Hydrogeological Assessment – 309 Zephyr Road, Zephyr, Township of Uxbridge

July 7, 2025

Prepared for:
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In Association With:
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Cambium Reference: 18619-003

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1.0 Introduction

China Canada Jing Bei Xin Min Intl. (Client), care of EcoVue Consulting Services Inc. (EcoVue), retained Cambium Inc. (Cambium) to complete a hydrogeological assessment in support of a proposed residential development at 309 Zephyr Road, in the Township of Uxbridge, Durham Region, Ontario (the Site). The proposed development has been split into two phases – referred to as Phase 1 and Phase 2. This hydrogeological assessment specifically pertains to Phase 2 of the proposed development, which consists of the construction of 17 single-family dwellings on the southern and central portions of the Site.

There are no municipal services for water or wastewater near the property; therefore, the proposed development will be provided on-site servicing for water supply, and wastewater treatment, per lot.

This hydrogeological assessment builds on an initial report completed by Cambium in a report entitled "*Hydrogeological Assessment, 309 Zephyr Road, Zephyr, Township of Uxbridge",* dated September 8, 2023 (Cambium, 2023), and an initial water balance prepared for the Site by Cambium in a document entitled "*Hydrogeological Water Balance, Hidden Ridge Development, Uxbridge",* dated November 29, 2022 (Cambium Inc., 2022).

PGL Environmental Consultants' (PGL) peer reviewed the initial hydrogeological assessment and water balance and provided comments in a document entitled "*Peer Review of the Hydrogeological Assessment, Hydrogeological Water Balance, And Natural Heritage Evaluation – 309 Zephyr Road, Zephyr, Township of Uxbridge, Durham Region, ON*", dated June 11, 2024 (PGL, 2024a). In response to PGL's peer review, Cambium prepared a Terms of Reference (ToR) document entitled "*Terms of Reference – Additional Tasks to Respond to Peer Review Comments: 309 Zephyr Road, Zephyr, Township of Uxbridge, Durham Region"* dated November 18, 2024, (Cambium, 2024). Cambium's November 18, 2024, ToR was submitted to the Region of Durham and outlined additional tasks to be completed to address PGL's June 11, 2024, peer review comments. In response to Cambium's November 18, 2024, ToR, PGL provided two additional comments for additional work on December 3, 2024, in an

email chain entitled "*RE_ Proposed Terms of Reference - Addressing HG Comments - 309 Zephyr Road_ Zephyr (18619-003)*" (PGL, 2024b).

The purpose of this hydrogeological assessment is to support the proposed development and address PGL's peer review comments provided on both June 11, 2024, and December 3, 2024.

This updated hydrogeological assessment is structured to be read as a stand-alone document and includes information from both the original hydrogeological assessment and recently generated data to address PGL's peer review comments. This updated hydrogeological assessment is prepared in conjunction with an updated water balance report, which is provided under a separate cover and is intended to update Cambium's 2022 water balance assessment (Cambium, 2025a). Information from the updated water balance assessments is referenced herein, where applicable.

1.1 Scope of Work

This updated hydrogeological assessment includes the results of tasks carried out as part of Cambium's original hydrogeological assessment for the Phase 2 development and new tasks that were carried out in response to PGL's peer review comments. The combined tasks carried out are as follows:

- **Review of Available Geological and Hydrogeological Information:** a review of available geological and hydrogeological information for the Site and surrounding areas was conducted to provide background information to allow for characterization of the Site's soil and groundwater conditions.
- **Test Pit Investigation – 2017:** test pits were excavated on-site in 2017 to characterize soils and to determine the feasibility of on-site sewage systems.
- **Residential Well Sampling – 2017:** groundwater samples were collected from three private water supply wells in 2017 and analyzed for nitrate and organic/nutrient parameters in support of the nitrate loading assessment as per Procedure D-5-4.

- **Piezometer Investigation – 2017/2018**: six piezometers were installed on-site in 2017. Long-term continuous water level monitoring was conducted in 2018. Single well hydraulic tests were also per completed on each of the piezometers on July 29, 2018.
- **Pumping Tests – 2018:** six-hour pumping tests were completed on three test wells within the Phase 2 Development Area and water levels were measured before, during, and after pumping in the test wells and in nearby observation wells / water supply wells.
- **Groundwater Sampling and Chemical Testing in the Test Wells – 2018**: water quality samples were collected in the test wells in 2018 to determine the potability of the water supply aquifer.
- **Test Well Re-Sampling – 2025:** The three test wells within the Phase 2 Development Area were pumped for six hours in 2025 and re-sampled for the parameters required under Procedure D-5-5. Water levels were recorded during pumping in the test wells and nearby monitoring wells.
- **Borehole and Monitoring Well Investigation/Sampling – 2024/2025:** Five shallow monitoring wells were installed on-site in 2024. Three soil samples from the boreholes were submitted for chemical analysis in support of the phosphorous loading assessment. Continuous water level monitoring in the five monitoring wells and a nearby dug well currently is underway, along with quarterly nitrate and phosphorous sampling in support of the nitrate and phosphorous loading assessments.
- **Nitrate Loading Assessment**: a nitrate loading assessment was completed at the Site in accordance with Guideline D-5-4.
- **Phosphorous Loading Assessment**: a phosphorous loading assessment was completed at the Site following the ‘Robertson Approach’ to support the requirements of Guideline B-1-5.
- **Conceptual Site Layout**: a conceptual site layout was created including the locations of septic beds and water supply wells on the 17 lots along with applicable setback distances.

Septic systems were sized to meets the requirements of the Region of Durham lot sizing policy for prime and reserve bed areas.

- **Hydrogeological Assessment Report:** this report was prepared for wastewater and potable water supply in accordance with Ministry of the Environment, Conservation and Parks (MECP) Ontario Land Use Development Guidelines D-5-4 and D-5-5, respectively (Ministry of the Environment, 1996a) (Ministry of the Environment, 1996b).

1.2 Site Description

The Site is part of Lots 24 and 25, Concession 3 in the Township of Uxbridge. The Site is accessed by Zephyr Road and Concession Road 3. The regional location map of the Site is represented in Figure 1.

The western portion of the property was developed as a golf course which commenced operations in 1982. However, at the time this document was prepared, the Site had not operated commercially in several years and was overgrown with vegetation. Prior to 1982 the land use was for agriculture.

The Zephyr-Egypt Provincially Significant Wetland Complex (PSW) occupies the eastern portion of the property. The Site consists of rolling and hilly topography that generally slopes towards the southeast towards the (PSW). Residential land use surrounds the Site to the north, west and south. The Universal Transverse Mercator (UTM) coordinate of the Zephyr Road access to the Site is 638827 mE, 4895716 mN.

The proposed development will occur wholly within the western portion of the property. The total area of the property is approximately 40 ha; however, 22.2 hectares (ha) of the property are located within the PSW environmental protection area, with approximately 14.6 ha of the Site to be developed and the remainder of the Site reserved for setback areas. The 14.6 ha area of the Site to be developed will hereafter be referred to as the development area and is outlined in Appendix A.

As seen in Figure 2, the proposed development area has been split into Phase 1 and Phase 2. The Phase 1 development area is located in the northwestern area of the Site and is approximately 3.4 ha. The Phase 1 development includes seven lots and an internal roadway.

The Phase 2 development area is approximately 11.2 ha and is located south of Phase 1. Phase 2 includes the development of 17 lots and internal roadways. The PSW setback does not encroach onto the Phase 2 development area. The proposed development will be provided water and wastewater servicing by on-site systems.

As mentioned in Section 1.0, the information referenced herein does not include an assessment of the Phase 1 development lands and focusses solely on the Phase 2 development lands. A plan of the proposed development has been attached in Appendix A.

1.3 Applicable Guidelines

This report was completed in accordance with the following guidelines:

- Ministry of Environment, Conservation and Parks (MECP) Procedure D-5-4 (Ministry of the Environment, 1996a)
- MECP Procedure D-5-5 (Ministry of the Environment, 1996b)
- Lake Simcoe Region Conservation Authority (LSRCA) Hydrogeological Assessment Submissions (Lake Simcoe Region Conservation Authority, 2013)

1.4 Existing Conditions

A Phase Two Environmental Site Assessment (ESA) was completed at the Site, separated into two reports for the two development phases of the Site (Phase 1 and Phase 2). In the northwest portion of the Site (development Phase 1), concentrations of all contaminants of potential concern (COPC) were less than the Table 2 site condition standards (SCS) in the analyzed soil samples except for OC pesticides in two shallow soil samples at a depth of 0.2 to 0.5 mbgs; and less than the Table 2 and Table 6 SCS in the analyzed groundwater samples. In the south and east portion of the Site (development Phase 2), concentrations of all COPCs were less than the Table 1 SCS in the analyzed soil samples except for mercury in two shallow soil samples at a depth of 0.15 mbgs. Remedial excavations of the identified soil exceedances are recommended to be completed prior to filing a record of site condition (RSC) for each development phase at the Site (Cambium Inc., 2025b) (Cambium Inc., 2025c).

It is Cambium's opinion that the issues noted in the Phase Two ESA reports are relatively low risk and the issues should be sufficiently resolved upon remedial excavations. Further, as outlined in subsequent sections of this report, the supply aquifer on-site (i.e., a deep, confined aquifer system) is considered to be sufficiently hydraulically isolated from surface conditions, therefore the risk to local groundwater supplies is considered negligible – especially once the identified issues are remediated.

2.0 Methodology

2.1 Background Information

A thorough review of the available relevant background information was undertaken for this study, which included the following:

- Chapman, L.J. and Putnam, D.F., 1984. The Physiography of Southern Ontario: Ontario Geological Survey, Special Volume 2.
- Ontario Geological Survey, 2007 Paleozoic Geology of Southern Ontario; Miscellaneous Release – Data 219.
- Ontario Geological Survey, 2010. Surficial Geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release – Data 128-REV. Scale: 1:50,000.
- Source Protection Area Mapping provided by the Ministry of Environment, Conservation and Parks (MECP).
- Natural Heritage Areas Mapping, available online through the Ministry of Natural Resources and Forestry (MNRF).
- Topographic Mapping, available online through the MNRF.
- Regulated Areas Mapping, available online through the Flood Mapping 2022 Web Application from the Lake Simcoe Region Conservation Authority (LSRCA).
- Water Well Information System (WWIS) provided by the MECP.
- Lake Simcoe Region Conservation Authority, 2010. Black River Subwatershed Plan.
- Tatham Engineering, 2025. Hidden Ridge Subdivision – Stormwater Management Report.

2.2 Test Pit Investigation - 2017

On August 3, 2017, a test-pit investigation was completed by Cambium to determine the shallow subsurface conditions across the property. The test-pits were excavated using a tracked excavator under the supervision of a Cambium technologist. A total of 13 test-pits,

designated as TP101-17 through TP113-17, were advanced throughout the Site in the western portion of the property where the development is proposed to occur. Each soil sample was handled only by the technologist using dedicated nitrile gloves. Soil samples were logged for soil colour, texture, structure, moisture content, and consistency/compactness. Open test-pits were backfilled with the excavated soils and compacted with the backhoe bucket. The test-pit logs are provided in Appendix B. Test-pit locations have been outlined on Figure 3.

2.3 Residential Well Sampling - 2017

As part of the D-5-4 assessment groundwater samples were collected from the private well servicing the residences at 340 Zephyr Road, 1 Foot Road, and 12820 RR39 on August 9, 2017. These samples were analyzed for biological oxygen demand (BOD), total kjeldahl nitrogen (TKN), ammonia (total and un-ionized), nitrate, nitrite, and dissolved organic carbon (DOC). The wells which serviced 340 Zephyr Road and 1 Foot Road were installed at depths of 5.54 m below top of casing (mbtoc) and 6.96 mbtoc, respectively. These two wells did not have associated well tags but were interpreted to be installed in a shallow overburden aquifer based their measured depths. The well that serviced 12820 RR39 was assumed to be installed in a deeper, confined aquifer. Further discussions on these wells are included in the following sections.

The groundwater samples were stored in coolers with freezer packs and maintained less than 10°C during transport to the Caduceon Environmental Laboratories (Caduceon) in Ottawa, Ontario. Caduceon is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA), for specific environmental tests listed in the scope of accreditation approved by CALA. The Certificates of Analysis are attached as Appendix C. The water quality results were compared against the Ontario Drinking Water Quality Standards (ODWQS) (Ministry of the Environment, June 2006).

2.4 Piezometer Installations and Water Level Monitoring – 2017/2018

On November 24, 2017, Cambium staff visited the Site and installed six piezometers along the boundary between the PSW and the abandoned golf course. The piezometers were

constructed from 0.04 m diameter steel risers and 0.61 m long screens. The piezometers were nested in pairs and driven to depth with hand tools. The locations of the piezometers have been outlined on Figure 3. The depths, water levels and elevations of the piezometers have been outlined below in Table 1.

Table 1 Piezometer Construction Details

Piezometer	Depth (mtop)	Stickup (m)	Depth (mbgs)	Top of Pipe Elevation (masl)	Water Level (July 16, 2018) (mtop)	Water Elevation (July 16, 2018) (masl)
P1	3.20	1.23	1.97	238.62	1.79	236.83
P2	2.04	0.74	1.31	238.13	1.24	236.89
P3	2.95	1.35	1.60	238.17	1.87	236.30
P4	1.94	0.79	1.15	237.61	1.31	236.30
P5	3.18	1.45	1.73	238.04	1.89	236.15
P6	1.93	1.10	0.83	237.69	1.49	236.20

1. *The elevations outlined herein are approximate and not strictly geodetic.*

The piezometers were instrumented with loggers and monitored for the duration of the pumping tests.

On July 23, 2018, Cambium staff returned to the Site to install loggers for long-term water level monitoring. Water levels from the piezometers were monitored between July 23, and September 18, 2018.

2.4.1 Single Well Hydraulic Testing on Piezometers – 2018

On July 29, 2018, single well hydraulic tests (bail tests) were completed on each of the piezometers. To complete the bail tests, each piezometer was purged of all groundwater and loggers were installed to monitor recovery. On September 18, 2018, Cambium staff returned to the Site to retrieve the loggers. It is noted that the analysis methods of a bail test assume that a volume of water is instantaneously removed from the well and induces a corresponding instantaneous response of the water level response. Purging the wells dry by hand is not an instantaneous process. Due to the relatively low conductivity of the overburden soils, the instantaneous removal of water would induce a similar water level response as would be

induced from purging the wells dry. Therefore, the bail test methodology described above is considered satisfactory.

2.5 Hydraulic Pumping Tests - 2018

Three test wells were installed on-site between June 14 and June 20, 2018. The test wells were labelled as PW1, PW2 and PW3. Specific construction details are included in Table 2. The wells were installed with 0.15 m diameter steel casings to depths ranging between 21.04 metres below ground surface (mbgs) and 29.57 mbgs. Upon installation of well PW1, the water level was recorded to be 6.26 mbgs, while the water levels were recorded to be 1.07 and 2.44 metres above ground surface (mags), for wells PW2 and PW3, respectively. Wells PW2 and PW3 were modified with 0.038 m diameter PVC pipe that extended upwards from the steel casing at a height greater than the static water level to allow the groundwater head pressure to equilibrate. The borehole logs of PW1, PW2 and PW3 have been attached in Appendix D. A summary of the installation details of wells PW1, PW2 and PW3 have been outlined below in Table 2. The static groundwater elevations (presented in metres above sea level (masl)) are also outlined below in Table 2.

Table 2 Test Well Information

Well	Well Tag Number	Date Installed	Depth (mbgs)	Top of Steel Pipe Elevation (masl)[1]	Water Level (upon installation; mbgs)	Static Water Level on July 16, 2018 (mbtop)	Static Water Elevation on July 16, 2018 (masl)
PW1	A222198	June 14, 2018	29.57	256.25	6.26	9.34	246.91
PW2	A222207	June 20, 2018	23.17	247.03	-1.07	0.14	246.88
PW3	A222197	June 18, 2018	21.04	245.55	-2.44	1.38	246.84

On July 16 and 17 of 2018, Cambium staff were on-site to complete three pumping tests (at wells PW1, PW2 and PW3), each lasting approximately six (6) hours (360 minutes). Test well PW1 was tested on July 16, 2018, and test wells PW2 and PW3 were tested simultaneously on July 17, 2018. During each pumping test the water levels in each test well not being tested were monitored for drawdown. Solinst pressure transducer level loggers (Loggers) were installed in each pumping well to record water levels continuously. A Logger was also used to

record barometric pressure throughout the study period to allow for barometric compensation. Manual water level measurements were also collected for the duration of each test.

Well PW1 was tested at a rate of 95 L/min for the duration of the pumping test.

On the day of testing the water level of well PW2 had lowered below the top of the steel casing; as such a submersible pump could be installed and a pumping test completed. Well PW2 was initially pumped at a rate of 55 L/min, however the rate was reduced to 25 L/min soon after initiation of the test. It is noted that the pumping rate of well PW2 was reduced from 55 L/min to 25 L/min to maintain piezometric pressure (and thereby the flowing conditions) at well PW3.

A tap was installed on the wellhead of PW3 during installation. To test well PW3 the tap was opened and allowed to flow freely. The tap flowed at a rate of approximately 14 L/min for the duration of the test.

The locations of the wells have been outlined on Figure 3.

2.5.1 Observation Wells During the 2018 Pumping Tests

A previous hydrogeological assessment of the northern portion of the Site included the installation of three drilled test wells. However, only two of these wells (TW-2 and TW-3) could be located by Cambium staff. The water level of both of these wells were monitored during the pumping tests completed by Cambium.

In addition, there were two existing dug wells located on-site which were tested by Cambium staff (referred to herein as DW1 and DW2).

The wells which serviced the adjacent residences located at 12820 RR39, 7 Dafoe St., and 340 Zephyr Road were also included in the pumping tests. Each of the wells described above were installed with Loggers during the pumping tests of PW1, PW2 and PW3.

The locations of the wells described above have been outlined on Figure 3. The depths and water levels recorded at the monitoring wells on July 16, 2018, have been outlined below in Table 3.

A groundwater sample was collected from the dug well that serviced 1 Foot Road August 9, 2017. This well has been included in Table 3, but the water level was not monitored during the pumping tests since contact could not be re-established with the homeowner.

Table 3 Monitoring Well Construction Details

Well	Type of Well	Well Tag Number	Depth (mtop)	Top of Pipe Elevation (masl)	Static Water Level (mtop) (July 16, 2018)	Static Water Elevation (mtop) (July 16, 2018)
TW-2	Drilled	A123254	31.78	256.35	9.53	246.82
TW-3	Drilled	A123353	29.52	253.06	6.23	246.83
DW-1	Dug	-	10.8	257.29	3.21	254.08
DW-2	Dug	-	7.16	251.35	5.88	245.47
12820 RR39	Drilled	-	19.46	255.58	4.38	251.20
7 Dafoe St.	Drilled	-	20.66	251.12	4.24	246.88
340 Zephyr Rd.	Drilled	-	5.54	239.05	2.49	236.56
1 Foot Road	Dug	-	6.96	-	-	-

2.5.2 Aquifer Test Analysis

To determine aquifer properties of the water bearing units that the pumping wells and piezometers had been installed in the water level data were imported into AquiferTest Pro™ (Version: 2011.1). The model and results of the analysis are discussed in more detail in Section 4.3. The results of the aquifer test analysis have been included as Appendix E.

2.5.3 Test Well and Residential Well Sampling for the 2018 Pumping Test

Water characterization sampling was completed on each of the three test wells (PW1 to PW3). The samples were tested for general organic/inorganic parameters in addition to bacteria. Each test well was sampled within the final 60 minutes of each pumping test. Field analyses were completed on all samples collected, which included the temperature (°C), pH and conductivity (mS).

The groundwater samples were stored in coolers with freezer packs and maintained less than 10°C during transport to the Caduceon Environmental Laboratories (Caduceon) in Ottawa,

Ontario. Caduceon is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA), for specific environmental tests listed in the scope of accreditation approved by CALA. The Certificates of Analysis are attached as Appendix D. The water quality results were compared against the Ontario Drinking Water Quality Standards (ODWQS) (Ministry of the Environment, June 2006).

2.6 Borehole Investigation and Monitoring Well Installation – 2024

A borehole investigation was conducted on December 13, 2024, to assess subsurface conditions at the Site, where a total of five boreholes, designated as BH101-24 to BH105-24, were advanced. Drilling and sampling were completed using a track-mounted drill rig operating under the supervision of a Cambium technician. The boreholes were advanced to the sampling depths by means of continuous flight solid stem augers with 50 mm outer diameter split spoon samplers. Standard Penetration Test (SPT) N values were recorded for the sampled intervals as the number of blows required to drive a split spoon sampler 305 mm into the soil, using a 63.5 kg drop hammer falling 750 mm, as per ASTM D1586 procedures. The SPT N values are used in this report to assess consistency of cohesive soils and relative density of non-cohesive soils. Soil samples were collected at approximately 0.75 m intervals. The encountered soil units were logged in the field using visual and tactile methods, and samples were placed in labelled plastic bags for transport, future reference, possible laboratory testing, and storage. The boreholes were terminated at depths of 5.2 m to 6.7 m below ground surface (mbgs).

All boreholes drilled on December 13, 2024, were completed as monitoring wells for stabilized water level monitoring and to define the local groundwater regime across the Site, with the monitoring wells installed in BH101-24 to BH105-24 being named MW101-24 to MW105-24. The monitoring wells were installed in accordance with Ontario Regulation (O.Reg.) 903. Monitoring well locations are included on Figure 3 and borehole logs are included in Appendix D. The construction details for the monitoring wells are shown in Table 4.

Table 4 Well Construction Details

Monitoring Well	Borehole Termination Depth (mbgs)	Ground Elevation (masl)	Screen Details	
			Top (mbgs)	Bottom (mbgs)
MW101-25	6.7	250.18	3.0	6.1
MW102-25	5.2	238.42	1.5	4.6
MW103-25	5.2	251.38	1.5	4.6
MW104-25	5.2	242.32	1.5	4.6
MW105-25	5.2	248.42	1.5	4.6

2.6.1 Test Well Re-Sampling – 2025

Test wells PW1, PW2, and PW3 were re-sampled on May 8, 2025, as per PGL's peer review comments received on June 11, 2024.

As part of the re-sampling process, Cambium chlorinated the three test wells on May 7, 2025, to a chlorine concentration of approximately 100 mg/L, which is in alignment with the O.Reg. 903 guidelines. On May 8, 2025, each test well was pumped at a rate of 20 L/min for six hours. During the pumping period for each well, field parameters were measured approximately once per hour, with the field parameters consisting of turbidity, residual chlorine, temperature, pH, conductivity, dissolved oxygen, and oxidation reduction potential.

Water quality samples were collected from PW1, PW2, and PW3 during the last hour of pumping at each respective test well. At the time of sampling, the field turbidity and residual chlorine concentrations were confirmed to be <5 NTU and non-detect, respectively, in accordance with Procedure D-5-5. The resampling was completed with the assistance of a licenced well contractor. The water quality samples were sent to the SGS laboratory in Lakefield and analyzed for the parameters outline in Procedure D-5-5, with duplicate samples collected for bacterial analysis.

The analyzed suite of parameters is considered sufficient since there is considered to be sufficient hydraulic isolation from the identified supply aquifer and surficial conditions identified on-site (see Section 1.4).

All water quality results were compared against the ODWQS criteria. The Certificates of Analysis are attached as Appendix C.

Each test well was allowed to recover for a period of one hour after the cessation of pumping, with water levels in each test well being measured periodically with a water level tape before, during, and after pumping. In accordance with PGL's peer review comments on December 3, 2024, water levels were also measured during the pumping period in monitoring wells MW101-24 to MW105-24 and at dug well DW1.

It was already demonstrated in the previous version of this report that there were negligible influences to off-site groundwater users – therefore no off-site groundwater level monitoring was completed while PW1, PW2 and PW3 were resampled in 2025. Similarly, collecting additional water quality samples from off-site supply wells was not considered necessary to support the proposed development. No other off-site supply wells were monitored or sampled as part of 2025 test well resampling program.

2.6.2 Long-Term Water Level Monitoring in the Test Wells and DW1 – 2025

Loggers were installed in monitoring wells MW101-25 to MW105-25 and in dug well DW1 on January 14, 2025, for long-term water level monitoring in these wells. Manual water level measurements were also collected from these wells on January 14, March 18, May 7 and 8, and on June 9, 2025.

Groundwater level monitoring at these wells was ongoing at the time this document was prepared.

2.7 Nitrate and Phosphorous Sampling

Water quality samples were collected from the five monitoring wells on-site, MW101-24 to MW105-24, and from dug well DW1 on January 14, and May 7, 2025. The samples were submitted to SGS Canada Inc. (SGS) and analyzed for nitrate, nitrite, and total and dissolved phosphorous concentrations. The sample was stored at a temperature between 0°C and 10°C prior to and during transport. The sampling was conducted in support of the nitrate and phosphorous loading assessments.

As per the peer review comments from PGL in their email date December 3, 2024, Cambium will complete two additional rounds of groundwater sampling at the on-site monitoring wells and from DW1 to further characterize the temporal variability of nitrate and phosphorous concentrations in the shallow groundwater at the Site.

2.8 Soil Chemistry Sampling

Three of the soil samples collected on December 13, 2025, as part of the borehole investigation described in Section 2.6, were submitted to SGS laboratories to be analyzed for aluminum, calcium, and iron concentrations. The soil chemistry results were used in the application of the 'Roberston Approach' (Robertson, Van Stempvoort, & Schiff, 2019) for the phosphorous loading assessment that is further described in Section 5.3.2

2.9 Surveying

Upon completion of the 2018 pumping tests, Cambium staff surveyed each well and piezometer included in the 2018 testing. The survey was completed using a Topcon Real Time Kinematic (RTK) enabled HiPer II system with an FC-25 field controller. A geodetic benchmark was not located during the 2018 survey.

Using an RTK positioning device, the monitoring wells installed on December 13, 2024, were surveyed on June 9, 2025, along with surveying a local benchmark and re-surveying test well PW-1. Using the survey data from the local benchmark and PW-1, the surveyed well elevations from 2018 were converted from relative to geodetic elevations.

3.0 Geological and Hydrogeological Setting

3.1 Topography and Drainage

The Site is located just within the eastern boundary of the Black River subwatershed. The Black River subwatershed is approximately 375 km² and drains northwards to Lake Simcoe (Lake Simcoe Region Conservation Authority, 2010).

The central west area of the Site occupies a local topographic high that exhibits a maximum elevation of approximately 256.5 metres above sea level (masl). Ground surface topography lowers extending north, east and south away from the central west area of the property. The eastern area of the property is relatively flat and ranges in elevation between approximately 240 and 245 masl. The Zephyr-Egypt PSW occupies the eastern portion of the property.

The lowest area the Site is oriented north-south across the Site and forms the border between the western area of the property (the development area) and the flatter areas in the eastern area of the property (generally the PSW). The lowest elevations at the Site range between approximately 238.5 masl at the southern border and 237.5 masl at the northern border of the property. Drainage generated from most of the Site is directed towards the central area of the property, where is it then routed northwards and off-site.

Based on mapping provided by Tatham (2025) and on existing conditions mapping provided by the Client, there are two catchments identified within the proposed development area on-site. The existing catchments have been identified as the following:

- Primary Catchment
- Northwest Catchment

The Primary Catchment is approximately 12.4 ha and includes most of Phase 1 and 2. Runoff generated within the Primary catchment is routed to the low-lying area centrally located within the property, which then flows north off-site. It is noted that the stormwater management plan does not include catchment information for the environmental protection area and Phase 1 of the proposed development.

The Northwest Catchment is approximately 2.2 ha and includes small portions of the Phase 1 and Phase 2 areas. Runoff generated within the Northwest Catchment flows to the northwest

and off-site. It is noted that the Northwest Catchment includes pre-development catchments 101 and 103 outlined in the stormwater management plan (Tatham, 2025).

The approximate drainage divide between the Primary and Northwest Catchments is outlined in Appendix A for both pre- and post-development conditions. Note, the surface water drainage features of the PSW were not explored as part of this assessment. It is assumed herein that all runoff generated from the PSW is directed to the central drainage feature, then northwards, off-site. Further details of the Northwest and Primary catchments on-site are available in Cambium's updated water balance report for the Site (Cambium, 2025a).

3.2 Physiography

The Site is primarily located within the physiographic region known as the Simcoe Lowlands. The Simcoe Lowlands physiographic region extends from Lake Couchiching, southward along the western edge of Lake Simcoe continuing southward toward the community of Bolton. Morphologically, this region is characterised by flat, low-lying plains composed of silts, clays and fine to medium grained sands deposited within glacial Lake Algonquin. Evidence of glacial Lake Algonquin and its successors is provided by numerous shorelines, wave-cut notches, terraces and beach ridges located throughout the study area. (Chapman, L.J. and D.F. Putnam, 1984).

3.3 Geology

According to Miscellaneous Release – Data 128 from the Ontario Geological Survey (2010), the Site is in an area where the following surficial deposits are present:

- Coarse-textured glaciolacustrine deposits (sand, gravel, minor silt and clay, foreshore and basinal deposits).
- Till (Stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain).

According to Miscellaneous Release – Data 219 from the Ontario Geological Survey (Armstrong & Dodge, 2007), the Site and surrounding area are characterized by one bedrock region composed of Middle Ordovician limestone, dolostone, shale, arkose, and sandstone of the Ottawa Group, Simcoe Group, and Shadow Lake Formation.

3.4 Test Pit and Borehole Investigation

The soils described in the available mapping were corroborated by the results of the test-pit and borehole investigations. Of the 13 test-pits completed at the Site, almost all exhibited similar stratigraphy. The depth of topsoil ranged from surface to 0.43 mbgs, which was underlain by sand and silt, some clay, some gravel, and trace cobbles. The completed depths of the test-pits ranged between 1.52 mbgs and 2.13 mbgs. Most of the test-pits were open and dry upon completion, however, test-pits TP102-17, TP110-17, and TP111-17 reported water entering the excavation, and TP112-17 exhibited saturated cave-in conditions upon completion.

As described in Section 2.6, five boreholes were advanced across the footprint of the Phase 2 development on December 13, 2024, designated as BH105-24 to BH105-24. The boreholes were terminated at depths between 5.2 and 6.7 mbgs, with each borehole being terminated in overburden; auger refusal was not encountered during the borehole investigation. The shallow soils in the boreholes were comparable to the soils encountered during the test pit investigation. The soils encountered during the borehole investigation are summarized as follows:

3.4.1 Topsoil

A surficial layer of topsoil was encountered at the surface of each of the boreholes advanced at the Site. The topsoil varied in thickness of 0.15 to 0.38 m thick.

3.4.2 Silty Sand, Silt and Sand, Sandy Silt, and Silty Sand Till

Below the topsoil in each borehole was layers of silty sand, silt and sand, sandy silt, and/or or silty sand till, with varying amounts of gravel and clay. Layers of silty sand or silty sand till extended to the borehole termination depths of 5.2 mbgs in BH102-24 and BH103-24, and extended to depths of 3.0, 2.4, and 1.5 mbgs in BH101-24, BH104-24, and BH105-24, respectively. The SPT N values in these layers ranged from 4 to 39 blows, indicative of a loose to dense relative density.

3.4.3 Sand

A layer of sand with some silt and trace gravel was encountered in BH101-24 from 3.0 to 4.1 mbgs. The SPT N value in the sand was 54, indicative of a very dense relative density. While not noted as till in the field, the high SPT N value and the presence of both gravel and silt in the unit suggest that this unit may be a sandy till.

3.4.4 Clayey Silt Till

A layer of clayey silt till was observed in BH101-24, BH104-24, and BH105-24 from depth starting at 1.5 to 4.1 mbgs and extending to each borehole's termination depths ranging from 5.2 to 6.7 mbgs. The clayey silt till layers contained some sand and gravel, and had a firm to very stiff consistency. The SPT N values in the clayey silt till layers ranged from 8 to 42.

3.4.5 Bedrock

Bedrock was not encountered as part of the test pit or borehole investigations.

3.4.6 Grain Size Analysis

Physical laboratory testing was completed for a total of three selected soil samples collected as part of the test pit investigation to confirm textural classification. A percolation rate (T-Time) was assigned to each sample based upon the grain size analysis results. Results are presented in Appendix F and details of the grain-size analysis are presented in Table 5 below.

Table 5 Grain Size Analysis Results

Test Pit	Depth (mbgs)	Soil	% Gravel	% Sand	% Silt	% Clay	Inferred T-Time (min/cm)
TP101-17	1.12 – 1.80	Silty Gravelly Sand trace Clay	28	41	23	8	20
TP104-17	0.91 – 2.00	Silty Sand some Clay trace Gravel	9	46	33	12	25
TP107-17	0.20 – 0.89	Silty Sand trace Clay	0	75	23	2	15

3.5 Water Well Records

Cambium accessed the MECP WWIS to review water well records within 500 m of the Site. There were 157 records for water well installed between 1960 and 2021 found within approximately 500 m of the Site (Appendix G; Figure 4).

A summary of the information outlined in the well records is provided below:

- Well use information indicated that 127 of wells are used for water supply, 19 wells were abandoned, 9 records were for monitoring wells or test holes, and 2 wells are of unknown use.
- Of the 157 well records,144 wells were installed in overburden to depths ranging from 1.8 to 77.4 mbgs, with an average depth of 21.4 mbgs.
- The remaining 13 wells were installed in bedrock to depths ranging from 12.2 to 65.8 mbgs, with an average depth of 45.2 mbgs.
- The average depth of bedrock contact was 40.7 mbgs.
- Overburden was most reported as clay, with some layers of sand, gravel, silt. The borehole logs indicated that the sediments in the area typically comprise of fine-grained silt and clay at or near surface, overlying water bearing sand and gravel at depth. Some coarse-grained sediments were occasionally reported at surface, overlying the fine-grained materials.
- Bedrock was primarily described as limestone, with some shale.
- Depth to water found for the overburden wells ranged from 0.9 to 75.9 mbgs, with an average of 20.1 mbgs. Static water levels for the overburden wells ranged from -2.4 to 19.8 mbgs, with an average of 3.7 mbgs.
- Depth to water found for the bedrock wells ranged from 10.4 to 65.8 mbgs, with an average of 42.6 mbgs. Static water levels for the bedrock wells ranged from 0.5 to 19.8 mbgs, with an average of 7.2 mbgs.

- Recommended pumping rates in the overburden wells ranged from 5 to 182 L/min, with a mean of 34 L/min. Recommended pumping rates in the bedrock wells ranged from 14 to 36 L/min, with an average of 24 L/min.

The depths, static water levels, and pumping rates for the bedrock wells and overburden wells are shown in Table 6.

Table 6 Summary of Surrounding Water Well Record Information

Well Type		Depth (mbgs)	Water First Found (mbgs)	Static Water Level (mbgs)	Recommended Pumping Rate (L/min)
Bedrock Count = 13	Minimum	65.8	65.8	19.8	36
	Maximum	12.2	10.4	0.5	14
	Mean	45.2	42.6	7.2	24
Overburden Count = 144	Minimum	77.4	75.9	19.8	182
	Maximum	1.8	0.9	-2.4	5
	Mean	21.4	20.1	3.7	34

3.6 Hydrogeological Conditions

Informed by the MECP well records, the test well records for PW1 to PW3, the borehole logs for MW101-25 to MW105-25, the test pit logs, and the grain size results, the hydrogeological setting on-site can broadly be characterized by:

1. A shallow an unconfined aquifer consisting of silty sand or silty sand till;
2. A fine-grained aquitard; and
3. A deeper sand/gravel aquifer.

East-west and north-south cross sections for the Phase 2 Development Area are provided on Figure 5 and Figure 6, respectively, with the plan view of the cross section transects provided on Figure 3.

3.6.1 Shallow Unconfined Aquifer

Based on the borehole logs for MW101-24 to MW105-24 and on the surrounding well records, the shallow unconfined aquifer is interpreted to be positioned on top of the fine-grained aquitard. The spatial continuity of the shallow overburden aquifer across the Site / region is interpreted to be sporadic, as several test pit logs and MECP well records reported clay and/or silt dominated soils either at or near the ground surface. However, borehole logs for MW101-25 to MW105-25 indicate that the water table within the Phase 2 area is generally within the shallow, unconfined aquifer.

The shallow overburden aquifer in the area is interpreted to be moderately conductive to groundwater flow based on the water well records for the nearby dug wells and on the T-times calculated from the grain size results. The shallow dug wells in the area were either installed in shallow surficial deposits of sand and gravel or fine-grained clayey material. The shallow aquifer on-site is interpreted to be at least partially hydraulically connected to the shallow soils within the PSW.

The screened intervals for monitoring wells MW101-25 to MW105-25 and piezometers P1 to P6 are all interpreted to be partially/fully within or just below the shallow unconfined aquifer on-site. Furthermore, dug well DW1 is within the Phase 2 Development Area and has a depth of 10.86 mbgs, and is also interpreted to be sourced from the shallow unconfined aquifer on-site. Given the well/piezometer locations, the water levels from P1 to P6 are used to represent the water levels in the shallow aquifer within the PSW, while the water levels from MW101-25 to MW105-25 and DW1 are used to represent the water levels with this shallow aquifer in the Phase 2 Development Area. The water levels in P1 to P6 in 2018 are discussed in Section 3.6.1.1, while the water levels from MW101-25 to MW105-25 and DW1 in 2025 are discussed in Section 3.6.1.2.

3.6.1.1 Piezometer Water Levels and PSW Hydrology

Piezometers P1 through P6 were installed in the shallow overburden aquifer just within the boundaries of the PSW (see Table 1 for more details). As mentioned in Section 2.4, continuous water level monitoring (with the use of loggers) was conducted in P1 to P6 from

July 23, 2018, to September 18, 2018. Hydrographs of P1 to P6 are provided for the period of July 16, 2018, to September 18, 2018, on Figure 7, while vertical gradients for the piezometers nest over the same time period are provided in Figure 8. The water level monitoring indicated that the vertical hydraulic gradients at piezometer nests P3/P4 and P5/P6 were consistently downwards on July 16, 2025, and from July 23 to September 18, 2025. Conversely, the vertical hydraulic gradients at the P1/P2 piezometer nest were generally downward in July 2018, a combination of upward and downward in August 2018, and generally upwards in September 2018.

The greatest downward hydraulic gradients were observed on July 16, 2018, and were likely caused by the rainfall event that occurred at that time. Subsequent to this event, the long-term hydraulic gradients reported from the piezometers assumed generally stable patterns. The hydraulic gradients reported from piezometer nests P3/P4 and P5/P6 were always reported to be downwards and to increased slightly in magnitude during the monitoring period. The vertical gradients reported from P1/P2 generally increased in an upward direction during the monitoring period.

As per Figure 7, the direction of groundwater flow between the piezometers was northwards; however a portion of groundwater flow within the shallow overburden is likely directed eastwards following the downward slope in topography. All of the piezometer nests are located in areas that collect surface water runoff; however only piezometer nest P1/P2 reported upward gradients during the long term monitoring. The upward hydraulic gradients reported at piezometer nest P1/P2 are likely a result of groundwater flow from the shallow overburden aquifer pressurizing the area.

Runoff water is routed northwards from piezometer nest P1/P2 and collects in the area of piezometer nests P3/P4 and P5/P6 (as evidenced by the pond located immediately west of these two well nests). Such a scenario induces groundwater mounding in the area of piezometer nests P3/P3 and P5/P6, which generates downward gradients.

As discussed in Section 4.3, the hydraulic conductivity calculated from the deep piezometers was approximately one order of magnitude less than the shallow piezometers; therefore

downward hydraulic gradients may sustained at piezometer nests P3/P3 and P5/P6 since groundwater will remain perched on sediments of lower hydraulic conductivity, but the volume of water infiltrating into the deeper sediments may be relatively low.

3.6.1.2 Water Levels in the Phase 2 Shallow Overburden Aquifer

The piezometers are interpreted to be screened in the shallow overburden aquifer on-site. PGL (2024a) commented that limited hydrogeological characterization was provided in terms of the shallow overburden aquifer within the Phase 2 development area. Therefore, as discussed in Section 2.6.2, Cambium installed loggers to measure continuous water levels in MW101-25 to M105-25 and in DW1 on January 14, 2025, and will continue to collect water level data in these wells until June 2026. The loggers were last downloaded on June 9, 2025. Hydrographs from January 14 to June 9, 2025, are provided for MW101-25 to MW105-25 and DW1 in Figure 9. A summary of the water level data collected for these wells to date is provided in Table 7 below.

Table 7 Groundwater Level Summary

Well		MW101-25	MW102-25	MW103-25	MW104-25	MW105-25	DW1
Top of Pipe Elevation (masl)		251.19	239.52	252.42	243.40	249.58	257.29
Ground Surface Elevation (masl)		250.18	238.42	251.38	242.32	248.42	256.99
Stick-up (m)		1.01	1.10	1.04	1.08	1.16	0.30
Shallow Water Level Conditions	Water Level (mbgs)	1.40	-0.26	-0.38	-0.20	-0.12	3.40
	Groundwater Elev.(masl)	248.78	238.68	251.76	242.52	248.55	253.60
Deep (Dry) Water Level Conditions	Water Level (mbgs)	3.83	0.33	1.31	0.73	0.78	6.86
	Groundwater Elev.(masl)	246.36	238.10	250.07	241.59	247.64	250.13

As provided in Table 7, the water levels in the shallow dug/monitoring wells within the Phase 2 development area ranged from 6.86 to -0.38 mbgs and from 238.10 to 253.60 masl. In terms of trends, water levels in MW101-24 to MW105-24 and DW-1 generally decreased slowly from January 14, to late February or early March 2025, whereafter water level increased to their

maximum springtime high between March 16 and April 7, 2025 (see Figure 9). From April 7 to June 9, 2025, water levels have generally trended downwards, aside from some short-term water level increases associated with rainfall events. As provided in Table 7 and Figure 9, the magnitude of the water level fluctuations have generally been greater in wells that are located at higher ground elevations, such as DW-1, MW101-24, and MW103-24, as compared to the wells at lower elevations.

To determine the direction of groundwater flow within the shallow overburden aquifer in the Phase 2 development area, a groundwater flow map was prepared using the 2025 springtime high water levels from MW101-24 to MW105-24 and DW-1, as shown on Figure 10.

Cambium notes that the groundwater contours on Figure 10 represent the highest water level recorded from between March 16 and April 7, 2025, since high groundwater conditions were recorded at each well on a different date. As depicted on Figure 10, groundwater flow in the shallow overburden aquifer within the Phase 2 Development Area is interpreted to be to the east/southeast, consistent with local topography.

3.6.2 Deep Confined Aquifer

Test wells PW1 to PW3, monitoring wells TW-2 and TW-3, and the supply wells that service 12820 RR39 and 7 Dafoe St. are all interpreted to be installed within the deep, confined overburden aquifer consisting of sand and gravel (note: there were no well tags found on the wells that service 12820 RR39 and 7 Dafoe Street; however due to their well depths and static water levels, it is assumed that they have both been installed in the same confined aquifer as the other drilled monitoring wells and test wells). (The drilled well that serviced the residence at 340 Zephyr Rd was installed at a shallow depth; therefore this well was interpreted to not be installed in the confined overburden aquifer.)

Based on the onsite well records for test wells PW1 to PW3 (Appendix D) and MECP well records (Appendix G), the confining layer generally consists of a clay/silt till textured sediments and is regionally extensive. On-site, the confining layer of fine grained material was confirmed to range in thickness between approximately 13.7 m and 18.3 m (see Appendix D).

It is expected that the confined aquifer is hydraulically isolated from the unconfined overburden aquifer and protected from surficial conditions. Further, the confined aquifer is pressurized, as indicated by flowing artesian conditions reported at test wells PW2 and PW3. Test well PW1 did not exhibit flowing artesian conditions, however the static water level of this well was about 17 m above the confining layer/aquifer contact.

Due to the pressurized/confined aquifer conditions, the deep confined aquifer is not considered to be readily susceptible to any surficial conditions, nor is there considered to be a significant hydraulic connection the shallow overburden aquifer.

3.6.2.1 Deep Confined Aquifer Water Levels

To characterize the water levels in the deep confined aquifer, water levels were taken on July 16, 2018, from monitoring wells TW-2 and TW-3, from test wells PW1, PW2, PW3, and from the residential wells that service 12820 RR39 and 7 Dafoe St. Furthermore, water levels were measured on May 7 and 8, 2025, from test wells PW1, PW2, and PW3. A summary of the water levels from PW1 to PW3 is provided in Table 8.

Table 8 Measured Groundwater Levels in the Test Wells

Well		PW1	PW2	PW3
Top of Pipe Elevation (masl)		256.25	247.03(1)	245.55(1)
Ground Surface Elevation (masl)		255.40	246.25	244.79
Stick-up (m)		0.85	0.77(1)	0.77(1)
16-July-2018	Water Level (mbgs)	8.49	-0.63	-2.05
	Groundwater Elev. (masl)	246.91	246.88	246.84
7-May-2025	Water Level (mbgs)	8.70	0.59	≤ -0.77(2)
	Groundwater Elev. (masl)	246.70	245.67	≥ 245.55(2)
8-May-2025	Water Level (mbgs)	8.77	-0.35	≤ -0.77(2)
	Groundwater Elev. (masl)	246.63	246.61	≥ 245.55(2)

(1) The PW2 and PW3 test wells were outfitted with PVC pipe extensions that extended above the top of the casing for each well. The top of casing elevations and stickup measurements presented represent the top of the steal casings on the wells, not the top of the PVC extensions. However, all water levels were adjusted to reflect the datum that the water level was measured from (i.e., top of casing or top of PVC pipe).
(2) The '≥' sign is presented because the water level was measured relative to the top of the casing on May 7/8, 2025, with flowing artesian conditions being encountered. Therefore, while the exact water level at PW3 on May 7/8, 2025, is not known, it was known to be at or above the top of the casing elevation.

As provided on Table 8, the water levels in test wells PW1 to PW3 ranged from 8.49 to ≤ -2.05 mbgs and from ≥ 245.55 to 251.64 masl (with the '≥' and '≤' signs being presented because

flowing artesian conditions were encountered in PW3 on May7/8, 2025, indicating that the actual static water level must have been at or above the top of the casing). Water levels were generally greatest at PW1 and lowest at PW2 and PW3. The measured water levels in the three test wells were comparable. Artesian conditions were consistently observed at all three test wells as the water levels extended above the depths of the deep confined aquifer, with flowing artesian conditions generally being observed at PW2 and PW3.

