	SM 2340 B
Metals Analysis by ICPMS (as received) (2)	2	N/A	2023/06/27	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	2	N/A	2023/06/28		
Anion and Cation Sum	2	N/A	2023/06/28		
Total Coliforms/ E. coli, CFU/100mL	2	N/A	2023/06/21	CAM SOP-00551	MECP-E3407
Fecal coliform, (CFU/100mL)	2	N/A	2023/06/21	CAM SOP-00552	
Total Ammonia-N	1	N/A	2023/06/25	CAM SOP-00441	USGS I-2522-90 m
Total Ammonia-N	1	N/A	2023/06/26	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	2	N/A	2023/06/23	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	2	2023/06/22	2023/06/24	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	2	N/A	2023/06/23	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	2	N/A	2023/06/28		Auto Calc
Sat. pH and Langelier Index (@ 4C)	2	N/A	2023/06/28		Auto Calc
Sulphate by Automated Turbidimetry	2	N/A	2023/06/23	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids (TDS calc)	2	N/A	2023/06/28		Auto Calc
Turbidity	2	N/A	2023/06/22	CAM SOP-00417	SM 23 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

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Your Project #: 420099-2
Your C.O.C. #: n/a

Attention: Abdi Faarah

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

Report Date: 2023/06/28
Report #: R7692528
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3I1767
Received: 2023/06/21, 07:50

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

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) Metals analysis was performed on the sample 'as received'.
(3) 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:
Ashton Gibson, Project Manager
Email: Ashton.Gibson@bureauveritas.com
Phone# (905)817-5765

==========

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RCAP - COMPREHENSIVE (DRINKING WATER)

Bureau Veritas ID		WED586		WED587		
Sampling Date		2023/06/20 10:30		2023/06/20 15:15		
COC Number		n/a		n/a		
	UNITS	TW-02-S1	QC Batch	TW-02-S2	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	3.70	8743874	3.70	N/A	8743874
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	8742082	180	1.0	8742082
Calculated TDS	mg/L	190	8742087	190	1.0	8742087
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.5	8742082	2.6	1.0	8742082
Cation Sum	me/L	3.78	8743874	3.73	N/A	8743874
Hardness (CaCO3)	mg/L	130	8742083	130	1.0	8742083
Ion Balance (% Difference)	%	1.10	8743873	0.500	N/A	8743873
Langelier Index (@ 20C)	N/A	0.494	8742085	0.513		8742085
Langelier Index (@ 4C)	N/A	0.244	8742086	0.263		8742086
Saturation pH (@ 20C)	N/A	7.67	8742085	7.67		8742085
Saturation pH (@ 4C)	N/A	7.92	8742086	7.92		8742086
Inorganics						
Total Ammonia-N	mg/L	0.19	8749476	0.19	0.050	8749381
Conductivity	umho/cm	350	8746250	350	1.0	8746250
Dissolved Organic Carbon	mg/L	0.90	8746249	0.81	0.40	8746249
Orthophosphate (P)	mg/L	<0.010	8746293	<0.010	0.010	8746293
pH	pH	8.17	8746245	8.18		8746245
Dissolved Sulphate (SO4)	mg/L	3.6	8746296	3.4	1.0	8746296
Alkalinity (Total as CaCO3)	mg/L	180	8746247	180	1.0	8746247
Dissolved Chloride (Cl-)	mg/L	<1.0	8746278	<1.0	1.0	8746278
Nitrite (N)	mg/L	<0.010	8745834	<0.010	0.010	8745834
Nitrate (N)	mg/L	<0.10	8745834	<0.10	0.10	8745834
Metals						
Aluminum (Al)	ug/L	5.5	8751258	<4.9	4.9	8751258
Antimony (Sb)	ug/L	<0.50	8751258	<0.50	0.50	8751258
Arsenic (As)	ug/L	1.0	8751258	<1.0	1.0	8751258
Barium (Ba)	ug/L	39	8751258	41	2.0	8751258
Beryllium (Be)	ug/L	<0.40	8751258	<0.40	0.40	8751258
Boron (B)	ug/L	61	8751258	62	10	8751258
Cadmium (Cd)	ug/L	<0.090	8751258	<0.090	0.090	8751258
Calcium (Ca)	ug/L	28000	8751258	28000	200	8751258

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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RCAP - COMPREHENSIVE (DRINKING WATER)

Bureau Veritas ID		WED586		WED587		
Sampling Date		2023/06/20 10:30		2023/06/20 15:15		
COC Number		n/a		n/a		
	UNITS	TW-02-S1	QC Batch	TW-02-S2	RDL	QC Batch
Chromium (Cr)	ug/L	<5.0	8751258	<5.0	5.0	8751258
Cobalt (Co)	ug/L	<0.50	8751258	<0.50	0.50	8751258
Copper (Cu)	ug/L	1.1	8751258	<0.90	0.90	8751258
Iron (Fe)	ug/L	120	8751258	110	100	8751258
Lead (Pb)	ug/L	<0.50	8751258	<0.50	0.50	8751258
Magnesium (Mg)	ug/L	15000	8751258	14000	50	8751258
Manganese (Mn)	ug/L	5.1	8751258	4.2	2.0	8751258
Molybdenum (Mo)	ug/L	4.6	8751258	4.1	0.50	8751258
Nickel (Ni)	ug/L	<1.0	8751258	<1.0	1.0	8751258
Phosphorus (P)	ug/L	<100	8751258	<100	100	8751258
Potassium (K)	ug/L	770	8751258	770	200	8751258
Selenium (Se)	ug/L	<2.0	8751258	<2.0	2.0	8751258
Silicon (Si)	ug/L	5600	8751258	5600	50	8751258
Silver (Ag)	ug/L	<0.090	8751258	<0.090	0.090	8751258
Sodium (Na)	ug/L	26000	8751258	26000	100	8751258
Strontium (Sr)	ug/L	310	8751258	310	1.0	8751258
Thallium (Tl)	ug/L	<0.050	8751258	<0.050	0.050	8751258
Titanium (Ti)	ug/L	<5.0	8751258	<5.0	5.0	8751258
Uranium (U)	ug/L	0.43	8751258	0.38	0.10	8751258
Vanadium (V)	ug/L	<0.50	8751258	<0.50	0.50	8751258
Zinc (Zn)	ug/L	<5.0	8751258	<5.0	5.0	8751258