A groundwater flow map for the deep confined aquifer based on the water levels measured on May 7, 2025, is provided in Figure 11. As depicted on Figure 11, groundwater flow within the deep confined aquifer on-site is interpreted to be east / southeast, consistent with local topography. This flow interpretation is comparable to that of the original hydrogeological assessment report (Cambium, 2023).

3.6.3 Vulnerable Areas

The Site is situated within the Lake Simcoe and Couchiching-Black River Source Protection Area, under jurisdiction of the Lake Simcoe Region Conservation Authority (LRSCA), as per the Source Water Protection Information Atlas from the MECP (2025). The Phase 2 development area is partially located within a significant groundwater recharge area (SGRA), a highly vulnerable aquifer (HVA), an intake protection zone 3 (IPZ-3), and an ecologically significant groundwater recharge area (ESGRA).

An HVA is an aquifer that can be easily changed or affected by contamination from both human activities and natural processes. This is a result of preferential pathways to the aquifer or the areas intrinsic susceptibility as a function of the thickness and permeability of the overlying soils. Analyses of off-site nitrate and phosphorous loadings are provided in Sections 5.2 and 5.3, respectively.

An SGRA is an area on the landscape that are characterized by porous soils, such as sand or gravel, which allows water to seep easily into the ground and flow to an aquifer. A recharge area is considered significant when it helps maintain the water level in an aquifer that supplies a community or private residence with drinking water. However, these two classifications are

interpreted to apply to the shallow overburden aquifer that exists in the area, since the deeper supply aquifer that exists in the region is confined by a thick layer of fine-grained sediments.

An IPZ-3 is an area where contaminants could reach a municipal intake pipe during or after a large storm. Contamination may be released to nearby surface water features where contaminants could travel to an intake pipe more quickly through construction activities or through septic system discharge. Regarding construction activities, best management practices should be used to minimize the potential for the release of chemicals to the surface and subsurface environment during future operations at the Site.

An ESGRA is a land area identified for its importance in replenishing groundwater to support sensitive ecosystems like cold-water streams and wetlands. To avoid impacts to the nearby PSW, the pre-development infiltration rate should be maintained or exceeded post-development. An evaluation of the pre- and post-development water balances for the Site is provided by Cambium (2025a).

The LSRCA regulation mapping and MECP Source Protection Mapping have been attached in Appendix A.

4.0 Results and Discussion – Hydraulic Pumping Tests

On July 16 and 17 of 2018 Cambium staff were on-site to complete pumping tests on wells PW1, PW2 and PW3. Each pumping test lasted approximately six hours (360 minutes). Well PW1 was tested on July 16, 2018, and wells PW2 and PW3 were tested simultaneously on July 17, 2018. A summary of the pumping test information has been outlined below in Table 9.

Table 9 Summary of Pumping Test Information

Well	Top of Steel Pipe Elevation (masl)	Static Water Elevation (July 16, 2018) (masl)	Date Started	Time Started	Time Stopped	Duration (mins)	Flow Rate (LPM)	Total Volume of Water Pumped from Well (L)
PW1	256.25	246.91	July 16, 2018	12:30	18:37	367	95	34,865
PW2	247.03	246.88	July 17, 2018	08:47	14:48	361	25 (1)	10,525 (2)
PW3	245.55	246.84 (3)	July 17, 2018	09:16	15:16	360	14	5,040

1. *Pumping test initially commenced at 55 litres per minute (LPM) for the initial 55 minutes, then reduced to 25 LPM.*
2. *Total volume includes the initial pumping rate.*
3. *The top of PVC pipe elevation was calculated to be 248.22 masl. Water elevations were calculated from measuring water levels down from this elevation*

The Loggers remained installed in the pumping wells on July 16 and 17, 2018 to continuously monitoring water level fluctuations and have been plotted on Figure 10. The results of each individual pumping test at each of the test wells have been summarized in Table 10.

Table 10 Summary of Pumping Test Results

Well	Static Water Elevation (masl)	End of Test Water Elevation (masl)	Maximum (m)	Bottom of Well Elevation (masl)	Available Drawdown at End of Test (m)
PW1	246.91	245.09	1.82	226.68	18.41
PW2	246.91	246.55	0.36	223.85	22.70
PW3	246.88	246.62	0.26	224.51	22.11

The results of each pumping test are discussed in the following sections.

4.1 Pumping Tests

The pumping test for test well PW1 was completed on July 16, 2018, and the pumping tests for test wells PW2 and PW3 were completed on July 17, 2018. During each day of testing the wells not being tested were utilized as on-site monitoring wells. Additionally, the wells located in Phase 1 of the Site (TW-2 and TW-3) and those wells servicing the residences located at 12820 RR39, 7 Dafoe St. and, 340 Zephyr Rd. were monitored for drawdown responses. Each test is discussed chronologically below.

4.1.1 July 16, 2018 – Test Well PW1 (A222198)

On July 16, 2018, Cambium Staff were on-Site and began the pumping test at PW1 at 12:30. The static water level was measured to be 9.34 mtop (a static water elevation of 246.91 masl).

The discharge rate was set at 95 LPM (21 ipgm) for the pumping test. Drawdown occurred relatively quickly and within approximately 3 minutes the static water elevation dropped from 246.91 masl to approximately 245.31 masl. After this instance the water elevation lowered from approximately 245.31 masl to 245.09 masl at a steady rate for the remainder of the test. The pump was shut off at 18:37 which resulted in the test being 367 minutes (6 hours and 7 minutes) long. The flow rate of 95 LPM was maintained during the test, resulting in a total of 34,865 L of water being pumped from the well. A total drawdown of 1.82 m was observed during the pumping test from well PW1. Steady state was not achieved during the test.

By correlating the final drawdown depths and pumping rates, it was estimated that every metre of drawdown in well PW1 would result in an additional flow rate of 52 LPM. (It is noted that the correlations are estimates only, since steady state conditions at this well was never achieved.)

The elevation of the bottom of well PW1 was 226.68 masl and, therefore, the available drawdown at the end of the test was 18.41 m. The drawdown response recorded in well PW1 has been plotted on Figure 10. The water level in this well recovered to 100% of static at approximately 07:00 on July 17, 2018 (approximately 383 minutes after the pump had been shut off).

4.1.1.1 July 16, 2018 – Monitoring Well Response

The water level fluctuations recorded at wells PW2 and PW3 during the water withdrawal from well PW1 on July 16, 2018, have been outlined on Figure 10. The water level fluctuations reported from all other monitoring wells have been outlined on Figure 11.

The water levels at wells PW2, PW3, TW2, TW3 and the well which serviced 7 Dafoe Street responded to the pumping test at well PW1. No discernable response was recorded at any of the other monitoring wells included in the test.

The static water levels/elevations and their subsequent response to water withdrawal at well PW1 have been outlined below in Table 11.

Table 11 Monitoring Well Response to Pumping at PW1

Well	Static Water Elevation (masl)	Water Elevation at End of Test (masl)	Drawdown (m)	Radial Distance From PW1 (m)
PW2	246.88	246.67	0.21	188.99
PW3	246.84	246.63	0.21	144.89
TW2	246.82	246.66	0.16	118.89
TW3	246.82	246.67	0.15	215.81
7 Dafoe Street	246.88	246.69	0.19	188.61

1. The elevations outlined herein are approximate and not strictly geodetic.

The water elevations at wells PW2 and PW3 recovered to 100% of static at approximately 06:00 and 05:00 on July 17, 2018, respectively. The water elevations recorded at 7 Dafoe St, TW2 and TW3 recovered to 100% of static at 04:30, 02:20 and 02:04 on July 17, 2018, respectively.

4.1.1.2 July 16, 2018 – Piezometer Response

The water elevations recorded from the piezometers during the July 16, 2018, pumping test have been outlined on Figure 14. As per Figure 14, the water elevations recorded from the piezometers did not respond to water withdrawal at PW1. Conversely, the water elevations of each piezometer increased on July 16, 2018. The water elevations slowly decreased or remained elevated after the initial increase. The increase was likely caused by localized rainfall that fell in the area on July 16, 2018, just before the pumping test at PW1 commenced.

4.1.2 July 17, 2018 – Test Wells PW2 and PW3

On July 17, 2018, Cambium Staff were on-site to complete the pumping tests at wells PW2 and PW3. The pumping test at well PW2 started at 08:47 at a discharge rate of 55 LPM. The discharge rate at PW2 was maintained for the initial 55 minutes of the test. After 55 minutes the discharge rate was reduced to 25 LPM.

The pumping test at well PW3 started at 09:16. The water level at well PW3 was above the top of the casing, therefore the tap installed on the wellhead was allowed to freely flow at a rate of 14 LPM for the duration of the test. The static water elevations measured at PW2 and PW3, prior to the pumping tests, were 246.91 masl and 246.88 masl, respectively.

Within the first hour of pumping a significant degree of drawdown had occurred in both wells. After the first hour (when the water withdrawal rate at PW2 was reduced) drawdown continued, but at a much slower rate. At the end of the pumping test the water elevations of wells PW2 and PW3 were recorded to be 246.55 masl and 246.62 masl, respectively. The elevations correspond to drawdown depths of 0.36 m at PW2 and 0.26 m at PW3. Steady state conditions were not achieved at either well.

The elevations of the bottom of wells PW2 and PW3 were 233.85 masl and 224.51 masl, resulting in available drawdown depths of 22.70 m and 22.11 m at the end of the test, respectively.

The pump at PW2 was shut off at 14:48, resulting in 361 minutes of pumping. A total of 10,525 L of water was pumped from PW2 during the pumping test. The tap on PW3 was turned off at 15:16 resulting in 360 minutes of water flow from this well. A total of 5,040 L of water flowed from this well during the pumping test.

By correlating the final drawdown depths and pumping rates, it was estimated that every metre of drawdown in well PW2 would result in additional flow of 68 LPM. Every additional metre of drawdown in well PW3 would result in an additional 52 LPM of flow. (It is noted that these correlations are estimates only since steady state conditions at these wells were never achieved.)

At approximately 3 hours after the pumping tests at wells PW2 and PW3 had ceased the loggers were removed and the water levels had recovered to 91% and 86% (respectively) of their static levels.

4.1.2.1 July 17, 2018 – Monitoring Well Response

The water level fluctuation recorded at well PW1 during the water withdrawal at wells PW2 and PW3 on July 17, 2018, are outlined on Figure 10. The water level fluctuations reported from all other monitoring wells are outlined on Figure 11.

The water levels at wells PW1, TW2, TW3 and the wells which serviced 7 Dafoe Street responded to the pumping test at wells PW2 and PW3. No discernable response was recorded at any of the other monitoring wells included in the test.

The static water levels/elevations and their subsequent response to water withdrawal at wells PW2 and PW3 have been outlined below in Table 12.

Table 12 Monitoring Well Response to Pumping at PW2 and PW3

Well	Static Water Elevation (masl)	Water Elevation at End of Test (masl)	Drawdown (m)	Radial Distance From PW2
PW1	246.93	246.86	0.07	188.38
TW2	246.88	246.82	0.07	299.66
TW3	246.90	246.83	0.07	397.21
7 Dafoe Street	246.93	246.86	0.07	376.06

The water elevations at well PW1 recovered to approximately 60% of static at 17:00, at which point the logger was removed. The water elevations recorded at 7 Dafoe St. recovered to 60% of static at approximately 18:00, and the water elevations recorded from wells TW2 and TW3 recovered to 40% of static at between 16:30 and 17:00.

4.1.2.2 July 17, 2018 – Piezometer Response

The water elevations recorded from the piezometers during the July 17, 2018, pumping test have been outlined on Figure 14. As per Figure 14, the water elevations recorded from the piezometers did not respond to water withdrawal at wells PW2 and PW3.

4.2 Zone of Influence and Water Supply Assessment

As per Procedure D-5-5, the per person requirement for a supply well is 450 L per day (L/day). Peak demand occurs for 120 minutes a day, which is an equivalent demand rate of 3.75 LPM for each person. The basic minimum pumping test rate is this rate multiplied by the "likely number of persons per well" which, for a single family residence, shall be the number of bedrooms plus one.

It is currently unknown how many bedrooms will be included in each residential dwelling that will be constructed at the Site. As a conservative measure the number of bedrooms was assumed to be four (therefore the number of occupants was five). The corresponding peak demand rate was therefore determined to be 18.75 LPM and the total daily water withdrawal rate should be 2,250 L/day. There are proposed to be 17 dwellings constructed at the Site; as such the daily Site-wide water demand rate is estimated to be 38,250 L (i.e., 17 dwellings x 2,250 L per day).

Well PW1 was tested at a water withdrawal rate of 95 LPM. The total volume of water withdrawn from this well during the test was 34,865 L. It was demonstrated that well PW1 can sustain pumping rates in excess of required 18.75 LPM and the total daily water demand volume of 2,250 L/day.

The water withdrawal from well PW1 induced a maximum drawdown of 0.21 m from the on-site wells. The 7 Dafoe Street well was the only off-site well that recorded drawdown and it was measured to be 0.19 m. The water level in these wells recovered to 100% of static well within a 24-hour time frame. The drawdown depths recorded during the PW1 pumping test are considered to be relatively insignificant. In addition, since the water levels in those wells that recorded drawdown recovered to 100% within 24 hours, surrounding groundwater users are not anticipated to be influenced from continued water withdrawal at the Site. Well PW1 was also pumped at a rate (and total daily water withdrawal volume) far in excess of what is required to prove that adequate groundwater resources are available at the Site, and still only an insignificant influence on surrounding groundwater users was recorded.

The drawdown reported from monitoring wells during the tests at wells PW2 and PW3 were consistently 0.07 m. These results are similar to those reported during the PW1 pumping test. The total volume of water withdrawn from wells PW2 and PW3 was greater than what is prescribed in procedure D-5-5. The water levels reported at the monitoring wells were not monitored long enough to establish when recovery reached 100% of static, however it is likely that the static levels were reached well within 24-hours (as was recorded during the pumping test at PW1).

It is concluded that the daily water withdrawal associated with the proposed development will not negatively influence surrounding groundwater users since the confined aquifer has a high capacity to yield water. The actual influence that the proposed development will incur on the surrounding groundwater users will be less than what is described in this section, if any at all.

4.3 Aquifer Test Analysis

The Theis method (Theis, 1935) was used to calculate aquifer properties transmissivity (T as m^2/s) and hydraulic conductivity (K as m/s) of wells PW1, PW2 and PW3. The drawdown and recovery period of each test was use in the analyses. The aquifer properties are described below.

- **Hydraulic Conductivity (K) of the confined aquifer:** The hydraulic conductivity is the net velocity at which water travels through a water bearing unit under a hydraulic head gradient of 1. It is expressed as m/s (or m/day).
- **Transmissivity (T) of the confined aquifer**: Transmissivity can be described as the amount of water that can be transmitted horizontally through a unit width by the full saturated thickness of the aquifer under a hydraulic gradient of 1. It is expressed as m^2/s (or m^2/day) and is derived from the hydraulic conductivity and the saturated thickness of the aquifer (Fetter, 2001).

The hydraulic properties of the aquifer on-site have been compiled in Table 13, below. Additionally, the raw data produced from the Aquifer Test analysis has been attached as Appendix E. Also included in Table 13 are the hydraulic conductivity results of the bail tests

that were completed at the piezometers. The bail test data was processed using the Hvorslev method (Hvorslev, M.J., 1951).

Table 13 Summary of Aquifer Properties

Date of Test	Tested Data	T(m²/s)	K (m/s)
July 16, 2018	PW1 Drawdown	4.57×10^{-2}	3.05×10^{-2}
	PW1 Recovery	2.51×10^{-2}	1.67×10^{-2}
July 17, 2018	PW2 Drawdown	2.00×10^{-2}	1.33×10^{-2}
	PW2 Recovery	1.12×10^{-1}	7.48×10^{-2}
July 17, 2018	PW3 Drawdown	1.50×10^{-2}	1.00×10^{-2}
	PW3 Recovery	1.68×10^{-1}	1.12×10^{-1}
Average		6.43×10^{-2}	4.29×10^{-2}
July 29, 2018	P1	-	2.88×10^{-7}
	P2	-	1.05×10^{-6}
	P3	-	2.88×10^{-7}
	P4	-	1.20×10^{-6}
	P5	-	5.90×10^{-6}
	P6	-	3.20×10^{-5}

Relatively well matching curves were established for each of the pumping wells during their respective test. As per Table 13 the average values for the transmissivity and hydraulic conductivity between PW1, PW2, and PW3 were relatively similar. The K values reported for the sand and gravel sediments that each well was installed in were characteristic of those reported in literature for those types of sediments (Fetter, 2001) (J.P.Powers, 2007).

The transmissivity of the confined aquifer is considered to be relatively high. These results are corroborated by the data discussed in the previous section which indicate that the confined aquifer has a high capacity to yield water.

The hydraulic conductivity of the sediments in which the shallow piezometers (P2, P4 and P6) were installed ranged between 1.05×10^{-6} m/s and 3.20×10^{-5} m/s. The hydraulic conductivity of the sediments in which the deep piezometers (P1, P3 and P5) were installed ranged between 2.88×10^{-7} m/s and 5.90×10^{-6} m/s. At each nested pair of piezometers the hydraulic conductivity of the shallow piezometers was almost always at least one order of magnitude higher the deeper sediments. These results indicate that runoff water can more readily infiltrate

in the surficial sediments in the area, while infiltration past depths of 1.6 mbgs to 2.0 mbgs (the depths of the deep piezometers) will be limited.

4.4 Water Quality Results – July 16/17, 2018

One water sample was collected from each pumping well within the final 60 minutes of each test. The Certificate of Analyses of the groundwater testing have been attached in Appendix C.

Most parameters were reported at concentrations less than their respective ODWQS criteria. Those parameters reported in excess of the ODWQS criteria have been outlined below in Table 14.

Table 14 Summary of ODWQS Exceedances

Well	Parameter	Parameter Concentration	ODWQS Criteria
PW1	Hardness	268 mg/L	80 – 100 mg/L (OG)
	Turbidity	6.4 NTU	5 NTU (AO)
	Iron	0.642 mg/L	0.3 mg/L (AO)
	Manganese	0.069 mg/L	0.05 mg/L (AO)
PW2	Hardness	248 mg/L	80 – 100 mg/L (OG)
	Turbidity	9.9 NTU	5 NTU (AO)
	Iron	0.808 mg/L	0.3 mg/L (AO)
	Total Coliform	15 cfu/100 mL	0 cfu/100 mL (MAC)
PW3	Hardness	241 mg/L	80 – 100 mg/L (OG)
	Turbidity	10.9 NTU	5 NTU (AO)
	Iron	0.796 mg/L	0.3 mg/L (AO)

1. *"OG" is an operational objective for the specified parameter, as defined in the ODWQS.*
2. *"AG" is an aesthetic objective for the specifies parameter, as defined in the ODWQS.*
3. *"MAC" is the maximum acceptable concentration. Parameters with a MAC concentration are health related and can cause illness in humans.*

The water quality reported from each pumping well was relatively similar. Each well reported similar exceedances of the ODWQS criteria, most of which were for non-health related parameters including turbidity, hardness, iron, and manganese. The only health related parameter reported at a concentration greater than ODWQS criteria was total coliform at well PW2. Chloride and sodium were reported at low concentrations from each well, while nitrate and nitrite were reported below the record detection limit (RDL) of the laboratory instruments in each sample.

As described in Section 4.6.2, the wells were re-chlorinated and resampled on May 8, 2025. To avoid redundancy, a complete summary of water treatment options considering both the samples collected on July 16/17, 2018, and May 8, 2025, is provided in Section 4.6.2.

4.5 Impacts On the Zephyr Egypt Provincially Significant Wetland Complex

As seen in Figure 14, the water elevations reported from piezometers P1 to P6 did not respond during the July 16/17, 2018, pumping tests; therefore, water withdrawal for the proposed development will not influence the PSW.

The water elevations of the piezometers did respond to a rainfall event that began just prior to the pumping test on July 16, 2018. The spatial extent of the shallow overburden aquifer is unknown; however, in the area of the PSW the shallow overburden aquifer and the PSW are considered to be hydraulically connected. This is evidenced by upward gradients present in piezometer nest P1/P2 which were likely caused by hydraulic pressures of the shallow overburden aquifer.

4.6 Test Well Re-Sampling – May 8, 2025

Test wells PW1 to PW3 were chlorinated on May 7, 2025, and re-sampled on May 8, 2025, as per the methods described in Section 2.6.1. The re-sampling was completed based on PGL's (2024a) comments that:

1. A single sample collected from each well does not provide the information necessary to represent long-term water quality;
2. The minimum set of parameters to be analysed as per Procedure D-5-5 was not met during the July 16/17, 2018, sampling; and
3. Cambium recommended in the original hydrogeological assessment that PW2 be re-sampled on account of the total coliform exceedance on July 17, 2018.

Furthermore, PGL (2024a) recommended that water treatment options be discussed based on the water quality, while PGL (PGL, 2024b) recommended that groundwater levels in the shallow on-site monitoring (and dug) wells (MW101-25 to MW105-25, DW-1) be monitored

during the pumping at PW1 to PW3 to further assess aquifer interference. To address these comments, a discussion of the water levels in PW1 to PW3, MW101-25 to MW105-25, and DW-1 during the 6-hours of pumping performed as part of the re-sampling process is provided in Section 4.6.1. A summary of the water quality in PW1 to PW3 upon resampling and a discussion of potential treatment options is provided in Section 4.6.2.

4.6.1 Water Levels During the Test Well Re-Sampling

As discussed in Section 2.6.1, test wells PW1, PW2, and PW3 were each pumped at a rate of 20 L/min for 6 hours on May 8, 2025, with pumping at 08:13, 8:33, and 07:48, respectively, and with pumping ceasing at 14:13, 14:33, and 13:48, respectively. Water levels were monitored manually throughout the test in PW1, PW2, and PW3, while hourly water level measurements were collected using loggers from monitoring wells MW101-24 to MW105-24, and DW-1 throughout the day. As pumping was started and stopped at each test well at different times on May 8, 2025, the term ‘Pumping Period’ will be defined herein as the period from 7:48 to 14:33 on May 8, 2025, which represents the time pumping began on the first test well until the time pumping ceased at the last test well. A summary of the water level response and drawdowns in the test wells and observation wells throughout the Pumping Period is provided in Table 15. Hydrographs for each pumping well during the Pumping Period are provided in Figure 15, while hydrographs of each observation well monitored during the Pumping Period are provided in Figure 16.

Table 15 Pumping / Observation Well Response During Re-Sampling on May 8, 2025

Well	Static Water Elevation (masl)[1]	Minimum Water Elevation During Pumping Period (masl)	Maximum Drawdown During Pumping Period (m)
PW1	246.63	246.09	0.54
PW2	246.61	246.18	0.43
PW3	≥ 245.55[2]	≥ 245.55[2]	0.00[2]
MW101-24	247.28	247.27	0.01
MW102-24	238.43	238.42	0.01
MW103-24	251.48	251.47	0.01
MW104-24	242.02	241.99	0.03
MW105-24	248.26	248.24	0.02
DW-1	252.65	252.63	0.02

1. *For PW1 to PW3, the static water level elevations are taken to be the water level elevations at the start of pumping for each respective well. For MW101-24 to MW105-24 and DW-1, the static water level elevations are taken to be the water elevations at 07:00 on May 8, 2025, which is the last measurement for each observation well before the start of the Pumping Period.*
2. *Test well PW3 maintained flowing artesian conditions throughout the Pumping Period. Therefore, the water elevation is not known with certainty, but must have been at or above the elevation of the top of the casing. Furthermore, while a reduction in hydraulic head likely occurred in PW3 throughout the Pumping Period, no drawdown could be measured as the water level remained at the top of the casing.*

As can be seen in Table 15, the maximum drawdowns in PW1, PW2, and PW3 during the Pumping Period (corresponding to the drawdowns from the start to end of pumping in each test well) were 0.54, 0.43, and 0.00 m, respectively. Cambium notes that PW3 maintained flowing artesian conditions throughout the Pumping Period, and while a reduction in the hydraulic head in the well likely occurred, no drawdown could be measured as the water level in the well remained at the top of the casing. Regardless, the available drawdown in PW3 was not reduced during the Pumping Period, and the drawdowns in PW1 and PW2 during the Pumping Period were minimal as compared to the available drawdowns in the test wells. As each test well was pumped for six hours at a rate above the peak demand rate for a four bedroom household of 18.75 LPM, the testing completed on May 8, 2025, re-affirms the conclusion in Section 4.2 that the test wells clearly meet the water supply requirements of Procedure D-5-5.

Taking the static water levels in MW101-24 to MW105-24 and DW-1 to be the water levels at 07:00 on May 8, 2025, (i.e., the last water level measurements in the observations wells prior to the Pumping Period), the maximum drawdowns observed during the Pumping Period in MW101-24 to MW105-24 and DW-1 ranged from 0.01 to 0.03 m. These drawdowns are considered minimal, and within the daily/weekly range of water level fluctuations that have been observed in these wells during the long-term monitoring program. Furthermore, each

observation well had a downward trend in their water levels prior to the Pumping Period and May 8, 2025, suggesting that at least some of the drawdown observed during the Pumping Period was naturally occurring. For example, the water level drawdowns in MW101-24 to MW105-24 and DW1 from 07:00 on May 7, 2025, to 08:00 on May 8, 2025 (ranging from 0.02 to 0.08 m) were roughly equal to or greater than the maximum respective drawdowns in each observation well during the Pumping Period.

While the results of the pumping tests on July 16 and 17, 2018, demonstrated that water takings from the Site would have a negligible impact on surrounding water supply wells screened within the deep, confined aquifer, the results of May 8, 2025 testing suggest that on-site water takings will also have a negligible impact on water levels in the shallow, unconfined aquifer (and therefore influences to the adjacent PSW are also considered negligible). This conclusion supports the conceptual model of hydrogeological conditions presented in Section 3.6 which indicates that the deep confined aquifer is hydraulically isolated from the shallow overburden aquifer.

4.6.2 Water Quality from the Test Well Re-Sampling and Treatment Options

One water sample was collected from each pumping well on May 8, 2025, within the final 60 minutes of pumping. The Certificate of Analyses of the groundwater testing have been attached in Appendix C.

Most parameters were reported at concentrations less than their respective ODWQS criteria. Those parameters reported in excess of the ODWQS criteria have been outlined below in Table 16.

Table 16 Summary of ODWQS Exceedances – May 8, 2025, Re-Sampling

Well	Parameter	Parameter Concentration	ODWQS Criteria
PW1	Hardness	299 mg/L	80 – 100 mg/L (OG)
	Turbidity	9.4 NTU	5 NTU (AO)
	Iron	1.19 mg/L	0.3 mg/L (AO)
	Manganese	0.0851 mg/L	0.05 mg/L (AO)
PW2	Hardness	266 mg/L	80 – 100 mg/L (OG)
	Iron	1.00 mg/L	0.3 mg/L (AO)
	Manganese	0.0554 mg/L	0.05 mg/L (AO)
PW3	Hardness	247 mg/L	80 – 100 mg/L (OG)
	Iron	1.12 mg/L	0.3 mg/L (AO)
	Manganese	0.0514 mg/L	0.05 mg/L (AO)

1. *"OG" is an operational objective for the specified parameter, as defined in the ODWQS.*
2. *"AG" is an aesthetic objective for the specifies parameter, as defined in the ODWQS.*
3. *"MAC" is the maximum acceptable concentration. Parameters with a MAC concentration are health related and can cause illness in humans.*

As seen in Table 16, the groundwater samples collected from PW1, PW2, and PW3 on May 8, 2025, all had ODWQS exceedances for hardness, iron, and manganese, while the groundwater sample from PW1 also had an ODWQS exceedance for laboratory turbidity. All of the exceedances observed for the May 8, 2025, samples were for non-health related parameters and were comparable to the parameter exceedances observed in 2018. As compared to the 2018 results, the May 8, 2025, groundwater samples had slightly elevated concentrations of total iron and manganese. Notably, however, total coliforms were non-detect in any of the duplicated bacteria samples collected on May 8, 2025.

The field parameters measured from the test wells throughout the Pumping Period are summarized in Table 17 below.

Table 17 Field Parameters Measured During the May 8, 2025, Pumping Period

Well	Time on May 8, 2025	Turbidity (NTU)	Residual Cl (mg/L)	Temperature (°C)	Dissolved Oxygen (mg/L)	Conductivity (µS/cm)	pH
PW1	8:21	42.4	>2.2	9.5	6.6	157.6	9.49
	9:30	5.33	0.02	9.5	6.51	462.5	8.18
	10:13	2.44	N.D.	9.8	6.08	459	8.13
	11:13	2.3	N.D.	9.7	5.68	466.4	8.12
	12:17	1.5	N.D.	9.8	6.75	468	8.3
	14:00	1.37	N.D.	10.5	5.83	459.9	8.31
PW2	8:37	41.8	72.7	9.2	6.91	186.6	9.23
	9:42	1.89	N.D.	9.9	6.95	408	8.38
	10:22	1.67	N.D.	9.7	6.25	399.1	8.18
	11:33	1.76	N.D.	10	6.85	401.7	8.1
	14:25	1.05	N.D.	12.2	7.03	413	8.31
PW3	7:58	3.1	N.D.	9.8	7.32	389.4	8.04
	9:22	1.56	N.D.	9.9	7.61	372.3	8.5
	10:02	0.71	N.D.	10	6.63	381.1	8.33
	10:43	0.86	N.D.	9.9	6.9	202.5	8.22
	11:48	0.44	N.D.	10.2	6.81	387.7	8.36
	13:16	1.88	N.D.	10.5	7.67	382	8.41

N.D. = Non-Detect

As provided in Table 17, turbidity generally declines throughout the Pumping Period in each of the test wells, with residual chlorine occasionally being observed early in the Pumping Period but remaining non-detect for the remaining measurements. The reductions in turbidity and residual chlorine through the Pumping Period was expected as more sediment and chlorine were pumped out of the wells. Notably, the final field turbidity measurement measured at PW1, PW2, and PW3 before sampling occurred were only 1.37, 1.05, and 1.88 NTU, respectively, as compared to the laboratory turbidity values at these three wells of 9.4, 5.3, and 4.0 NTU, respectively. The increase in the turbidity values between the field and laboratory measurements is likely caused by the precipitation of dissolved iron or other dissolved metals (i.e. manganese) in the water between the time of sampling and the time of laboratory analysis, which can increase the turbidity of water samples. Most of the remaining field parameters remained relatively stable throughout the Pumping Period, suggesting that the source/nature of the groundwater being pumped did not change appreciably throughout the re-sampling process.

Considering no total coliforms were detected in any of the samples collected on May 8, 2025, and as no health-related parameters exceeded the ODWQS criteria, the groundwater supply

from PW1 to PW3 is considered safe for human consumption. Based on the water quality results from PW1 to PW3 in 2018 and 2025, standard water treatment methods can be used to address exceedances for hardness, iron, and manganese. Furthermore, standard treatment methods can be used to treat turbidity, if required. A summary/discussion of treatment options for hardness, iron, manganese, and turbidity is provided below.

Total hardness concentrations at test wells PW1 to PW3 ranged from 241 to 299 mg/L during the July 2018 and May 2025 sampling rounds. Hardness is a parameter which is typically elevated in overburden aquifers in Southern Ontario where the parent material is calcium carbonate in origin (i.e. from limestone bedrock). This parameter can be treated with conventional water softening.

Total iron concentrations ranged between 0.642 and 1.19 mg/L in test wells PW1 to PW3 between the two sampling rounds, with the concentrations consistently exceeding the ODWQS aesthetic limit of 0.3 mg/L in A239747, where iron concentrations ranged from 0.485 to 0.774 mg/L among the three samples collected from the well. Iron is an aesthetic parameter and readily treated with commercially available water treatment systems, either through water softeners or iron removal filters.

Total manganese concentrations ranged between 0.048 and 0.0851 mg/L in test wells PW1 to PW3 between the two sampling rounds, with total manganese concentrations exceeding the ODWQS aesthetic criteria of 0.05 mg/L in four of the six total samples collected from test wells PW1 to PW3. Total manganese is an aesthetic parameter that can readily be treated with water softener units or filtration.

Regarding turbidity, PGL (2024a) had commented that the elevated turbidity values in the wells may have resulted from a lack of well development prior to sampling in 2018. The laboratory turbidity values in PW2 and PW3 decreased from above the ODWQS criteria on July 17, 2018, to below the ODWQS criteria on May 8, 2025. For PW1, the laboratory turbidity values of 6.4 and 9.4 NTU on July 16, 2018, and May 8, 2025, were both above the ODWQS criteria of 5 NTU. As mentioned above, however, the elevated turbidity results as compared to the field turbidity results are inferred to have be caused by the precipitation of dissolved iron or other

dissolved metals (i.e. manganese) in the water between the time of sampling and the time of laboratory analysis. Furthermore, regarding well development, a total of approximately 42,065 L were pumped from PW1 between the 2018 pumping tests and the 2025 re-sampling. Given an approximate well volume for PW1 on May 7, 2025, of approximately 374 L, approximately 112 well volumes have been pumped out of PW1 to date, far exceeding what is typical for newly installed water supply wells prior to use. As such, based on the field turbidity measurements at each test wells being < 2 NTU, Cambium deems the test wells to have been sufficiently developed and that no special treatment should be required for turbidity. However, should turbidity become an issue for any new or existing wells on-site, it can be readily treated with appropriate filtration.

4.7 Conclusions – Water Supply

Procedure D-5-5 notes that the peak demand rate required for each well for a four-bedroom household is determined to be 18.75 LPM, with a total daily water requirement of 2,250 L/day.

The pumping tests completed at PW1, PW2 and PW3 on July 16/17, 2018, indicated that the confined aquifer has a high capacity to yield water, with each test well pumped at rates greater than the peak demand rate and with only minor drawdown observed in the test wells. This conclusion was supported by the six hours of pumping completed at each test well as part of the re-sampling process on May 8, 2025, where a maximum of 0.54 m of drawdown was observed in the test wells at pumping rates of 20 L/min. During both the July16/17, 2018, pumping tests and the May 8, 2025, re-sampling process, the total volume of water discharged from each test well was in excess of the total daily water requirement of 2,250 L/day, as per Procedure D-5-5.

It is concluded that the daily water withdrawal associated with the proposed development will not negatively influence surrounding groundwater users since the confined aquifer has a high capacity to yield water. The actual influence that the proposed development will incur on the surrounding groundwater users will be less than what is described herein, if any at all. The testing was completed in accordance with Procedure D-5-5 standards, as such the long-term safe yield of the supply aquifer is considered sufficient and this concern inherently addressed.

Several test wells and water supply wells that are screened within the deeper, confined aquifer were monitored during the 2018 pumping tests, along with piezometers P1 to P6. Several monitoring wells and dug well DW-1 that are screened within the shallow, unconfined aquifer were monitored as part of the May 8, 2025, re-sampling process. During the 2018 pumping tests the maximum drawdown observed in any observation well was 0.21 m, while during the May 8, 2025, re-sampling process, the maximum drawdown observed was 0.03 m. Based on the negligible water level response in the observation wells, the water withdrawal associated with the proposed development will not negatively impact surrounding groundwater users or the Zephyr Egypt PSW.

Groundwater samples were collected from PW1, PW2, and PW3 on July 16/17, 2018, and on May 8, 2025. ODWQS exceedances from the test wells were observed occasionally to consistently for hardness, laboratory turbidity, iron, and manganese; however, all of these parameters are non-health related and can be readily treated with water softeners and/or filtration. The total coliform was detected in PW2 during the July 17, 2018 pumping test, but after disinfection and resampling, no bacteria was detected in any of the test wells on May 8, 2025.

It is expected that the confined aquifer is hydraulically isolated from the unconfined overburden aquifer and, the confined aquifer is provided a degree of protection from surficial conditions. Further, the confined aquifer is pressurized, as indicated by flowing artesian conditions reported at test wells PW2 and PW3. Test well PW1 did not exhibit flowing artesian conditions, however the static water level of this well was about 17 m above the confining layer/aquifer contact.

Due to the pressurized/confined aquifer conditions, the deep confined aquifer is not considered to be readily susceptible to any surficial contamination (should it exist), nor is there considered to be a hydraulic connection the shallow overburden aquifer. It is Cambium's opinion that the issues noted in the Phase Two ESA reports are relatively low risk and the issues should be sufficiently resolved upon remedial excavations.

All future wells installed at the Site as part of the proposed development should be installed within the deep confined aquifer. It has been demonstrated that the deep confined aquifer can provide sufficient water for the proposed development without influencing off-site groundwater users. The deep aquifer is also hydraulically isolated from the shallow overburden aquifer, and is therefore afforded a degree of protection from surficial conditions. The cross sections outlined in Figure 6 and Figure 7 outline the depth at which the confined aquifer should be encountered across the Site.

5.0 Wastewater Assessment

As per Procedure D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Risk Assessment (MECP, 1996), an assessment was completed to determine the feasibility of utilizing on-site sewage disposal for the development. While Cambium's original wastewater assessment included a nitrate loading assessment as per Procedure D-5-4, PGL (PGL, 2024a) commented that the nitrate loading assessment should be updated with consideration for background nitrate concentrations in the shallow aquifer. PGL (PGL, 2024a) specifically noted that background nitrate concentrations should be determined based on groundwater samples collected from shallow monitoring wells over multiple sampling events. Furthermore, PGL (PGL, 2024a) commented that a phosphorous loading assessment should be completed as part of the wastewater assessment. To support the phosphorous loading assessment, Cambium also sampled for background phosphorous concentrations in the shallow, unconfined aquifer. Therefore, a summary of the background nitrate and phosphorous concentrations is provided in Section 5.1, an updated nitrate loading assessment is provided in Section 5.2, while a phosphorous loading assessment is provided in Section 5.3. Finally, a conceptual site layout for the Phase 2 development area is provided in Section 5.4.

5.1 Background Concentrations of Nitrate and Phosphorous

Groundwater samples were collected from monitoring wells MW101-24 to MW105-24 and from dug well DW-1 on January 14 and May 7, 2025. The samples were sent to SGS and analyzed for nitrate and total and dissolved phosphorous concentrations, as described in Section 2.7. The results of the nitrate and phosphorous analysis are provided in Table 18. Certificates of analyses are presented in Appendix C.

Table 18 Nitrate and Phosphorous Results

Well ID	Date	Nitrate	Phosphorous (total)	Phosphorous (dissolved)
	ODWQS (mg/L)	**10**	**-**	**-**
	PWQO (mg/L)	-	0.03	0.03
MW101-24	01-Jan-2025	1.02	0.082	<0.003
	07-May-2025	0.91	0.104	0.014
MW102-24	01-Jan-2025	<0.06	1.03	<0.003
	07-May-2025	0.12	0.023	0.003
MW103-24	01-Jan-2025	<0.06	2.67	<0.003
	07-May-2025	<0.06	0.014	0.005
MW104-24	01-Jan-2025	<0.06	0.123	<0.003
	07-May-2025	<0.06	0.022	0.012
MW105-24	01-Jan-2025	<0.06	1.00	<0.003
	07-May-2025	0.18	0.009	<0.003
DW-1	01-Jan-2025	0.35	<0.003	<0.003
	07-May-2025	0.58	0.008	0.003

As provided in Table 18, the nitrate concentrations on-site range from <0.06 to 1.02 mg/L, the total phosphorous concentrations ranged from <0.003 to 2.67 mg/L, and the dissolved phosphorous concentrations ranged from <0.003 to 0.014 mg/L. No ODWQS exceedances were observed for nitrate, and no PWQO exceedances were observed for dissolved phosphorous. Several PWQO exceedances were observed for total phosphorous, but as the dissolved phosphorous concentrations were considerably less than the total phosphorous concentrations, most of the total phosphorous in the samples is inferred to be sorbed onto / part of the mineral structure of sediment within the samples. As sediments have limited mobility in aquifers, the elevated total phosphorous concentrations are not deemed as a concern for future development; rather the dissolved phosphorous fraction likely dominates the phosphorous transport and loading in the shallow unconfined aquifer system.

According to Procedure D-5-4, "*the Ministry will normally not support development in areas where background nitrate-nitrogen concentrations exceed 10mg/L.*" Given that the maximum nitrate concentration observed to date in the shallow unconfined aquifer was only 1.02 mg/L, the background groundwater concentrations of nitrate are deemed to be in compliance with Procedure D-5-4 in terms of allowing for future development.

Furthermore, in addition to the sampling described above and as described in Section 2.3, Cambium sampled the residences serving 340 Zephyr Road, 1 Foot Road, and 12820 RR39

on August 9, 2017. All three of these wells are interpreted to be screened within the deep, confined aquifer, and each groundwater sample was analyzed for BOD, TKN, total and unionized ammonia, nitrate, nitrite, and DOC. The water quality results for this sampling are also presented in Appendix C. While the deep confined aquifer is not strictly applicable to Procedure D-5-4 as it is not the receiving aquifer for septic effluent, the water quality results from these supply wells provides further insight into the potential for cross contamination between aquifers which PGL (2024a) requested more of a discussion on. As can be seen in Appendix C, no ODWQS exceedances for the parameters analyzed as part of the August 9, 2017, sampling, with nitrate concentrations being <0.1 mg/L at 340 Zephyr Rd. and 1 Foot Rd. and with the nitrate concentration being 1.0 mg/L at 1280 Durham Rd. 39. Furthermore, each off-site supply well sampled had a nitrite concentration of <0.1 mg/L and an ammonia concentration of less than or equal to 0.6 mg/L. Given the low nitrite and ammonia concentrations in the supply wells and the nitrate concentrations considerably below the ODWQS criteria (i.e., 10 mg/L of nitrate), the August 9, 2017, sampling provides further evidence that cross contamination between the shallow unconfined aquifer and deep confined aquifer is limited.

Cambium will complete two additional sampling rounds at MW101-24 to MW105-24 and DW-1 later in 2025 to confirm the range of background nitrate and phosphorous.

5.2 Nitrate Loading Assessment

The creation of 17 new residential lots will increase wastewater effluent loading on the overburden soils in the area and subsequently the shallow overburden aquifer that is present regionally. Within the effluent, nitrate is considered the limiting contaminant in groundwater aquifers due to the human health concerns. Procedure D-5-4 requires that the groundwater effluent plume at the Site boundary to be within the ODWQS limit of 10 mg/L for nitrate to prevent contamination of adjacent properties. Although natural processes and soil interaction can result in nitrate being attenuated in the receiving aquifer system, Procedure D-5-4 states that only dilution through precipitation can be used as the principal attenuation mechanism to predict future nitrate concentrations. Background nitrate concentrations within the effluent

receiving aquifer are not included in the loading calculations. As such, a mass balance calculation is used to determine the impact of developing residential lots on the Site.

5.2.1 Predictive Assessment

Following Procedure D-5-4, each proposed lot is anticipated to generate an average discharge of 1,000 L/day of sewage effluent. Total nitrogen (all species) ultimately convert to nitrate through the wastewater treatment process. Nitrate is considered to be the critical contaminant in sewage effluent. A nitrate loading of 40 grams/lot/day is required to be normally used to determine the effluent loading from conventional septic systems on the receiving groundwater system.

Dilution water is sourced from precipitation. The concentration of nitrate in dilution water was assumed to be 0.1 mg/L. (Note, since the dilution water is solely sourced from precipitation, the background nitrate concentrations in the shallow unconfined aquifer presented in Section 5.1 are not included in the loading assessment calculation). The volume of available dilution water is taken to be the total infiltration volume into the Phase 2 development area post-development based on Cambium's 2025 water balance for the Site (Cambium, 2025a). Without the implementation of LID measures, the total infiltration volume into the Phase 2 development area post-development was calculated to be 17,302 m^3/year, or approximately 47,370 L/day.

To determine the adequate lot density for the Site, a mass balance calculation is used to determine the sewage loading for nitrate on the property boundary. The mass balance calculations is outlined below as:

$$Q_tC_t = Q_eC_e + Q_iC_i$$

Where:
- Q_t = Total volume ($Q_e + Q_i$)
- C_t = Total concentration of nitrate at the property boundary
- Q_e = Volume of septic effluent
- C_e = Concentration of nitrate in effluent (40 mg/L)
- Q_i = Total volume of available dilution water (approximately 47,370 L/day)
- C_i = Concentration of nitrate in dilution water (0.1 mg/L)

In order to determine the concentration of nitrate at the property boundary (C_t), the above mass balance equation is arranged as follows:

$$C_t = \frac{QeCe + QiCi}{Qt}$$

This equation was used for the developable portion of the Site. The results of the equation have been outlined in Table 19 below:

Table 19 Predictive Assessment of Nitrate Concentration – No LID Measures

Variable	Value
Number of Lots in Portion	17
Volume of Sewage Effluent (Q_e)	17 Lots x 1,000 L/day = 17,000 L/day
C_e	40 mg/L
Q_i	47,370 L/day
C_i	0.1 mg/L
Q_t	64,370 L/day
C_t	**10.64 mg/L**

According to the assumptions above, the nitrate loading calculations indicate that the concentration of nitrate at the boundary of the Phase 2 developable area will be 10.64 mg/L if 17 dwellings are constructed, which exceeds the Procedure D-5-4 criteria of 10.0 mg/L.

As described by Cambium (2025a) LID features can be implemented on-site to maintain the pre-development infiltration rates within the Phase 2 development area. If the post-development infiltration rates are maintained at pre-development rates (at least), the total volume of infiltrating water in the Phase 2 development area would be 18,934 m^3/year, or approximately 51,840 L/day. A predictive assessment for nitrate concentrations using the pre-development infiltration rate for the Phase 2 development area is provided in Table 20.

Table 20 Predictive Assessment of Nitrate Concentration – With LID Measures

Variable	Value
Number of Lots in Portion	17
Volume of Sewage Effluent (Q_e)	17 Lots x 1,000 L/day = 17,000 L/day
C_e	40 mg/L
Q_i	51,838 L/day
C_i	0.1 mg/L
Q_t	68,838 L/day
C_t	**9.95 mg/L**

As shown in Table 20, the nitrate loading calculations indicate that the concentration of nitrate at the boundary of the Phase 2 developable area will be 9.95 mg/L if 17 dwellings are constructed and if LID measures are implemented to maintain the pre-development infiltration rate (at least). As 9.95 mg/L is below the Procedure D-5-4 criteria of 10.0 mg/L, Cambium deems that the development would meet the Procedure D-5-4 criteria if the pre-development infiltration rates are maintained.

5.3 Phosphorous Loading Assessment

The first step of the phosphorous loading assessment is determining if the nearby watercourse within the PSW is likely to be a Policy 1 or Policy 2 receiver, as defined by the MECP's B-1-5 Guidelines.

According to Guideline B-1-5, a Policy 1 receiver has a water quality better than the Provincial Water Quality Objectives (PWQO), whereas a Policy 2 receiver has water quality that does not meet PWQO. Defining if the Site's watercourse is a Policy 1 or Policy 2 receiver is relevant to the loading assessment because some degradation of water quality is permitted to a Policy 1 receiver, so long as the receiver's water quality is maintained at or below the Objective. In contrast, no further degradation of water quality is permitted to Policy 2 receivers. Considering unmitigated septic discharge may increase the phosphorous loadings to nearby watercourses, special mitigation measures may be required to reduce phosphorous loading to Policy 2 receivers. Developments near Policy 1 receivers, however, do not require special mitigation measures if it can be shown that the phosphorous concentrations in the receiver are likely to remain below its PWQO guideline.

5.3.1 Receiver Assessment

To determine if the Site's watercourse is a Policy 1 or Policy 2 receiver, a representative phosphorous concentration for the watercourse was estimated. There were no surface water quality samples collected from the on-site watercourse by Cambium staff, so the Provincial (Stream) Water Quality Monitoring Network (PWQMN) was searched to determine if there was a station near the Site where phosphorous concentration data was available. Based on a search of the PWQMN database, the Black River station was selected to act as a proxy for the water quality of the on-site watercourse, which is located approximately 14 km northwest of the Site and near the mouth of the Black River. Despite the station's distance from the Site, the on-site watercourse eventually discharges into the Black River upstream of the station; therefore the phosphorous concentrations at the Black River station are considered a good representation of the receiver status of the watershed as a whole.

Water quality samples have been collected at the Black River station from 2002 to 2022. To determine if the Black River is a Policy 1 or Policy 2 receiver, the total phosphorous concentrations taken during the last ten years of monitoring, being 2013 to 2022, was considered; this range is deemed reasonable as it focuses on more recent data while still considering 111 phosphorous concentrations. Phosphorous concentrations at the Black River station between 2013 and 2022 ranged from 0.008 to 0.112 mg/L, with an average phosphorous concentration of 0.045 mg/L. While there are occasions when the Black River does meet the PWQO criteria, the average phosphorous concentration of 0.045 mg/L exceeds the PWQO limit of 0.030 mg/L for watercourses. Therefore, the Black River, and by extension the on-site watercourse, are deemed to be a Policy 2 receiver. As a Policy 2 receiver, the proposed development should not further degrade the water quality in the on-site watercourse.

5.3.2 Soil Assessment and Phosphorous Attenuation Discussion

To assess the potential for phosphorus loading from the on-site wastewater systems, the data and conclusions provided in the commonly cited and MECP recognized report, *Review of Phosphorus Attenuation in Groundwater Plumes From 24 Septic Systems* (Robertson study) (Robertson, Van Stempvoort, & Schiff, 2019) was reviewed. The Robertson study assesses

the potential of phosphorous attenuation in different soils within proximity of a sewage system. The capacity of a soils to attenuation phosphorus is related to the content of calcium, iron, and aluminum. Cambium submitted soil samples from boreholes MW101-24, MW103-24, and MW105-24 to SGS to determine the mineral content of the above parameters (results attached in Appendix C). The results are summarized in Table 21 below.

Table 21 Soil Composition Results

	BH101-24 SS3	BH103-24 SS5	BH105-24 SS4
Depth (mbgs)	1.5 – 2.1	3.0 – 3.7	2.3 – 2.9
Al %	0.3	0.55	0.98
Ca %	13	13	7.7
Fe %	0.90	1.3	1.9

As provided in Table 2, the mineral content of the samples ranged between 7.7% and 13 % for calcium, 0.3% to 0.98% for aluminum and 0.90% to 1.9% for iron.

Graph C in Fig 8 of the Robertson study indicates that the P Removal capacity of soils decreases with increasing Ca content. Given the average Ca content from the three samples of 11.2%, the expected P removal at 10 m distance from the septic systems is expected to be 60%, based on Graph C in Fig 8 of the Robertson study.

While the estimated phosphorous removal at 10 m from the Robertson study of 60% still represent significant attenuation, there is potential for the actual attenuation rates at a distance of 10 m may be higher than the estimates provided in the Robertson study. Firstly, more than half of the septic systems considered in the Robertson Study were wastewater treatment systems larger than what is included in the proposed development, such as wastewater treatment systems servicing schools, campgrounds, hotels etc. From Fig 9 of the Robertson Study, there was a negative correlation between phosphorous removal at 10 m and effluent loading rate, and six of the seven septic systems which had phosphorous plume lengths greater than 10 m were from non-residential septic systems (with plume length defined as the distance from the septic system to phosphorous concentrations less than or equal to 0.1 mg/L). Of the eight homes and cottages evaluated in the study for which a phosphorous plume length was calculated (with three of the homes being in calcareous sediments) none of them

had a plume length of greater than 30 m, as summarized in Table 4 of the Robertson Study. The relatively short phosphorous plume lengths for houses and cottages referenced in the Robertson Study are inferred to be a result of phosphorous removal and not simply that the effluent plumes had not had sufficient time to travel 30 m, as the calculated travel distances of the septic effluent (based on the age of the system and the groundwater velocity) range from 16 to 11,600 times greater than their phosphorous plume length. The finding that no home or cottage in the Robertson Study had a phosphorous plume length greater than 30 m is notable because all lots in the proposed development are greater than 30 m away from the Site's wetland/watercourse.

Secondly, most of the septic systems evaluated in the Robertson study were surrounded by sandy sediment with high hydraulic conductivities. In contrast, the shallow, unconfined receiving aquifer for effluent discharge on-site primarily consists of silty sand and silty sand till, as confirmed by the grain size analysis described in Section 3.4.6. As described in Section 4.3, the k values in piezometers P1 to P6, which are screened in the shallow unconfined aquifer next to the PSW, ranged from 2.88 x 10^{-7} m/s to 3.20 x 10^{-5} m/s, with an average of 6.79 x 10^{-6} m/s. The k-value of the piezometers of 6.79 x 10^{-6} m/s is below the range of hydraulic conductivities typically observed for clean sand (Freeze & Cherry, 1979). Indeed, finer grained soils have more surface area, high dispersivities, and allow for more widespread development of reducing conditions, which all help facilitate sorption and precipitation reactions that remove phosphorous from solution (Lombardo, 2006). Further, higher dispersity specifically also allow for more dilution of a phosphorous plume as the plume spreads out over a larger volume of porewater.

Therefore, the slower movement of groundwater at the Site is expected to not only slow the migration of phosphorous, but to increase phosphorous attenuation above the estimates based on the Robertson Study.

Finally, in contrast to most of the calcareous settings observed in the Robertson study, the Site has several other factors that make it a lower risk to contaminating nearby surface water bodies. For example, the Lakeshore Capacity Assessment Handbook provides guidance for protection water quality for inland lakes (MOE, 2010), and suggests that development be

restricted and that special protections be made for lakes 'at capacity' (with at-capacity defined as a lake in which the phosphorous concentration is at least 50% greater than its natural background concentration). While the concept of an at-capacity lake is not strictly applicable to this development (as the Site is not within 300 m of a lake), the authors of MOE (2010) provide several exceptions for when development can occur next to at-capacity lakes, and, in the case of this study, these criteria can provide some insights to other key factors that the Site may possess that can enhance phosphorous removal. From MOE (2010), the criteria for development adjacent to an at-capacity lake are as follows:

- *The site where the septic tile-bed is to be located, and the region below and 15 metres down-gradient of this site, toward the lakeshore or a permanently-flowing tributary, across the full width of the tile bed, consist of deep (more than three metres), native and undisturbed, non-calcareous (<1% CaCO3 equivalent by weight) overburden with acid-extractable concentrations of iron and aluminum of >1% equivalent by weight; and*
- *An unsaturated zone of at least 1 ½ metres depth exists between the tile bed and the shallowest depth (maximum) extent of the water table. The position of the water table shall be assessed with test pits during the periods of maximum soils saturation (e.g., in the spring, following snowmelt, or late fall).*

Indeed, the Site meets several of the criteria for development near such sensitive aquatic habitats. All of the proposed lots are set back from the wetlands and watercourse that bisect the Site by at least 30 m, which is greater than the minimum 15 m setback stated above. All of the boreholes encountered over 3 m of overburden. The average iron concentration was 1.4%, which exceed the 1% thresholds suggested by MOE (2010).

The criteria from MOE (2010) not met are that the average aluminum concentration in the soils samples was only 0.61%, which is less than the criteria range set by MOE (2010), and the average calcium concentration is 11.2%, which is greater than the criteria range set by MOE (2010). Also, The shallowest water table depths in MW101-24 to MW105-24 ranged from -0.38 to 1.40 mbgs, so the Site does meet the requirement of MOE (2010) that the shallowest water table depths are at least 1.5 meters below the tile bed depths. However, regarding calcium and aluminum concentrations, Cambium notes that none of the homes and cottages evaluated in

the Robertson study had calculated phosphorous plume length of greater than 30 m, despite four of these sites having soils with >1% calcium by weight and three of these sites having soils with <1% aluminum by weight (and with the aluminum concentrations in the soil not measured in two of the eight house/cottage sites). Regarding the water table depths, while the Robertson Study acknowledges that water table depth is a factor for phosphorous removal, the study also states that there is "*little correlation between water table depths and plume soluble reactive phosphorous concentrations or phosphorous removal"*. This point is well demonstrated by the 'CA House' in the Robertson study, which is in calcareous sediments and had only 46% phosphorous removal at a distance of 10 m from the of the drainfield, yet only had a total plume length of 30 m (at which distance the phosphorous concentrations were no greater than 0.1 mg/L). As horizontal flow of groundwater occurs primarily within the saturated zone, the majority of this phosphorous removal between 10 m and 30 m distance from the drainfield at the CA House would have occurred below the water table. Therefore, Cambium concludes considerable phosphorous removal is still likely within short distances at the Site despite the Site not meeting the MOE's (2010) criteria for water table depths or aluminum and calcium concentrations in the Site's soil.

5.3.3 Phosphorous Attenuation Conclusion

Following the evidence above, over 60% of phosphorous is expected to be attenuated within 10 m of the septic systems, with further removal beyond 10 m through microbial activity and dilution. This phosphorus reduction rate is still applicable even though some criteria are not met (i.e., the Al/Ca concentrations and high water level conditions).

Furthermore, phosphorous attenuation is expected to be near 100% at a distance of 30 m at the Site. Near 100% removal at 30 m is assumed given that none of the phosphorous plumes for households from the Robertson Study exceed 30 m, despite most Sites having higher conductivity soils and several of the Sites having lower aluminum and concentrations and/or higher calcium concentrations than the soils at Site. Given that all septic systems for the proposed development have a >30 m setback from the PSW and on-site watercourse, Cambium deems that the phosphorous loadings from the proposed development will have a

negligible impact on the Site's PSW watercourse, or at least that the impact from the proposed development would be less significant than the prior use of the Site as a golf course, where fertilizer containing phosphorous was likely applied.

5.4 Conceptual Site Layout

The Region of Durham lot sizing policy (Region of Durham, 2010) indicates that proposed lot severances with soils of T-Times between 1 min/cm and 20 min/cm requires a minimum area of 600 m² for the prime and reserve wastewater treatment system. If the soil T-Time ranges between 20 min/cm and 35 min/cm the minimum area for prime and reserve wastewater is 750 m². As outlined in Table 5, the T-times of the shallow soils ranged from 15 min/cm to 25 min/cm, suggesting that some lots may require a reserve area of 600 m^2 while other lots may require a reserve area of 750 m² to comply with the Region of Durham lot sizing policies.

Based on the draft plans by Tatham shown in Appendix A, Cambium created a conceptual site layout showing proposed septic and well locations along with relevant setback distances, as shown in Appendix H. The conceptual site layout includes both 600 m^2 and 750 m^2 reserve areas for each lot, to demonstrate that each reserve area can be accommodated (Cambium notes that while septics were included on the draft plans provided by Tatham, the septics were undersized). In addition, applicable Ontario Building Code (OBC) setback distances were applied to the test wells and potential locations for future wells, property boundaries and structure.

The conceptual layout of the proposed wastewater treatment systems, and water supply wells indicates that there is sufficient space within each of the proposed lots to account for on-site servicing of water and wastewater. Cambium notes that test wells PW1, PW2, and PW3 can likely be used as water supply wells for Lots #s 10, 15, and 21, respectively (as per the lot numbers shown in Appendix A), though the current house location on Lot 10 overlaps slightly with PW1 and may require a modified house location to accommodate PW1.

(Note: The conceptual placement/installation of the wastewater treatment systems described in this section do not constitute actual development plans for the proposed severances. The layouts described herein were completed to demonstrate that developing the proposed

severances with private on-site water supply and wastewater treatment systems is possible. Soil and groundwater conditions at the Site must be confirmed as part of the detailed design of the wastewater treatment system. The location of all existing and proposed supply wells must also be considered as part of wastewater treatment system design. Off-site wells must also be considered.)

(Note: Well DW-1 was not tested as part of this assessment and will presumably be decommissioned as part of the development process. All other on-site wells not being used as a water supply should be decommissioned in accordance with Ontario Regulation 903. prior to development of the Site.)

All future wells installed at the Site as part of the proposed development should be installed within the deep confined aquifer. It has been demonstrated that the deep confined aquifer can provide sufficient water for the proposed development without influencing off-site groundwater users. The deep aquifer is also hydraulically isolated from the shallow overburden aquifer, and is therefore afforded a degree of protection from surficial conditions. The cross sections outlined in Figure 6 and Figure 7 outline the depth at which the confined aquifer should be encountered across the Site.

6.0 Closing

Cambium Inc. was retained by EcoVue Consulting Services Inc. on behalf of China Canada Jing Bei Xin Min Intl. to complete an updated hydrogeological assessment for a proposed development of 17 residential lots at 309 Zephyr Road, as part of Phase 2 of the development at that property.

The results of the pumping tests indicate that there are adequate groundwater resources available on the Site to support the proposed Phase 2 development. Further, the water withdrawal associated with the development will not negatively influence surrounding groundwater users or the adjacent provincially significant wetland. The groundwater quality in the test wells on-site generally meets the ODWQS criteria, with only a few exceedances outstanding for non-health related parameters that can be treated with methods such as filtration and water softening.

The nitrate attenuation calculations indicated that the Site would provide sufficient effluent dilution for the Phase 2 development of 17 dwellings if LID measures are taken and the pre-development infiltration rates are maintained. The phosphorous loading assessment indicated that nearly 100% attenuation of phosphorous is expected within 30 m of the proposed septic systems, and that the Phase 2 development will have a negligible impact on the on-site PSW and watercourse. The conceptual site layout indicates that there is sufficient space included in the proposed development to account for on-site servicing for potable water and wastewater treatment systems.

All future wells installed at the Site as part of the proposed development should be installed within the deep confined aquifer. The deep aquifer is also hydraulically isolated from the shallow overburden aquifer, and is therefore afforded a degree of protection from surficial conditions. The cross sections outlined in Figure 6 and Figure 7 outline the depth at which the confined aquifer should be encountered across the Site.

Respectfully submitted,

Cambium Inc.

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8.0 Standard Limitations

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

Reliance on Materials and Information

The findings and results presented in reports prepared by Cambium are based on the materials and information provided by the client to Cambium and on the facts, conditions and circumstances encountered by Cambium during the performance of the work requested by the client. In formulating its findings and results into a report, Cambium assumes that the information and materials provided by the client or obtained by Cambium from the client or otherwise are factual, accurate and represent a true depiction of the circumstances that exist. Cambium relies on its client to inform Cambium if there are changes to any such information and materials. Cambium does not review, analyze or attempt to verify the accuracy or completeness of the information or materials provided, or circumstances encountered, other than in accordance with applicable accepted industry practice. Cambium will not be responsible for matters arising from incomplete, incorrect or misleading information or from facts or circumstances that are not fully disclosed to or that are concealed from Cambium during the provision of services, work or reports.

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When preparing reports, Cambium considers applicable legislation, regulations, governmental guidelines and policies to the extent they are within its knowledge, but Cambium is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by Cambium, are beyond the scope of the work performed by Cambium and such matters have not been investigated or addressed.

Reliance

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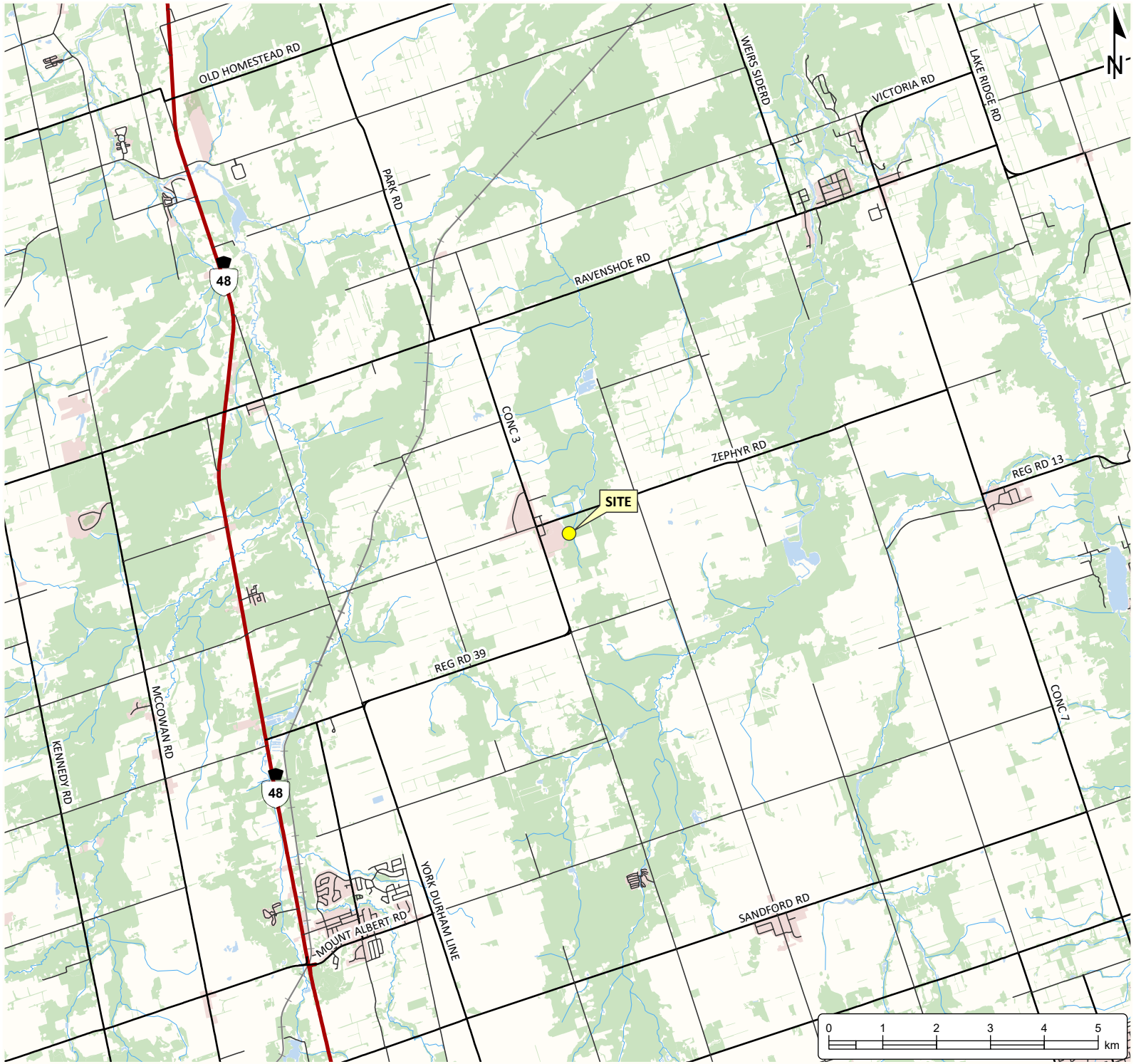
Appended Figures



HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Railway
- Watercourse
- Water Area
- Wooded Area
- Built Up Area

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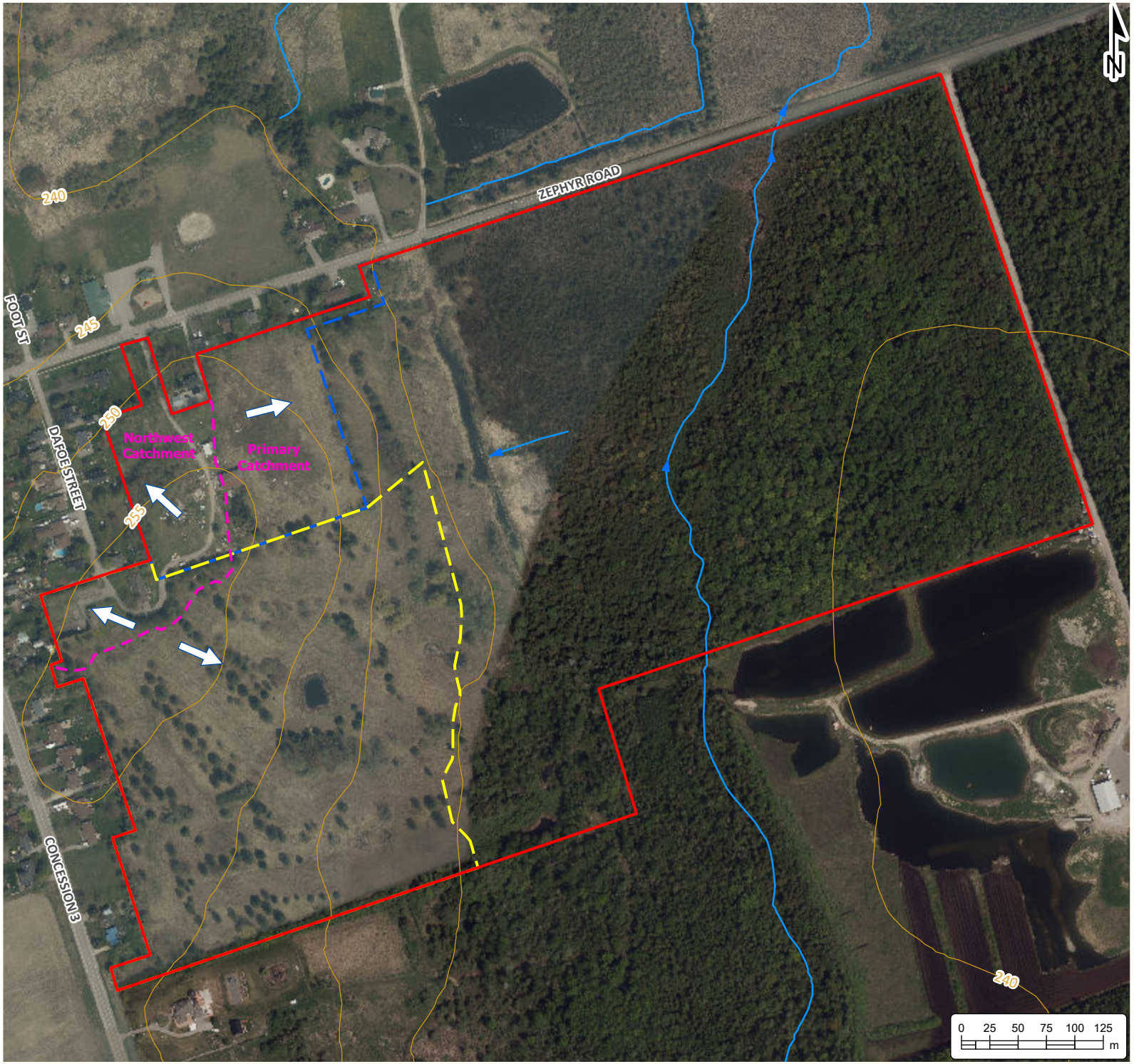
SITE LOCATION PLAN

Project No.:	Date:
18619-003	July 2025
Scale: 1:100,000	Projection: NAD 1983 UTM Zone 17N
Created by: LD	Checked by: CM
Figure: 1	

O:\GIS\MXDs\18600-18699\18619-003 EcoVue Consultin Services Inc - Water Well Survey and Additional HG\2025-06-16 HydroG 18619.aprx



HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Contour (5m Interval)
- Watercourse, Permanent
- Approximate Catchment Boundary
- Phase 1 Development
- Phase 2 Development
- Site (approximate)
- Surface Water Drainage

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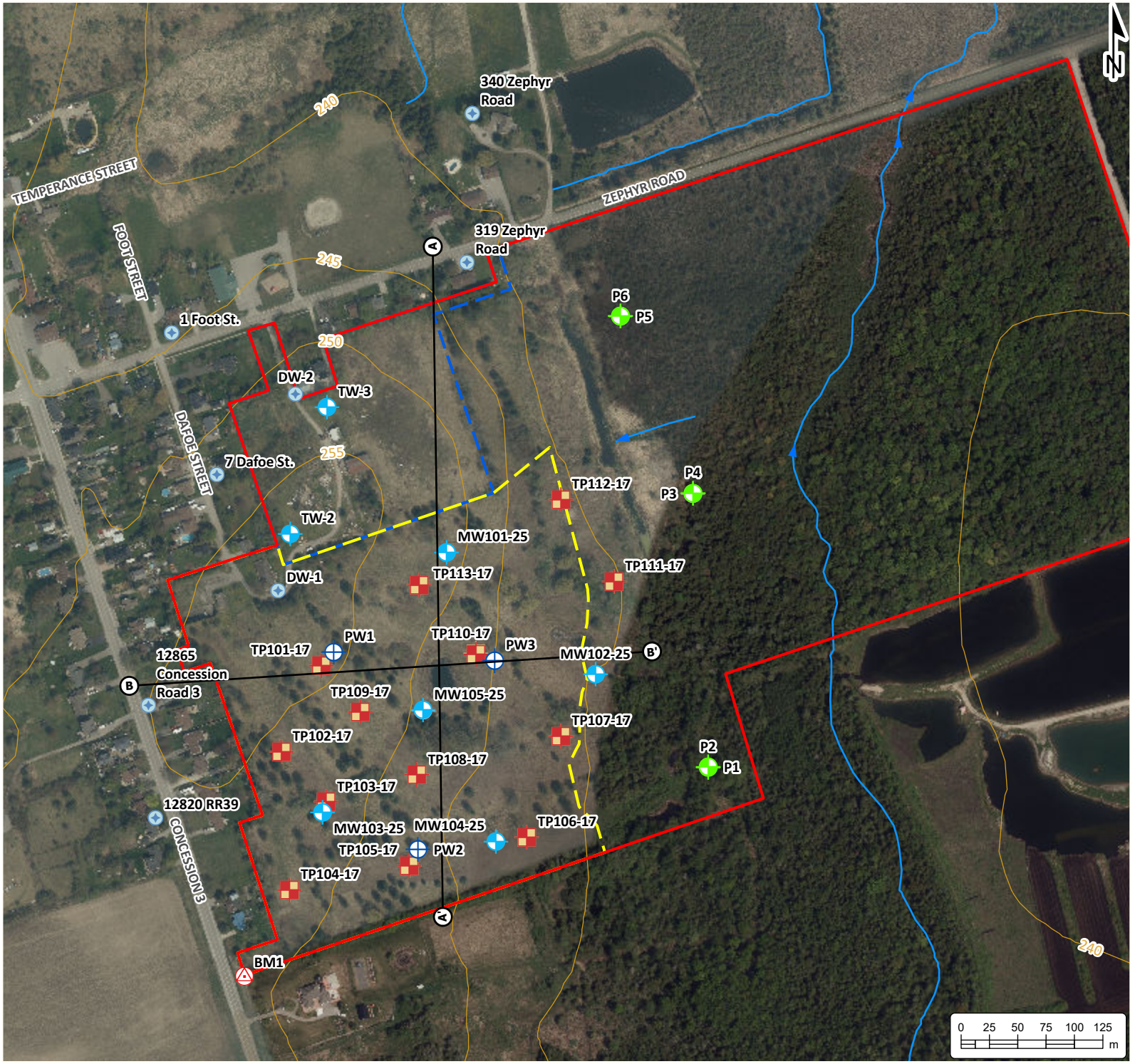
SITE PLAN

Project No.:	Date:
18619-003	July 2025
Scale: 1:4,750	Projection: NAD 1983 UTM Zone 17N
Created by: LD	Checked by: CM
Figure: 2	

O:\GIS\MXDs\18600-18699\18619-003 EcoVue Consultin Services Inc - Water Well Survey and Additional HG\2025-06-16 HydroG 18619.aprx



HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Test Pit
- Piezometer
- Water Supply Well
- Benchmark
- Test Well
- Monitoring Well
- Cross Section Location
- Contour (5m Interval)
- Watercourse, Permanent
- Phase 1 Development
- Phase 2 Development
- Site (approximate)

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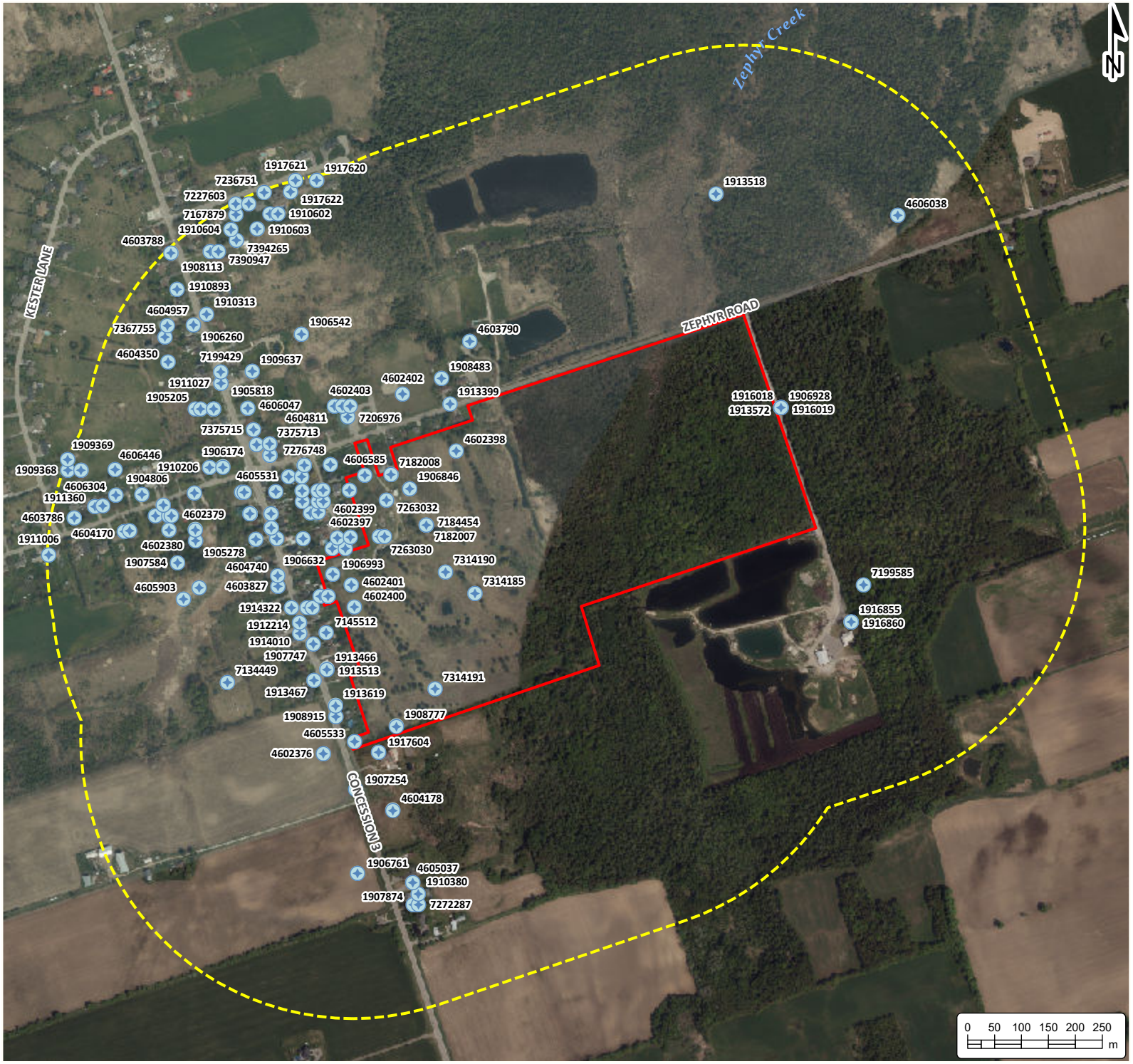
WELL AND TEST PIT AND CROSS SECTION LOCATION PLAN

Project No.:	Date:
18619-003	July 2025
Scale: 1:4,750	Projection: NAD 1983 UTM Zone 17N
Created by: LD	Checked by: CM
Figure: 3	

O:\GIS\MXDs\18600-18699\18619-003 EcoVue Consultin Services Inc - Water Well Survey and Additional HG\2025-06-16 HydroG 18619.aprx



HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Water Well Record
- 500m Study Area
- Site (approximate)

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MECP WELL RECORDS WITHIN 500m

Project No.:	18619-003	Date:	July 2025
Scale:	1:10,000	Projection:	NAD 1983 UTM Zone 17N
Created by:	LD	Checked by:	CM
Figure:	4		

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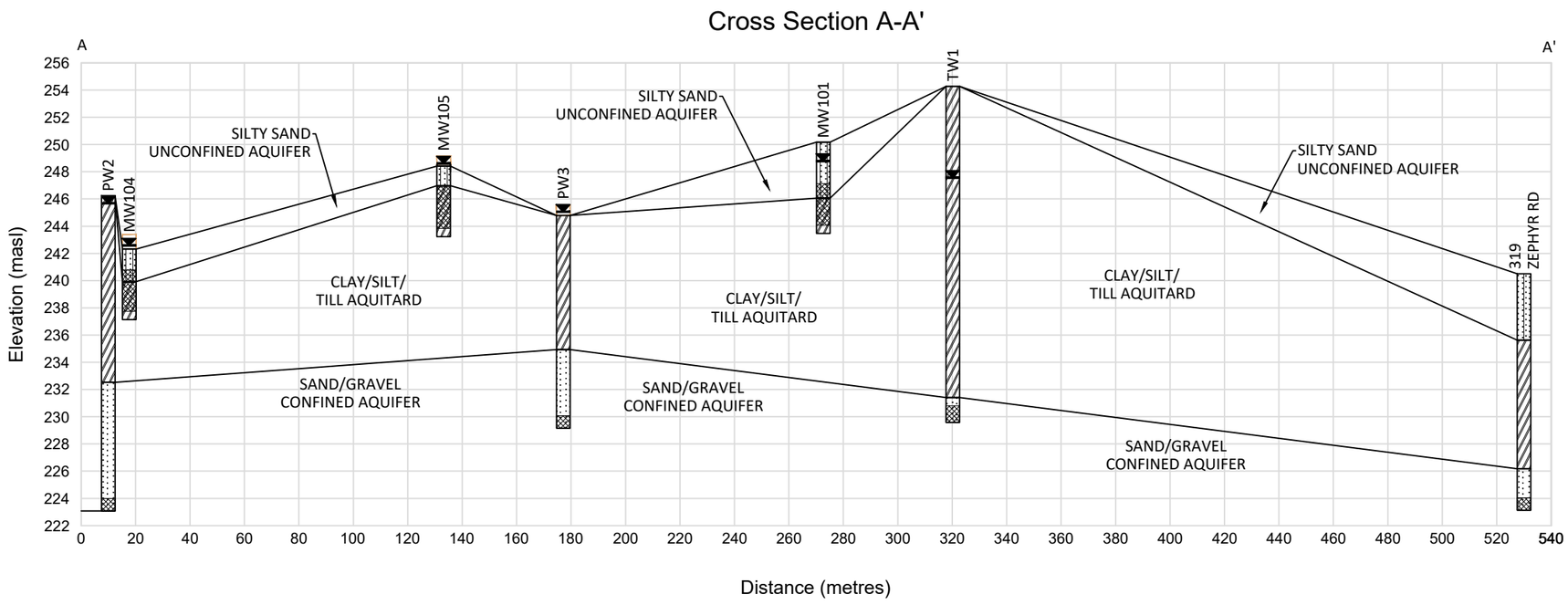
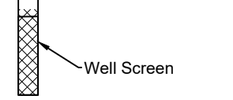


HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JUNG XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- WATER LEVEL
- SILTY SAND UNCONFINED AQUIFER
- CLAY/SILT/TILL AQUITARD
- SAND/GRAVEL CONFINED AQUIFER



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2. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
3. Flowing artesian conditions were present at PW3 on May 7, 2025. The static water level at PW3 could not be measured directly on this date, but it is known that the static water level was equal to or above the elevation of the top of the casing for PW3 of 245.55 masl. For the purposes of creating groundwater contours, the water level at PW3 was taken to be equal to 245.55 masl.

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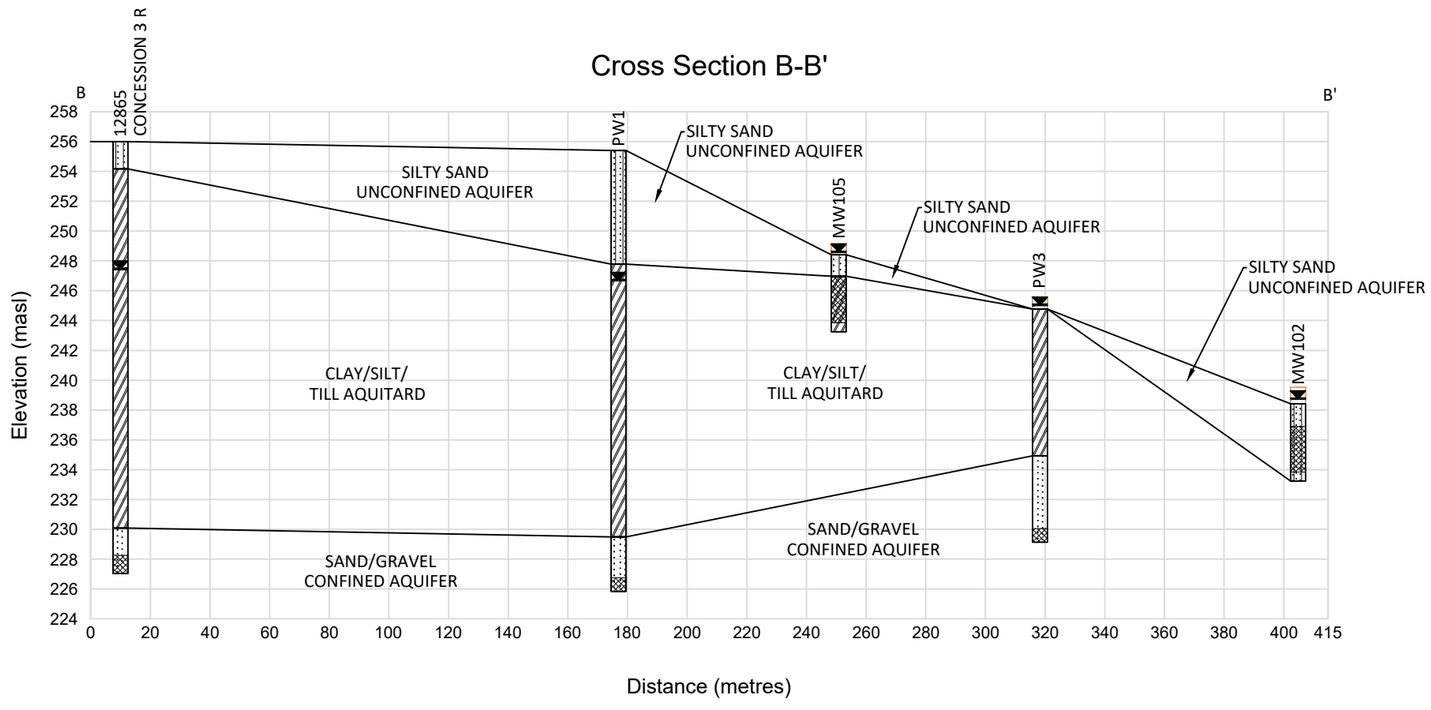
OVERBURDEN STRATIGRAPHIC CROSS SECTION A-A'

Project No.:	Date:
18619-003	June 2025
Horizontal Scale: 1:500	Vertical Scale: 1:100 (5x)
Drawn By: LD	Checked By: CM
Figure: 5	

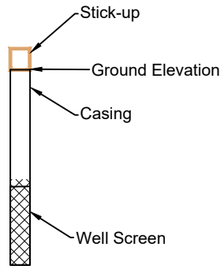


HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JUNG XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- WATER LEVEL
- SILTY SAND UNCONFINED AQUIFER
- CLAY/SILT/TILL AQUITARD
- SAND/GRAVEL CONFINED AQUIFER



Notes:

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2. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
3. Flowing artesian conditions were present at PW3 on May 7, 2025. The static water level at PW3 could not be measured directly on this date, but it is known that the static water level was equal to or above the elevation of the top of the casing for PW3 of 245.55 masl. For the purposes of creating groundwater contours, the water level at PW3 was taken to be equal to 245.55 masl.