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C3I1767
Report Date: 2023/06/28

GM BluePlan Engineering Limited
Client Project #: 420099-2
Sampler Initials: AF

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		WED586		WED587		
Sampling Date		2023/06/20 10:30		2023/06/20 15:15		
COC Number		n/a		n/a		
	UNITS	TW-02-S1	RDL	TW-02-S2	RDL	QC Batch
Inorganics						
Colour	TCU	<2	2	<2	2	8746775
Turbidity	NTU	0.6	0.1	0.36	0.04	8744649

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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MICROBIOLOGY (WATER)

Bureau Veritas ID		WED586	WED587	
Sampling Date		2023/06/20 10:30	2023/06/20 15:15	
COC Number		n/a	n/a	
	UNITS	TW-02-S1	TW-02-S2	QC Batch
Microbiological				
Fecal coliform	CFU/100mL	0	0	8744083
Background	CFU/100mL	450	59	8744055
Total Coliforms	CFU/100mL	0	0	8744055
Escherichia coli	CFU/100mL	0	0	8744055
QC Batch = Quality Control Batch				

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TEST SUMMARY

Bureau Veritas ID: WED586
Sample ID: TW-02-S1
Matrix: Water

Collected: 2023/06/20
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8746247	N/A	2023/06/24	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8742082	N/A	2023/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	8746278	N/A	2023/06/23	Alina Dobreanu
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8746250	N/A	2023/06/24	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746249	N/A	2023/06/22	Gyulshen Idriz
Hardness (calculated as CaCO3)		8742083	N/A	2023/06/28	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8751258	N/A	2023/06/27	Azita Fazaeli
Ion Balance (% Difference)	CALC	8743873	N/A	2023/06/28	Automated Statchk
Anion and Cation Sum	CALC	8743874	N/A	2023/06/28	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8744055	N/A	2023/06/21	Rayane Gama Santos
Fecal coliform, (CFU/100mL)	PL	8744083	N/A	2023/06/21	Yizhou Han
Total Ammonia-N	LACH/NH4	8749476	N/A	2023/06/26	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8745834	N/A	2023/06/23	Chandra Nandlal
pH	AT	8746245	2023/06/22	2023/06/24	Kien Tran
Orthophosphate	KONE	8746293	N/A	2023/06/23	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8742085	N/A	2023/06/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8742086	N/A	2023/06/28	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8746296	N/A	2023/06/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8742087	N/A	2023/06/28	Automated Statchk
Turbidity	AT	8744649	N/A	2023/06/22	Gurparteek KAUR

Bureau Veritas ID: WED587
Sample ID: TW-02-S2
Matrix: Water

Collected: 2023/06/20
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8746247	N/A	2023/06/24	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8742082	N/A	2023/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	8746278	N/A	2023/06/23	Alina Dobreanu
Colour	SPEC	8746775	N/A	2023/06/26	Viorica Rotaru
Conductivity	AT	8746250	N/A	2023/06/24	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8746249	N/A	2023/06/22	Gyulshen Idriz
Hardness (calculated as CaCO3)		8742083	N/A	2023/06/28	Automated Statchk
Metals Analysis by ICPMS (as received)	ICP/MS	8751258	N/A	2023/06/27	Azita Fazaeli
Ion Balance (% Difference)	CALC	8743873	N/A	2023/06/28	Automated Statchk
Anion and Cation Sum	CALC	8743874	N/A	2023/06/28	Automated Statchk
Total Coliforms/ E. coli, CFU/100mL	PL	8744055	N/A	2023/06/21	Rayane Gama Santos
Fecal coliform, (CFU/100mL)	PL	8744083	N/A	2023/06/21	Yizhou Han
Total Ammonia-N	LACH/NH4	8749381	N/A	2023/06/25	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8745834	N/A	2023/06/23	Chandra Nandlal
pH	AT	8746245	2023/06/22	2023/06/24	Kien Tran
Orthophosphate	KONE	8746293	N/A	2023/06/23	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8742085	N/A	2023/06/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8742086	N/A	2023/06/28	Automated Statchk

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Bureau Veritas Job #: C3I1767
Report Date: 2023/06/28

GM BluePlan Engineering Limited
Client Project #: 420099-2
Sampler Initials: AF

TEST SUMMARY

Bureau Veritas ID: WED587
Sample ID: TW-02-S2
Matrix: Water

Collected: 2023/06/20
Shipped:
Received: 2023/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sulphate by Automated Turbidimetry	KONE	8746296	N/A	2023/06/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8742087	N/A	2023/06/28	Automated Statchk
Turbidity	AT	8744649	N/A	2023/06/22	Gurparteek KAUR

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GENERAL COMMENTS

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8744649	Turbidity	2023/06/22			100	80 - 120	<0.1	NTU	0	20
8745834	Nitrate (N)	2023/06/23	88	80 - 120	102	80 - 120	<0.10	mg/L	1.1	20
8745834	Nitrite (N)	2023/06/23	102	80 - 120	101	80 - 120	<0.010	mg/L	NC	20
8746245	pH	2023/06/23			102	98 - 103			0.078	N/A
8746247	Alkalinity (Total as CaCO3)	2023/06/23			94	85 - 115	<1.0	mg/L	1.2	20
8746249	Dissolved Organic Carbon	2023/06/22	97	80 - 120	99	80 - 120	<0.40	mg/L	3.2	20
8746250	Conductivity	2023/06/23			101	85 - 115	<1.0	umho/cm	1.1	10
8746278	Dissolved Chloride (Cl-)	2023/06/23	NC	80 - 120	94	80 - 120	<1.0	mg/L	2.6	20
8746293	Orthophosphate (P)	2023/06/23	90	75 - 125	90	80 - 120	<0.010	mg/L	NC	20
8746296	Dissolved Sulphate (SO4)	2023/06/23	NC	75 - 125	92	80 - 120	<1.0	mg/L	1.9	20
8746775	Colour	2023/06/26			100	80 - 120	<2	TCU	NC	25
8749381	Total Ammonia-N	2023/06/25	97	75 - 125	97	80 - 120	<0.050	mg/L	2.2	20
8749476	Total Ammonia-N	2023/06/26	104	75 - 125	104	80 - 120	<0.050	mg/L	NC	20
8751258	Aluminum (Al)	2023/06/27	102	80 - 120	97	80 - 120	<4.9	ug/L	2.8	20
8751258	Antimony (Sb)	2023/06/27	104	80 - 120	101	80 - 120	<0.50	ug/L		
8751258	Arsenic (As)	2023/06/27	102	80 - 120	99	80 - 120	<1.0	ug/L		
8751258	Barium (Ba)	2023/06/27	99	80 - 120	96	80 - 120	<2.0	ug/L		
8751258	Beryllium (Be)	2023/06/27	99	80 - 120	96	80 - 120	<0.40	ug/L		
8751258	Boron (B)	2023/06/27	105	80 - 120	101	80 - 120	<10	ug/L		
8751258	Cadmium (Cd)	2023/06/27	100	80 - 120	97	80 - 120	<0.090	ug/L		
8751258	Calcium (Ca)	2023/06/27	NC	80 - 120	95	80 - 120	<200	ug/L		
8751258	Chromium (Cr)	2023/06/27	99	80 - 120	97	80 - 120	<5.0	ug/L		
8751258	Cobalt (Co)	2023/06/27	99	80 - 120	97	80 - 120	<0.50	ug/L		
8751258	Copper (Cu)	2023/06/27	99	80 - 120	96	80 - 120	<0.90	ug/L		
8751258	Iron (Fe)	2023/06/27	99	80 - 120	98	80 - 120	<100	ug/L		
8751258	Lead (Pb)	2023/06/27	98	80 - 120	96	80 - 120	<0.50	ug/L		
8751258	Magnesium (Mg)	2023/06/27	98	80 - 120	96	80 - 120	<50	ug/L		
8751258	Manganese (Mn)	2023/06/27	101	80 - 120	99	80 - 120	<2.0	ug/L		
8751258	Molybdenum (Mo)	2023/06/27	102	80 - 120	100	80 - 120	<0.50	ug/L		
8751258	Nickel (Ni)	2023/06/27	99	80 - 120	98	80 - 120	<1.0	ug/L		
8751258	Phosphorus (P)	2023/06/27	105	80 - 120	111	80 - 120	<100	ug/L		

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			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8751258	Potassium (K)	2023/06/27	100	80 - 120	98	80 - 120	<200	ug/L		
8751258	Selenium (Se)	2023/06/27	102	80 - 120	97	80 - 120	<2.0	ug/L		
8751258	Silicon (Si)	2023/06/27	102	80 - 120	98	80 - 120	<50	ug/L		
8751258	Silver (Ag)	2023/06/27	95	80 - 120	98	80 - 120	<0.090	ug/L		
8751258	Sodium (Na)	2023/06/27	94	80 - 120	96	80 - 120	<100	ug/L		
8751258	Strontium (Sr)	2023/06/27	101	80 - 120	99	80 - 120	<1.0	ug/L		
8751258	Thallium (Tl)	2023/06/27	98	80 - 120	96	80 - 120	<0.050	ug/L		
8751258	Titanium (Ti)	2023/06/27	102	80 - 120	96	80 - 120	<5.0	ug/L		
8751258	Uranium (U)	2023/06/27	107	80 - 120	104	80 - 120	<0.10	ug/L		
8751258	Vanadium (V)	2023/06/27	101	80 - 120	99	80 - 120	<0.50	ug/L		
8751258	Zinc (Zn)	2023/06/27	102	80 - 120	100	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 spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than 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 (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere, Senior Scientific Specialist

Rayane Gama Santos, Lab Technician

Yizhou Han, Analyst 1

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Exceedance Summary Table – DW for Human Consumption