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OVERBURDEN STRATIGRAPHIC CROSS SECTION B-B'

Project No.:	Date:
18619-003	June 2025
Horizontal Scale: 1:500	Vertical Scale: 1:100 (5x)
Drawn By: LD	Checked By: CM
Figure: 6	

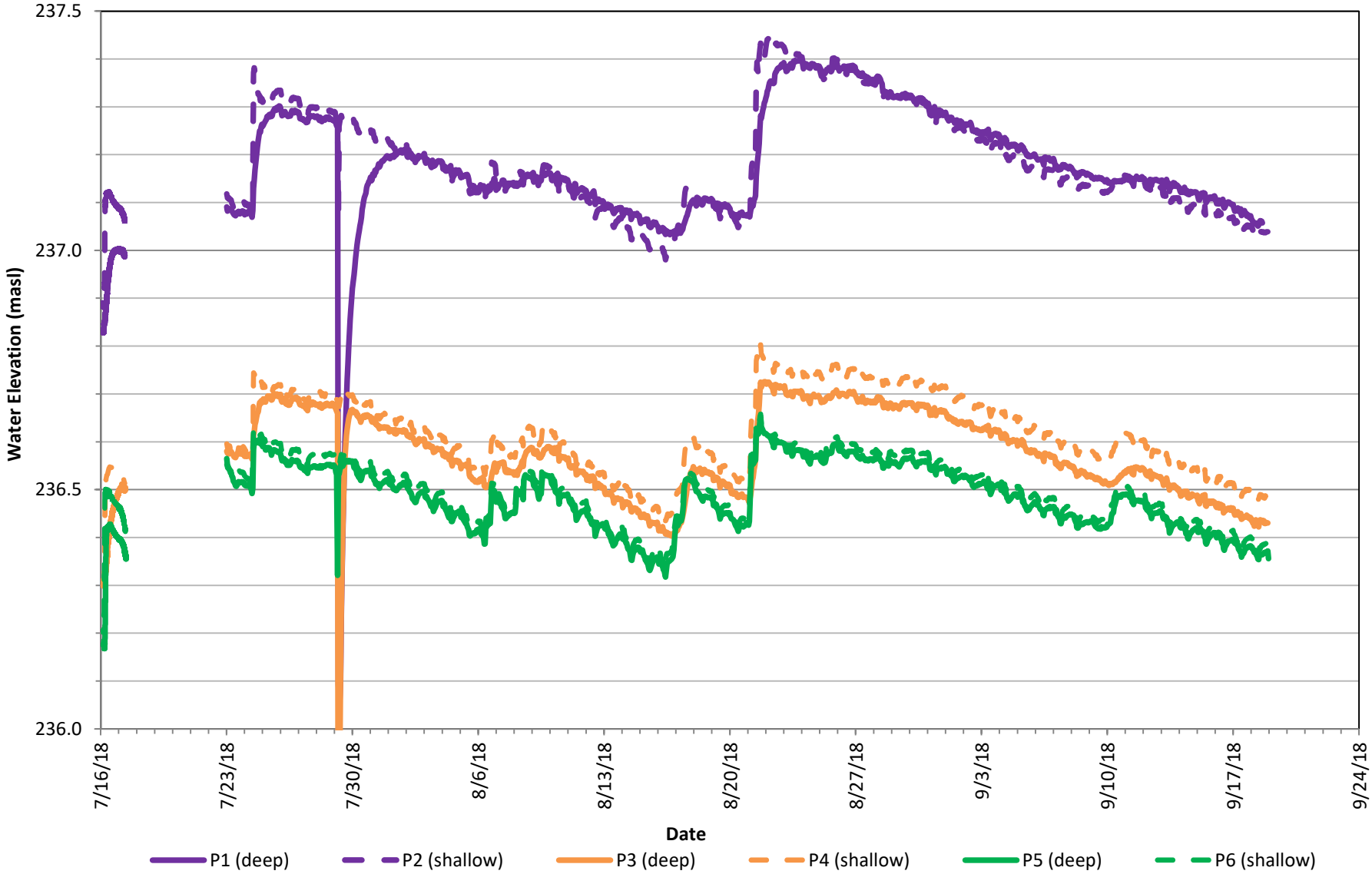

Figure 7: Long Term Groundwater Elevations - Piezometers

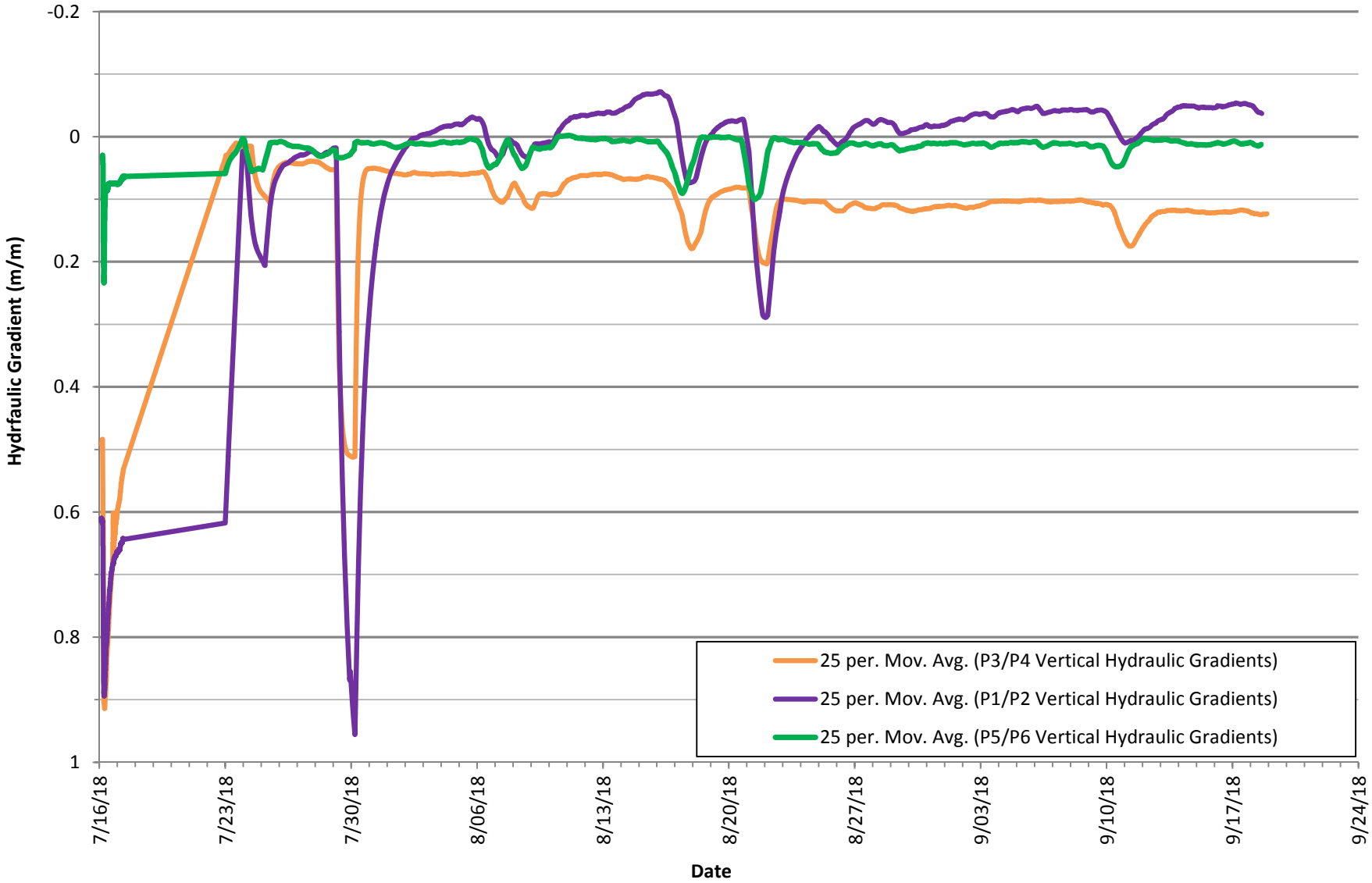

Figure 8: Vertical Hydraulic Gradients - Piezometers

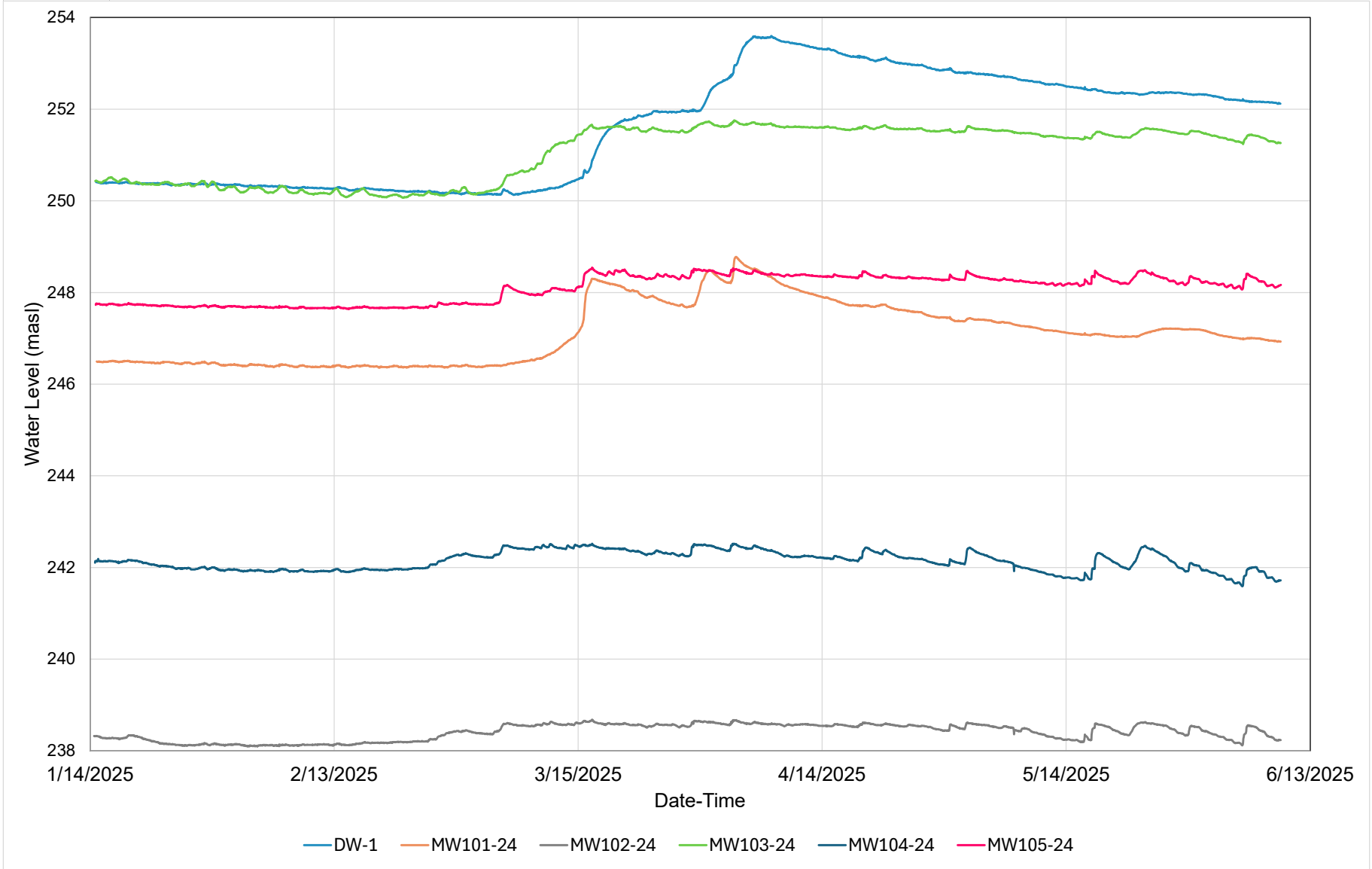

Figure 9: Long-Term Water Level Monitoring in Shallow Uncofined Aquifer

HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Piezometer
- Water Supply Well
- Benchmark
- Test Well
- Monitoring Well
- Phase 1 Development
- Phase 2 Development
- Site (approximate)
- 253.60 — Shallow Unconfined Aquifer Groundwater Elevations (Based on Highest Water Elevation from January 14 to June 9, 2025)
- Shallow Unconfined Aquifer Groundwater Contours (Based on Highest Water Elevation from January 14 to June 9, 2025)
- Inferred Shallow Unconfined Aquifer Groundwater Contours (Based on Highest Water Elevation from January 14 to June 9, 2025)
- Shallow Unconfined Aquifer Groundwater Flow Direction (Based on Highest Water Elevation from January 14 to June 9, 2025)

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GROUNDWATER CONFIGURATION PLAN SHALLOW UNCONFINED AQUIFER

Project No.:	Date:
18619-003	July 2025
Scale: 1:3,500	Projection: NAD 1983 UTM Zone 17N
Created by: LD	Checked by: CM
Figure: 10	

O:\GIS\MXDs\18600-18699\18619-003 EcoVue Consultin Services Inc - Water Well Survey and Additional HG\2025-06-16 HydroG 18619.aprx

HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Piezometer
- Water Supply Well
- Benchmark
- Test Well
- Monitoring Well
- Phase 1 Development
- Phase 2 Development
- Site (approximate)
- 245.55 — Deep Confined Aquifer Groundwater Elevations (Based on May 7, 2025 Water Levels)
- Deep Confined Aquifer Groundwater Contours (Based on May 7, 2025 Water Levels)
- Inferred Deep Confined Aquifer Groundwater Contours (Based on May 7, 2025 Water Levels)
- Deep Confined Aquifer Groundwater Flow Direction (Based on May 7, 2025 Water Levels)

Notes:
- Flowing artesian conditions were present at PW3 on May 7, 2025. The static water level at PW3 could not be measured directly on this date, but it is known that the static water level was equal to or above the elevation of the top of the casing for PW3 of 245.55 masl. For the purposes of creating groundwater contours, the water level at PW3 was taken to be equal to 245.55 masl.
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GROUNDWATER CONFIGURATION PLAN DEEP CONFINED AQUIFER

Project No.:	Date:
18619-003	July 2025
Scale: 1:3,500	Projection: NAD 1983 UTM Zone 17N
Created by: LD	Checked by: CM
Figure: 11	

O:\GIS\MXDs\18600-18699\18619-003 EcoVue Consultin Services Inc - Water Well Survey and Additional HG\2025-06-16 HydroG 18619.aprx

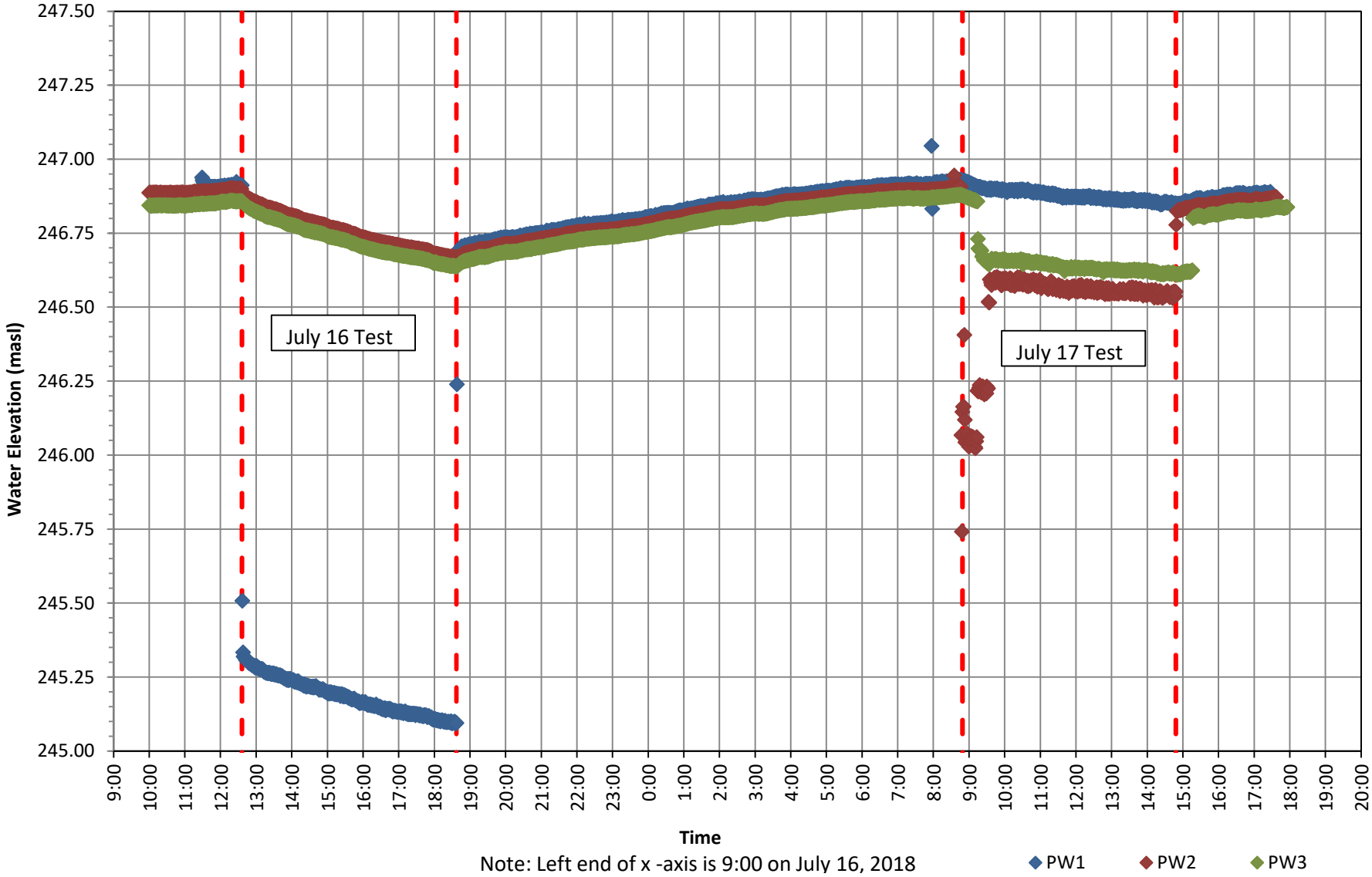


Figure 12: 2018 Pumping Test Hydrographs - Test Wells

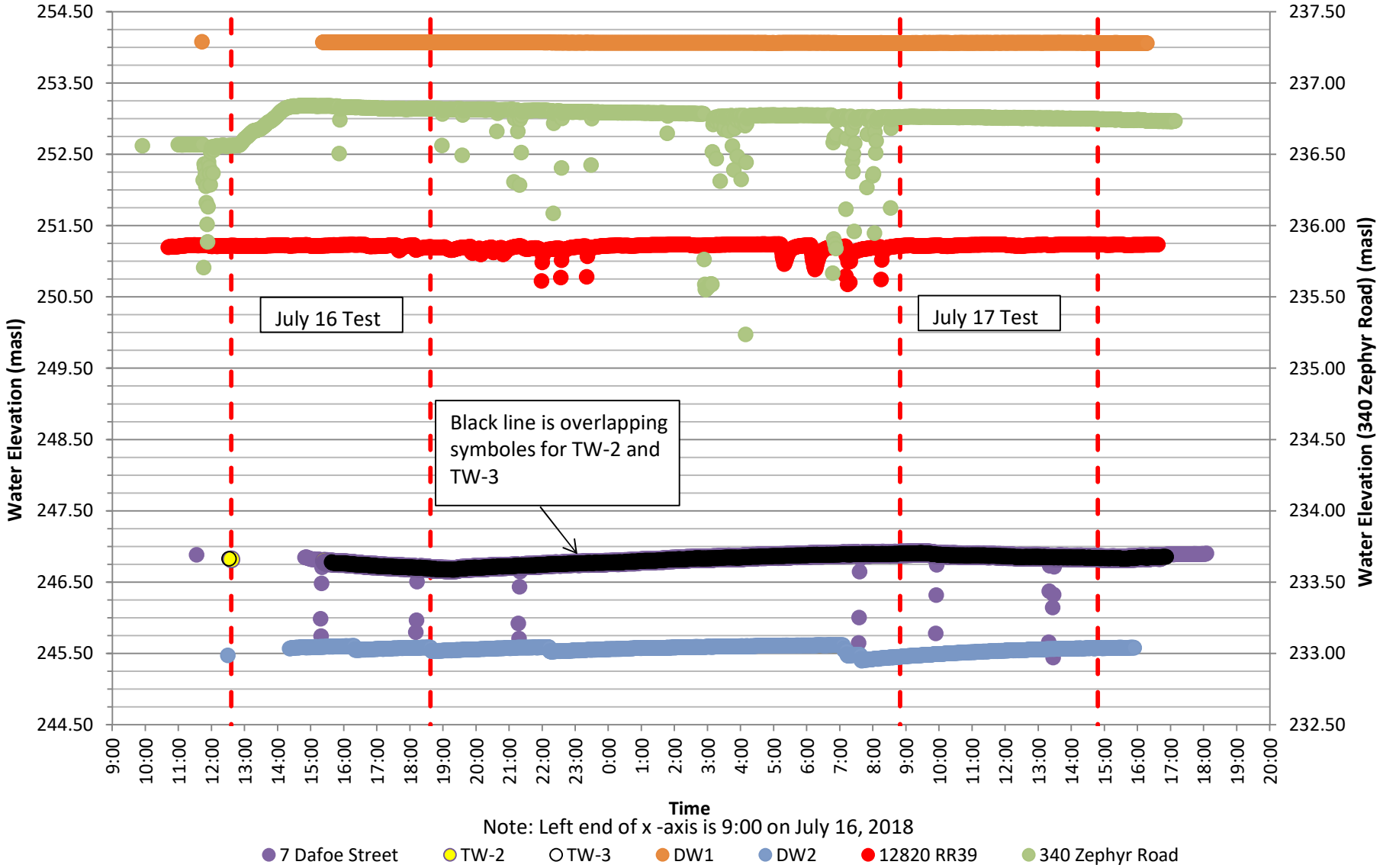


Figure 13: 2018 Pumping Test Hydrographs - Monitoring Wells

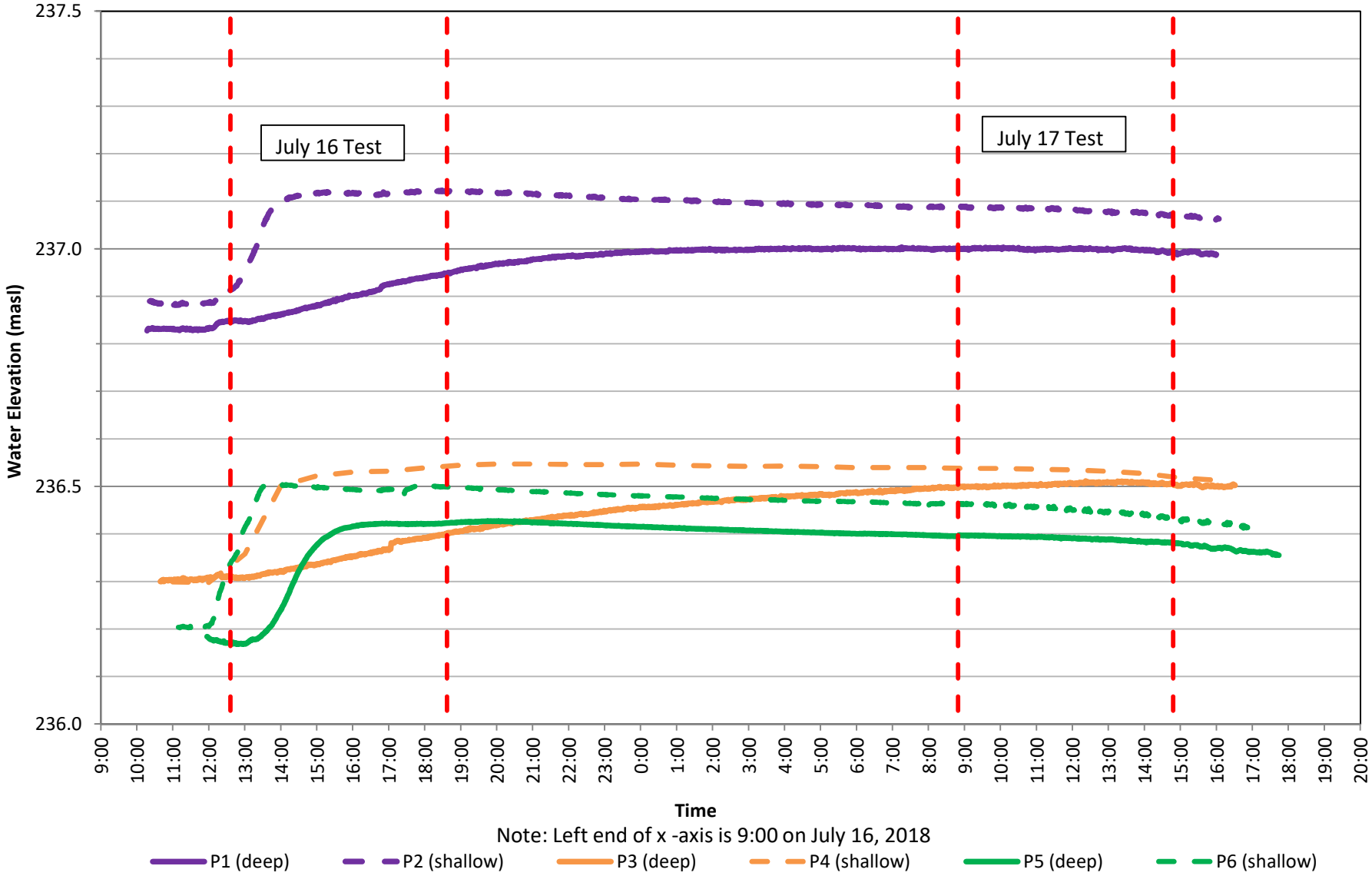


Figure 14: 2018 Pumping Test Hydrographs - Piezometers

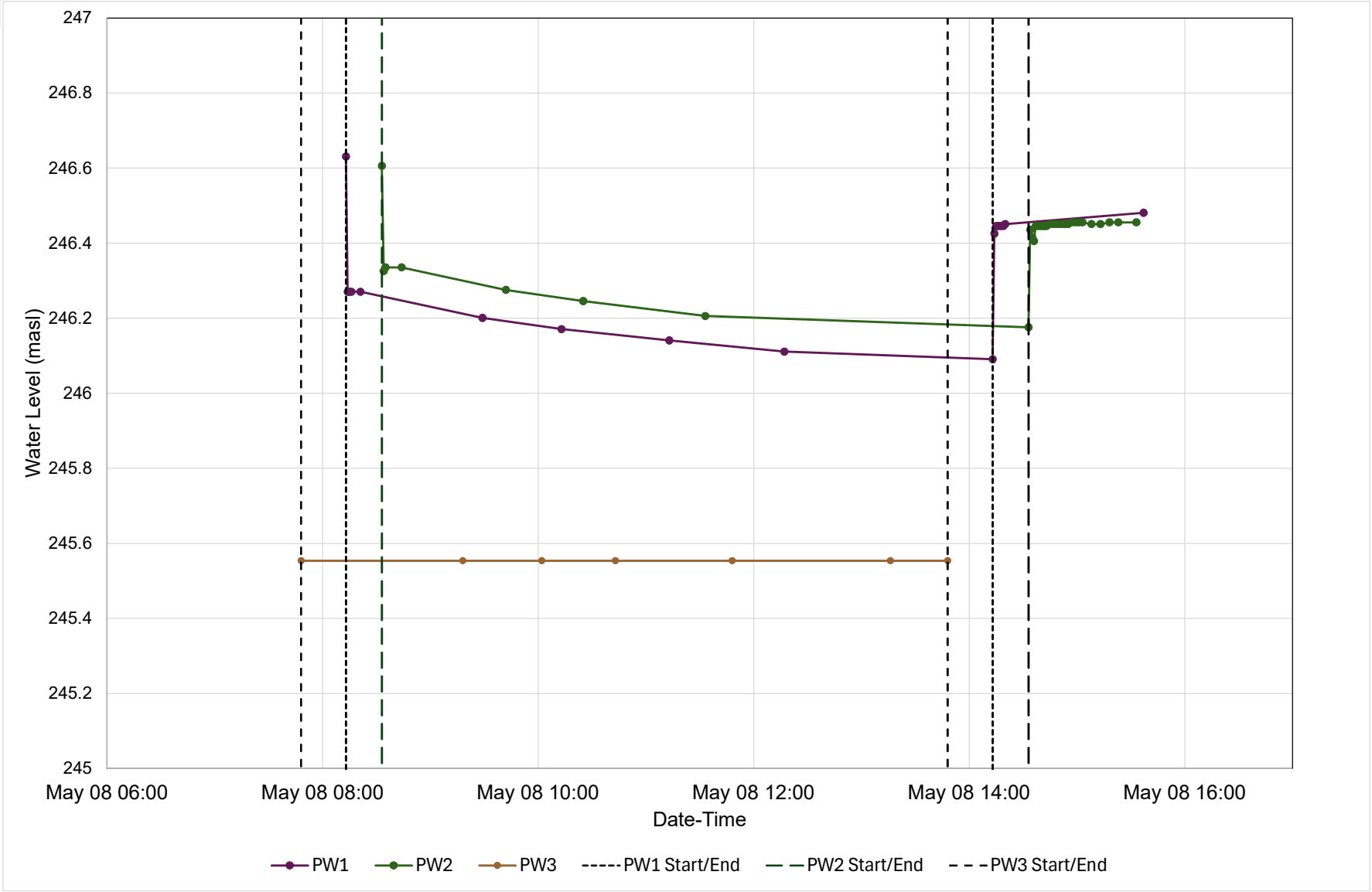


Figure 15: Test Well Groundwater Elevations - May 8, 2025, Re-Sampling

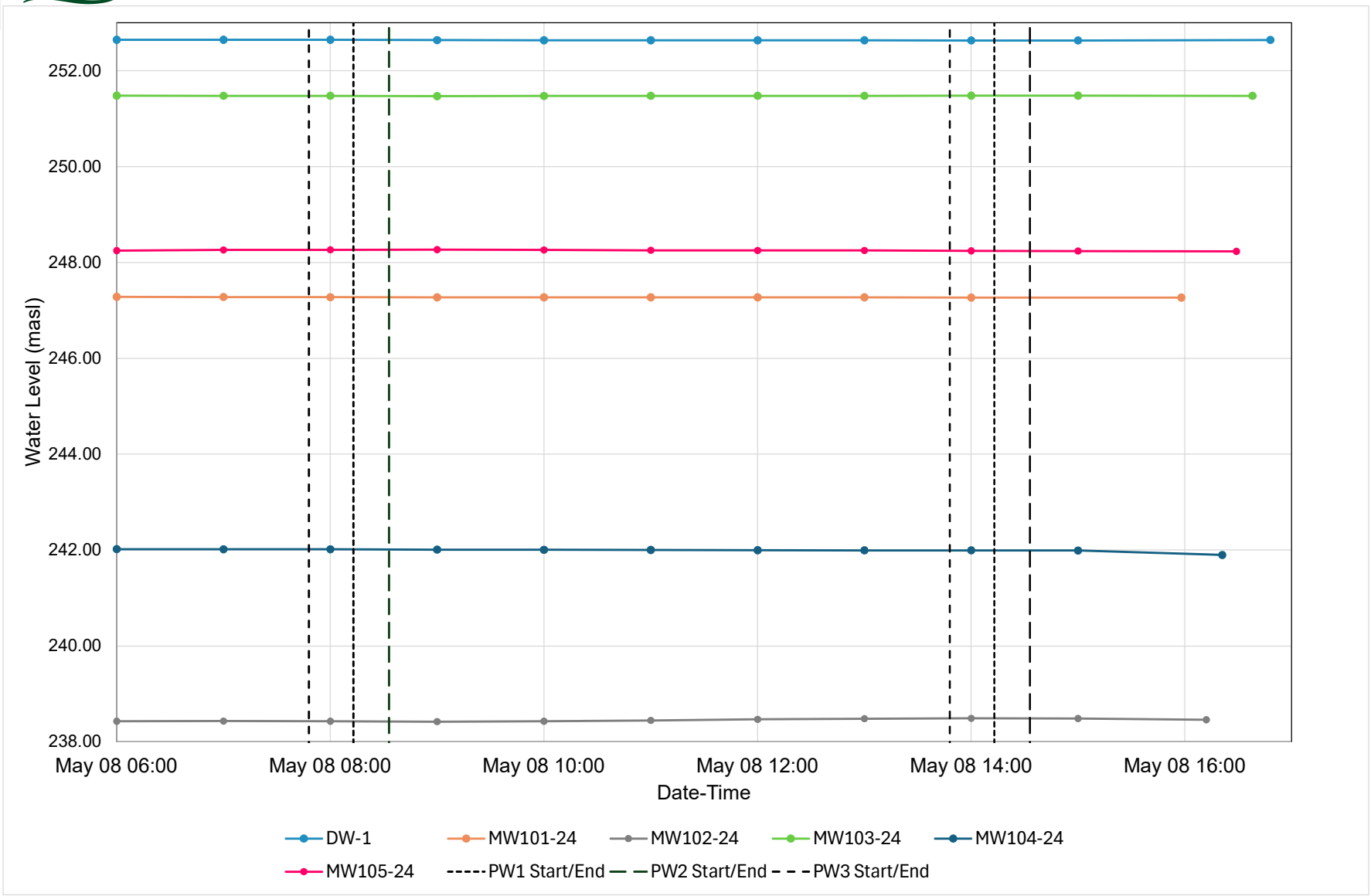
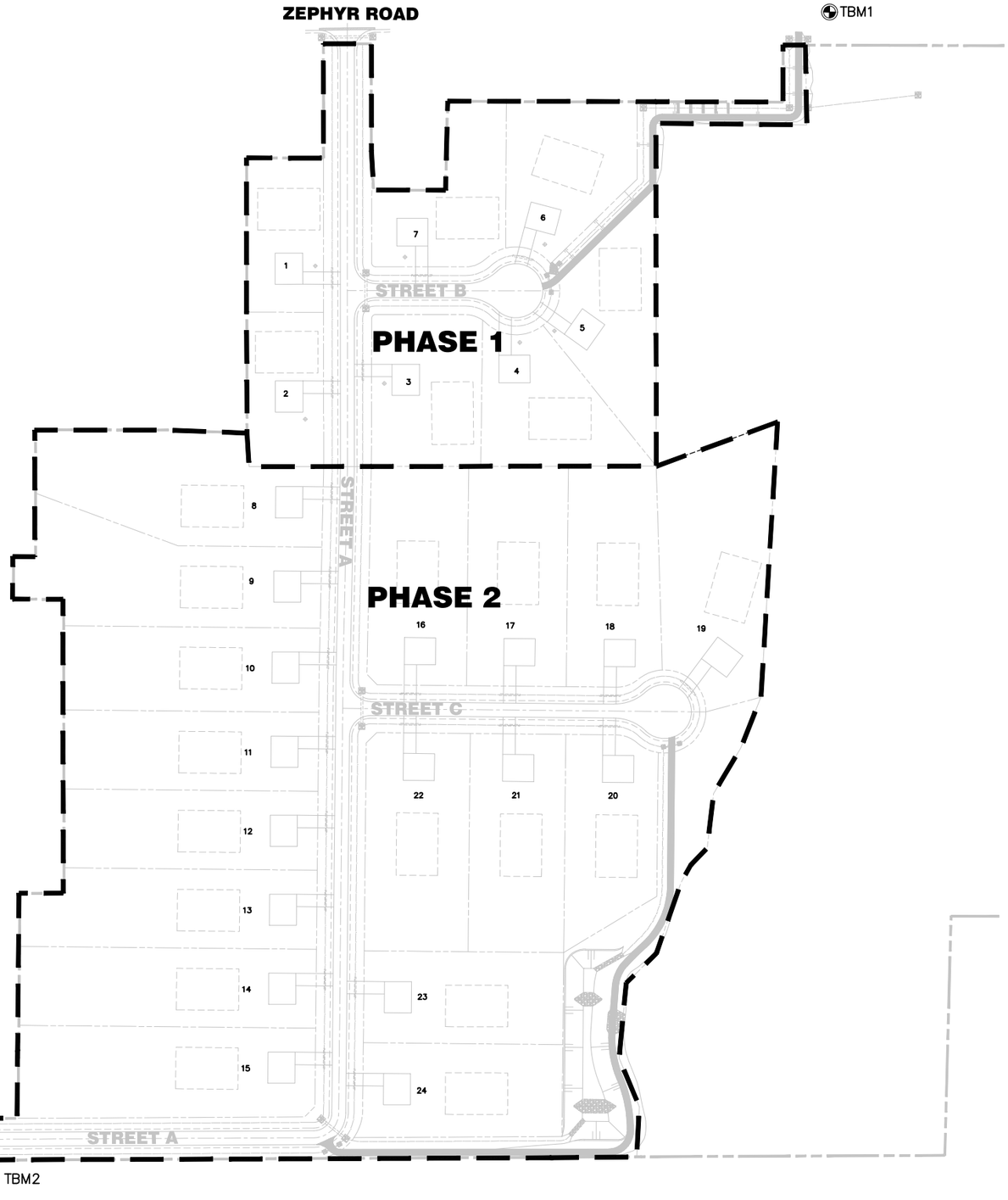
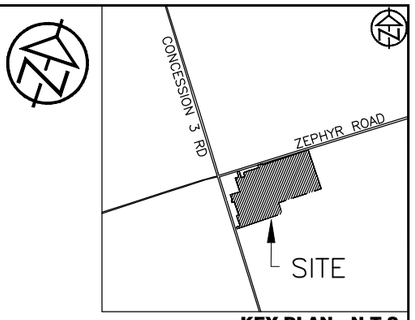


Figure 16: Observation Well Groundwater Elevations - May 8, 2025, Re-Sampling

Appendix A

Proposed Development Plans and Land Information





KEY PLAN - N.T.S.

LEGEND

PHASING BOUNDARY

TOPOGRAPHIC SURVEY COMPLETED BY A.R. (SANDY) WAKELING SURVEYING TECHNICAL SERVICES IN APRIL 18, 2017 AND RICHMOND SURVEYING INC. IN MARCH 28, 2024.

TBM1: SURVEY SPIKE ON SOUTHERLY FACE OF HYDRO POLE ON NORTH SIDE OF ZEPHYR ROAD, FIRST POLE WEST OF DRIVEWAY INTO 322 ZEPHYR ROAD. ELEVATION: 238.74.

TBM2: TOP OF STANDARD IRON BAR AT THE SOUTH WESTERLY CORNER OF PLAN PART 2 PLAN 40R-3497 ELEVATION: 250.59

No.	REVISION DESCRIPTION	DATE
1.	FIRST SUBMISSION FOR CLIENT REVIEW	MAY, 2025

ENGINEER STAMP

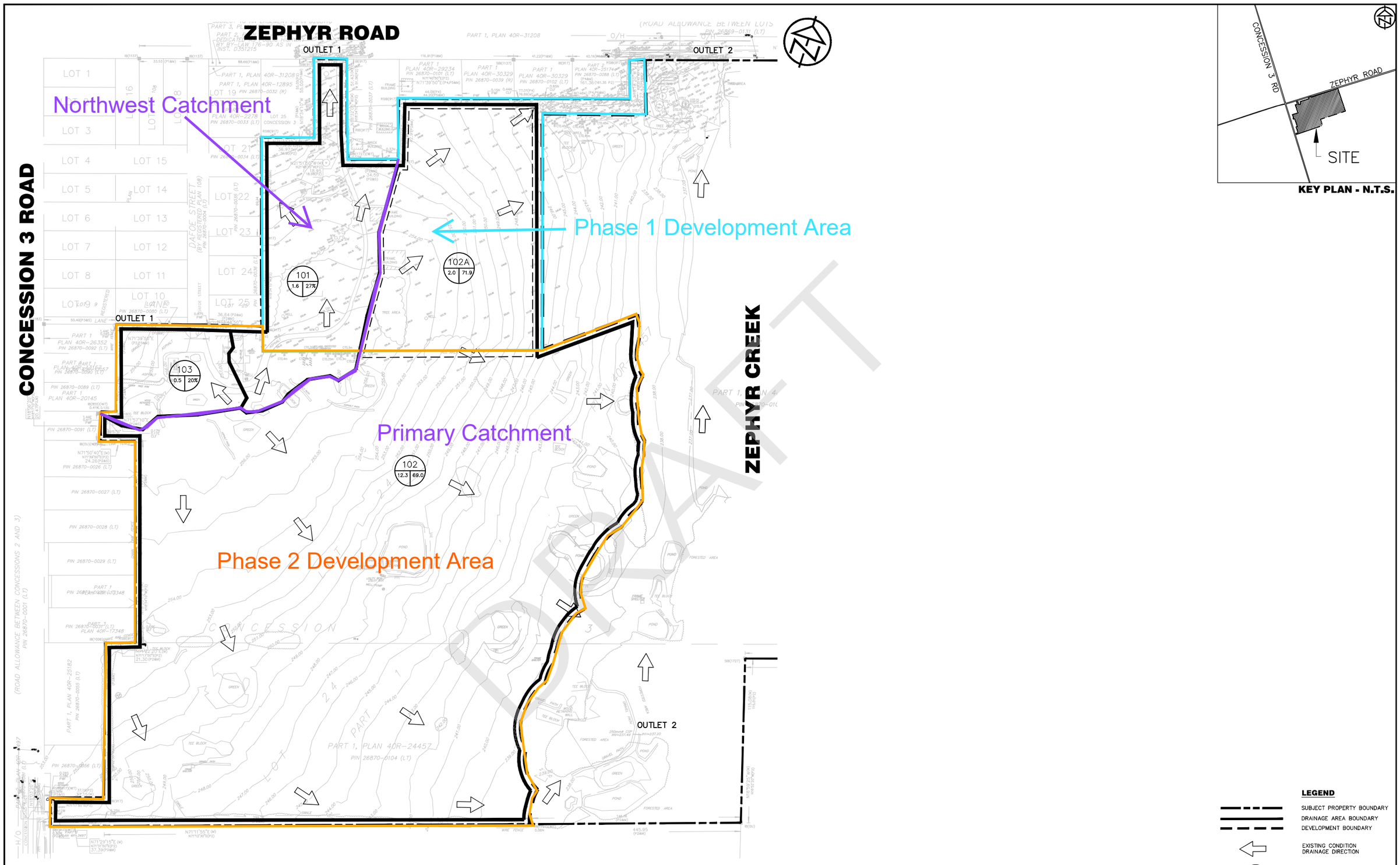
HIDDEN RIDGE SUBDIVISION
TOWNSHIP OF UXBRIDGE

TATHAM ENGINEERING

PHASING PLAN

DESIGN: HY	FILE: 516655	DWG: **PH-1**
DRAWN: HY	DATE: SEPT 2024	
CHECK: JA	SCALE: 1:750	

Drawing Name: 516655-PH01.dwg, Plotted: May 16, 2025



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TBM1: SURVEY SPIKE ON SOUTHERLY FACE OF HYDRO POLE ON NORTH SIDE OF ZEPHYR ROAD, FIRST POLE WEST OF DRIVEWAY INTO 322 ZEPHYR ROAD. ELEVATION: 238.74.

TBM2: TOP OF STANDARD IRON BAR AT THE SOUTH WESTERLY CORNER OF PLAN PART 2 PLAN 40R-3497 ELEVATION: 250.59

No.	REVISION DESCRIPTION	DATE
1.	FIRST SUBMISSION FOR CLIENT REVIEW	MAY, 2025

ENGINEER STAMP

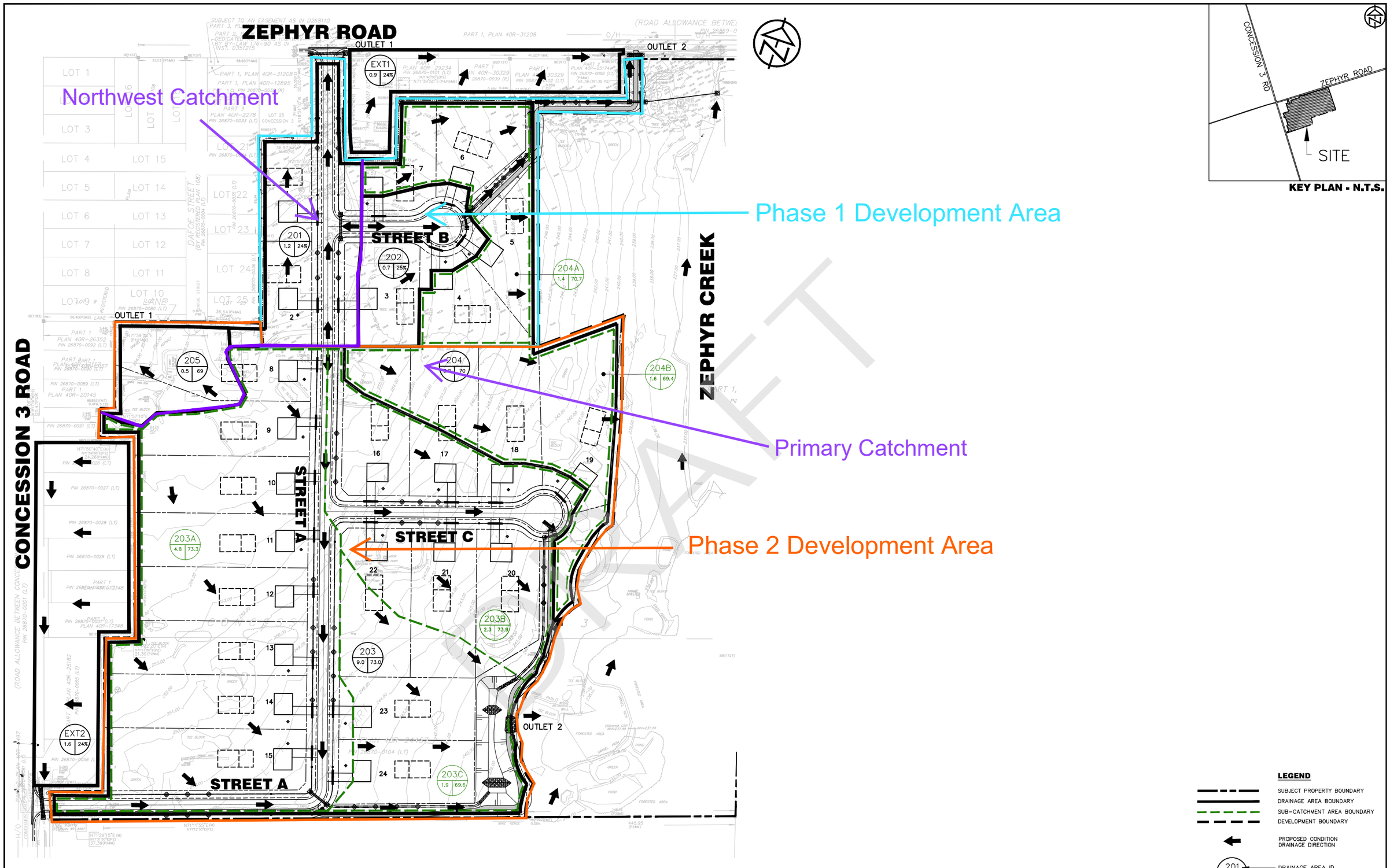
HIDDEN RIDGE SUBDIVISION
TOWNSHIP OF UXBRIDGE

TATHAM ENGINEERING

EXISTING CONDITION DRAINAGE PLAN

DESIGN: HY	FILE: 516655	DWG: DP-1
DRAWN: HY	DATE: SEPT 2024	
CHECK: JA	SCALE: 1:1250	

Drawing Name: 516655-DP01.dwg, Plotted: May 16, 2025



TOPOGRAPHIC SURVEY COMPLETED BY A.R. (SANDY) WAKELING SURVEYING TECHNICAL SERVICES IN APRIL 18, 2017 AND RICHMOND SURVEYING INC. IN MARCH 28, 2024.

TBM1: SURVEY SPIKE ON SOUTHERLY FACE OF HYDRO POLE ON NORTH SIDE OF ZEPHYR ROAD, FIRST POLE WEST OF DRIVEWAY INTO 322 ZEPHYR ROAD. ELEVATION: 238.74.