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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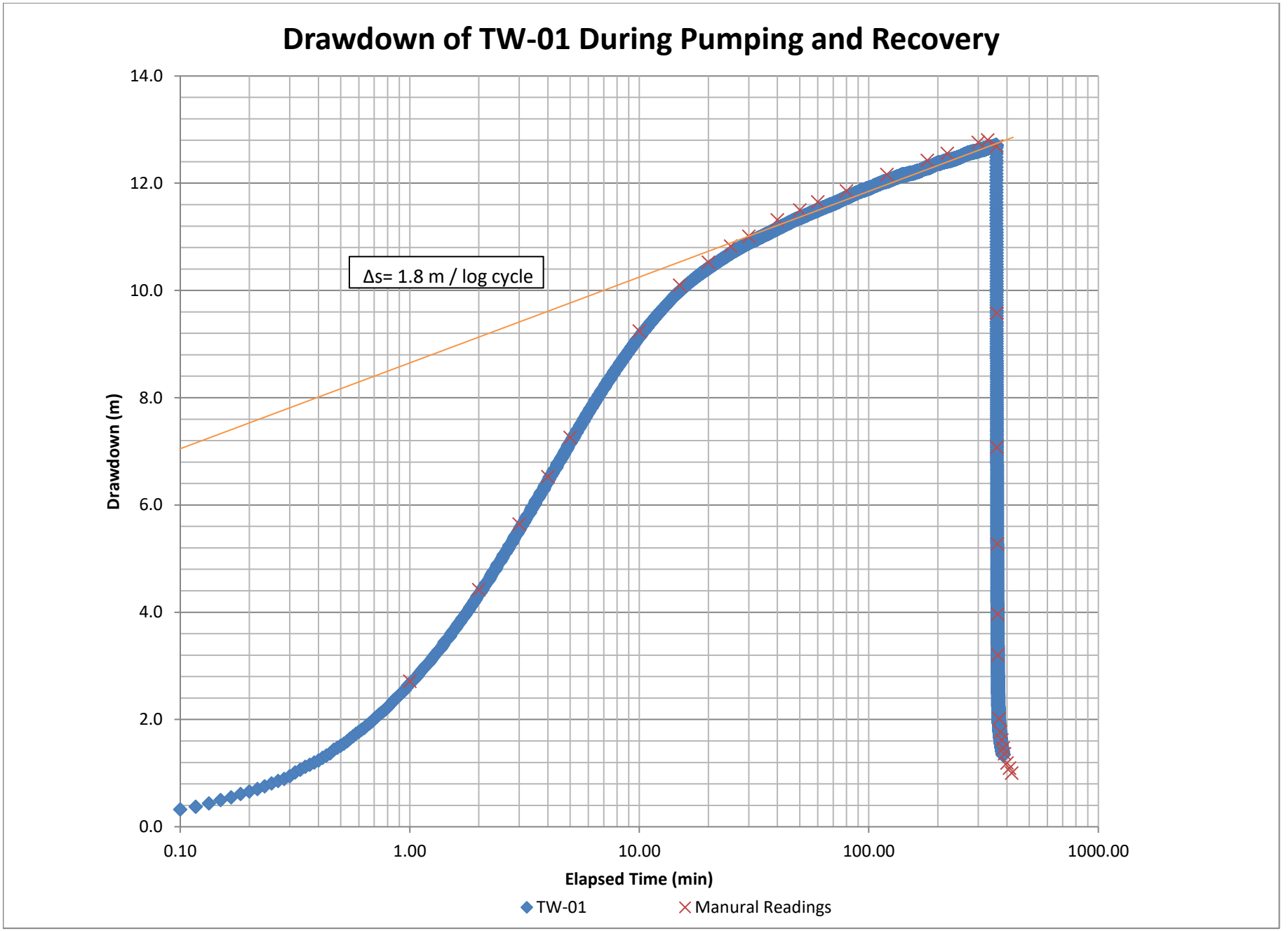
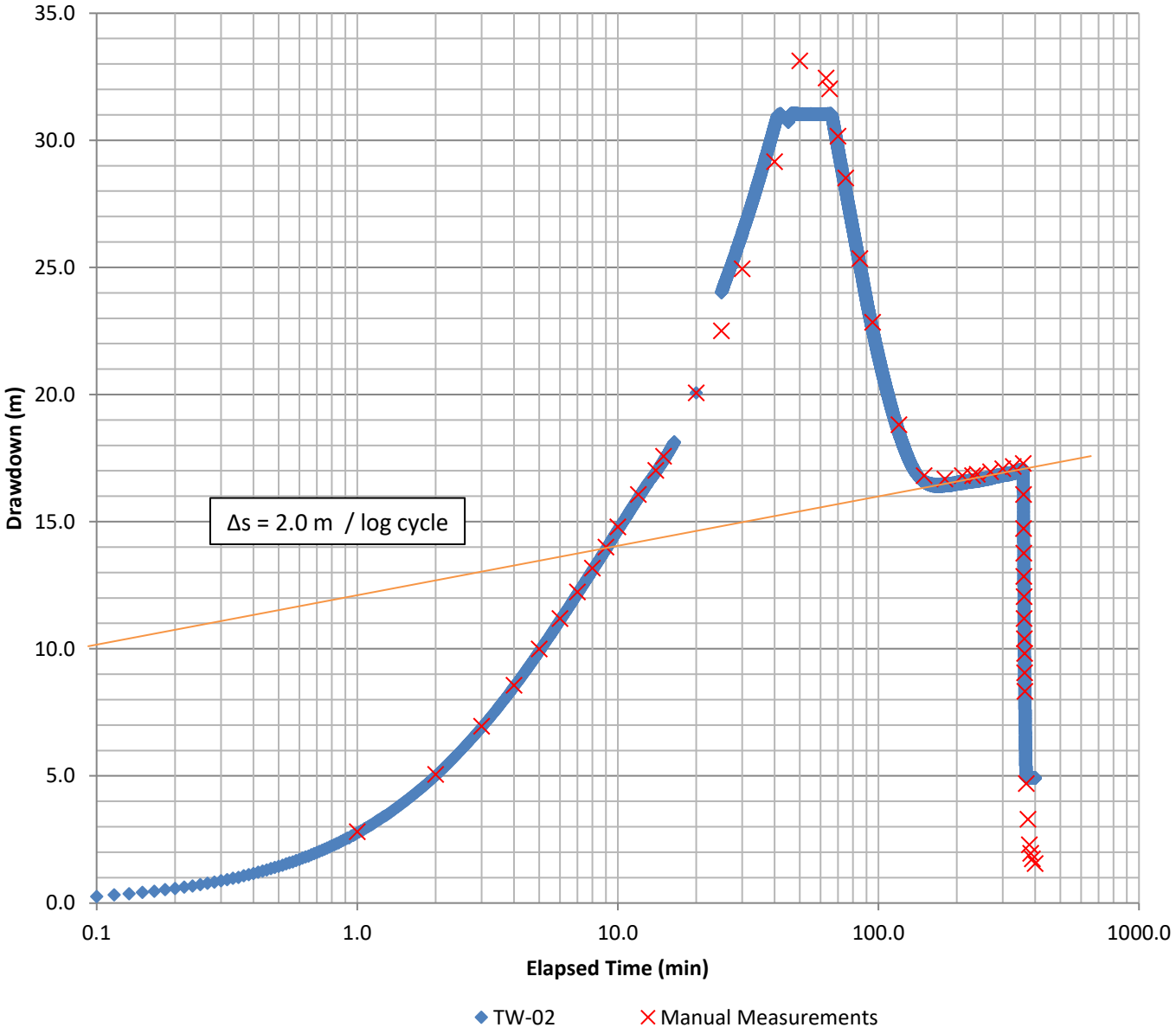
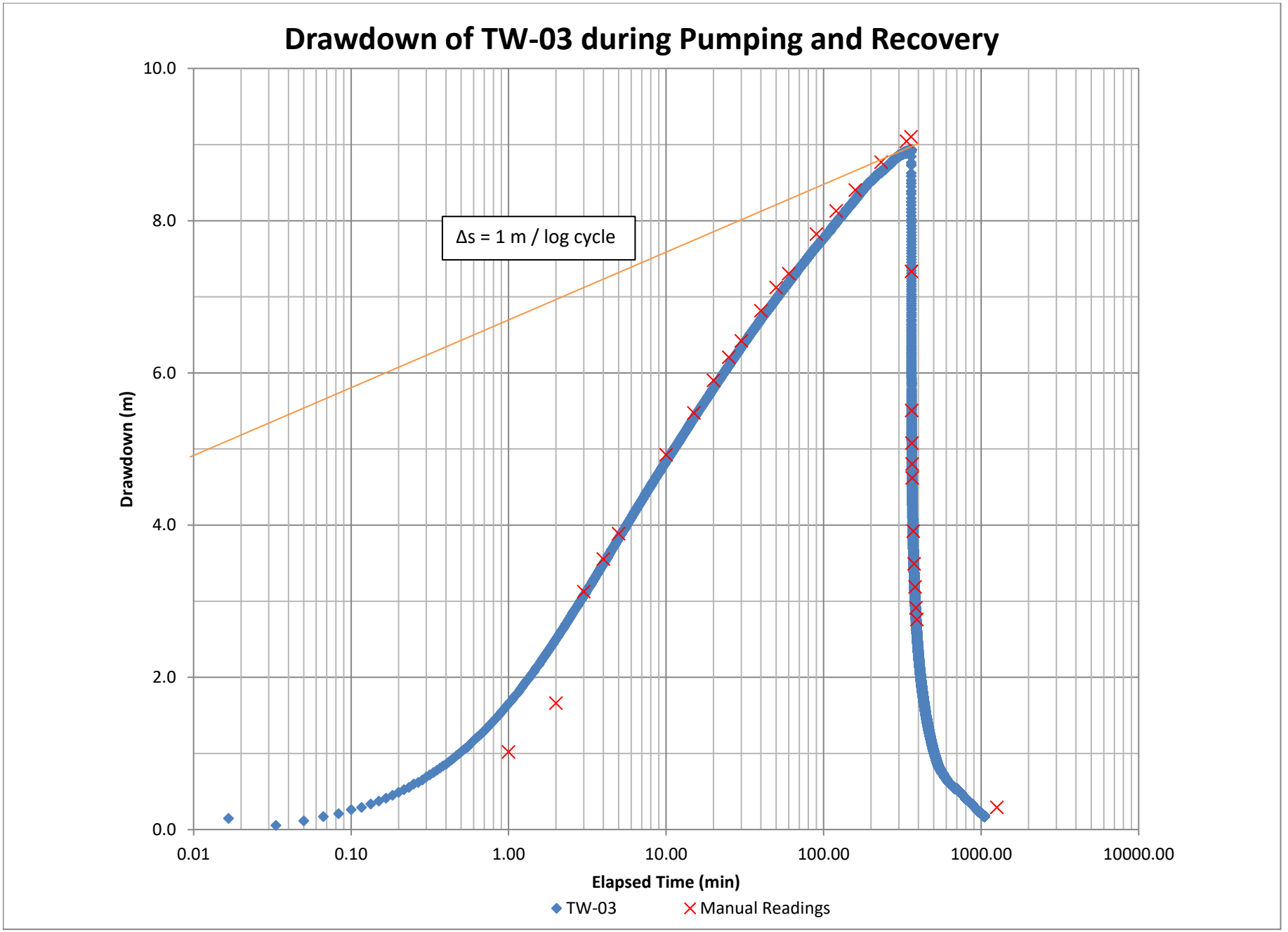
APPENDIX H:
HYDROGRAPHS OF TEST WELLS DURING PUMPING