TBM2: TOP OF STANDARD IRON BAR AT THE SOUTH WESTERLY CORNER OF PLAN PART 2 PLAN 40R-3497 ELEVATION: 250.59

No.	REVISION DESCRIPTION	DATE
1.	FIRST SUBMISSION FOR CLIENT REVIEW	MAY, 2025

ENGINEER STAMP

HIDDEN RIDGE SUBDIVISION
TOWNSHIP OF UXBRIDGE

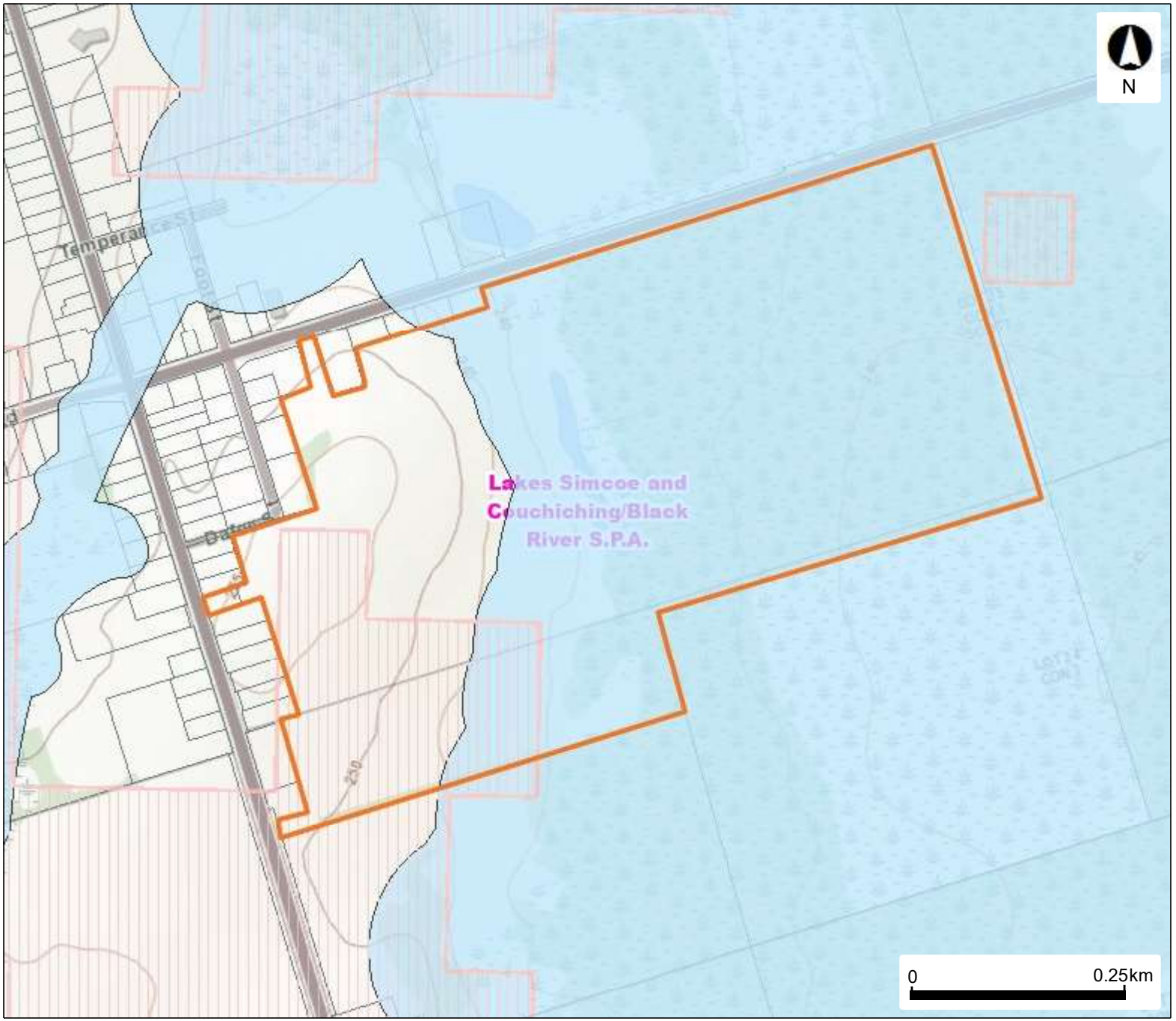
PROPOSED CONDITION DRAINAGE PLAN

TATHAM ENGINEERING

DESIGN: HY	FILE: 516655	DWG: DP-2
DRAWN: HY	DATE: SEPT 2024	
CHECK: JA	SCALE: 1:1250	

Drawing Name: 516655-DP02.dwg, Plotted: May 16, 2025

MECP SPIA Map - IPZ-3 and HVA (Orange Polygon Denotes Site Boundary)



Legend

- Issue Contributing Areas
- Highly Vulnerable Aquifers
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2
- Intake Protection Zone 3
- Source Protection Areas
- Assessment Parcel

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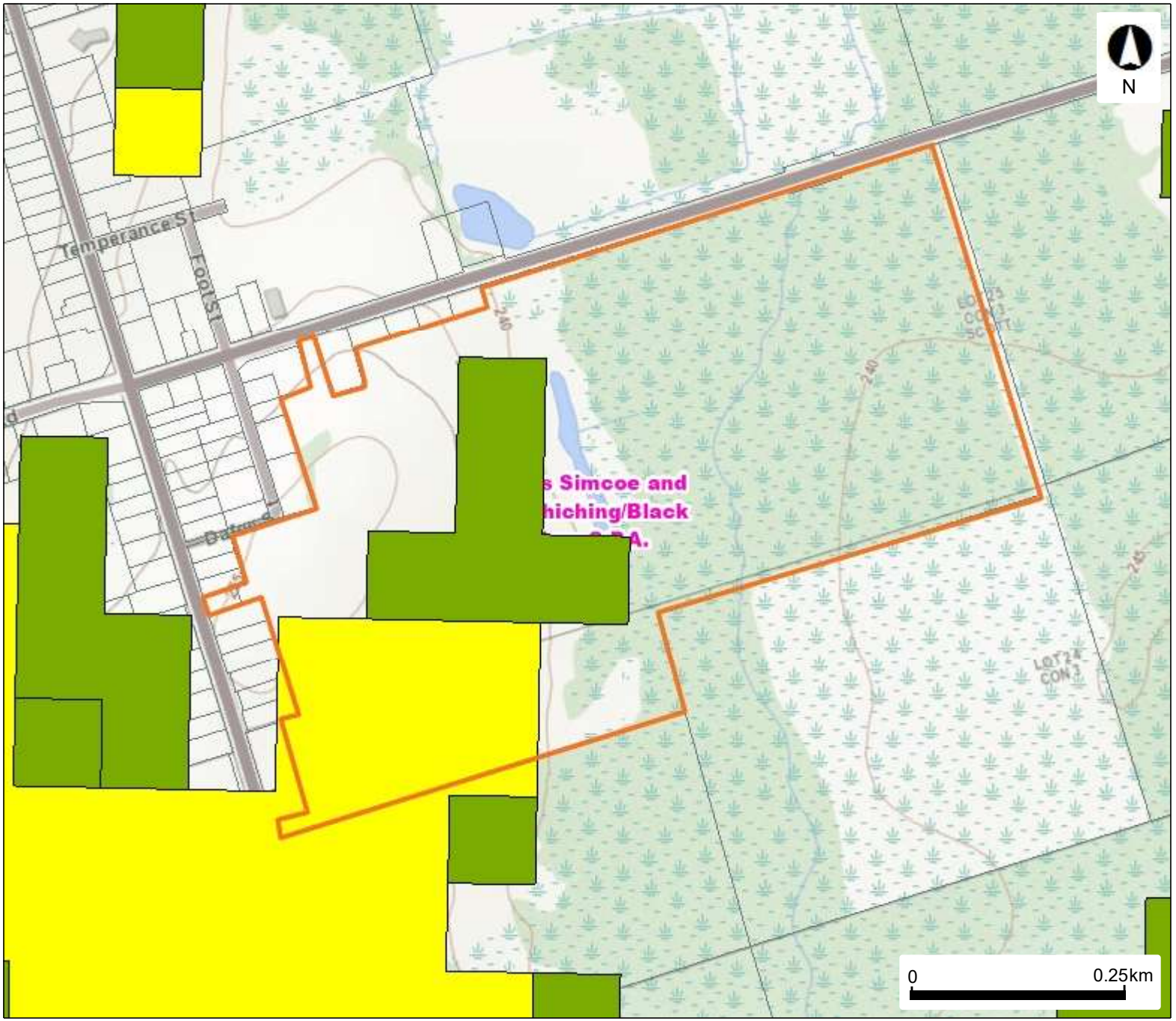
Ontario

Map Created: 6/8/2025
Map Center: 44.19971 N, -79.25855 W

MECP SPIA Map - SGRA (Orange Polygon Denotes Site Boundary)



Legend

- Intake Protection Zone Q
- Wellhead Protection Area Q1
- Wellhead Protection Area Q2
- Significant Groundwater Recharge Area
  - N/A
  - 0
  - 2
  - 4
  - 6
- Issue Contributing Areas
- WHPA-E
- Wellhead Protection Area
  - A
  - B
  - C
  - C1
  - D
  - F
- Intake Protection Zone 1
- Event Based Areas
- Intake Protection Zone 2
- Source Protection Areas
- Assessment Parcel

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Environment, Conservation and Parks (MECP) shall not be liable in any way for the use or any information on this map. of, or reliance upon, this map.

Ontario

Map Created: 6/8/2025
Map Center: 44.19971 N, -79.25855 W

Ontario

Ministry of Natural Resources

Make-a-Map: Natural Heritage Areas

MNRF Natural Heritage Map - ANSI

Map created:6/18/2025

Notes:

Orange polygon denotes the site boundary.

Legend

- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System

0.7 0 0.33 0.7 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources(OMNR) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

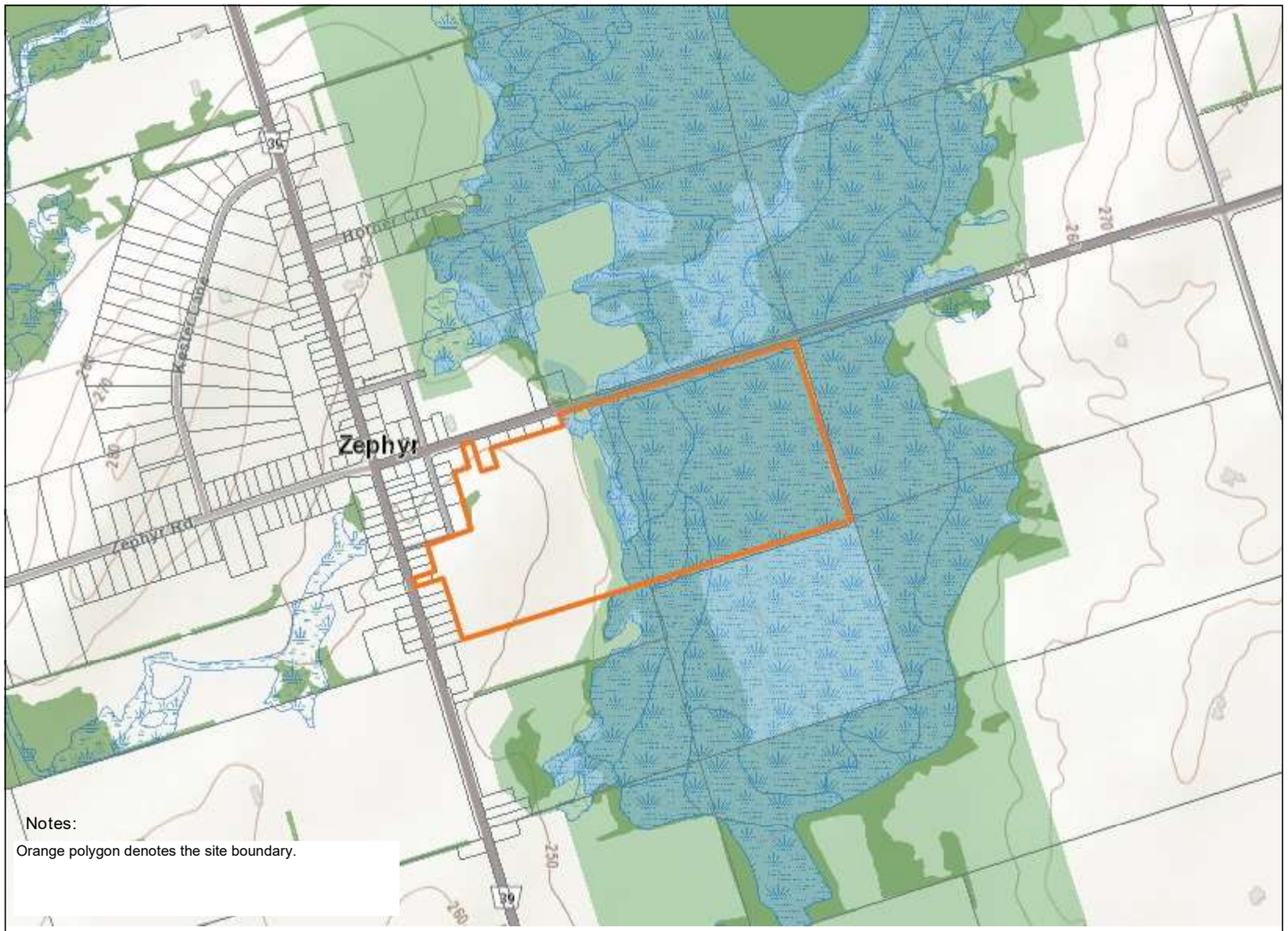
Ontario

Ministry of Natural Resources

Make-a-Map: Natural Heritage Areas

MNRF Natural Heritage Map - Wetlands

Map created:6/18/2025



Notes:

Orange polygon denotes the site boundary.

Legend

- Assessment Parcel
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System

0.7 0 0.33 0.7 Kilometres

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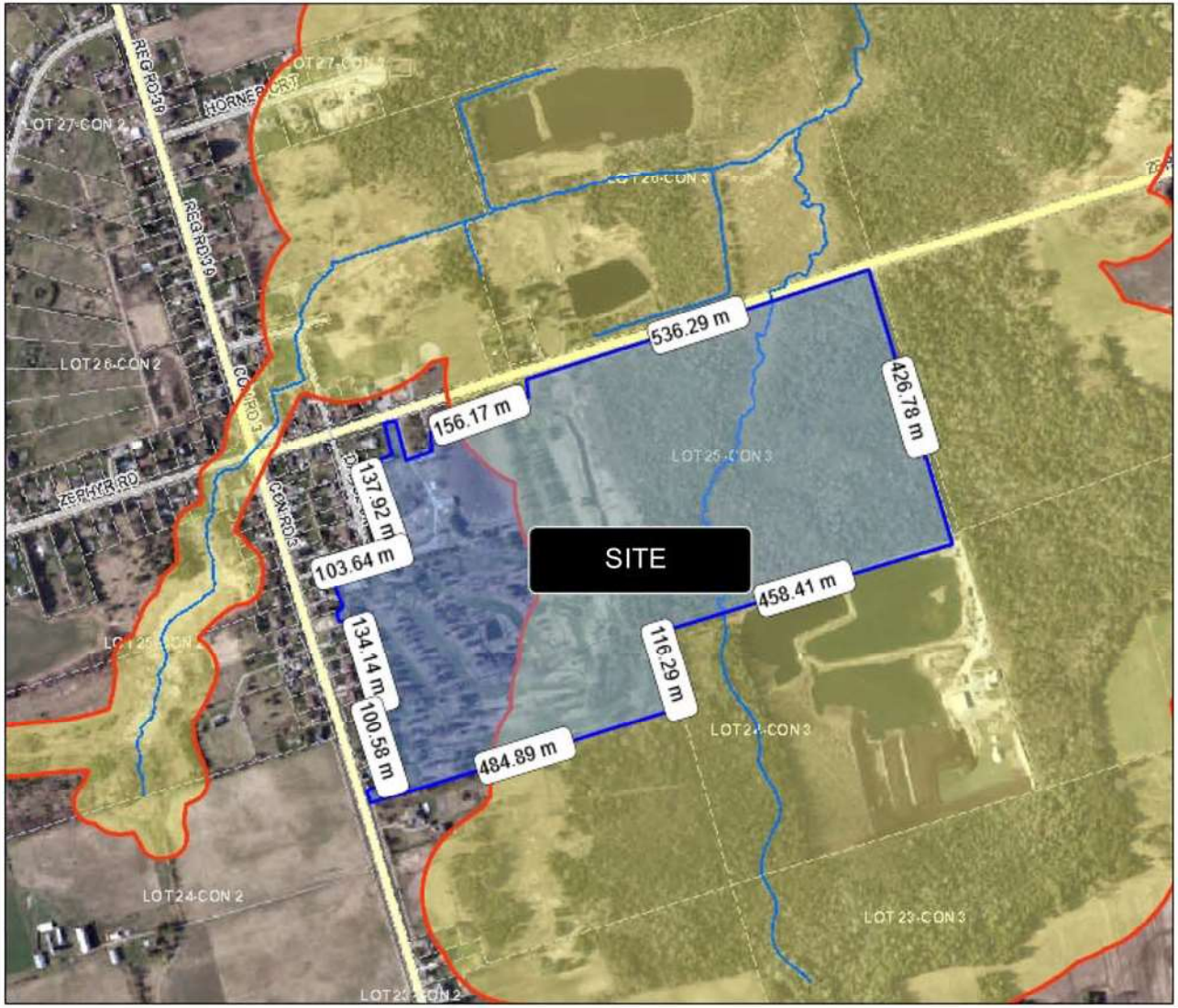
Lake Simcoe Region conservation authority

LSRCA Regulated Areas



Features

- Regulation Map Index
- LSRCA Watershed Boundary
- Lake Simcoe
- Watercourse
- Regulated Area Boundary
- Regulated Area
- Assessment Parcel
- Lot and Concession
- Roads
  - Hwy 400 Series
  - Highway, Arterials
  - Local Road
- Railway

Printed On:
10/19/2018

WGS_1984_Web_Mercator_Auxiliary_Sphere

Mapped By:

Scale 1: 9,160

Meters

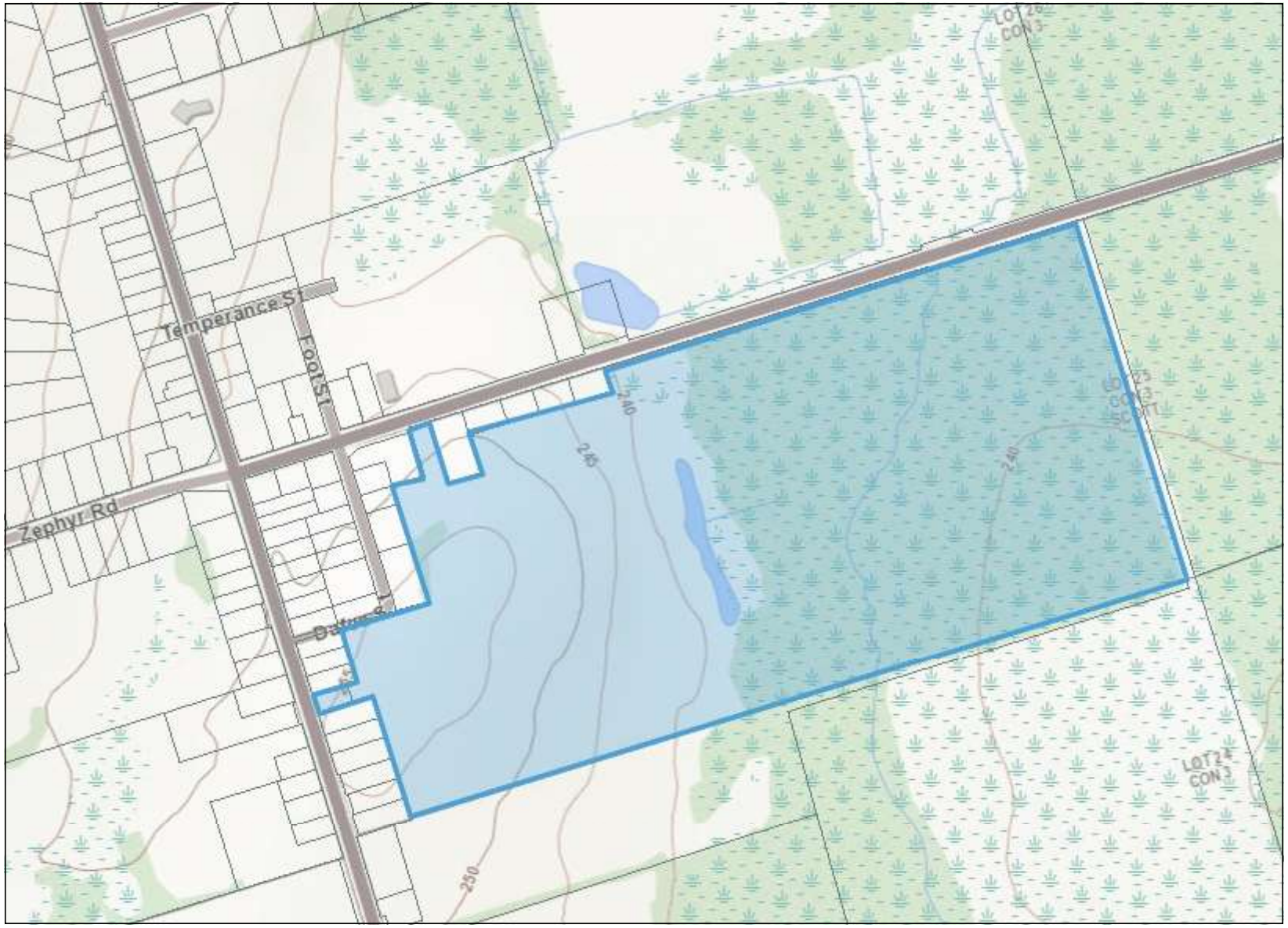
465 0 233 465

Ontario Ministry of Natural Resources

Make a Topographic Map

MECP Topo Map

Notes:



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail
- Bruce Trail
- Greenbelt Route
- Rideau Trail
- Trans Canada Trail
- Voyageur Trail
- Waterfront Trail
- Railway \ Train Station
- Railway with Bridge
- Railway with Tunnel
- Road (Major → Minor)
- Winter Road
- Road with Bridge
- Road with Tunnel
- Primary, Kings or 400 Series Highway
- Secondary Highway
- Tertiary Highway
- District, County, Regional or Municipal Road
- Toll Highway
- One Way Road
- Road with Permanent Blocked Passage
- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
- Natural Gas Pipeline, Water Pipeline or Unknown Pipeline
- Spot Height
- Index Contour
- Contour
- Wooded Area
- Wetland
- Waterbody
- Waterbody Elevation
- Watercourse
- Falls
- Rapids
- Rapids \ Falls
- Rapids
- Rocks
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.3 km

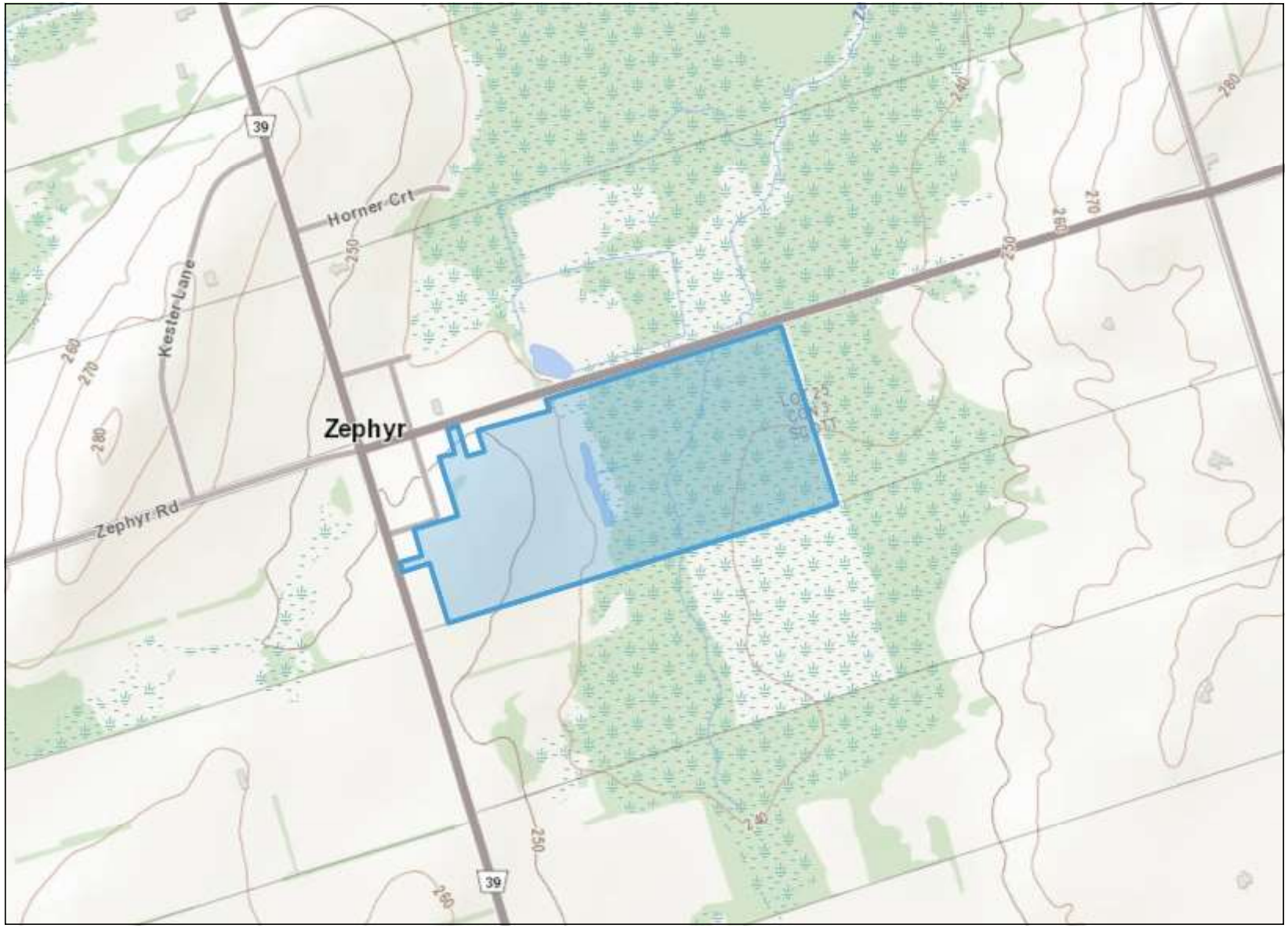
Projection: Web Mercator

Ontario Ministry of Natural Resources

Make a Topographic Map

MECP Topo Map 2

Notes:



Legend

- Building as Symbol
- Building to Scale
- Airport
- Heliport \ Hospital Heliport
- Seaplane Base
- Ferry Route
- Trail
- Bruce Trail
- Greenbelt Route
- Rideau Trail
- Trans Canada Trail
- Voyageur Trail
- Waterfront Trail
- Railway \ Train Station
- Railway with Bridge
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- Road (Major → Minor)
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- Road with Address Ranges
- Hydro Line, Communication Line or Unknown Transmission Line
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- Rapids \ Falls
- Rapids
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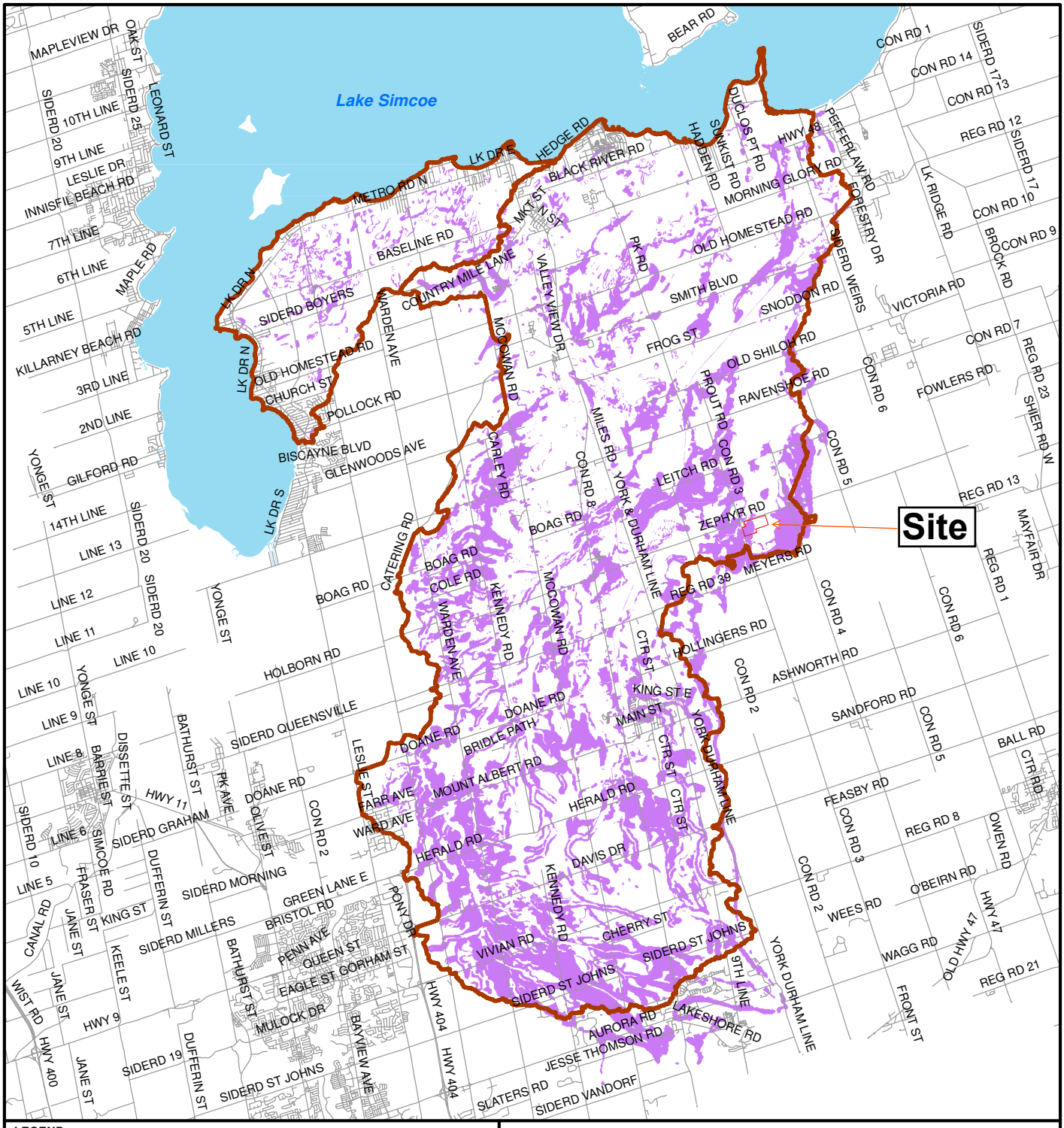
- Lock Gate
- Dam \ Hydro Wall
- Dam \ Hydro Wall
- Provincial \ State Boundary
- International Boundary
- Upper Tier \ District Municipal Boundary
- Lower Tier \ Single Tier Municipal Boundary
- Lot Line
- Indian Reserve
- Provincial Park
- National Park
- Conservation Reserve
- Military Lands

0 0.7 km

Projection: Web Mercator



ECOLOGICALLY SIGNIFICANT GROUNDWATER RECHARGE AREAS (h = 100, e = 0.005)

TIER 2 WATER BUDGET AND
ECOLOGICALLY SIGNIFICANT GROUNDWATER
RECHARGE AREAS FOR THE BLACK RIVER AND
GEORGINA CREEKS SUBWATERSHEDS
For: Lake Simcoe Region Conservation Authority

DATE: FEBRUARY 2013	SCALE: 1:210000
PROJECT: 121-17211-00	FILE. NO.:1211721100F5-3

GENIVAR

FIGURE 5-3

Appendix B

Test Pit Logs

TEST PIT LOGS
309 Zephyr Rd, Zephyr, Ontario
Cambium Reference No. 6199-001

Test Pit ID	Depth (mbgs[1])	Sample Number	Material Description	UTM (Zone 17T)
TP101-17	0 - 0.20		Topsoil, dry, fine sandy organics	638877
	0.20 - 1.12	1	Light brown silt and fine sand, some gravel, stiff block structure, dry	4895421
	1.12 - 1.8	2	Silty gravelly sand, trace clay, moist, firm, blocky structure No water in hole upon completion	
TP102-17	0 - 0.25		Topsoil, fine sandy organics	
	0.25 - 0.84	1	Brown sandy silt, trace gravel, moist, soft	638842
	0.84 - 2.00	2	Brown silt and sand, some gravel, trace clay, moist, blocky structure Water entering bottom of hole	4895345
TP103-17	0 - 0.23		Topsoil, moist, fine sandy organics	
	0.23 - 0.81	1	Brown silty gravelly sand, trace clay, moist, loose to firm, variable to silt platy structure	638881 4895301
	0.81 - 2.00	2	Brown to grey silty sand, some clay, trace gravel, mostly blocky structure. No water in hole upon completion	
TP104-17	0 - 0.18		Topsoil	
	0.18 - 0.91	1	Brown silt and clay, some sand, trace gravel, soft, moist	638849
	0.91 - 2.00	2	Brown silty sand, some clay, trace gravel, moist, stiff to soft Hole open and dry upon completion	4895223
TP105-17	0 - 0.30		Topsoil	
	0.30 - 1.07	1	Variable soils - Tills, silts, sandy tills. Mostly soft. Soils appear to be disturbed from prior grading work at this location.	638954 4895245
	1.07 - 1.52	2	Brown silty sand, some clay, trace gravel, moist, soft. Hole excavated to 6'10". Open and dry.	
TP106-17	0 - 0.20		Topsoil	
	0.20 - 0.84	1	Various soils and materials: brown fine sand, dry; garbage; brown silt; cobbles and gravel, blocky.	639058
	0.84 - 1.22	2	Brown silt and clay till, moist, blocky	4895270
	1.22 - 2.13	3	Grey blue silt and clay, some sand and gravel. Cobbles approx. 25% of volume, moist, firm. Hole open and dry upon completion.	
TP107-17	0 - 0.20		Topsoil	
	0.20 - 0.89	1	Brown silty sand, trace clay, loose, moist	639088
	0.89 - 1.93	2	Grey silt and clay, soft, moist, mottled, same soil at depth, slightly more silt. Some saturated lenses at ~5 feet. Hole open and dry upon completion	4895359
TP108 -17	0 - 0.36		Topsoil, sand to silty sand	638961
	0.36 - 2.00	1	Light brown fine sandy silt, some gravel, dry, stiff, blocky structure Hole open and dry upon completion	4895325

TEST PIT LOGS
309 Zephyr Rd, Zephyr, Ontario
Cambium Reference No. 6199-001

Test Pit ID	Depth (mbgs[1])	Sample Number	Material Description	Depth (mbgs)
TP109-17	0 - 0.25		Topsoil	
	0.25 - 0.94	1	Sandy silt till, some gravel, dry, some platy structure, firm	638911
	0.94 - 2.00	2	Brown silty sand, some gravel, till, moist, loose	4895380
			Hole open and dry upon completion	
TP110-17	0 - 0.33		Topsoil, sand and silt, moist	
	0.33 - 0.76	1	Light brown silt and fine sand, trace gravel, some staining, soft, moist	639013
	0.76	2	Grey silt and clay, moist, orange mottling	4895432
	0.76 - 2.00	3	Brown silt and clay, some gravel, moist	
			Water entering bottom of hole	
TP111-17	0 - 0.43		Topsoil	
	0.43 - 0.69	1	Blue silt and clay, some fine sand, moist to saturated, soft	639135
	1.24		Water entering at 1.24m, buried organics throughout, moist to saturated	4895495
	1.24 - 2.13	2	Blue medium sand, moist to saturated, loose	
			Hole terminated at 2.13m, water entering hole	
TP112-17	0 - 0.18		Topsoil	
	0.18 - 1.52	1	Brown silty sand, trace clay, moist, soft, loose	639088
			Water entering hole at 1.5m, some red staining. Unable to excavate past 1.5m due to saturated cave-in conditions	4895568
	1.52	2	Brown silt and clay, firm, moist	
TP113-17	0 - 0.30		Topsoil	638963
	0.30 - 2.00	1	Sand and gravel till, firm, dry	4895492
			Hole open and dry upon completion	

Notes: 1. mbgs = metres below ground surface

Appendix C

Groundwater Certificates of Analysis

CADUCEON™ ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: ---

REPORT No. B17-23016

Report To:

Cambium Environmental
PO Box 325, 52 Hunter Street East
Peterborough ON K9H 1G5 Canada
Attention: Cameron MacDougall

Caduceon Environmental Laboratories
285 Dalton Ave
Kingston Ontario K7K 6Z1
Tel: 613-544-2001
Fax: 613-544-2770

DATE RECEIVED: 11-Aug-17
DATE REPORTED: 17-Aug-17
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.		340 Zephyr Rd.	1 Foot Rd.	12820 Durham Rd. 39	
			Sample I.D.		B17-23016-1	B17-23016-2	B17-23016-3	
			Date Collected		09-Aug-17	09-Aug-17	09-Aug-17	
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
BOD(5 day)	mg/L	2	SM 5210B	11-Aug-17/K	3	< 2	< 2	
Total Kjeldahl Nitrogen	mg/L	0.1	E3199A.1	15-Aug-17/K	0.1	0.6	< 0.1	
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	15-Aug-17/K	0.10	0.30	0.01	
Ammonia (N)-unionized	mg/L	0.01	CALC	15-Aug-17/K	< 0.01	< 0.01	< 0.01	
Nitrite (N)	mg/L	0.1	SM4110C	14-Aug-17/O	< 0.1	< 0.1	< 0.1	
Nitrate (N)	mg/L	0.1	SM4110C	14-Aug-17/O	< 0.1	< 0.1	1.0	
Dissolved Organic Carbon	mg/L	0.2	EPA 415.1	14-Aug-17/O	0.8	2.5	0.3	

Michelle Dubien
Lab Manager

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

CADUCEON™ ENVIRONMENTAL LABORATORIES
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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G39405 **REPORT No. B18-21068**

Report To:

Cambium Environmental
PO Box 325, 52 Hunter Street East
Peterborough ON K9H 1G5 Canada
Attention: Cameron MacDougall

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 18-Jul-18
DATE REPORTED: 24-Jul-18
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.:		PW1		ODWS	
			Sample I.D.:		B18-21068-1		Objective	Type of Objective
			Date Collected:		16-Jul-18			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Hardness (as CaCO3)	mg/L	1	SM 3120	19-Jul-18/O	**268**		80-100	OG
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	18-Jul-18/O	211		30-500	OG
pH @25°C	pH Units		SM 4500H	18-Jul-18/O	8.04		6.5-8.5	OG
Conductivity @25°C	µmho/cm	1	SM 2510B	18-Jul-18/O	544			
Turbidity	NTU	0.1	SM 2130	20-Jul-18/O	**6.4**		5	AO
Total Suspended Solids	mg/L	3	SM 2540D	19-Jul-18/O	< 3			
Colour	TCU	2	SM 2120C	20-Jul-18/O	< 2		5	AO
Fluoride	mg/L	0.1	SM4110C	18-Jul-18/O	< 0.1		1.5	MAC
Chloride	mg/L	0.5	SM4110C	18-Jul-18/O	17.2		250	AO
Nitrite (N)	mg/L	0.1	SM4110C	18-Jul-18/O	< 0.1		1	MAC
Nitrate (N)	mg/L	0.1	SM4110C	18-Jul-18/O	< 0.1		10	MAC
Sulphate	mg/L	1	SM4110C	18-Jul-18/O	36		500	AO
Calcium	mg/L	0.02	SM 3120	19-Jul-18/O	79.4			
Magnesium	mg/L	0.02	SM 3120	19-Jul-18/O	16.9			
Sodium	mg/L	0.2	SM 3120	19-Jul-18/O	6.6		200,20	AO,MAC
Potassium	mg/L	0.1	SM 3120	19-Jul-18/O	1.1			
Aluminum	mg/L	0.01	SM 3120	19-Jul-18/O	0.06		0.1	OG
Antimony	mg/L	0.0001	EPA 200.8	24-Jul-18/O	0.0001		0.006,0.006	IMAC,MAC
Arsenic	mg/L	0.0001	EPA 200.8	24-Jul-18/O	0.0001		0.025,0.010	IMAC,MAC
Barium	mg/L	0.001	SM 3120	19-Jul-18/O	0.159		1	MAC
Beryllium	mg/L	0.002	SM 3120	19-Jul-18/O	< 0.002			
Bismuth	mg/L	0.02	SM 3120	19-Jul-18/O	< 0.02			
Boron	mg/L	0.005	SM 3120	19-Jul-18/O	0.007		5,5.0	IMAC,MAC
Cadmium	mg/L	).000015	EPA 200.8	24-Jul-18/O	< 0.000015		0.005	MAC
Chromium	mg/L	0.002	SM 3120	19-Jul-18/O	< 0.002		0.05	MAC
Cobalt	mg/L	0.005	SM 3120	19-Jul-18/O	< 0.005			
Copper	mg/L	0.002	SM 3120	19-Jul-18/O	< 0.002		1	AO
Iron	mg/L	0.005	SM 3120	19-Jul-18/O	**0.642**		0.3	AO

ODWS - Ontario Drinking Water Standards
AO - Aesthetic Objectives
IMAC - Interim Maximum Acceptable Concentration
MAC - Maximum Acceptable Concentration
OG - Operational Guidelines

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G39405 **REPORT No. B18-21068**

Report To:

Cambium Environmental
PO Box 325, 52 Hunter Street East
Peterborough ON K9H 1G5 Canada
Attention: Cameron MacDougall

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 18-Jul-18
DATE REPORTED: 24-Jul-18
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.:		PW1		ODWS	
			Sample I.D.:		B18-21068-1		Objective	Type of Objective
			Date Collected:		16-Jul-18			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Lead	mg/L	0.00002	EPA 200.8	24-Jul-18/O	0.00004		0.010	MAC
Manganese	mg/L	0.001	SM 3120	19-Jul-18/O	**0.069**		0.05	AO
Molybdenum	mg/L	0.01	SM 3120	19-Jul-18/O	< 0.01			
Nickel	mg/L	0.01	SM 3120	19-Jul-18/O	< 0.01			
Selenium	mg/L	0.001	EPA 200.8	24-Jul-18/O	< 0.001		0.05	MAC
Silicon	mg/L	0.01	SM 3120	19-Jul-18/O	7.46			
Silver	mg/L	0.0001	EPA 200.8	24-Jul-18/O	< 0.0001			
Strontium	mg/L	0.001	SM 3120	19-Jul-18/O	0.281			
Thallium	mg/L	0.00005	EPA 200.8	24-Jul-18/O	< 0.00005			
Tin	mg/L	0.05	SM 3120	19-Jul-18/O	< 0.05			
Titanium	mg/L	0.005	SM 3120	19-Jul-18/O	< 0.005			
Uranium	mg/L	0.00005	EPA 200.8	24-Jul-18/O	0.00014		0.020	MAC
Vanadium	mg/L	0.005	SM 3120	19-Jul-18/O	< 0.005			
Zinc	mg/L	0.005	SM 3120	19-Jul-18/O	0.005		5	AO
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	19-Jul-18/K	0.18			
Total Kjeldahl Nitrogen	mg/L	0.1	E3199A.1	19-Jul-18/K	0.2			
Organic Nitrogen	mg/L	0.1	E3199A.1	24-Jul-18/K	< 0.1		0.15	OG
Phosphorus-Total	mg/L	0.01	E3199A.1	19-Jul-18/K	0.05			
Phenolics	mg/L	0.001	MOEE 3179	20-Jul-18/O	< 0.001			
Tannins and Lignins	mg/L	0.5	SM5500B	23-Jul-18/K	< 0.5			
Sulphide	mg/L	0.01	SM4500-S2	20-Jul-18/K	< 0.01		0.05	AO
Dissolved Organic Carbon	mg/L	0.2	EPA 415.1	19-Jul-18/O	2.8		5	AO
Total Organic Carbon	mg/L	0.2	EPA 415.1	20-Jul-18/O	2.6			
Total Coliform	cfu/100mL	1	MOE E3407	18-Jul-18/O	0		0	MAC
E coli	cfu/100mL	1	MOE E3407	18-Jul-18/O	0		0	MAC
Heterotrophic Plate Count	cfu/mL	2	SM 9215C	18-Jul-18/O	4			
Anion Sum	meq/L		Calc.	23-Jul-18/O	5.45			

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Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

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DATE REPORTED: 24-Jul-18
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER:
WATERWORKS NO.

			Client I.D.:		PW1		ODWS	
			Sample I.D.:		B18-21068-1		Objective	Type of Objective
			Date Collected:		16-Jul-18			
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Cation Sum	meq/L		Calc.	23-Jul-18/O	5.72			
% Difference	%		Calc.	23-Jul-18/O	2.36			
Ion Ratio	AS/CS		Calc.	23-Jul-18/O	0.954			
Sodium Adsorption Ratio	-		Calc.	23-Jul-18/O	0.174			
TDS(ion sum calc.)	mg/L	1	Calc.	23-Jul-18/O	285		500	AO
Conductivity (calc.)	µmho/cm		Calc.	23-Jul-18/O	529			
TDS(calc.)/EC(actual)	-		Calc.	23-Jul-18/O	0.524			
EC(calc.)/EC(actual)	-		Calc.	23-Jul-18/O	0.973			
Langelier Index(25°C)	S.I.		Calc.	23-Jul-18/O	0.822			
Saturation pH (25°C)	-		Calc.	23-Jul-18/O	7.22			

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Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G78623 **REPORT No. B18-21231**

Report To:

Cambium Environmental
PO Box 325, 52 Hunter Street East
Peterborough ON K9H 1G5 Canada
Attention: Cameron MacDougall

Caduceon Environmental Laboratories
2378 Holly Lane
Ottawa Ontario K1V 7P1
Tel: 613-526-0123
Fax: 613-526-1244

DATE RECEIVED: 19-Jul-18
DATE REPORTED: 27-Jul-18
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER: Zephyr
WATERWORKS NO.

			Client I.D.:		PW3	PW2	ODWS	
			Sample I.D.:		B18-21231-1	B18-21231-2	Objective	Type of Objective
			Date Collected:		17-Jul-18	17-Jul-18		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Hardness (as CaCO3)	mg/L	1	SM 3120	20-Jul-18/O	**241**	**248**	80-100	OG
Alkalinity(CaCO3) to pH4.5	mg/L	5	SM 2320B	20-Jul-18/O	191	202	30-500	OG
pH @25°C	pH Units		SM 4500H	20-Jul-18/O	8.28	8.30	6.5-8.5	OG
Conductivity @25°C	µmho/cm	1	SM 2510B	20-Jul-18/O	497	517		
Turbidity	NTU	0.1	SM 2130	20-Jul-18/O	**10.9**	**9.9**	5	AO
Total Suspended Solids	mg/L	3	SM 2540D	23-Jul-18/O	< 3	< 3		
Colour	TCU	2	SM 2120C	20-Jul-18/O	< 2	< 2	5	AO
Fluoride	mg/L	0.1	SM4110C	21-Jul-18/O	< 0.1	< 0.1	1.5	MAC
Chloride	mg/L	0.5	SM4110C	21-Jul-18/O	14.5	9.5	250	AO
Nitrite (N)	mg/L	0.1	SM4110C	21-Jul-18/O	< 0.1	< 0.1	1	MAC
Nitrate (N)	mg/L	0.1	SM4110C	21-Jul-18/O	< 0.1	< 0.1	10	MAC
Sulphate	mg/L	1	SM4110C	21-Jul-18/O	44	50	500	AO
Calcium	mg/L	0.02	SM 3120	20-Jul-18/O	63.7	75.7		
Magnesium	mg/L	0.02	SM 3120	20-Jul-18/O	19.9	14.4		
Sodium	mg/L	0.2	SM 3120	20-Jul-18/O	5.4	4.7	200,20	AO,MAC
Potassium	mg/L	0.1	SM 3120	20-Jul-18/O	1.3	1.0		
Aluminum	mg/L	0.01	SM 3120	20-Jul-18/O	0.04	0.06	0.1	OG
Antimony	mg/L	0.0001	EPA 200.8	24-Jul-18/O	< 0.0001	< 0.0001	0.006,0.006	IMAC,MAC
Arsenic	mg/L	0.0001	EPA 200.8	24-Jul-18/O	0.0003	0.0003	0.025,0.010	IMAC,MAC
Barium	mg/L	0.001	SM 3120	20-Jul-18/O	0.139	0.091	1	MAC
Beryllium	mg/L	0.002	SM 3120	20-Jul-18/O	< 0.002	< 0.002		
Bismuth	mg/L	0.02	SM 3120	20-Jul-18/O	< 0.02	< 0.02		
Boron	mg/L	0.005	SM 3120	20-Jul-18/O	0.010	0.005	5,5.0	IMAC,MAC
Cadmium	mg/L	).000015	EPA 200.8	24-Jul-18/O	< 0.000015	< 0.000015	0.005	MAC
Chromium	mg/L	0.002	SM 3120	20-Jul-18/O	< 0.002	< 0.002	0.05	MAC
Cobalt	mg/L	0.005	SM 3120	20-Jul-18/O	< 0.005	< 0.005		
Copper	mg/L	0.002	SM 3120	20-Jul-18/O	< 0.002	< 0.002	1	AO
Iron	mg/L	0.005	SM 3120	20-Jul-18/O	**0.796**	**0.808**	0.3	AO

ODWS - Ontario Drinking Water Standards
AO - Aesthetic Objectives
IMAC - Interim Maximum Acceptable Concentration
MAC - Maximum Acceptable Concentration
OG - Operational Guidelines

R.L. = Reporting Limit
Test methods may be modified from specified reference method unless indicated by an *
Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

CADUCEON ENVIRONMENTAL LABORATORIES
Client committed. Quality assured.

CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G78623 **REPORT No. B18-21231**

Report To:

Cambium Environmental
PO Box 325, 52 Hunter Street East
Peterborough ON K9H 1G5 Canada
Attention: Cameron MacDougall

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2378 Holly Lane
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Tel: 613-526-0123
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DATE RECEIVED: 19-Jul-18
DATE REPORTED: 27-Jul-18
SAMPLE MATRIX: Groundwater

JOB/PROJECT NO.: 6199-001
P.O. NUMBER: Zephyr
WATERWORKS NO.

			Client I.D.:		PW3	PW2	ODWS	
			Sample I.D.:		B18-21231-1	B18-21231-2	Objective	Type of Objective
			Date Collected:		17-Jul-18	17-Jul-18		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Lead	mg/L	0.00002	EPA 200.8	24-Jul-18/O	< 0.00002	< 0.00002	0.010	MAC
Manganese	mg/L	0.001	SM 3120	20-Jul-18/O	0.050	0.048	0.05	AO
Molybdenum	mg/L	0.01	SM 3120	20-Jul-18/O	< 0.01	< 0.01		
Nickel	mg/L	0.01	SM 3120	20-Jul-18/O	< 0.01	< 0.01		
Selenium	mg/L	0.001	EPA 200.8	24-Jul-18/O	< 0.001	< 0.001	0.05	MAC
Silicon	mg/L	0.01	SM 3120	20-Jul-18/O	8.49	7.14		
Silver	mg/L	0.0001	EPA 200.8	24-Jul-18/O	< 0.0001	< 0.0001		
Strontium	mg/L	0.001	SM 3120	20-Jul-18/O	0.331	0.195		
Thallium	mg/L	0.00005	EPA 200.8	24-Jul-18/O	< 0.00005	< 0.00005		
Tin	mg/L	0.05	SM 3120	20-Jul-18/O	< 0.05	< 0.05		
Titanium	mg/L	0.005	SM 3120	20-Jul-18/O	< 0.005	< 0.005		
Uranium	mg/L	0.00005	EPA 200.8	24-Jul-18/O	0.00035	0.00011	0.020	MAC
Vanadium	mg/L	0.005	SM 3120	20-Jul-18/O	< 0.005	< 0.005		
Zinc	mg/L	0.005	SM 3120	20-Jul-18/O	< 0.005	< 0.005	5	AO
Ammonia (N)-Total	mg/L	0.01	SM4500-NH3-H	20-Jul-18/K	0.11	0.08		
Total Kjeldahl Nitrogen	mg/L	0.1	E3199A.1	20-Jul-18/K	0.2	0.1		
Organic Nitrogen	mg/L	0.10	E3199A.1	27-Jul-18/K	< 0.10	< 0.10	0.15	OG
Phosphorus-Total	mg/L	0.01	E3199A.1	20-Jul-18/K	0.02	0.02		
Phenolics	mg/L	0.001	MOEE 3179	27-Jul-18/O	< 0.001	< 0.001		
Tannins and Lignins	mg/L	0.5	SM5500B	23-Jul-18/K	< 0.5	< 0.5		
Sulphide	mg/L	0.01	SM4500-S2	20-Jul-18/K	< 0.01	< 0.01	0.05	AO
Dissolved Organic Carbon	mg/L	0.2	EPA 415.1	20-Jul-18/O	2.1	1.4	5	AO
Total Organic Carbon	mg/L	0.2	EPA 415.1	20-Jul-18/O	2.2	1.5		
Total Coliform	cfu/100mL	1	MOE E3407	19-Jul-18/O	0	15	0	MAC
E coli	cfu/100mL	1	MOE E3407	19-Jul-18/O	0	0	0	MAC
Heterotrophic Plate Count	cfu/mL	2	SM 9215C	19-Jul-18/O	2	6		
Anion Sum	meq/L		Calc.	23-Jul-18/O	5.14	5.35		

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JOB/PROJECT NO.: 6199-001
P.O. NUMBER: Zephyr
WATERWORKS NO.

			Client I.D.:		PW3	PW2	ODWS	
			Sample I.D.:		B18-21231-1	B18-21231-2	Objective	Type of Objective
			Date Collected:		17-Jul-18	17-Jul-18		
Parameter	**Units**	**R.L.**	**Reference Method**	**Date/Site Analyzed**				
Cation Sum	meq/L		Calc.	23-Jul-18/O	5.13	5.25		
% Difference	%		Calc.	23-Jul-18/O	0.0170	0.970		
Ion Ratio	AS/CS		Calc.	23-Jul-18/O	1.00	1.02		
Sodium Adsorption Ratio	-		Calc.	23-Jul-18/O	0.151	0.131		
TDS(ion sum calc.)	mg/L	1	Calc.	23-Jul-18/O	264	277	500	AO
Conductivity (calc.)	µmho/cm		Calc.	23-Jul-18/O	489	503		
TDS(calc.)/EC(actual)	-		Calc.	23-Jul-18/O	0.531	0.537		
EC(calc.)/EC(actual)	-		Calc.	23-Jul-18/O	0.984	0.972		
Langelier Index(25°C)	S.I.		Calc.	23-Jul-18/O	0.932	1.04		

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Greg Clarkin , BSc., C. Chem
Lab Manager - Ottawa District

FINAL REPORT

CA15924-MAY25 R1

18619-003, Zephyr, ON

Prepared for

Cambium Inc.

FINAL REPORT

CA15924-MAY25 R1

First Page

CLIENT DETAILS

Client	Cambium Inc.
Address	194 Sofia Street, Peterborough Canada, K9H 1E3 Phone: 705-742-7900. Fax:705-742-7907
Contact	Cameron MacDougall
Telephone	705-742-7900
Facsimile	705-742-7907
Email	cameron.macdougall@cambium-inc.com; file@cambium-inc.cc
Project	18619-003, Zephyr, ON
Order Number	
Samples	Ground Water (6)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA15924-MAY25
Received	05/09/2025
Approved	05/16/2025
Report Number	CA15924-MAY25 R1
Date Reported	05/16/2025

COMMENTS

Temperature of Sample upon Receipt: 6 degrees C
Cooling Agent Present: yes
Custody Seal Present: yes

F-ewl dup RPD % high, results within RL

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

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Client: Cambium Inc.
Project: 18619-003, Zephyr, ON
Project Manager: Cameron MacDougall
Samplers: H. Warren

MATRIX: WATER

L1 = ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03

L2 = ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03

				Sample Number	9	10	11	12	13	14
				Sample Name	PW1	PW2	PW3	QAQC 1	QAQC 2	QAQC 3
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
General Chemistry										
Total Suspended Solids	mg/L	2			2	3	2	---	---	---
Alkalinity	mg/L as CaCO3	2	500		225	220	209	---	---	---
Bicarbonate	mg/L as CaCO3	2			225	220	209	---	---	---
Carbonate	mg/L as CaCO3	2			< 2	< 2	< 2	---	---	---
Colour	TCU	3	5		4	3	3	---	---	---
Tannin+Lignin	mg phenol/L	0.05			0.18	0.16	0.10	---	---	---
Conductivity	uS/cm	2			616	533	509	---	---	---
Total Dissolved Solids	mg/L	30	500		314	274	254	---	---	---
Turbidity	NTU	0.10	5	1	9.4	4.3	4.0	---	---	---
Dissolved Organic Carbon	mg/L	1	5		1	1	1	---	---	---
Total Organic Carbon	mg/L	1			1	1	< 1	---	---	---
Organic Nitrogen	mg/L	0.5	0.15		< 0.5	< 0.5	< 0.5	---	---	---
Total Kjeldahl Nitrogen	as N mg/L	0.5			< 0.5	< 0.5	< 0.5	---	---	---
Hydrogen Sulphide	mg/L	0.02	0.05		< 0.02	< 0.02	< 0.02	---	---	---
Ammonia+Ammonium (N)	as N mg/L	0.1			0.2	< 0.1	0.1	---	---	---

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L1 = ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03

L2 = ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03

Parameter	Units	RL	L1	L2	Sample Number	9	10	11	12	13	14
					Sample Name	PW1	PW2	PW3	QAQC 1	QAQC 2	QAQC 3
					Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
					Sample Date	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
						Result	Result	Result	Result	Result	Result
Metals and Inorganics											
Fluoride	mg/L	0.06		1.5		0.09	0.07	0.08	---	---	---
Sulphide	mg/L	0.02				< 0.02	< 0.02	< 0.02	---	---	---
Sulphate	mg/L	2	500			46	52	41	---	---	---
Nitrite (as N)	as N mg/L	0.03		1		< 0.03	< 0.03	< 0.03	---	---	---
Nitrate (as N)	as N mg/L	0.06		10		< 0.06	< 0.06	< 0.06	---	---	---
Hardness	mg/L as CaCO3	0.05	100			299	266	247	---	---	---
Potassium (total)	mg/L	0.009				1.32	1.17	1.33	---	---	---
Aluminum (total)	mg/L	0.001	0.1			0.003	0.001	0.001	---	---	---
Arsenic (total)	mg/L	0.0002		0.01		< 0.0002	0.0003	< 0.0002	---	---	---
Beryllium (total)	mg/L	0.000007				< 0.000007	< 0.000007	< 0.000007	---	---	---
Bismuth (total)	mg/L	0.00001				< 0.00001	< 0.00001	< 0.00001	---	---	---
Antimony (total)	mg/L	0.0009		0.006		< 0.0009	< 0.0009	< 0.0009	---	---	---
Barium (total)	mg/L	0.00008		1		0.173	0.0970	0.147	---	---	---
Boron (total)	mg/L	0.002		5		0.008	0.005	0.008	---	---	---
Cadmium (total)	mg/L	0.000003		0.005		0.000006	< 0.000003	< 0.000003	---	---	---
Chromium (total)	mg/L	0.00008		0.05		0.00014	< 0.00008	0.00010	---	---	---
Copper (total)	mg/L	0.001	1			0.005	0.002	0.002	---	---	---
Cobalt (total)	mg/L	0.000004				0.000011	0.000011	0.000005	---	---	---
Lead (total)	mg/L	0.00009		0.01		0.00015	< 0.00009	< 0.00009	---	---	---
Nickel (total)	mg/L	0.0001				0.0047	0.0009	0.0010	---	---	---
Silver (total)	mg/L	0.00005				< 0.00005	< 0.00005	< 0.00005	---	---	---
Strontium (total)	mg/L	0.00008				0.348	0.224	0.367	---	---	---

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MATRIX: WATER

L1 = ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03

L2 = ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03

				Sample Number	9	10	11	12	13	14
				Sample Name	PW1	PW2	PW3	QAQC 1	QAQC 2	QAQC 3
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics (continued)										
Thorium (total)	mg/L	0.0001			< 0.0001	< 0.0001	< 0.0001	---	---	---
Titanium (total)	mg/L	0.0001			0.0001	< 0.0001	0.0001	---	---	---
Tin (total)	mg/L	0.00006			0.00007	0.00006	< 0.00006	---	---	---
Uranium (total)	mg/L	0.000002		0.02	0.000109	0.000044	0.000068	---	---	---
Vanadium (total)	mg/L	0.00001			0.00002	< 0.00001	< 0.00001	---	---	---
Zinc (total)	mg/L	0.002	5		0.010	0.004	0.002	---	---	---
Molybdenum (total)	mg/L	0.0004			0.0004	0.0007	0.0006	---	---	---
Selenium (total)	mg/L	0.00004		0.05	< 0.00004	< 0.00004	< 0.00004	---	---	---
Sulfur (total)	mg/L	5			16	19	14	---	---	---
Calcium (total)	mg/L	0.01			88.3	83.8	68.0	---	---	---
Iron (total)	mg/L	0.007	0.3		1.19	1.00	1.12	---	---	---
Magnesium (total)	mg/L	0.001			19.1	13.8	18.7	---	---	---
Manganese (total)	mg/L	0.00001	0.05		0.0851	0.0554	0.0514	---	---	---
Sodium (total)	mg/L	0.01	200	20	7.42	4.51	5.32	---	---	---
Phosphorus (total)	mg/L	0.003			0.021	0.017	0.017	---	---	---

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L2 = ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03

				Sample Number	9	10	11	12	13	14
				Sample Name	PW1	PW2	PW3	QAQC 1	QAQC 2	QAQC 3
				Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
				Sample Date	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025	08/05/2025
Parameter	**Units**	**RL**	**L1**	**L2**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Microbiology										
Ecoli	mpn/100mL	0		0	0	0	0	0	0	0
Total Coliform	MPN/100mL	0		0	0	0	0	0	0	0
Fecal Coliform	mpn/100mL	0			0	0	0	---	---	---
Heterotrophic Plate Count (HPC)	cfu/1mL	0			2	1	2	---	---	---
Other (ORP)										
pH	No unit	0.05	8.5		8.12	8.21	8.14	---	---	---
Chloride	mg/L	1	250		37	11	17	---	---	---
Phenols										
4AAP-Phenolics	mg/L	0.001			< 0.001	< 0.001	< 0.001	---	---	---

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	ODWS_AO_OG / WATER / - - Table 4 - Drinking Water - Reg O.169_03 L1	ODWS_MAC / WATER / - - Table 1,2 and 3 - Drinking Water - Reg O.169_03 L2
PW1					
Organic Nitrogen	N/A - Calculation	mg/L	< 0.5	0.15	
Turbidity	SM 2130	NTU	9.4	5	1
Hardness	SM 3030/EPA 200.8	mg/L as CaCO3	299	100	
Iron	SM 3030/EPA 200.8	mg/L	1.19	0.3	
Manganese	SM 3030/EPA 200.8	mg/L	0.0851	0.05	
PW2					
Organic Nitrogen	N/A - Calculation	mg/L	< 0.5	0.15	
Turbidity	SM 2130	NTU	4.3		1
Hardness	SM 3030/EPA 200.8	mg/L as CaCO3	266	100	
Iron	SM 3030/EPA 200.8	mg/L	1.00	0.3	
Manganese	SM 3030/EPA 200.8	mg/L	0.0554	0.05	
PW3					
Organic Nitrogen	N/A - Calculation	mg/L	< 0.5	0.15	
Turbidity	SM 2130	NTU	4.0		1
Hardness	SM 3030/EPA 200.8	mg/L as CaCO3	247	100	
Iron	SM 3030/EPA 200.8	mg/L	1.12	0.3	
Manganese	SM 3030/EPA 200.8	mg/L	0.0514	0.05	

QC SUMMARY

Alkalinity

Method: SM 2320 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Alkalinity	EWL0228-MAY25	mg/L as CaCO3	2	< 2	2	20	100	80	120	NA		

Ammonia by SFA

Method: SM 4500 I Internal ref.: ME-CA-[ENV]SFA-LAK-AN-007

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Ammonia+Ammonium (N)	SKA0115-MAY25	as N mg/L	0.1	<0.1	0	10	104	90	110	100	75	125

QC SUMMARY

Anions by discrete analyzer

Method: US EPA 325.2 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-026

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chloride	DIO8025-MAY25	mg/L	1	<1	1	20	97	80	120	84	75	125
Sulphate	DIO8025-MAY25	mg/L	2	<2	0	20	101	80	120	101	75	125

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-[ENV]IC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrite (as N)	DIO0265-MAY25	mg/L	0.03	<0.03	ND	20	100	90	110	106	75	125
Nitrate (as N)	DIO0265-MAY25	mg/L	0.06	<0.06	ND	20	103	90	110	104	75	125

QC SUMMARY

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-009

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Dissolved Organic Carbon	SKA0097-MAY25	mg/L	1	<1	ND	20	102	90	110	97	75	125
Total Organic Carbon	SKA0097-MAY25	mg/L	1	<1	ND	20	102	90	110	97	75	125

Carbonate/Bicarbonate

Method: SM 2320 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Carbonate	EWL0228-MAY25	mg/L as CaCO3	2	< 2	ND	10	NA	90	110	NA		
Bicarbonate	EWL0228-MAY25	mg/L as CaCO3	2	< 2	2	10	NA	90	110	NA		

QC SUMMARY

Colour

Method: SM 2120 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Colour	EWL0261-MAY25	TCU	3	< 3	0	10	110	80	120	NA		

Conductivity

Method: SM 2510 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0228-MAY25	uS/cm	2	< 2	1	20	98	90	110	NA		

Fluoride by Specific Ion Electrode

Method: SM 4500 I Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0215-MAY25	mg/L	0.06	<0.06	13	10	102	90	110	NV	75	125

QC SUMMARY

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver (total)	EMS0089-MAY25	mg/L	0.00005	<0.00005	ND	20	104	90	110	71	70	130
Aluminum (total)	EMS0089-MAY25	mg/L	0.001	<0.001	ND	20	104	90	110	90	70	130
Arsenic (total)	EMS0089-MAY25	mg/L	0.0002	<0.0002	3	20	104	90	110	108	70	130
Barium (total)	EMS0089-MAY25	mg/L	0.00008	<0.00008	11	20	100	90	110	100	70	130
Beryllium (total)	EMS0089-MAY25	mg/L	0.000007	<0.000007	ND	20	105	90	110	101	70	130
Boron (total)	EMS0089-MAY25	mg/L	0.002	<0.002	1	20	104	90	110	94	70	130
Bismuth (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	ND	20	103	90	110	92	70	130
Calcium (total)	EMS0089-MAY25	mg/L	0.01	<0.01	9	20	102	90	110	104	70	130
Cadmium (total)	EMS0089-MAY25	mg/L	0.000003	<0.000003	0	20	106	90	110	104	70	130
Cobalt (total)	EMS0089-MAY25	mg/L	0.000004	<0.000004	11	20	103	90	110	107	70	130
Chromium (total)	EMS0089-MAY25	mg/L	0.00008	<0.00008	7	20	102	90	110	113	70	130
Copper (total)	EMS0089-MAY25	mg/L	0.001	<0.001	5	20	104	90	110	97	70	130
Iron (total)	EMS0089-MAY25	mg/L	0.007	<0.007	ND	20	105	90	110	100	70	130
Potassium (total)	EMS0089-MAY25	mg/L	0.009	<0.009	7	20	108	90	110	86	70	130
Magnesium (total)	EMS0089-MAY25	mg/L	0.001	<0.001	7	20	105	90	110	99	70	130
Manganese (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	13	20	104	90	110	107	70	130
Molybdenum (total)	EMS0089-MAY25	mg/L	0.0004	<0.0004	13	20	104	90	110	98	70	130
Sodium (total)	EMS0089-MAY25	mg/L	0.01	<0.01	5	20	102	90	110	95	70	130
Nickel (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	4	20	106	90	110	107	70	130
Lead (total)	EMS0089-MAY25	mg/L	0.00009	<0.00009	ND	20	101	90	110	94	70	130

QC SUMMARY

Metals in aqueous samples - ICP-MS (continued)

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus (total)	EMS0089-MAY25	mg/L	0.003	<0.003	ND	20	101	90	110	NV	70	130
Antimony (total)	EMS0089-MAY25	mg/L	0.0009	<0.0009	ND	20	98	90	110	107	70	130
Selenium (total)	EMS0089-MAY25	mg/L	0.00004	<0.00004	16	20	102	90	110	117	70	130
Sulfur (total)	EMS0089-MAY25	mg/L	5	<5	6	20	110	90	110	NV	70	130
Tin (total)	EMS0089-MAY25	mg/L	0.00006	<0.00006	ND	20	104	90	110	NV	70	130
Strontium (total)	EMS0089-MAY25	mg/L	0.00008	<0.00008	4	20	100	90	110	101	70	130
Thorium (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	ND	20	102	90	110	NV	70	130
Titanium (total)	EMS0089-MAY25	mg/L	0.0001	<0.0001	ND	20	105	90	110	NV	70	130
Uranium (total)	EMS0089-MAY25	mg/L	0.000002	<0.000002	17	20	104	90	110	99	70	130
Vanadium (total)	EMS0089-MAY25	mg/L	0.00001	<0.00001	13	20	106	90	110	110	70	130
Zinc (total)	EMS0089-MAY25	mg/L	0.002	<0.002	10	20	108	90	110	107	70	130
Lead (total)	EMS0136-MAY25	mg/L	0.00009	<0.00009	18	20	98	90	110	93	70	130

QC SUMMARY

Microbiology

Method: SM 9223B | Internal ref.: ME-CA-[ENV]MIC-LAK-AN-021

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Ecoli	BAC9189-MAY25	mpn/100mL	-	ACCEPTED	ACCEPTED							
Fecal Coliform	BAC9189-MAY25	mpn/100mL	-	ACCEPTED	ACCEPTED							
Heterotrophic Plate Count (HPC)	BAC9189-MAY25	cfu/1mL	-	ACCEPTED	ACCEPTED							
Total Coliform	BAC9189-MAY25	MPN/100mL	-	ACCEPTED	ACCEPTED							

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0228-MAY25	No unit	0.05	NA	0		100			NA		

QC SUMMARY

Phenols by SFA

Method: SM 5530B-D | Internal ref.: ME-CA-[ENVISFA-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
4AAP-Phenolics	SKA0113-MAY25	mg/L	0.001	<0.001	ND	10	95	80	120	77	75	125

Solids Analysis

Method: SM 2540C | Internal ref.: ME-CA-[ENVIEWL-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Dissolved Solids	EWL0210-MAY25	mg/L	30	<30	ND	20	98	80	120	NA		

Sulphide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENVISFA-LAK-AN-008

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Sulphide	SKA0094-MAY25	mg/L	0.02	<0.02	ND	20	104	80	120	NA	75	125

QC SUMMARY

Suspended Solids

Method: SM 2540D | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Suspended Solids	EWL0246-MAY25	mg/L	2	< 2	0	10	96	90	110	NA		

Tannins & Lignins

Method: SM 5550 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-015

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Tannin+Lignin	EWL0216-MAY25	mg phenol/L	0.05	<0.05	4	15	98	85	115	97	75	125

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-002

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Total Kjeldahl Nitrogen	SKA0126-MAY25	as N mg/L	0.5	<0.5	4	10	96	90	110	102	75	125

QC SUMMARY

Turbidity

Method: SM 2130 I Internal ref.: ME-CA-[ENV]EWL-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Turbidity	EWL0229-MAY25	NTU	0.10	< 0.10	0	10	100	90	110	NA		

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: Page ____ of ____

Laboratory Information Section - Lab use only

Received By: MAY 08 2025 | Received By (signature): | Cooling Agent Present: Yes ☑ No ☐ Type: Ice Bag
Received Date: ___/___/___ (mm/dd/yy) | Custody Seal Present: Yes ☑ No ☐ | Temperature Upon Receipt (°C) 16.3
Received Time: 19 : 00 (hr : min) | Custody Seal Intact: Yes ☑ No ☐ | LAB LIMS #: CA-15924-May25 NP.

REPORT INFORMATION

Company: CAMBIUM INC
Contact: CAM MACDOUGALL, BEN DIDEMUS
Address: 194 SOPHIA ST, PTBO
Phone:
Fax:
Email: cameron.macdougall@cambium-inc.com; ben.didemus@cambium-inc.com

INVOICE INFORMATION

☐ (same as Report Information)
Company:
Contact:
Address:
Phone:
Email:

Quotation #: 2025 779
Project #: ~~PO1BD20003~~ 18619-003
P.O. #:
Site Location/ID: ZEPHYR, ON

TURNAROUND TIME (TAT) REQUIRED

☑ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date:
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park ☐ Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA
☒ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality:

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only (Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs (all incl PAHs, ABNs, CPs	PCB: PCBs (Total ☐ Aroclor ☐)	PHC: F1-F4 + BTEX	PHC: F1-F4 only (no BTEX	VOC: VOCs (all incl BTEX	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other	Other: AS PER 2 WORKS #	Other: BACTERIA	Other	Other	Other: Sewer Use: (Specify pkg:)	Other: Water Characterization Pkg (General ☐ Extended ☐)	SPLP: Specify tests (☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN)	TCLP: Specify tests (☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.)	COMMENTS:
1	PW1	05/08/25		14	GW	2												X							
2	PW2	↓		14	↓	1												X							
3	PW3			14														X							
4	QAQC 1		—	1															X						
5	QAQC 2	↓	—	1	↓	↓													X						
6	QAQC 3	05/08/25	—	1	GW	2													X						
7																									
8																									
9																									
10																									
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): H. Warren | Signature: | Date: 05/08/25 (mm/dd/yy)
Relinquished by (NAME): H. Warren | Signature: | Date: 05/08/25 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

FINAL REPORT

CA15696-JAN25 R1

18619-003, Zephyr, ON

Prepared for

Cambium Inc.

FINAL REPORT

First Page

CLIENT DETAILS

Client	Cambium Inc.
Address	194 Sophia Street Peterborough, ON K9H 1E5. Canada
Contact	Ben Didemus
Telephone	705-742-7900
Facsimile	
Email	ben.didemus@cambium-inc.com; ESdat_CA+Cambium@ESda
Project	18619-003, Zephyr, ON
Order Number	
Samples	Ground Water (6)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA15696-JAN25
Received	01/15/2025
Approved	01/16/2025
Report Number	CA15696-JAN25 R1
Date Reported	01/16/2025

COMMENTS

Temperature of Sample upon Receipt: 8 degrees C
Cooling Agent Present:YES
Custody Seal Present:YES

Chain of Custody Number:041994

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

TABLE OF CONTENTS

Client: Cambium Inc.
Project: 18619-003, Zephyr, ON
Project Manager: Ben Didemus
Samplers: Jenacy Samways

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

	Sample Number			7	8	9	10	11	12		
	Sample Name			MW101-24	MW102-24	MW103-24	MW104-24	MW105-24	DW-1		
	Sample Matrix			Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date			14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025	14/01/2025		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**		
Metals and Inorganics											
Nitrite (as N)	as N mg/L	0.03		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03		
Nitrate (as N)	as N mg/L	0.06		1.02	< 0.06	< 0.06	< 0.06	< 0.06	0.35		
Nitrate + Nitrite (as N)	as N mg/L	0.06		1.02	< 0.06	< 0.06	< 0.06	< 0.06	0.35		
Phosphorus (total)	mg/L	0.003	0.01	0.082	1.03	2.67	0.123	1.00	< 0.003		
Phosphorus (dissolved)	mg/L	0.003		< 0.003	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003		

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
MW101-24				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.082	0.01
MW102-24				
Phosphorus	SM 3030/EPA 200.8	mg/L	1.03	0.01
MW103-24				
Phosphorus	SM 3030/EPA 200.8	mg/L	2.67	0.01
MW104-24				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.123	0.01
MW105-24				
Phosphorus	SM 3030/EPA 200.8	mg/L	1.00	0.01

QC SUMMARY

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrate + Nitrite (as N)	DIO0275-JAN25	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0275-JAN25	mg/L	0.03	<0.03	7	20	102	90	110	105	75	125
Nitrate (as N)	DIO0275-JAN25	mg/L	0.06	<0.06	1	20	101	90	110	102	75	125

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus (total)	EMS0142-JAN25	mg/L	0.003	<0.003	7	20	102	90	110	NV	70	130

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

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

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS	Insufficient sample for analysis.
RL	Reporting Limit.
↑	Reporting limit raised.
↓	Reporting limit lowered.
NA	The sample was not analysed for this analyte
ND	Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 041994 Page 1 of 1

Laboratory Information Section - Lab use only

Received By: _____ Received By (signature): _____
Received Date: 01/14/25 (mm/dd/yy) Custody Seal Present: Yes ☑ No ☐ Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Received Time: 18 : 15 (hr : min) Custody Seal Intact: Yes ☑ No ☐ Temperature Upon Receipt (°C) 8 x 3
CA15696 JAN25 LAB LIMS #: _____ AS

REPORT INFORMATION	INVOICE INFORMATION
Company: Cambium Inc.	☐ (same as Report Information)
Contact: Ben Didemus	Company: Cambium Inc.
Address: 194 Sophia St. Peterborough ON	Contact: Cameron MacDougall
Phone: 705-768-0835	Address: 194 Sophia St., Peterborough ON
Fax:	Phone: 705-957-0137
Email: ben.didemus@cambium-inc.com	Email: cameron.macdougall@cambium-inc.com

Quotation #: 2025 470 P.O. #: _____
Project #: 13619-003 Site Location/ID: Zephyr ON

TURNAROUND TIME (TAT) REQUIRED

☐ Client Regular TAT ☑ Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____ *NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Agri/Other ☐ Medium/Fine
☐ Table 3
☐ Table _____ Appx. _____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☑ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA _____
☑ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality: _____

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN, Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other: ✓Quote 2025 470	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐Metals ☐VOC ☐1,4-Dioxane ☐OCP ☐ABN	TCLP: Specify tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	MW101-24	01-14-25	8:40	3	GW	N												✓					
2	MW102-24	"	9:45	"	"	"												✓					
3	MW103-24	"	13:05	"	"	"												✓					
4	MW104-24	"	11:05	"	"	"												✓					
5	MW105-24	"	14:00	"	"	"												✓					
6	DW-1	01-14-25	15:40	3	GW	N												✓					
7																							
8																							
9																							
10																							
11																							
12																							

Observations/Comments/Special Instructions: Please filter for dissolved P.

Sampled By (NAME): Jenacy Samways Signature: Jenacy Samways Date: 01/14/25 (mm/dd/yy) Pink Copy - Client
Relinquished by (NAME): Jenacy Samways Signature: Jenacy Samways Date: 01/14/25 (mm/dd/yy) Yellow & White Copy - SGS

Revision #: 1.8
Date of Issue: 06 SEP 2024

FINAL REPORT

CA14294-MAY25 R

18619-003

Prepared for

Cambium Inc.

FINAL REPORT

CA14294-MAY25 R

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Cambium Inc.	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	194 Sofia Street Peterborough, ON K9H 1E3. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Cameron MacDougall	Telephone	705-652-2143
Telephone	705-742-7900	Facsimile	705-652-6365
Facsimile	705-742-7907	Email	brad.moore@sgs.com
Email	cameron.macdougall@cambium-inc.com; file@cambium-inc.cc	SGS Reference	CA14294-MAY25
Project	18619-003	Received	05/07/2025
Order Number		Approved	05/13/2025
Samples	Ground Water (6)	Report Number	CA14294-MAY25 R
		Date Reported	05/13/2025

COMMENTS

PWQO - Provincial Water Quality Objectives
Limits based on MOE PIBS 3303E publication July 1994 reprinted February 1999
a PWQO limit based on pH >6.5-9.0 (at pH 4.5-5.5 PWQO = 15ug/L, pH >5.5-6.5 PWQO 10% above background levels in geological area.
b PWQO limit based on Hardness <75 mg/L (For Hardness >75 mg/L PWQO = 1100 ug/L)
c PWQO limit based on Hardness 0-100 mg/L(For Hardness >100 mg/L PWQO = 0.5 ug/L)
d PWQO limit based on Cr VI (PWQO limit for Cr III = 8.9 ug/L)
e PWQO limit based on Hardness 0-20 (For Hardness >20 mg/L PWQO = 5 ug/L)
f PWQO limit based on Hardness <30 (For Hardness 30-80 PWQO = 3 ug/L, & >80 PWQO=5)

Temperature of Sample upon Receipt: 15 degrees C
Cooling Agent Present:yes
Custody Seal Present:yes
Chain of Custody Number:040663

SIGNATORIES

Brad Moore Hon. B.Sc

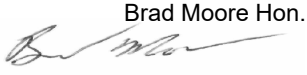

TABLE OF CONTENTS

FINAL REPORT

CA14294-MAY25 R

Client: Cambium Inc.
Project: 18619-003
Project Manager: Cameron MacDougall
Samplers: H. Warren

MATRIX: WATER

L1 = PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E

	Sample Number	6	7	8	9	10	11		
	Sample Name	MW101	MW102	MW103	MW104	MW105	DW-1		
	Sample Matrix	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		
	Sample Date	07/05/2025	07/05/2025	07/05/2025	07/05/2025	07/05/2025	07/05/2025		
Parameter	**Units**	**RL**	**L1**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Metals and Inorganics									
Nitrite (as N)	as N mg/L	0.03		< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Nitrate (as N)	as N mg/L	0.06		0.91	0.12	< 0.06	< 0.06	0.18	0.58
Nitrate + Nitrite (as N)	as N mg/L	0.06		0.91	0.12	< 0.06	< 0.06	0.18	0.58
Phosphorus (total)	mg/L	0.003	0.01	0.104	0.023	0.014	0.022	0.009	0.008
Phosphorus (dissolved)	mg/L	0.003		0.014	0.003	0.005	0.012	< 0.003	0.003

EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	PWQO_L / WATER / - - Table 2 - General - July 1999 PIBS 3303E L1
MW101				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.104	0.01
MW102				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.023	0.01
MW103				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.014	0.01
MW104				
Phosphorus	SM 3030/EPA 200.8	mg/L	0.022	0.01

QC SUMMARY

Anions by IC

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrate + Nitrite (as N)	DIO0267-MAY25	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0267-MAY25	mg/L	0.03	<0.03	ND	20	100	90	110	102	75	125
Nitrate (as N)	DIO0267-MAY25	mg/L	0.06	<0.06	ND	20	104	90	110	102	75	125

Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Phosphorus (total)	EMS0084-MAY25	mg/L	0.003	<0.003	0	20	101	90	110	NV	70	130

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

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RL: Reporting limit

RPD: Relative percent difference

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Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

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LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
↑ Reporting limit raised.
↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

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This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

No: 040663

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

Page ____ of ____

Laboratory Information Section - Lab use only

Received By: _____ Received By (signature): _____
Received Date: MAY 07 2025 (mm/dd/yy) Custody Seal Present: Yes ☑ No ☐ Cooling Agent Present: Yes ☑ No ☐ Type: ICE
Received Time: 17:40 (hr : min) Custody Seal Intact: Yes ☑ No ☐ Temperature Upon Receipt (°C) 15x3 LAB LIMS #: CA14294-May25

REPORT INFORMATION
Company: CAMBIUM INC
Contact: CAM MACDOUGALL, BEN DIDEMUS
Address: 194 SOPHIA ST
Phone: _____
Fax: _____
Email: cameron.macdougall@cambium-inc.com; ben.didemus@cambium-inc.com; holly.warren@cambium-inc.com

INVOICE INFORMATION
☑ (same as Report Information)
Company: HOLLY WARREN
Contact: _____
Address: _____
Phone: _____
Email: _____

Quotation #: 2025 470 P.O. #: ZEPHYR JON
Project #: 1B619-003 Site Location/ID:

TURNAROUND TIME (TAT) REQUIRED
☑ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day
RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
Specify Due Date: _____
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS
☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table _____ Appx. _____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☑ PWQO ☐ MMER
☐ CCME ☐ Other: _____
☐ MISA
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality: _____

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	M&I: Field Filtered (Y/N)	M&I: Metals & Inorganics (incl CrVI, CN,Hg pH,(B(HWS),EC,SAR–soil) (Cl, Na-water)	M&I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M&I: ICP Metals only Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides Organochlorine or specify other	Other: As per quote #	Other:	Other:	Other:	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests ☐ Metals ☐ VOC ☐ 1,4-Dioxane ☐ OCP ☐ ABN	TCLP: Specify tests ☐ M&I ☐ VOC ☐ PCB ☐ B(a)P ☐ ABN ☐ Ignit.	COMMENTS:
1	MW101	05-07-25	1600	3	GW	N												X								
2	MW102	↓	1450	↓	↓	↓												↓								
3	MW103		~~1520~~																							
4	MW104		1430																							
5	MW105		1505																							
6	DW-1	0507-25	1545	3	GW	N												X								
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): H. Warren Signature: H. Warren Date: 05/07/25 (mm/dd/yy)
Relinquished by (NAME): H. Warren Signature: H. Warren Date: 05/07/25 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

FINAL REPORT

CA40076-APR25 R1

18619-003, Zephr, ON

Prepared for

Cambium Inc.

FINAL REPORT

First Page

CLIENT DETAILS

Client	Cambium Inc.
Address	194 Sophia Street Peterborough, ON K9H 1E5. Canada
Contact	Ben Didemus
Telephone	705-742-7900
Facsimile	
Email	ben.didemus@cambium-inc.com; ESdat_CA+Cambium@ESda
Project	18619-003, Zephr, ON
Order Number	
Samples	Soil (3)

LABORATORY DETAILS

Project Specialist	Jill Campbell, B.Sc.,GISAS
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	2165
Facsimile	705-652-6365
Email	jill.campbell@sgs.com
SGS Reference	CA40076-APR25
Received	04/07/2025
Approved	04/11/2025
Report Number	CA40076-APR25 R1
Date Reported	04/11/2025

COMMENTS

Temperature of Sample upon Receipt: 17 degrees C
Cooling Agent Present: No
Custody Seal Present: No
Chain of Custody Number:040613

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

TABLE OF CONTENTS

Client: Cambium Inc.
Project: 18619-003, Zephr, ON
Project Manager: Ben Didemus
Samplers: David Sotelo

MATRIX: SOIL

Sample Number	5	6	7
Sample Name	BH101-24 SS3	BH103-24 SS5	BH105-24 SS4
Sample Matrix	Soil	Soil	Soil
Sample Date	13/12/2024	13/12/2024	13/12/2024

Parameter	Units	RL		Result	Result	Result
Metals and Inorganics						
Aluminum	%	0.0003		0.30	0.55	0.98
Calcium	%	0.0003		13	13	7.7
Iron	%	0.0003		0.90	1.3	1.9

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Aluminum	EMS0120-APR25	%	0.0003	<3	1	20	95	70	130	NV	70	130
Calcium	EMS0120-APR25	%	0.0003	<3	1	20	98	70	130	NV	70	130
Iron	EMS0120-APR25	%	0.0003	<3	4	20	109	70	130	108	70	130

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RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

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LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.
RL Reporting Limit.
↑ Reporting limit raised.
↓ Reporting limit lowered.
NA The sample was not analysed for this analyte
ND Non Detect

Results relate only to the sample tested.
Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.
"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.
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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Industries & Environment - Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Consortium Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No: 040613 Page ____ of ____

Laboratory Information Section - Lab use only

Received By: APR 07 2025 Received By (signature): [signature]
Received Date: ____/____/____ (mm/dd/yy) Custody Seal Present: Yes ☐ No ☒ Cooling Agent Present: Yes ☐ No ☒ Type: ____
Received Time: 17:05 (hr : min) Custody Seal Intact: Yes ☐ No ☐ Temperature Upon Receipt (°C) ____: 1.7 ℃ 3 LAB LIMS #: CA-40076-Apr25 SR.

REPORT INFORMATION
Company: Cambium
Contact: Ben Didenus
Address: 194 Sophia Street, Peterborough ON K9H 1G5
Phone: 705-768-0835
Fax: ____
Email: Ben.didenus@cambium-inc.com

INVOICE INFORMATION
☐ (same as Report Information)
Company: Cambium
Contact: Cameron MacDougall
Address: 194 Sophia St Peterborough ON K9H 1G5
Phone: 705-957-0137
Email: cameron-macdougall@cambium-inc.com

Quotation #: 2025 799
Project #: 1819-003
P.O. #: ____
Site Location/ID: Zephyr, ON

TURNAROUND TIME (TAT) REQUIRED
☒ Regular TAT (5-7days)
TAT's are quoted in business days (exclude statutory holidays & weekends). Samples received after 6pm or on weekends: TAT begins next business day
RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: ____
*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS
☐ O.Reg 153/04 ☐ O.Reg 406/19
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium/Fine
☐ Table 3 ☐ Agri/Other
☐ Table ____ Appx. ____
Soil Volume ☐ <350m3 ☐ >350m3

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other: ____
☐ MISA ____
☐ ODWS Not Reportable *See note

Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality: ____

RECORD OF SITE CONDITION (RSC) ☐ YES ☐ NO

ANALYSIS REQUESTED

	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF ~~BOTTLES~~ Soil Bags	MATRIX	Field Filtered (Y/N)	M & I: Metals & Inorganics (incl CrVI, CN,Hg pH,(B(HWS),EC,SAR-soil) (Cl, Na-water)	M & I: Full Metals Suite (ICP metals plus B(HWS-soil only) Hg, CrVI	M & I: ICP Metals only (Sb,As,Ba,Be,B,Cd, Cr,Co,Cu,Pb,Mo,Ni,Se,Ag,Tl,U,V,Zn	SVOC: PAHs only	SVOC: SVOCs (all incl PAHs, ABNs, CPs	PCB: PCBs Total ☐ Aroclor ☐	PHC: F1-F4 + BTEX	PHC: F1-F4 only no BTEX	VOC: VOCs all incl BTEX	VOC: BTEX only	Pest: Pesticides (Organochlorine or specify other	Other: Quote 2025 799	Other	Other	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	SPLP: Specify tests	TCLP: Specify tests	COMMENTS:
1	BH101-24 553	Dec. 13, 2024	N/A	1	Soil	N												X						
2	BH103-24 555	Dec. 13, 2024		1	Soil													X						
3	BH105-24 554	Dec. 13, 2024	V	1	Soil	V												X						
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

Observations/Comments/Special Instructions

Sampled By (NAME): David Spotswood Signature: [signature] Date: 2025/04/03 (mm/dd/yy)
Relinquished by (NAME): Ben Didenus Signature: [signature] Date: 2025/04/03 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.7
Date of Issue: 07 JUNE 2023

Appendix D

Borehole Logs

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: A222207

PW2

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
China Canada Jiang Bei xin min shetl			

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
118 Gemini Cres	Richmond Hill	ON	L4S2K7	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
Dafoe St	Uplridge/Scott	25	3

County/District/Municipality	City/Town/Village	Province	Postal Code
Durham	Zeph	Ontario	

UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	1 7 6 3 8 9 5 8	4 8 9 5 2 6 1		

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	silt, stones	Hard	0	10'
Grey	clay	stones	Dense	10	45'
Grey	sand	gravel	Loose	45	76'

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'	Hole plug	7.86 ft³

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
~~10~~ 6"	Steel	.188"	0	73'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	18	73	76'

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
76'	☐	☑ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	20'	10"
0	76'	6"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 60'

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

Duration of pumping: 1 hrs + 0 min

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

If flowing give rate (l/min / GPM): 15 GPM

Recommended pump depth (m/ft): 60

Recommended pump rate (l/min / GPM): 20

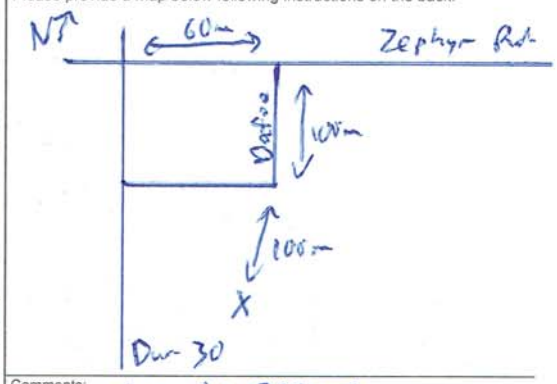
Well production (l/min / GPM): 30

Disinfected? ☑ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level		+ 3.5'		
1	Flow		1	Flow
2	Flow		2	Flow
3	Flow		3	Flow
4	Flow		4	Flow
5	Flow		5	Flow
10	Flow		10	Flow
15	Flow		15	Flow
20	Flow		20	Flow
25	Flow		25	Flow
30	Flow		30	Flow
40	Flow		40	Flow
50	Flow		50	Flow
60	Flow		60	Flow

Map of Well Location

Please provide a map below following instructions on the back.



Comments: Chlorinated 200ppm
Residual chlorine 50 ppm → 21 hrs

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Wilsons Water Wells Ltd.	5459

Business Address (Street Number/Name)	Municipality
13787 Hwy 48	Stouffville

Province	Postal Code	Business E-mail Address
ON	L4A7X3	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9056404369	Ferguson, Eric

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3490		2018062 1

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2018062 0	2018062 0

Ministry Use Only

Audit No. Z265420

Received

0506E (2014/11)

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Tag#: A 222198 (Below) — A222198

PW1

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	China Canada Jing Bei xin min intl.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
118 Gemini Crest	Richmond hill	ON	L4S2K7	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
Dafoe Street	Uxbridge/scott	25	3

County/District/Municipality	City/Town/Village	Province	Postal Code
Durham	Zephr	Ontario	

UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83 17	638975	4895452		

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	Sand	stones, silt, gravel	Hard	0	25'
Grey	Clay	stones	Dense	25	85'
Grey	Sand	gravel	Loose	85	97'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	20'	Bentonite slurry	7.86 ft³

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
6"	Steel	.188"	0	94'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
6"	Steel	14	94	97'

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	
97' (m/ft) ☐ Gas	☑ Fresh ☐ Untested	☐ Other, specify
(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	20'	10"
0	97'	6"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 85'

Pumping rate (l/min / GPM): 12 GPM

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 21'4

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

Recommended pump depth (m/ft): 90

Recommended pump rate (l/min / GPM): 20

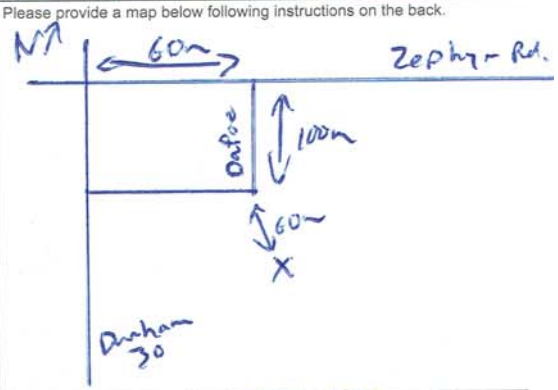
Well production (l/min / GPM): 30 +

Disinfected? ☑ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	20'2		
1	20'4	1	20.3
2	21.3	2	20.2
3	21.4	3	20.2
4	21.4	4	20.2
5	21.4	5	20.2
10	21.4	10	20.2
15	21.4	15	20.2
20	21.4	20	20.2
25	21.4	25	20.2
30	21.4	30	20.2
40	21.4	40	20.2
50	21.4	50	20.2
60	21.4	60	20.2

Map of Well Location

Please provide a map below following instructions on the back.