Drawdown of TW-01 During Pumping and Recovery
Δs= 1.8 m / log cycle
Drawdown (m)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
0.10
1.00
10.00
100.00
1000.00
Elapsed Time (min)
TW-01
Manural Readings

Drawdown at TW-02 during Pumping and Recovery




Drawdown of TW-03 during Pumping and Recovery
Δs = 1 m / log cycle
Drawdown (m)
10.0
8.0
6.0
4.0
2.0
0.0
0.01
0.10
1.00
10.00
100.00
1000.00
10000.00
Elapsed Time (min)
TW-03
Manual Readings

APPENDIX I:
AQUIFER TEST REPORTS

GM BluePlan Engineering Ltd.
650 Woodlawn Road W, Unit 2, Block C,
Guelph ON N1K 1B8

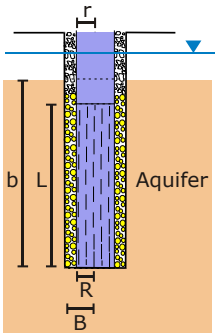
Wells

Project: 5782 6 Line E., Ariss ON

Number: 420099-2

Client: Will O Homes

Location: Ariss, ON



	Name	X [m]	Y [m]	Elevation (amsl) [m]	Benchmark [m]	Penetration	L [m]	B [m]
1	TW-01	550603.317	4825141.723			Fully	16.5	0.075
2	TW-03	551090.653	4825633.339			Fully	25.9	0.075
3	OW-01	551024.316	4825564.289			Fully	26.8	0.075
4	5763 6 Line	551245.726	4825679.886			Fully	5.5	0.075
5	TW-02	550957.547	4825497.088			Fully	24.7	0.075

GM BluePlan Engineering Ltd.
650 Woodlawn Road W, Unit 2, Block C,
Guelph ON N1K 1B8

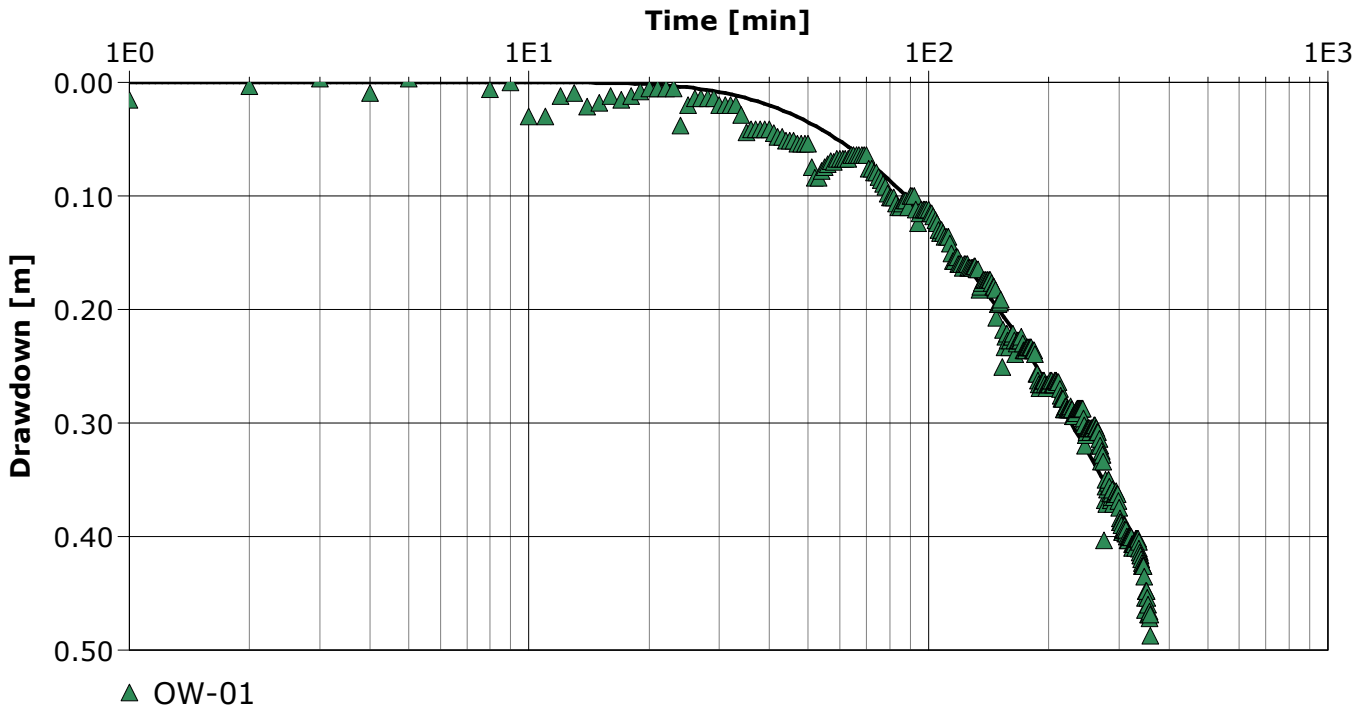
Pumping Test Analysis Report

Project: 5782 6 Line E., Ariss ON

Number: 420099-2

Client: Will O Homes

Location: Ariss, ON	Pumping Test: Pumping Test 1	Pumping Well: TW-01, TW-03
Test Conducted by: GMBP		Test Date: 6/19/2023
Analysis Performed by: GMBP	Theis- OW-01	Analysis Date: 7/10/2023
Aquifer Thickness: 27.80 m		



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	
OW-01	2.76×10^{-4}	9.93×10^{-6}	5.51×10^{-4}	

GM BluePlan Engineering Ltd.
650 Woodlawn Road W, Unit 2, Block C,
Guelph ON N1K 1B8