Comments: Disinfected 200ppm
Residual chlorine 100ppm → 17 hrs.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Wilson's Water Wells Ltd.	5459

Business Address (Street Number/Name)	Municipality
13787 Hwy 48	Stouffville

Province	Postal Code	Business E-mail Address
ON	L4A7X3	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9056404369	Ferguson, Eric

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3490		2018 06 18

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☑ Yes ☐ No	2018 06 18	Audit No. Z265418
	Date Work Completed: 2018 06 14	Received

0506E (2014/11)

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Tag#: A 222197 (see Below)

A 222197

PW3

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Measurements recorded in: ☐ Metric ☑ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
China Canada	Jing Bei Xin Min Shell		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
118 Gemini Cres	Richmond Hill	ON	L4S 2K7	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
Dafoe Street	Uxbridge/Scott	25	3

County/District/Municipality	City/Town/Village	Province	Postal Code
Durham	Uxbridge	Ontario	

UTM Coordinates Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83 17	639030	4895426		

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, silt	Hard	0	6'
Grey	clay	stones	Dense	6	50'
Grey	sand	gravel	Loose	50	69'

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'	Hole plug	7.86 ft³

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	.188"	0	66'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	16	66	69'

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	
69' (m/ft) ☐ Gas	☑ Fresh ☐ Untested ☐ Other, specify	
(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	20'	10"
0	69'	6"

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 55'

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

Duration of pumping: 1 hrs + 0 min

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

If flowing give rate (l/min / GPM): 20 GPM

Recommended pump depth (m/ft): 30

Recommended pump rate (l/min / GPM): 20

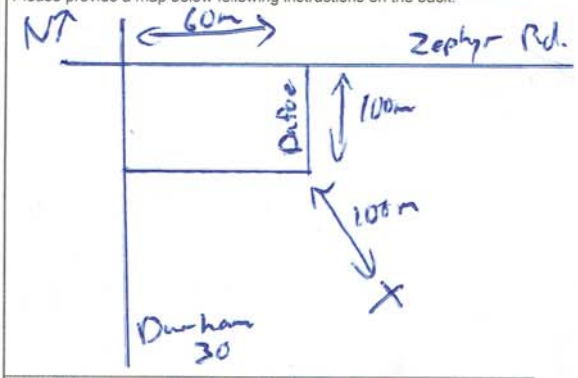
Well production (l/min / GPM): 30+

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	Flow	1	Flow
2	Flow	2	Flow
3	Flow	3	Flow
4	Flow	4	Flow
5	Flow	5	Flow
10	Flow	10	Flow
15	Flow	15	Flow
20	Flow	20	Flow
25	Flow	25	Flow
30	Flow	30	Flow
40	Flow	40	Flow
50	Flow	50	Flow
60	Flow	60	Flow

Map of Well Location

Please provide a map below following instructions on the back.



Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Wilson's Water Wells Ltd.	5459

Business Address (Street Number/Name)	Municipality
13787 Hwy 48	Stouffville

Province	Postal Code	Business E-mail Address
ON	L4A 7X3	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9056404369	Ferguson, Eric

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3490		2015/06/18

Comments: Disinfected 200 ppm
Residual Chlorine 100 ppm → 17 hrs

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2015/06/18	2015/06/18

Ministry Use Only

Audit No. Z265560

Received

0506E (2014/11)

Ministry's Copy

Client:	China Canada Jing Bei Xin Min Intl c/o EcoVue Consulting Services	**Project Name:**	Part Lot 25, Concession 3, Zephyr	**Log of Borehole:**	BH101-24
Contractor:	Drilltech	**Method:**	Track Mounted Solid Stem Auger	Page:	1 of 1
Project No.:	18619-003	**Elevation:**	250.18 mASL	**Date Completed:**	13-12-2024
Location:	Part Lot 25, Concession 3, Zephyr	**UTM:**	17T **N:** 4895521.28 **E:** 638987.32		

Elevation (m)	Depth	Description	Elevation / Depth	Number	Type	% Recovery	SPT (N)	Atterberg Limits (%) LL PL PI 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa nat V. rem V. 20 40 60 80 / SPT (N) 20 40 60 80	Well Installation	Log Notes
250.2	0	**() TOPSOIL:** dark brown; rootlets; moist, very loose.	249.95 / 0.23	1A	SS	71	7		7	Cap	Rocks in spoons from SS1B to SS4.
249.7	0.5	**(SM) gravelly SILTY SAND:** trace rootlets; brown/light brown; moist, loose.		1B	SS						
249.2	1	- becomes no rootlets, light brown, compact.		2	SS	75	21		21	Bentonite Plug	
248.7	1.5									Riser	
248.2	2			3	SS	92	22		22		
247.7	2.5			4	SS	67	25		25		
247.2	3		247.21 / 2.97								
246.7	3.5	**(SW) SAND:** medium grained sand; some silt, trace gravel; brown/light brown; moist to dry, very dense.		5	SS	63	54		54		
246.2	4		246.07 / 4.11							Sand Pack	
245.7	4.5	**(ML) CLAYEY SILT:** some gravel, some sand; dark grey/orange lenses; much drier than plastic limit, very stiff to hard.[TILL].									
245.2	5			6	SS	71	30		30	PVC Screen	
244.7	5.5										
244.2	6										
243.7	6.5	- becomes hard.	243.47	7	SS	100	42		42	Cap	Groundwater not encountered. Standing water not observed. Borehole open upon completion.
243.2	7	Borehole terminated @ 6.7 mbgs due to target depth achieved.	6.71								
242.7											

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DS **Input By:** DS

Client:	China Canada Jing Bei Xin Min Intl c/o EcoVue Consulting Services	**Project Name:**	Part Lot 25, Concession 3, Zephyr	**Log of Borehole:**	BH102-24
Contractor:	Drilltech	**Method:**	Track Mounted Solid Stem Auger	Page:	1 of 1
Project No.:	18619-003	**Elevation:**	238.42 mASL	**Date Completed:**	13-12-2024
Location:	Part Lot 25, Concession 3, Zephyr	**UTM:**	17T **N:** 4895413.63 **E:** 639118.75		

SUBSURFACE PROFILE				SAMPLE							
Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N)	Atterberg Limits (%) LL PL PI; % Moisture 25 50 75	Shear Strength Cu, kPa nat V. rem V. 20 40 60 80; SPT (N) 20 40 60 80	Well Installation	Log Notes
238.4	0		**TOPSOIL:** dark brown; rootlets; moist, very loose. (238.22, 0.20)	1A	SS	88	4		4	Cap	Water level measured at 0.43 mbgs on December 13th, 2024.
237.9	0.5		**(SM) SILTY SAND:** trace gravel; some rootlets; mottled dark brown/brown/light brown/reddish; moist to wet, loose.	1B	SS					Bentonite Plug	
237.4	1		- becomes no rootlets, light brown/greenish/greyish, wet, compact.	2	SS	83	24		24	Riser	Groundwater encountered at 0.76 mbgs.
236.9	1.5		- becomes trace clay, light brown.	3	SS	79	19		19		
236.4	2		(236.21, 2.21)								Standing water observed at 2.13 mbgs.
235.9	2.5		**(ML) sandy SILT:** light brown/greyish; wet, compact.	4	SS	79	13		13	Sand Pack	
235.4	3										
234.9	3.5		- becomes light brown/greyish/orange lenses.	5	SS	67	16		16	PVC Screen	
234.4	4										
233.9	4.5		- becomes no orange, saturated.	6	SS	100	29		29		
233.4	5		(233.24)								Borehole open upon completion.
232.9	5.5		Borehole terminated @ 5.2 mbgs due to target depth achieved. (5.18)								
232.4	6										
231.9	6.5										
231.4	7										
230.9											

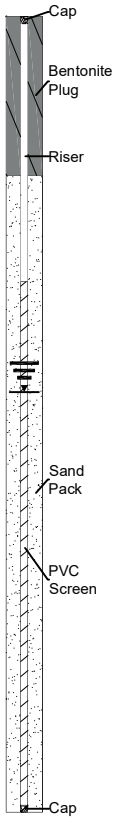
GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DS **Input By:** DS

Peterborough, Barrie, Whitby, Kingston, Ottawa

Client:	China Canada Jing Bei Xin Min Intl c/o EcoVue Consulting Services	**Project Name:**	Part Lot 25, Concession 3, Zephyr	**Log of Borehole:**	BH103-24
Contractor:	Drilltech	**Method:**	Track Mounted Solid Stem Auger	Page:	1 of 1
Project No.:	18619-003	**Elevation:**	251.38 mASL	**Date Completed:**	13-12-2024
Location:	Part Lot 25, Concession 3, Zephyr	**UTM:**	17T **N:** 4895291.77 **E:** 638877.99		

SUBSURFACE PROFILE				SAMPLE							
Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N)	Atterberg Limits (%) LL PL PI 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa nat V. rem V. 20 40 60 80 / SPT (N) 20 40 60 80	Well Installation	Log Notes
251.4	0		**() TOPSOIL:** dark brown; rootlets; moist, very loose. 251.23	1A	SS						
			0.15	1B	SS	50	12		12		Rocks in spoons from SS1 to SS5.
250.9	0.5		**(SM) SILTY SAND:** some gravel; trace rootlets; brown/light brown; moist, compact.								
250.4	1		- becomes few rootlets; some gravel to gravelly.	2	SS	75	20		20		
249.9	1.5										
			- becomes moist to wet.	3	SS	54	13		13		
249.4	2		249.17								
			2.21 **(SM) gravelly SILTY SAND:** some clay to clayey; light brown; drier than plastic limit, very stiff. [TILL].	4	SS	100	18		18		Water level measured at 2.16 mbgs on December 13th, 2024.
248.9	2.5										
248.4	3										
			- becomes some clay, light brown/orange lenses.	5	SS	100	26		26		
247.9	3.5										Standing water observed at 3.66 mbgs.
247.4	4										
246.9	4.5										
			- becomes grey, wetter than plastic limit (wet), hard.	6	SS	75	39		39		Groundwater encountered at 4.57 mbgs.
246.4	5		246.20								Borehole open upon completion.
			5.18 Borehole terminated @ 5.2 mbgs due to target depth achieved.								
245.9	5.5										
245.4	6										
244.9	6.5										
244.4	7										
243.9											



GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DS **Input By:** DS

Peterborough, Barrie, Whitby, Kingston, Ottawa

Client:	China Canada Jing Bei Xin Min Intl c/o EcoVue Consulting Services	**Project Name:**	Part Lot 25, Concession 3, Zephyr	**Log of Borehole:**	BH104-24
Contractor:	Drilltech	**Method:**	Track Mounted Solid Stem Auger	Page:	1 of 1
Project No.:	18619-003	**Elevation:**	242.32 mASL	**Date Completed:**	13-12-2024
Location:	Part Lot 25, Concession 3, Zephyr	**UTM:**	17T **N:** 4895266.21 **E:** 639030.91		

SUBSURFACE PROFILE				SAMPLE							
Elevation (m)	Depth	Lithology	Description	Number	Type	% Recovery	SPT (N)	Atterberg Limits (%) LL PL PI / % Moisture 25 50 75	Shear Strength Cu, kPa nat V. rem V. / SPT (N) 20 40 60 80	Well Installation	Log Notes
242.3	0		**() TOPSOIL:** dark brown; rootlets; moist, very loose. 241.94	1A	SS	100	3		3	Cap	
241.8	0.5		0.38 **(SM) SILTY SAND:** trace gravel; some rootlets; light brown; moist, very loose.	1B	SS					Bentonite Plug	
241.3	1		- becomes some gravel, trace clay; light brown/greyish; moist to wet, compact.	2	SS	54	15		15	Riser	
240.8	1.5		240.87 1.45 **(ML) gravelly SILT and SAND:** light brown/orange; moist to wet, compact.	3	SS	25	17		17		Water level measured at 1.57 mbgs on December 13th, 2024.
240.3	2		- becomes trace clay, grey, wet, loose. 239.91	4A	SS						Groundwater encountered at 2.29 mbgs.
239.8	2.5		2.41 **(ML) CLAYEY SILT:** some gravel, some sand; grey; about plastic limit, firm. [TILL].	4B	SS	63	6		6	Sand Pack	
239.3	3										
238.8	3.5		- becomes drier than plastic limit, stiff.	5	SS	50	11		11	PVC Screen	Spoon is wet, sample is dry.
238.3	4										Standing water observed at 3.96 mbgs.
237.8	4.5										
237.3	5		- becomes much drier than plastic limit. 237.14	6	SS	100	29		29	Cap	Spoon is wet, sample is dry. Borehole open upon completion.
236.8	5.5		5.18 Borehole terminated @ 5.2 mbgs due to target depth achieved.								
236.3	6										
235.8	6.5										
235.3	7										
234.8											

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DS **Input By:** DS

Peterborough, Barrie, Whitby, Kingston, Ottawa

Client:	China Canada Jing Bei Xin Min Intl c/o EcoVue Consulting Services	**Project Name:**	Part Lot 25, Concession 3, Zephyr	**Log of Borehole:**	BH105-24
Contractor:	Drilltech	**Method:**	Track Mounted Solid Stem Auger	Page:	1 of 1
Project No.:	18619-003	**Elevation:**	248.42	**Date Completed:**	13-12-2024
Location:	Part Lot 25, Concession 3, Zephyr	**UTM:**	17T **N:** 4895381.90 **E:** 638966.56		

Elevation (m)	Depth	Description	Elevation / Depth	Number	Type	% Recovery	SPT (N)	Atterberg Limits (%) 25 50 75 / % Moisture 25 50 75	Shear Strength Cu, kPa (nat V., rem V.) 20 40 60 80 / SPT (N) 20 40 60 80	Well Installation	Log Notes
248.4	0	**() TOPSOIL:** dark brown; rootlets; moist, loose.	248.19 / 0.23	1A	SS	38	6		6	Cap	
247.9	0.5	**(SM) SILTY SAND:** some clay, trace to some gravel; light brown; about plastic limit, firm. [TILL].		1B	SS					Bentonite Plug	
247.4	1	- becomes stiff to very stiff.		2	SS	75	15		15	Riser	Water level measured at 0.83 mbgs on December 13th, 2024. Groundwater encountered at 0.76 mbgs.
246.9	1.5		246.97 / 1.45	3	SS	100	8		8		
246.4	2	**(ML) CLAYEY SILT:** some sand, trace to some gravel; light brown/orange lenses; about plastic limit, firm to stiff. [TILL].									
245.9	2.5	- becomes trace sand, trace gravel, grey, drier than plastic limit, very stiff.		4	SS	83	19		19	Sand Pack	
245.4	3										
244.9	3.5			5	SS	67	16		16	PVC Screen	Standing water observed at 3.66 mbgs.
244.4	4										
243.9	4.5										
243.4	5	- becomes hard.	243.24	6	SS	29	33		33	Cap	Rocks in spoon.
242.9	5.5	Borehole terminated @ 5.2 mbgs due to target depth achieved.	5.18								Borehole open upon completion.
242.4	6										
241.9	6.5										
241.4	7										
240.9											

GRAINSIZE DISTRIBUTION: SAMPLE | GRAVEL | SAND | SILT | CLAY

Logged By: DS **Input By:** DS

Peterborough, Barrie, Whitby, Kingston, Ottawa

Appendix E

Aquifer Test Results

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

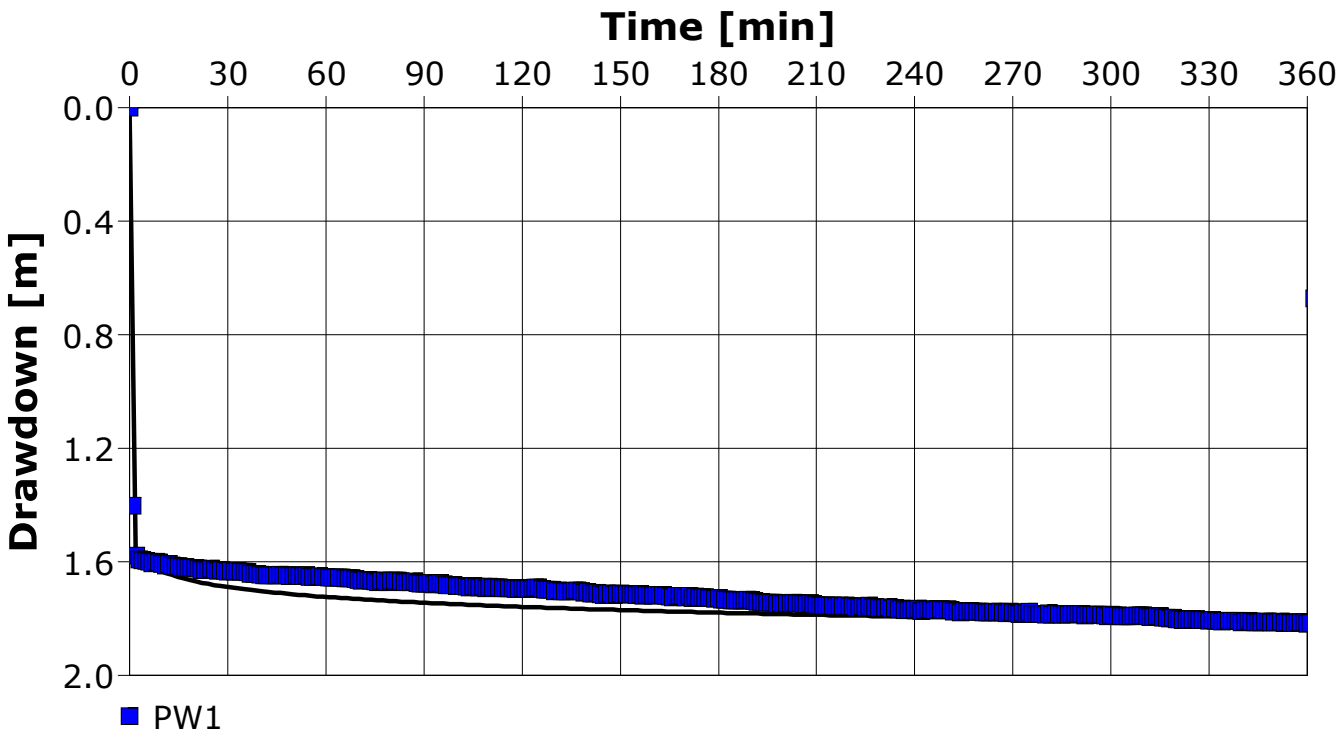
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW1 (A222198)	Pumping Well: PW1
Test Conducted by: Jeremy Tracey		Test Date: 16/07/2018
Analysis Performed by: Cam MacDougall	PW1 Pumping Test	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.095 [m³/s]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Storage coefficient	Radial Distance to PW [m]	
PW1	4.57×10^{-2}	3.05×10^{-2}	7.91×10^{-11}	0.08	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

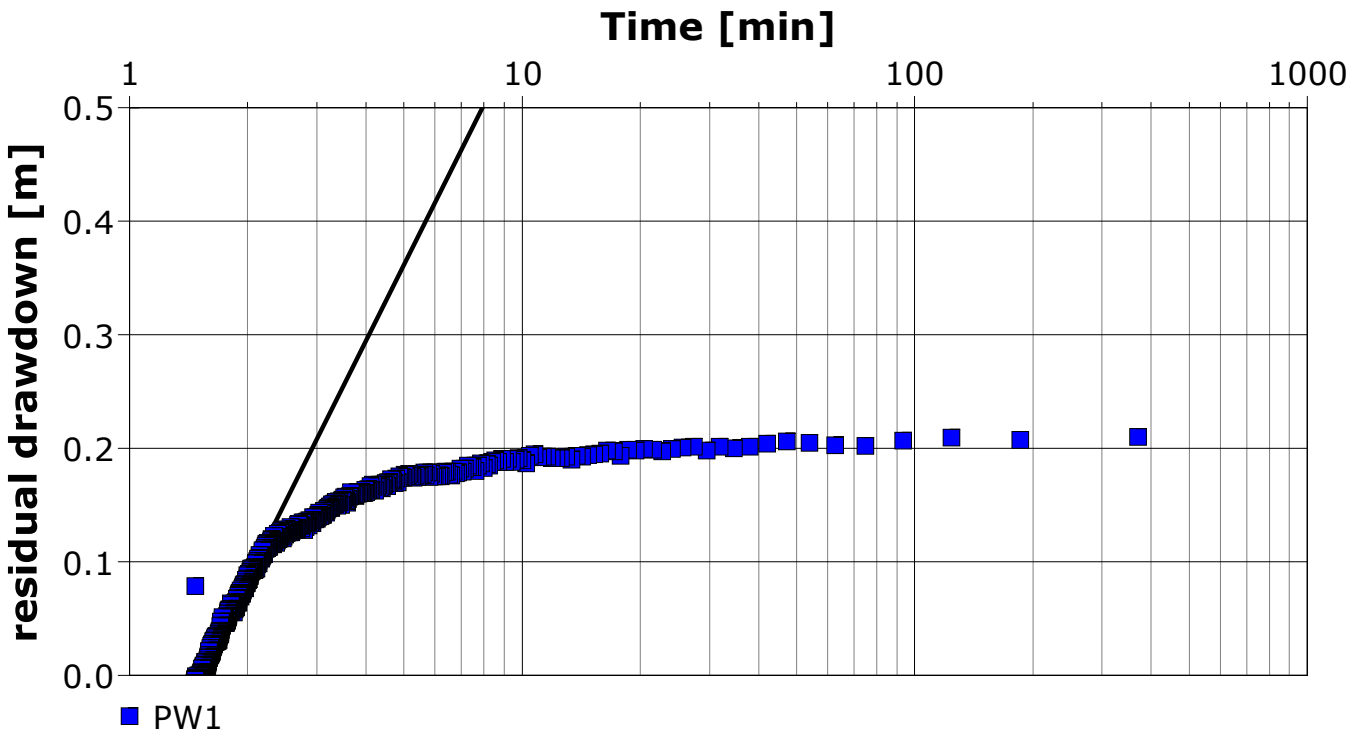
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW1 (A222198)	Pumping Well: PW1
Test Conducted by: Jeremy Tracey		Test Date: 16/07/2018
Analysis Performed by: Cam MacDougall	PW1 Pumping Test (Recovery)	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.095 [m³/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
PW1	2.51×10^{-2}	1.67×10^{-2}	0.08	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

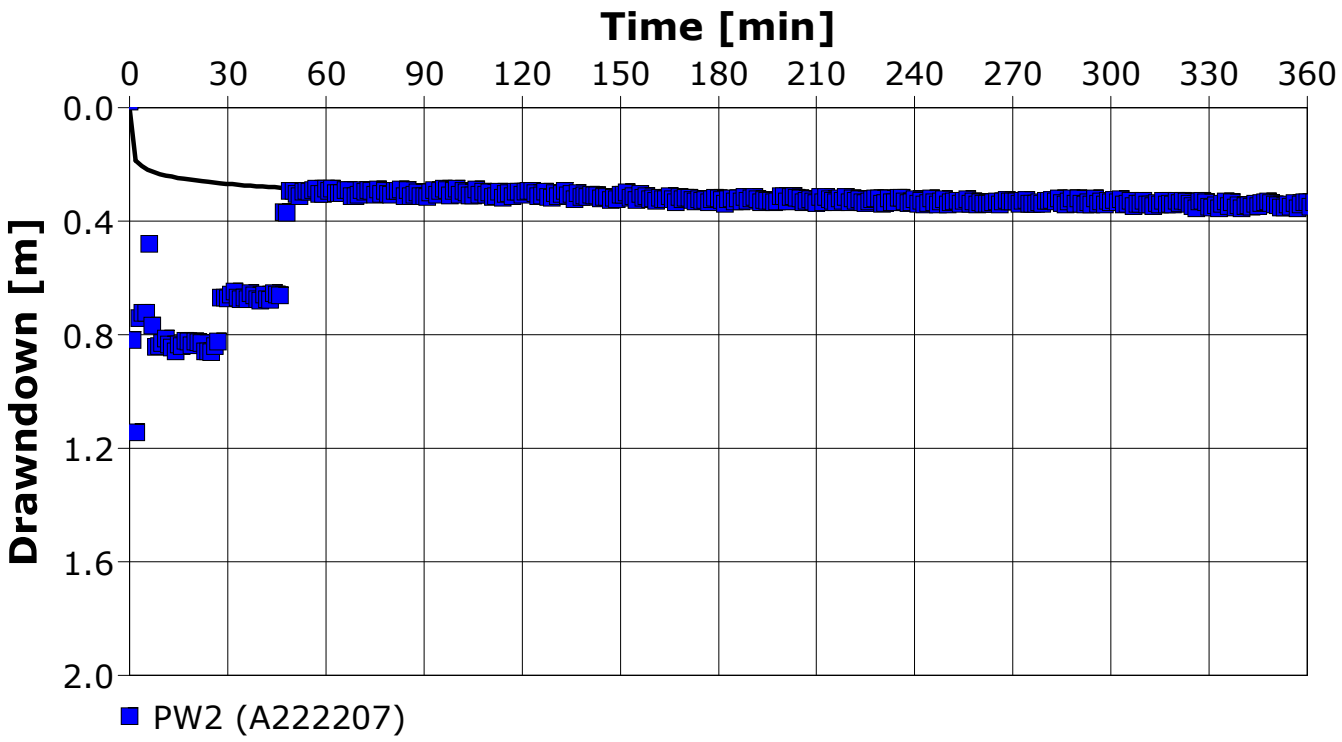
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW2 (A222207)	Pumping Well: PW2 (A222207)
Test Conducted by: Jeremy Tracey		Test Date: 17/07/2018
Analysis Performed by: Cam MacDougall	PW2 Pumping Test	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.025 [m³/s]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
PW2 (A222207)	2.00×10^{-2}	1.33×10^{-2}	0.08	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

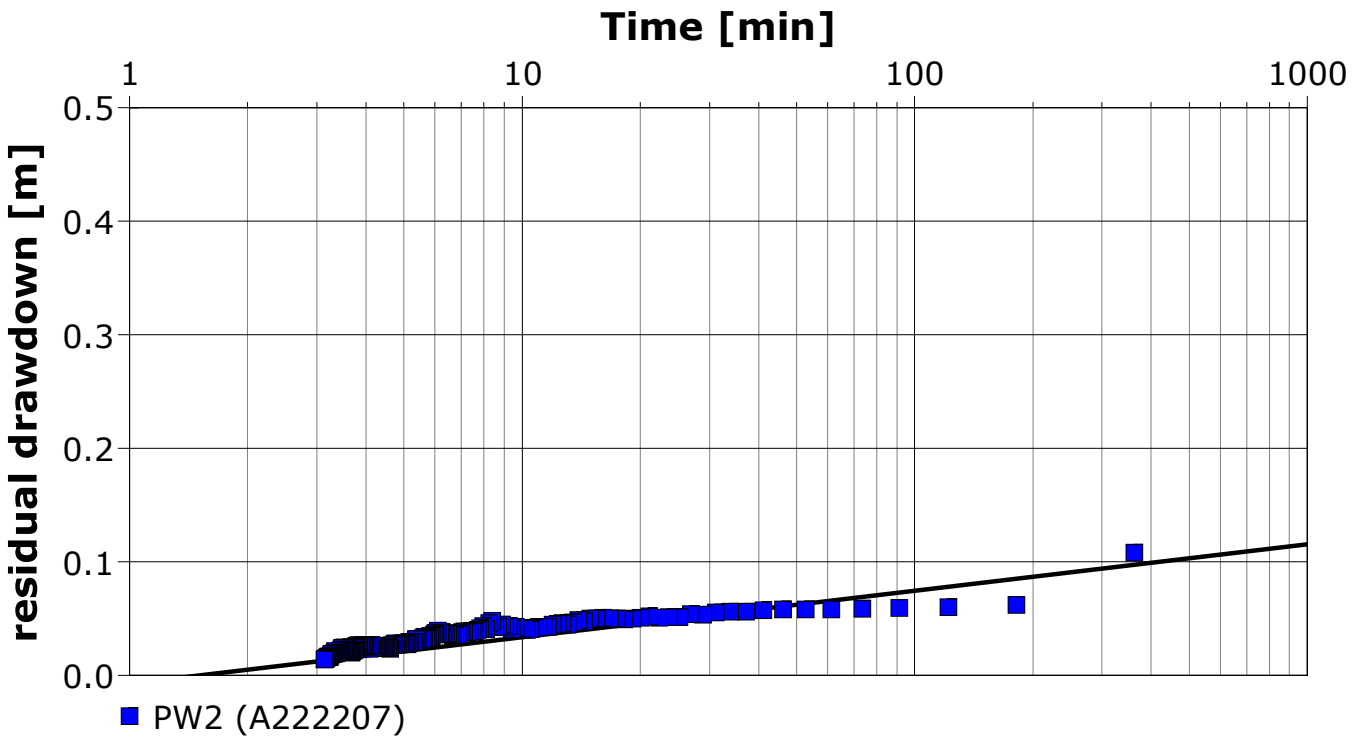
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW2 (A222207)	Pumping Well: PW2 (A222207)
Test Conducted by: Jeremy Tracey		Test Date: 17/07/2018
Analysis Performed by: Cam MacDougall	PW2 Pumping Test (Recovery)	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.025 [m³/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
PW2 (A222207)	1.12×10^{-1}	7.48×10^{-2}	0.08	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

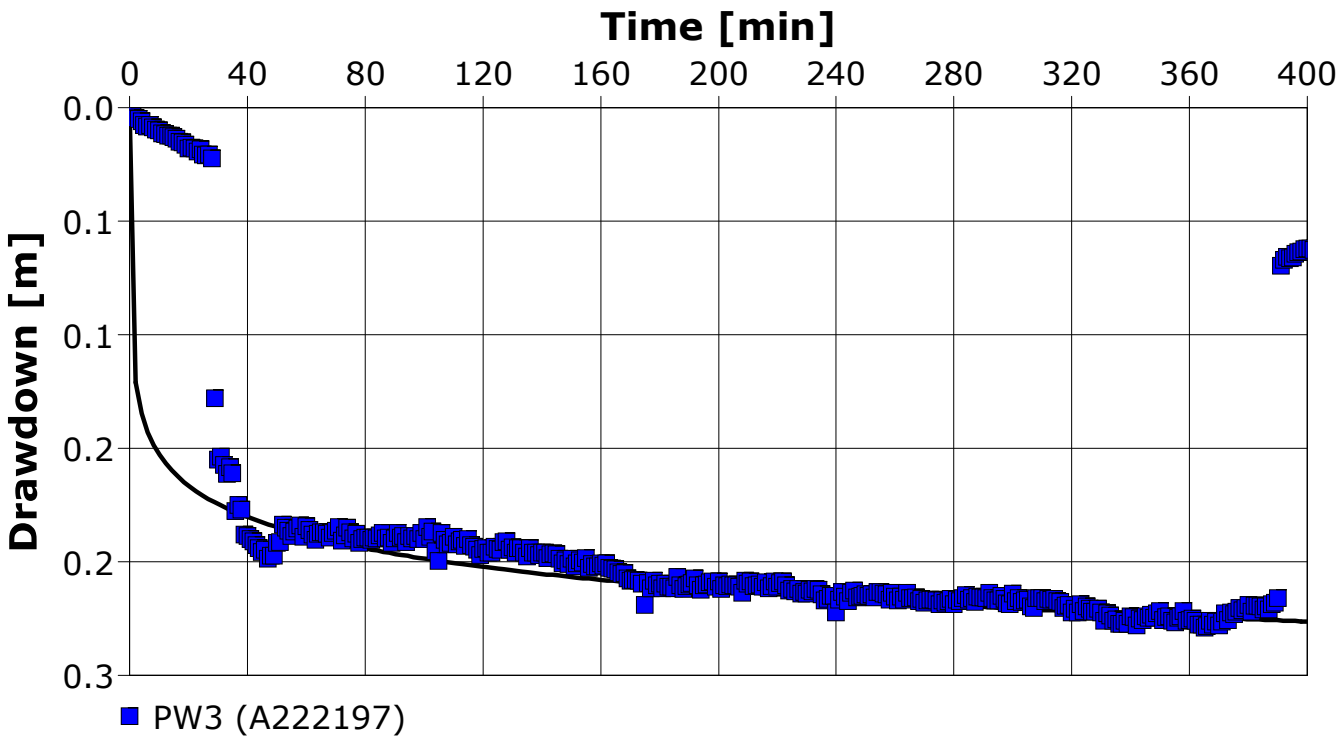
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW3 (A222197)	Pumping Well: PW3 (A222197)
Test Conducted by: Jeremy Tracey		Test Date: 17/07/2018
Analysis Performed by: Cam MacDougall	PW3 Pumping Test	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.014 [m³/s]	



Calculation using Theis

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
PW3 (A222197)	1.50×10^{-2}	1.00×10^{-2}	0.08	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

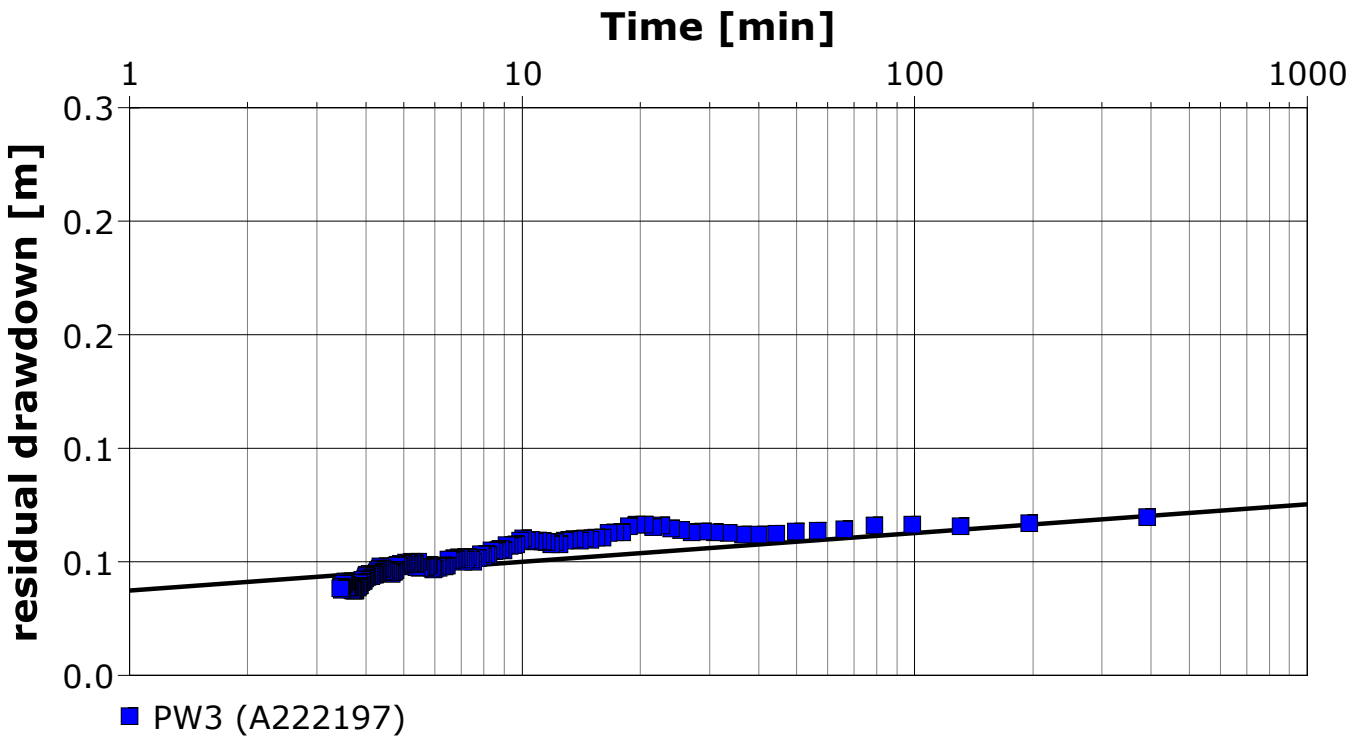
Pumping Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontario	Pumping Test: PW3 (A222197)	Pumping Well: PW3 (A222197)
Test Conducted by: Jeremy Tracey		Test Date: 17/07/2018
Analysis Performed by: Cam MacDougall	PW3 Pumping Test (Recovery)	Analysis Date: 01/08/2018
Aquifer Thickness: 1.50 m	Discharge: variable, average rate 0.014 [m³/s]	

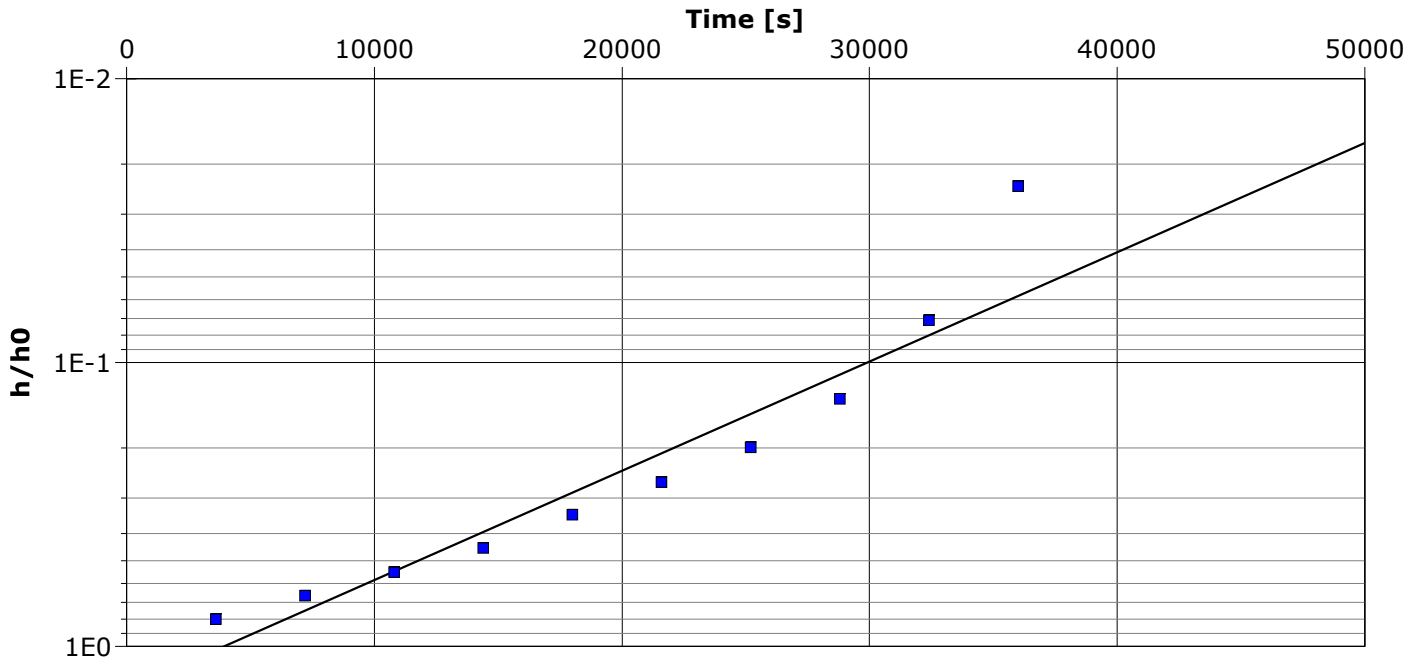


Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/s]	Hydraulic Conductivity [m/s]	Radial Distance to PW [m]	
PW3 (A222197)	1.68×10^{-1}	1.12×10^{-1}	0.08	

Cambium Inc. **52 Hunter St. East** **Peterborough, Ontatio, Canada** **K9H 1G5**	**Slug Test Analysis Report** Project: Hydrogeological Assessment Number: 6199-001 Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontairo	Slug Test: Piezometer P1	Test Well: P1
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P1 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.84 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P1	2.88×10^{-7}	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

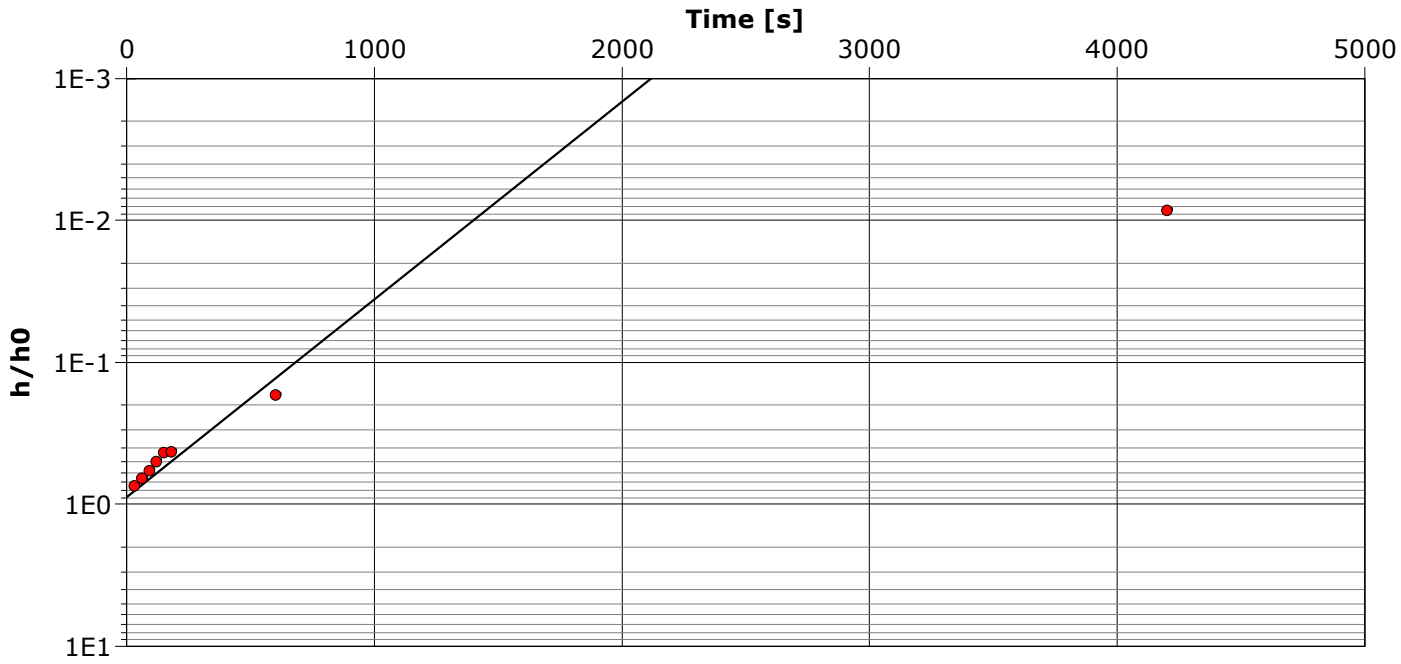
Slug Test Analysis Report

Project: Hydrogeological Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

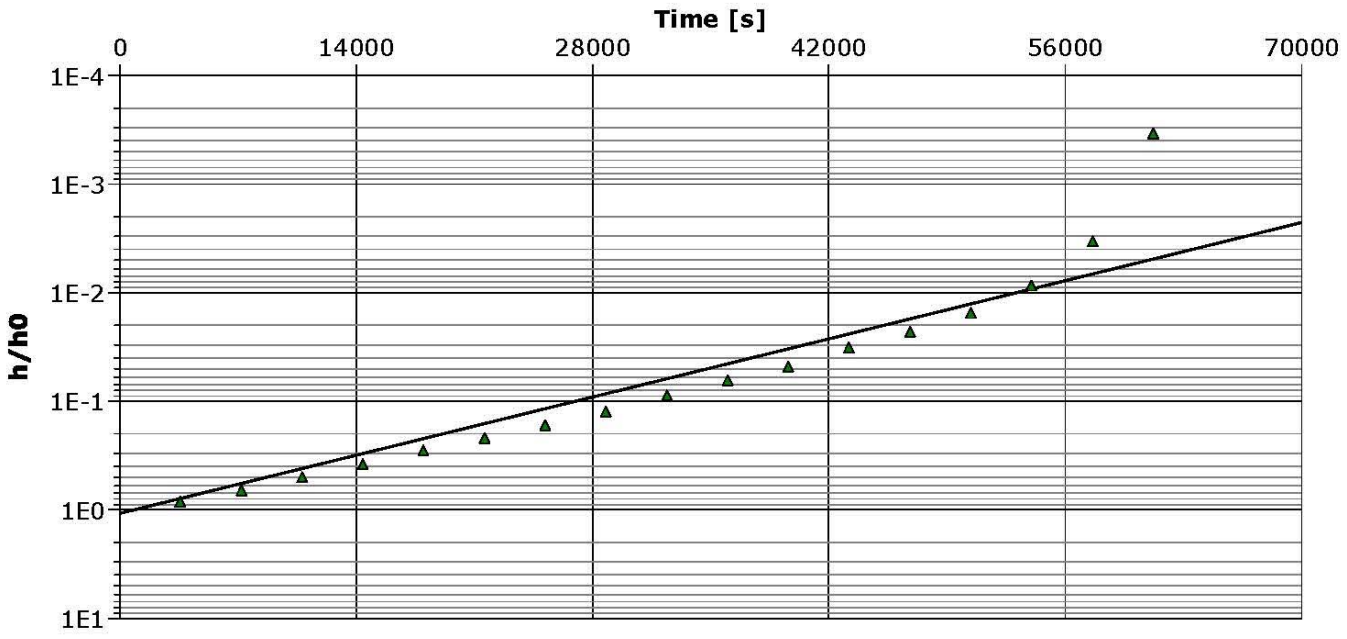
Location: Zephyr, Ontairo	Slug Test: Piezometer P2	Test Well: P2
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P2 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.18 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P2	1.05×10^{-5}	