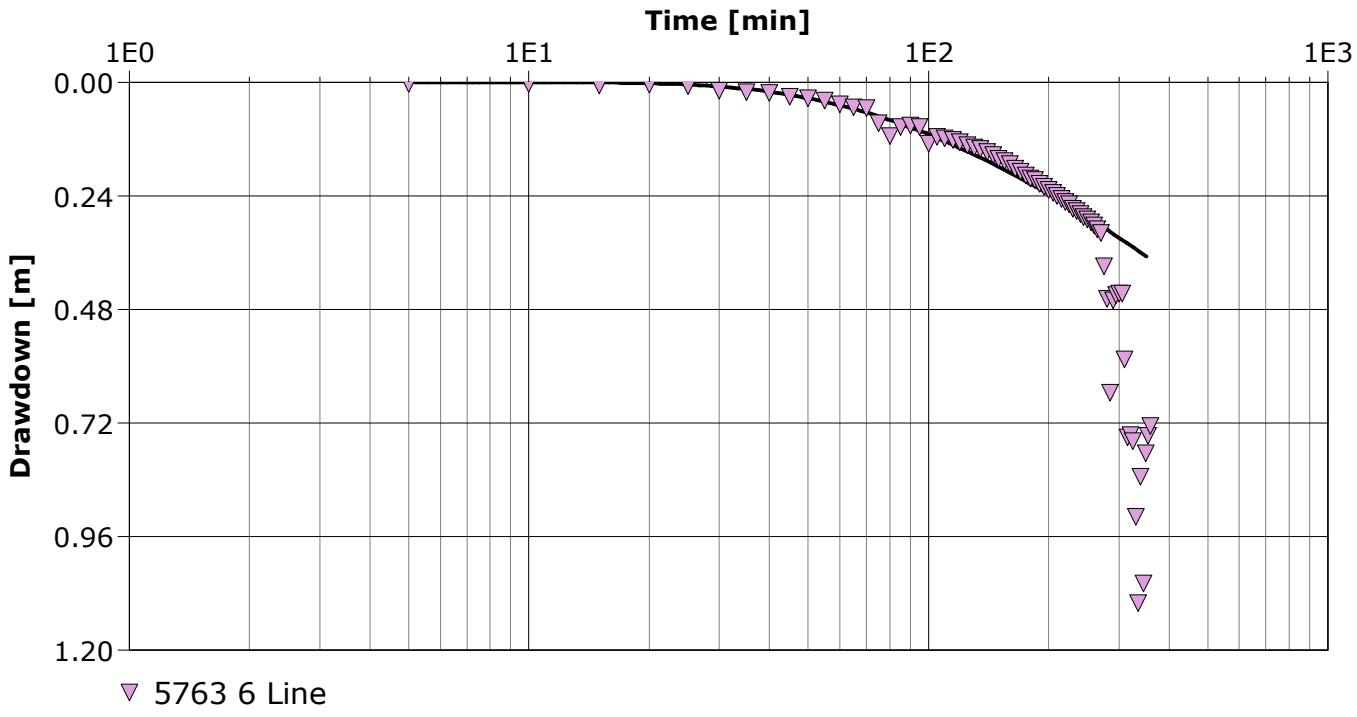
Pumping Test Analysis Report

Project: 5782 6 Line E., Ariss ON

Number: 420099-2

Client: Will O Homes

Location: Ariss, ON	Pumping Test: Pumping Test 1	Pumping Well: TW-01, TW-03
Test Conducted by: GMBP		Test Date: 6/19/2023
Analysis Performed by: GMBP	Theis- 5763 6 Line	Analysis Date: 7/10/2023
Aquifer Thickness: 27.80 m		

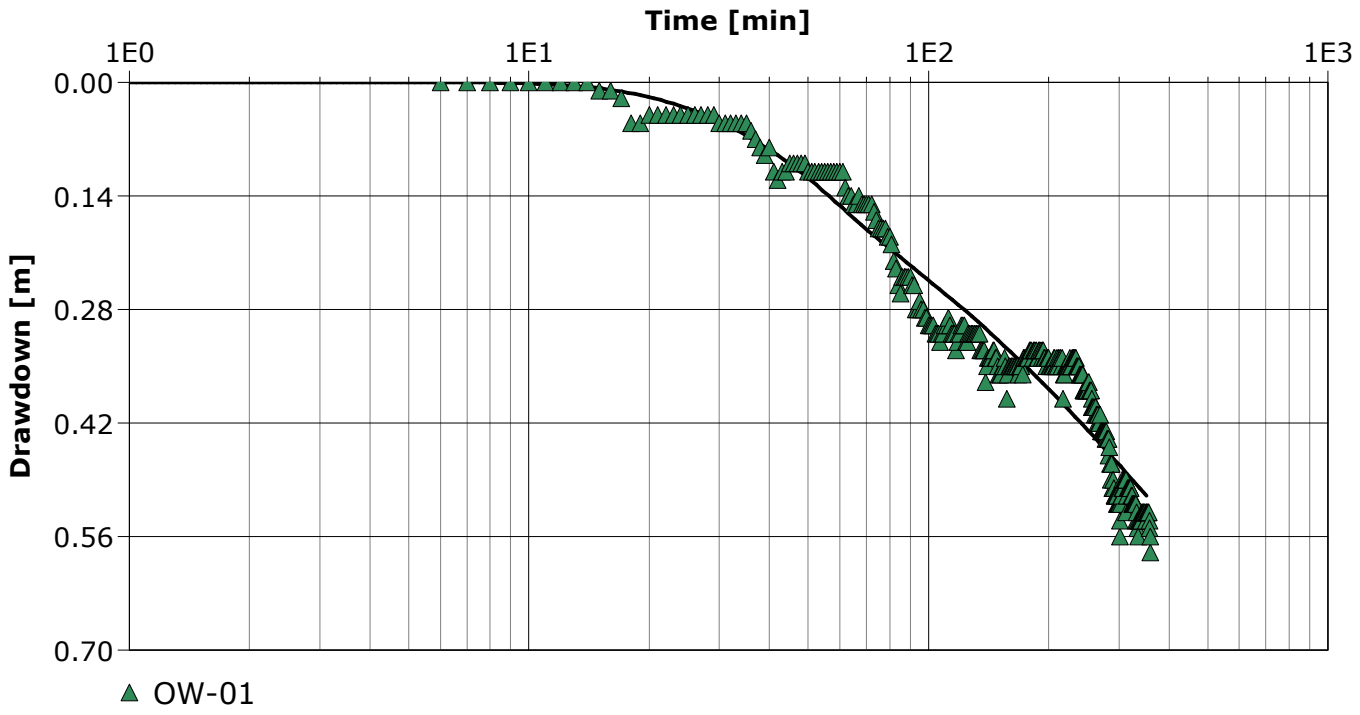


Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	
5763 6 Line	3.29×10^{-4}	1.18×10^{-5}	2.17×10^{-4}	

GM BluePlan Engineering Ltd. 650 Woodlawn Road W, Unit 2, Block C, Guelph ON N1K 1B8	**Pumping Test Analysis Report**
	Project: 5782 6 Line E., Ariss ON
	Number: 420099-2
	Client: Will O Homes

Location: Ariss, ON	Pumping Test: Pumping Test 2	Pumping Well: TW-02
Test Conducted by:		Test Date: 6/20/2023
Analysis Performed by: GMBP	Theis - OW-01	Analysis Date: 7/10/2023
Aquifer Thickness: 27.80 m	Discharge: variable, average rate 85.88 [m³/d]	

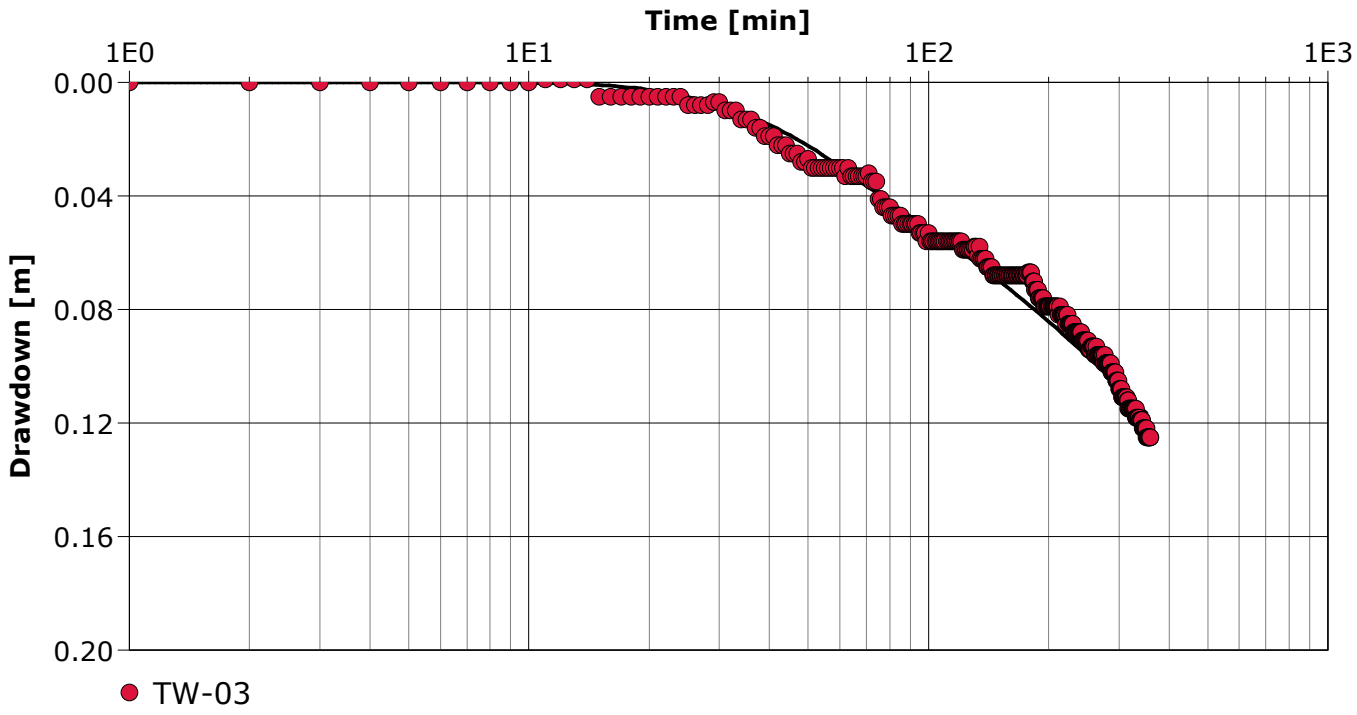


Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
OW-01	2.57×10^{-4}	9.24×10^{-6}	2.80×10^{-4}	94.73	

GM BluePlan Engineering Ltd. 650 Woodlawn Road W, Unit 2, Block C, Guelph ON N1K 1B8	**Pumping Test Analysis Report**
	Project: 5782 6 Line E., Ariss ON
	Number: 420099-2
	Client: Will O Homes

Location: Ariss, ON	Pumping Test: Pumping Test 2	Pumping Well: TW-02
Test Conducted by:		Test Date: 6/20/2023
Analysis Performed by: GMBP	Theis - TW-03	Analysis Date: 7/10/2023
Aquifer Thickness: 27.80 m	Discharge: variable, average rate 85.88 [m³/d]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
TW-03	1.02×10^{-3}	3.66×10^{-5}	3.30×10^{-4}	190.48	