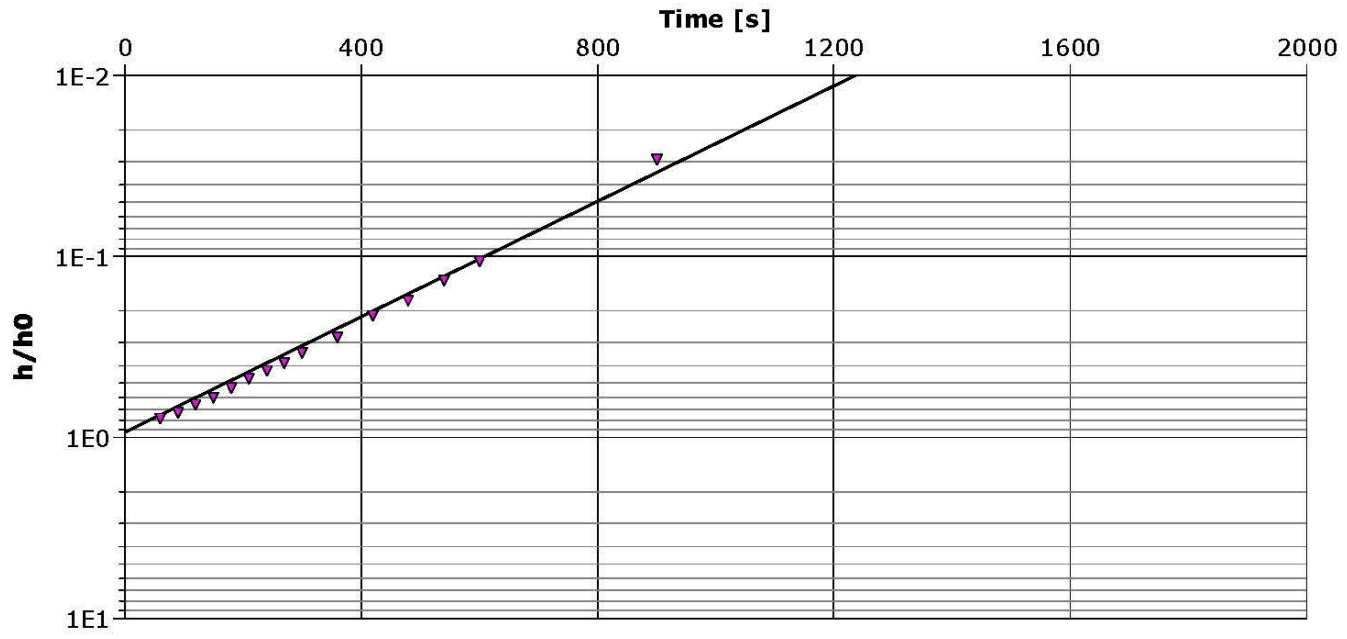
Cambium Inc. **52 Hunter St. East** **Peterborough, Ontatio, Canada** **K9H 1G5**	**Slug Test Analysis Report**	
	Project: Hydrogeological Assessment	
	Number: 6199-001	
	Client: China Canada Jing Bei Xin Min Intl.	
Location: Zephyr, Ontairo	Slug Test: Piezometer P3	Test Well: P3
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P3 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.44 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P3	2.88×10^{-7}	

Cambium Inc. **52 Hunter St. East** **Peterborough, Ontatio, Canada** **K9H 1G5**	**Slug Test Analysis Report**	
	Project: Hydrogeological Assessment	
	Number: 6199-001	
	Client: China Canada Jing Bei Xin Min Intl.	
Location: Zephyr, Ontairo	Slug Test: Piezometer P4	Test Well: P4
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P4 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.03 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P4	1.20×10^{-5}	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

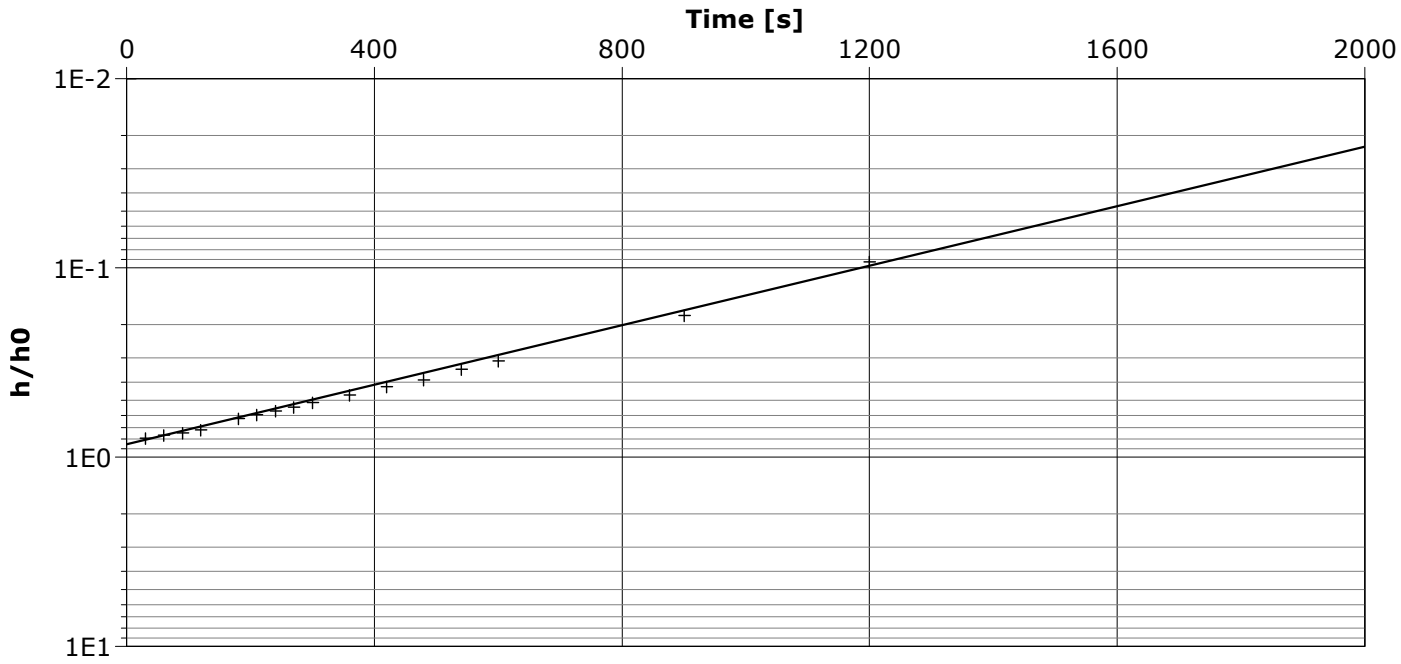
Slug Test Analysis Report

Project: Hydrogoelogical Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontairo	Slug Test: Piezometer P5	Test Well: P5
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P5 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.67 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P5	5.90×10^{-6}	

Cambium Inc.
52 Hunter St. East
Peterborough, Ontatio, Canada
K9H 1G5

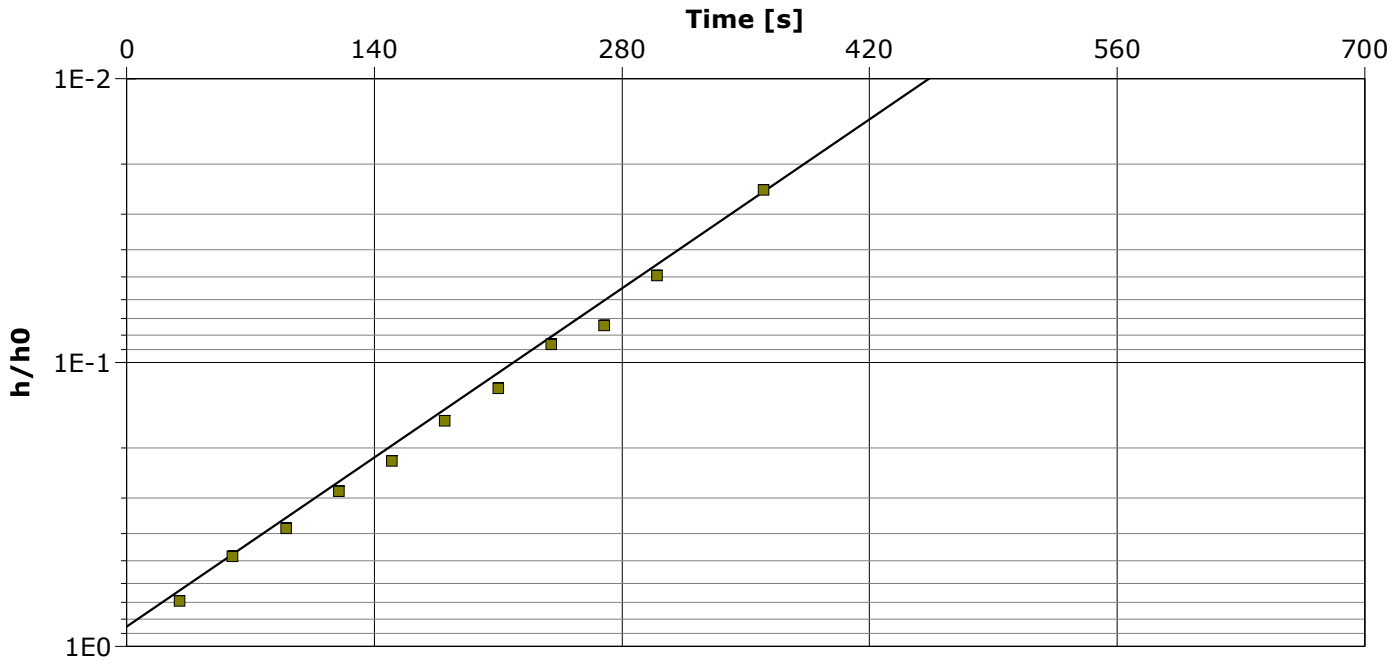
Slug Test Analysis Report

Project: Hydrogoelogical Assessment

Number: 6199-001

Client: China Canada Jing Bei Xin Min Intl.

Location: Zephyr, Ontairo	Slug Test: Piezometer P6	Test Well: P6
Test Conducted by: Cam MacDougall		Test Date: 7/29/18
Analysis Performed by: Cam MacDougall	P6 Slug Test	Analysis Date: 9/25/18
Aquifer Thickness: 1.67 m		



Calculation using Hvorslev

Observation Well	Hydraulic Conductivity [m/s]	
P6	3.20×10^{-5}	

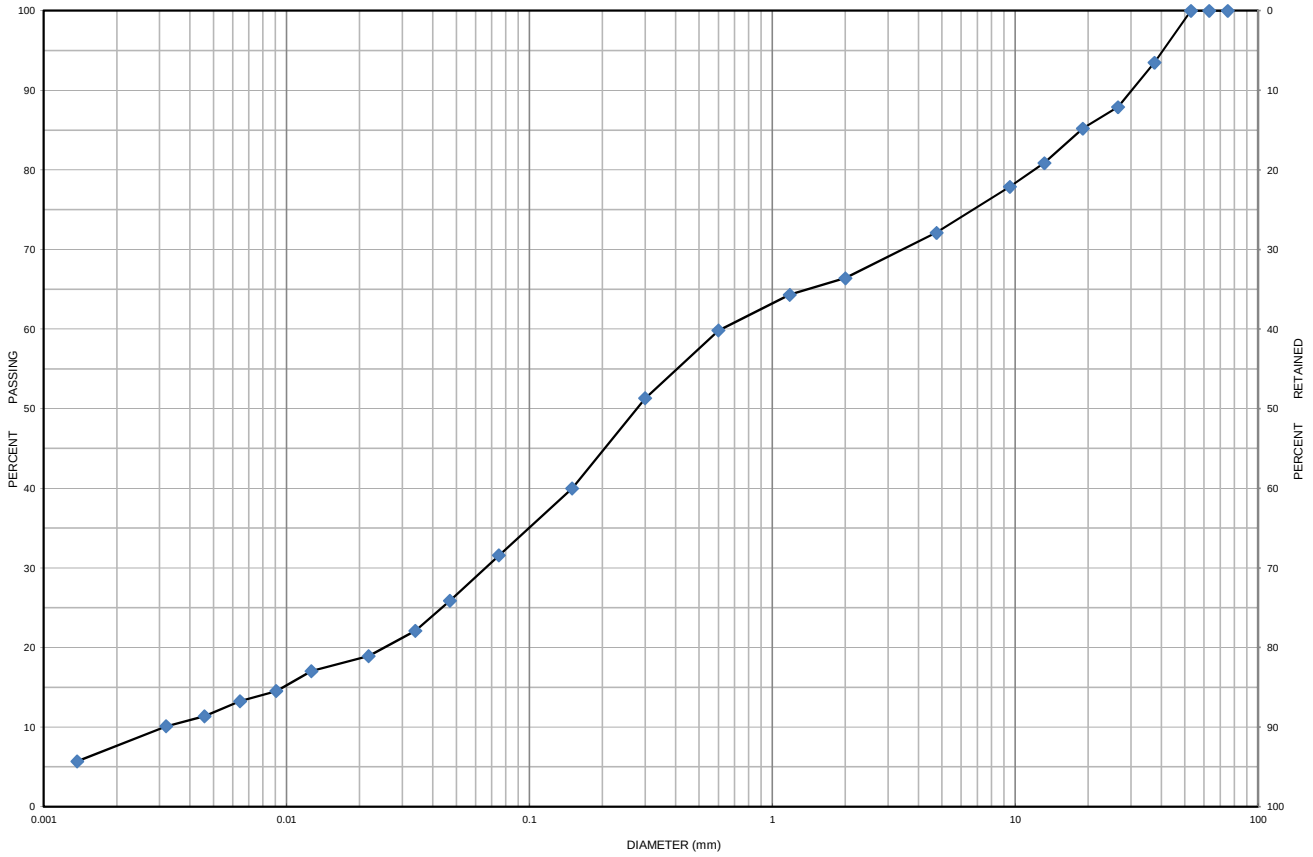
Appendix F

Grain Size Analyses

Grain Size Distribution Chart

Project Number:	*6199-001*	**Client:**	*China Canada Jing Bei Xin Min Intl. c/o EcoVue Consultir*		
Project Name:	*Hidden Ridge, Uxbridge*				
Sample Date:	*August 3, 2017*	**Sampled By:**	*Cam MacDougall - Cambium Inc.*		
Location:	*TP 101 2*	**Depth:**	*1.1 m to 1.8 m*	**Lab Sample No:**	*S-17-651*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Location	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
TP 101	2	1.1 m to 1.8 m	28	41	31		5.9

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Silty Gravelly Sand trace Clay	SW	0.600	0.067	0.0032	187.50	2.34

Issued By: _____ *Date Issued:* *August 25, 2017*

(Senior Project Manager)

Cambium Inc. (Laboratory)
866.217.7900 | cambium-inc.com
701 The Queensway | Units 5-6 | Peterborough | ON | K9J 7J6

Grain Size Distribution Chart

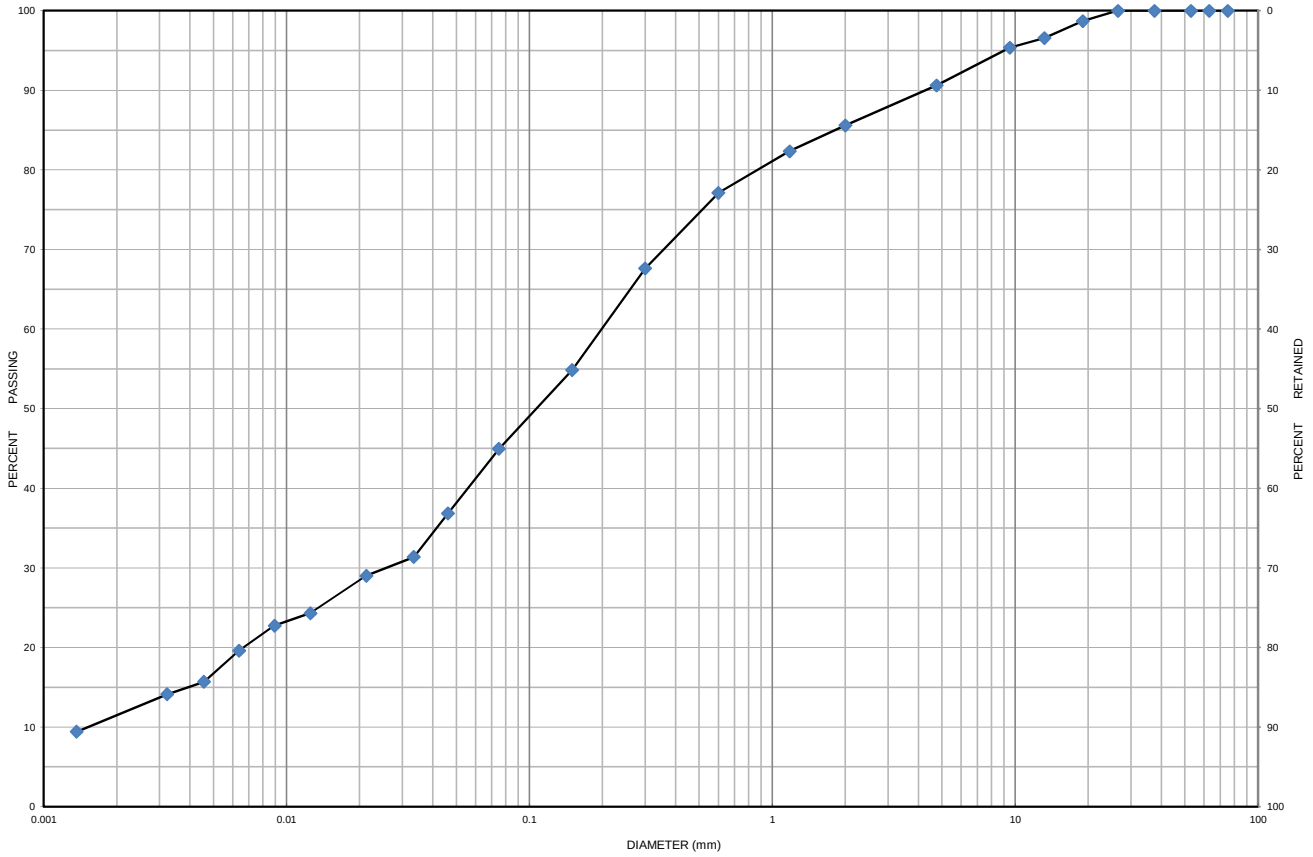
Project Number: *6199-001* **Client:** *China Canada Jing Bei Xin Min Intl. c/o EcoVue Consultir*

Project Name: *Hidden Ridge, Uxbridge*

Sample Date: *August 3, 2017* **Sampled By:** *Cam MacDougall - Cambium Inc.*

Location: *TP 104 2* **Depth:** **Lab Sample No:** *S-17-652*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Location	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
TP 104	2		9	46	45		11.2

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Silty Sand some Clay trace Gravel	SM	0.200	0.028	0.0017	117.65	2.31

Issued By: _____ *Date Issued:* *August 25, 2017*

(Senior Project Manager)

Cambium Inc. (Laboratory)
866.217.7900 | cambium-inc.com
701 The Queensway | Units 5-6 | Peterborough | ON | K9J 7J6

Grain Size Distribution Chart

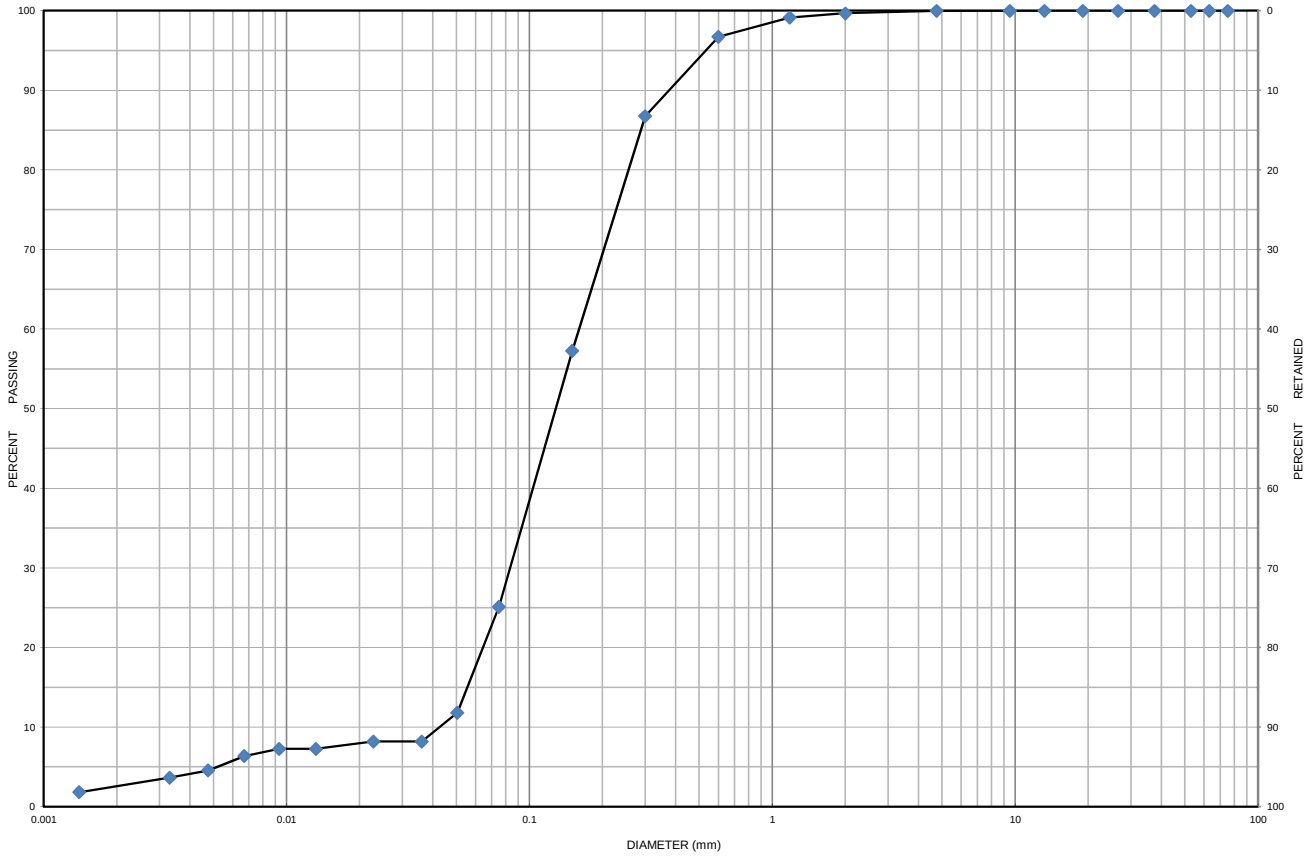
Project Number: *6199-001* **Client:** *China Canada Jing Bei Xin Min Intl. c/o EcoVue Consultir*

Project Name: *Hidden Ridge, Uxbridge*

Sample Date: *August 3, 2017* **Sampled By:** *Cam MacDougall - Cambium Inc.*

Location: *TP 107 1* **Depth:** **Lab Sample No:** *S-17-653*

UNIFIED SOIL CLASSIFICATION SYSTEM					
CLAY & SILT (<0.075 mm)	SAND (<4.75 mm to 0.075 mm)			GRAVEL (>4.75 mm)	
	FINE	MEDIUM	COARSE	FINE	COARSE



MIT SOIL CLASSIFICATION SYSTEM								
CLAY	SILT	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	BOULDERS
		SAND			GRAVEL			

Location	Sample No.	Depth	Gravel	Sand	Silt	Clay	Moisture
TP 107	1		0	75	25		15.9

Description	Classification	D_{60}	D_{30}	D_{10}	C_u	C_c
Silty Sand trace Clay	SM	0.160	0.084	0.042	3.81	1.05

Issued By: _____ *Date Issued:* *August 25, 2017*

(Senior Project Manager)

Cambium Inc. (Laboratory)
866.217.7900 | cambium-inc.com
701 The Queensway | Units 5-6 | Peterborough | ON | K9J 7J6

Appendix G

MECP Well Records Within 500 m

Water Well Records Summary Report

Produced by Cambium Inc. using MOECP Water Well Information System (WWIS)

All units in meters unless otherwise specified

Well ID: 1904555
Construction Date: 2/15/1977
Easting: 638415
Northing: 4896173
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 17.1
Well Diameter (cm): 76.20
Water First Found: 12.2
Static Level: 6.40
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	6.71
3	CLAY	6.71	12.19
4	SAND	12.19	12.50
5	CLAY	12.50	17.07

Well ID: 1904806
Construction Date: 9/29/1977
Easting: 638415
Northing: 4895623
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 12.2
Well Diameter (cm): 76.20
Water First Found: 7.6
Static Level: 3.66
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	7.62
3	SAND	7.62	10.97
4	CLAY	10.97	12.19

Well ID: 1905165
Construction Date: 11/9/1978
Easting: 638665
Northing: 4895523
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 27.7
Well Diameter (cm): 12.70
Water First Found: 27.7
Static Level: 0.61
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 64
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	GRAVEL	0.00	1.22
2	CLAY	1.22	5.49
3	CLAY	5.49	18.90
4	CLAY	18.90	25.30
5	GRAVEL	25.30	27.74

Well ID: 1905205
Construction Date: 12/18/1978

Easting: 638515
Northing: 4895773

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 24.4
Well Diameter (cm): 12.70
Water First Found: 21.3
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 114
Recommended Pump Rate: 23
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	1.83
2	CLAY	1.83	5.49
3	CLAY	5.49	14.02
4	CLAY	14.02	19.81
5	GRAVEL	19.81	24.38

Well ID: 1905278
Construction Date: 3/20/1979

Easting: 638515
Northing: 4895523

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 25.0
Well Diameter (cm): 15.24
Water First Found: 22.9
Static Level: 1.52

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 18
Recommended Pump Rate: 14
Pumping Duration (h:m): 4 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	22.86
2	SAND	22.86	24.99

Well ID: 1905668
Construction Date: 2/1/1980

Easting: 638715
Northing: 4895623

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 23.5
Well Diameter (cm):
Water First Found: 22.3
Static Level: 3.96

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	6.71
	CLAY		
2	GRAVEL	6.71	10.67
	GRAVEL		
3	CLAY	10.67	22.25
	CLAY		
4	SAND	22.25	23.47
	SAND		

Well ID: 1905818
Construction Date: 9/29/1980

Easting: 638565
Northing: 4895823

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 14.3
Well Diameter (cm): 76.20
Water First Found: 9.1
Static Level: 0.00

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 14
Pumping Duration (h:m): 12 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	9.45

3	CLAY	9.45	14.33

Well ID: 1906174
Construction Date: 11/23/1981
Easting: 638565
Northing: 4895673
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 19.2
Well Diameter (cm): 15.24
Water First Found: 18.3
Static Level: -1.22
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 68
Recommended Pump Rate: 14
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.18
2	SAND	5.18	6.40
3	CLAY	6.40	15.24
4	CLAY	15.24	18.29
5	SAND	18.29	19.20

Well ID: 1906260
Construction Date: 1/29/1982
Easting: 638515
Northing: 4895923
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 7.9
Well Diameter (cm): 76.20
Water First Found: 4.3
Static Level: 1.52
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): 12 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	4.27
3	COARSE GRAVEL	4.27	4.88
4	CLAY	4.88	7.92

Well ID: 1906508
Construction Date: 1/20/1983
Easting: 638715
Northing: 4895523
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 27.1
Well Diameter (cm): 15.24
Water First Found: 26.2
Static Level: 3.66
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 36
Recommended Pump Rate: 32
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	2.44
2	SAND	2.44	3.66
3	CLAY	3.66	17.68
4	CLAY	17.68	24.38
5	CLAY	24.38	26.21
6	SAND	26.21	27.13

Well ID: 1906542
Construction Date: 2/16/1983
Easting: 638715
Northing: 4895923
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 10.4
Well Diameter (cm): 76.20
Water First Found: 4.0
Static Level: 1.52
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 14
Pumping Duration (h:m): 8 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30

2	CLAY	0.30	3.66
3	COARSE GRAVEL	3.66	6.40
4	CLAY	6.40	10.36

Well ID: 1906597
Construction Date: 3/29/1983
Easting: 638515
Northing: 4895623
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 24.4
Well Diameter (cm): 15.24
Water First Found: 22.6
Static Level: 1.52
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 55
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	10.97
3	CLAY	10.97	14.63
4	CLAY	14.63	22.56
5	SAND	22.56	24.38

Well ID: 1906632
Construction Date: 6/23/1983
Easting: 638765
Northing: 4895523
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 29.6
Well Diameter (cm): 12.70
Water First Found: 29.6
Static Level: 4.57
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 45
Recommended Pump Rate: 32
Pumping Duration (h:m): 3 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	1.83
2	CLAY	1.83	3.66
3	GRAVEL	3.66	4.57
4	CLAY	4.57	28.35
5	GRAVEL	28.35	29.57

Well ID: 1906761
Construction Date: 12/9/1983
Easting: 638815
Northing: 4894923
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 57.9
Well Diameter (cm): 12.70
Water First Found: 54.9
Static Level: 15.24
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 32
Recommended Pump Rate: 23
Pumping Duration (h:m): 3 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.05
2	CLAY	3.05	3.66
3	SAND	3.66	11.28
4	MEDIUM SAND	11.28	15.24
5	CLAY	15.24	53.64
6	GRAVEL	53.64	54.86
7	SHALE	54.86	57.91

Well ID: 1906846
Construction Date: 2/3/1984

Easting: 638915
Northing: 4895623

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 25.3
Well Diameter (cm):
Water First Found: 24.4
Static Level: 4.27

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 91
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
	CLAY		
2	GRAVEL	5.49	7.62
	GRAVEL		
3	CLAY	7.62	15.24
	CLAY		
4	CLAY	15.24	24.38
	CLAY		
5	SAND	24.38	25.30
	SAND		

Well ID: 1906928
Construction Date: 4/4/1984

Easting: 639606
Northing: 4895769

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 16.8
Well Diameter (cm): 15.24
Water First Found: 16.8
Static Level:

Water Kind Not stated
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 45
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	FILL	0.00	4.88
2	CLAY	4.88	7.01
3	CLAY	7.01	10.36
4	CLAY	10.36	16.46
5	MEDIUM SAND	16.46	16.76

Well ID: 1906993
Construction Date: 8/10/1984

Easting: 638765
Northing: 4895473

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 29.0
Well Diameter (cm): 12.70
Water First Found: 29.0
Static Level: 7.62

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 55
Recommended Pump Rate: 36
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	2.44
2	CLAY	2.44	25.30
3	GRAVEL	25.30	28.96

Well ID: 1907254
Construction Date: 4/9/1985

Easting: 638815
Northing: 4895073

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 19.2
Well Diameter (cm): 15.24
Water First Found: 17.4
Static Level: 4.57

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 91
Recommended Pump Rate: 45
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	7.01
3	SAND	7.01	14.33
4	SAND	14.33	16.76
5	CLAY	16.76	17.37
6	SAND	17.37	19.20

Well ID: 1907255
Construction Date: 4/9/1985

Easting: 638765
Northing: 4895423

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 27.4
Well Diameter (cm): 15.24
Water First Found: 25.6
Static Level: 4.57

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	5.18
3	SAND	5.18	11.89
4	CLAY	11.89	25.60
5	SAND	25.60	27.43

Well ID: 1907584
Construction Date: 2/14/1986

Easting: 638479
Northing: 4895484

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 25.6
Well Diameter (cm): 15.24
Water First Found: 24.4
Static Level: 3.66

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 136
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	4.88
3	CLAY	4.88	7.32
4	CLAY	7.32	24.38
5	SAND	24.38	25.60

Well ID: 1907747
Construction Date: 7/15/1986

Easting: 638730
Northing: 4895339

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 19.8
Well Diameter (cm): 12.70
Water First Found: 19.8
Static Level: 5.49

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	1.83

2	SAND	1.83	12.19
3	CLAY	12.19	17.68
4	GRAVEL	17.68	19.81

Well ID: 1907870
Construction Date: 9/12/1986
Easting: 638615
Northing: 4895581
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 22.9
Well Diameter (cm): 12.70
Water First Found: 22.9
Static Level: 0.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 91
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	0.30
2	SAND	0.30	1.83
3	SAND	1.83	5.49
4	SAND	5.49	14.63
5	CLAY	14.63	21.03
6	GRAVEL	21.03	22.86

Well ID: 1907874
Construction Date: 9/10/1986
Easting: 638917
Northing: 4894860
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 31.4
Well Diameter (cm): 15.24
Water First Found: 30.8
Static Level: 10.67
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 9
Recommended Pump Rate: 9
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	6.40
2	CLAY	6.40	8.53
3	SAND	8.53	11.58
4	CLAY	11.58	25.91
5	CLAY	25.91	29.57
6	GRAVEL	29.57	31.39

Well ID: 1908084
Construction Date: 1/12/1987
Easting: 638654
Northing: 4895678
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 25.3
Well Diameter (cm): 15.24
Water First Found: 22.6
Static Level:
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 15

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.66
2	CLAY	3.66	7.62
3	CLAY	7.62	18.90
4	GRAVEL	18.90	22.56
5	GRAVEL	22.56	25.30

Well ID: 1908113
Construction Date: 2/10/1987

Easting: 638542
Northing: 4896069

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 25.9
Well Diameter (cm): 12.70
Water First Found: 25.9
Static Level: 3.66

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 23
Recommended Pump Rate: 23
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	6.71
2	SAND	6.71	8.53
3	GRAVEL	8.53	12.19
4	SILT	12.19	18.90
5	CLAY	18.90	25.91
6	GRAVEL	25.91	

Well ID: 1908388
Construction Date: 7/14/1987

Easting: 638518
Northing: 4896140

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 47.2
Well Diameter (cm): 12.70
Water First Found: 39.6
Static Level: 6.10

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 36
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.35
2	GRAVEL	3.35	7.62
3	CLAY	7.62	18.29
4	SILT	18.29	21.34
5	CLAY	21.34	35.05
6	SILT	35.05	35.97
7	CLAY	35.97	37.80
8	SAND	37.80	38.40
9	GRAVEL	38.40	39.62
##	CLAY	39.62	47.24
##	LIMESTONE	47.24	

Well ID: 1908483
Construction Date: 8/13/1987

Easting: 638973
Northing: 4895825

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 7.6
Well Diameter (cm): 12.70
Water First Found: 7.6
Static Level: 1.83

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	2.44
	TOPSOIL		
2	CLAY	2.44	4.27
	CLAY		
3	GRAVEL	4.27	7.62
	GRAVEL		

Well ID: 1908484
Construction Date: 8/13/1987

Easting: 638644
Northing: 4895695

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 21.3
Well Diameter (cm): 12.70
Water First Found: 19.8
Static Level: 0.00

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.35
2	CLAY	3.35	6.10
3	GRAVEL	6.10	7.62
4	CLAY	7.62	18.29
5	GRAVEL	18.29	21.34

Well ID: 1908777
Construction Date: 12/16/1987

Easting: 638888
Northing: 4895194

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 8.5
Well Diameter (cm): 76.20
Water First Found: 2.4
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 27
Recommended Pump Rate: 14
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	2.44
3	CLAY	2.44	3.66
4	CLAY	3.66	8.53

Well ID: 1908915
Construction Date: 3/16/1988

Easting: 638780
Northing: 4895194

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 26.2
Well Diameter (cm): 12.70
Water First Found: 26.2
Static Level: 4.57

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 55
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	COARSE GRAVEL	0.00	9.14
2	CLAY	9.14	22.86
3	COARSE SAND	22.86	26.21

Well ID: 1909637
Construction Date: 2/9/1989

Easting: 638619
Northing: 4895835

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 24.4
Well Diameter (cm): 12.70
Water First Found: 24.4
Static Level: 1.83

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 23
Recommended Pump Rate: 18
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	4.27
2	SAND	4.27	7.01
3	CLAY	7.01	8.53
4	SAND	8.53	10.06
5	CLAY	10.06	22.25

6	GRAVEL	22.25	24.38

Well ID: 1909693
Construction Date: 3/28/1989
Easting: 638619
Northing: 4895571
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 23.8
Well Diameter (cm): 15.24
Water First Found: 20.4
Static Level: 0.30
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 91
Recommended Pump Rate: 91
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	20.42
3	SAND	20.42	23.77

Well ID: 1910070
Construction Date: 8/28/1989
Easting: 638741
Northing: 4895629
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 26.2
Well Diameter (cm): 15.24
Water First Found: 24.1
Static Level: 3.05
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 182
Recommended Pump Rate: ###
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.91
2	CLAY	0.91	4.27
3	CLAY	4.27	21.34
4	COARSE SAND	21.34	24.08
5	CLAY	24.08	26.21

Well ID: 1910206
Construction Date: 10/2/1989
Easting: 638535
Northing: 4895673
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 23.5
Well Diameter (cm): 12.70
Water First Found: 5.2
Static Level: 2.44
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 82
Recommended Pump Rate: 45
Pumping Duration (h:m): 3 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.18
2	GRAVEL	5.18	7.01
3	CLAY	7.01	16.15
4	CLAY	16.15	21.64
5	GRAVEL	21.64	23.47

Well ID: 1910312
Construction Date: 12/8/1989
Easting: 638552
Northing: 4895785
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 23.2
Well Diameter (cm): 15.24
Water First Found: 23.2
Static Level: 1.22
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 273
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	6.10
2	CLAY	6.10	10.67
3	CLAY	10.67	12.80

4	CLAY	12.80	21.03
5	GRAVEL	21.03	21.95
6	CLAY	21.95	22.25
7	GRAVEL	22.25	23.16

Well ID: 1910313
Construction Date: 12/8/1989
Easting: 638535
Northing: 4895948
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 65.8
Well Diameter (cm): 15.24
Water First Found: 65.8
Static Level: 19.81
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 18
Recommended Pump Rate: 14
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	13.11
2	CLAY	13.11	25.91
3	SAND	25.91	27.43
4	CLAY	27.43	40.54
5	GRAVEL	40.54	41.15
6	CLAY	41.15	56.69
7	LIMESTONE	56.69	65.84

Well ID: 1910380
Construction Date: 2/2/1990
Easting: 638926
Northing: 4894870
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 16.8
Well Diameter (cm): 15.24
Water First Found: 15.9
Static Level: 6.71
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 45
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	GRAVEL	0.00	7.92
2	GRAVEL	7.92	10.97
3	CLAY	10.97	15.85
4	SAND	15.85	16.76

Well ID: 1910602
Construction Date: 6/20/1990
Easting: 638671
Northing: 4896126
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 40.2
Well Diameter (cm): 15.24
Water First Found: 38.7
Static Level: 3.66
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 182
Recommended Pump Rate: 45
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	9.75
2	SAND	9.75	16.76
3	CLAY	16.76	18.90
4	CLAY	18.90	27.74
5	CLAY	27.74	28.65
6	CLAY	28.65	30.18
7	SAND	30.18	34.75
8	SAND	34.75	36.27

9	SAND	36.27	38.71
##	SAND	38.71	40.23

Well ID: 1910603
Construction Date: 6/20/1990

Easting: 638631
Northing: 4896121

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 40.2
Well Diameter (cm): 15.24
Water First Found: 38.4
Static Level: 7.62

Water Kind FRESH
Final Status Test Hole
Primary Water Use:

Pump Rate (LPM): 136
Recommended Pump Rate:
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	9.14
2	SAND	9.14	15.54
3	SAND	15.54	19.51
4	GRAVEL	19.51	24.38
5	GRAVEL	24.38	28.04
6	GREYWACKE	28.04	36.88
7	SAND	36.88	38.40
8	SAND	38.40	40.23

Well ID: 1910604
Construction Date: 6/20/1990

Easting: 638583
Northing: 4896106

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 6.1
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Test Hole
Primary Water Use: Not Used

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	6.10

Well ID: 1910893
Construction Date: 11/5/1990

Easting: 638478
Northing: 4895993

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 41.2
Well Diameter (cm): 15.24
Water First Found: 35.7
Static Level: 6.71

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 23
Recommended Pump Rate: 18
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	2.44
3	CLAY	2.44	11.58
4	SAND	11.58	14.63
5	SILT	14.63	27.43
6	CLAY	27.43	35.66
7	SILT	35.66	38.40
8	CLAY	38.40	41.15

Well ID: 1910945
Construction Date: 12/20/1990

Easting: 638770
Northing: 4895678

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 23.8
Well Diameter (cm): 15.24
Water First Found: 22.3
Static Level: 0.61

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	10.06
3	CLAY	10.06	15.24
4	CLAY	15.24	19.51
5	CLAY	19.51	22.25
6	GRAVEL	22.25	23.77

Well ID: 1911027
Construction Date: 4/8/1991

Easting: 638567
Northing: 4895814

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 28.4
Well Diameter (cm): 12.70
Water First Found: 27.4
Static Level: -1.83

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 27
Pumping Duration (h:m): 5 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	0.30
2	CLAY	0.30	2.44
3	CLAY	2.44	26.82
4	GRAVEL	26.82	28.35

Well ID: 1911290
Construction Date: 11/12/1991

Easting: 638553
Northing: 4895766

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 26.5
Well Diameter (cm): 12.70
Water First Found: 24.4
Static Level: 0.30

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 14
Recommended Pump Rate: 14
Pumping Duration (h:m): 4 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	0.61
2	BOULDERS	0.61	24.38
3	SAND	24.38	26.52

Well ID: 1911871
Construction Date: 1/20/1994

Easting: 638748
Northing: 4895628

UTM Zone 17
Positional Accuracy: margin of error : 10 - 30 m

Well Depth: 25.3
Well Diameter (cm): 12.70
Water First Found: 23.5
Static Level: 4.88

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 2 : 20

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	17.98
3	CLAY	17.98	23.47
4	SAND	23.47	25.30

Well ID: 1911943
Construction Date: 5/16/1994

Easting: 638794
Northing: 4895517

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 28.0
Well Diameter (cm): 15.24
Water First Found: 25.9
Static Level: 6.10

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 91
Recommended Pump Rate: 91
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.49
3	SAND	5.49	12.19
4	CLAY	12.19	25.91
5	SAND	25.91	28.04

Well ID: 1912214
Construction Date: 11/10/1994

Easting: 638707
Northing: 4895367

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 19.5
Well Diameter (cm): 15.24
Water First Found: 18.3
Static Level: 6.10

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 27
Recommended Pump Rate: 27
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	9.14
2	CLAY	9.14	11.89
3	CLAY	11.89	14.33
4	GRAVEL	14.33	19.51

Well ID: 1912281
Construction Date: 1/12/1995

Easting: 638724
Northing: 4895395

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.0
Well Diameter (cm): 15.24
Water First Found: 27.4
Static Level: 8.53

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 114
Recommended Pump Rate: ###
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	1.83
2	CLAY	1.83	7.32
3	CLAY	7.32	22.86
4	CLAY	22.86	25.91
5	SAND	25.91	27.43
6	SAND	27.43	28.96

Well ID: 1913399
Construction Date: 10/3/1997

Easting: 638985
Northing: 4895778

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 17.4
Well Diameter (cm): 15.24
Water First Found: 17.4
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 364
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	4.88
2	CLAY	4.88	14.33

3	GRAVEL	14.33	17.37

Well ID: 1913466
Construction Date: 12/11/1997
Easting: 638758
Northing: 4895289
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.6
Well Diameter (cm): 15.24
Water First Found: 29.6
Static Level: 6.10
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 273
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	GRAVEL	0.00	5.18
2	CLAY	5.18	17.37
3	GRAVEL	17.37	21.64
4	CLAY	21.64	28.04
5	SAND	28.04	29.57

Well ID: 1913467
Construction Date: 12/11/1997
Easting: 638739
Northing: 4895266
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 20.4
Well Diameter (cm): 15.24
Water First Found: 20.4
Static Level: 6.10
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 36
Recommended Pump Rate: 27
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.18
2	CLAY	5.18	17.37
3	GRAVEL	17.37	20.42

Well ID: 1913513
Construction Date: 2/19/1998
Easting: 638758
Northing: 4895289
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:
Water Kind
Final Status Abandoned-Su
Primary Water Use: Not Used
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 1913518
Construction Date: 2/19/1998
Easting: 639477
Northing: 4896165
UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 16.5
Well Diameter (cm): 15.24
Water First Found: 16.5
Static Level:
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 227
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	PEAT	0.00	1.22
	PEAT		
2	CLAY	1.22	11.28
	CLAY		
3	SAND	11.28	16.46
	SAND		

Well ID: 1913572
Construction Date: 3/11/1998

Easting: 639606
Northing: 4895769

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 19.8
Well Diameter (cm): 15.24
Water First Found: 19.8
Static Level: 1.22

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 55
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.05
2	CLAY	3.05	6.10
3	CLAY	6.10	17.68
4	SAND	17.68	19.81

Well ID: 1913573
Construction Date: 3/11/1998

Easting: 638656
Northing: 4895587

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Su
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 1913582
Construction Date: 3/9/1998

Easting: 638656
Northing: 4895587

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 77.4
Well Diameter (cm): 12.70
Water First Found: 75.9
Static Level: 19.81

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 45
Pumping Duration (h:m): 8 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	4.57
3	CLAY	4.57	75.90
4	SAND	75.90	77.42
5	CLAY	77.42	

Well ID: 1913619
Construction Date: 6/1/1998

Easting: 638773
Northing: 4895232

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.6
Well Diameter (cm): 15.24
Water First Found: 29.6
Static Level: 9.14

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 455
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	17.37
2	GRAVEL	17.37	21.34
3	CLAY	21.34	27.43
4	SAND	27.43	29.57

Well ID: 1913632
Construction Date: 6/16/1998

Easting: 638604
Northing: 4895618

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level: 4.57

Water Kind
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 55
Recommended Pump Rate: 55
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 1914010
Construction Date: 5/28/1999

Easting: 638707
Northing: 4895363

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.9
Well Diameter (cm): 15.24
Water First Found: 27.4
Static Level: 8.53

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 136
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	9.14
2	CLAY	9.14	14.94
3	SAND	14.94	16.76
4	CLAY	16.76	24.69
5	CLAY	24.69	27.43
6	SAND	27.43	29.87

Well ID: 1914322
Construction Date: 11/18/1999

Easting: 638697
Northing: 4895414

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 27.4
Well Diameter (cm): 15.24
Water First Found: 27.4
Static Level: 6.10

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 273
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	11.28
2	CLAY	11.28	24.38
3	SAND	24.38	27.43

Well ID: 1915201
Construction Date: 8/21/2001

Easting: 639863
Northing: 4894990

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 68.3
Well Diameter (cm): 15.24
Water First Found: 68.3
Static Level: 15.24

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 32
Recommended Pump Rate: 27
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	12.19
3	CLAY	12.19	27.43
4	SAND	27.43	33.53
5	CLAY	33.53	67.97
6	GRAVEL	67.97	68.28

Well ID: 1916018
Construction Date: 8/1/2002

Easting: 639603
Northing: 4895769

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 1916019
Construction Date: 8/1/2002

Easting: 639603
Northing: 4895769

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 23.5
Well Diameter (cm): 15.24
Water First Found: 23.5
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 455
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	7.62
	CLAY		
2	CLAY	7.62	19.20
	CLAY		
3	COARSE SAND	19.20	23.47
	COARSE SAND		

Well ID: 1916855
Construction Date: 12/2/2003

Easting: 639736
Northing: 4895385

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth: 22.0
Well Diameter (cm): 15.24
Water First Found: 22.0
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 227
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	6.71
2	CLAY	6.71	18.59
3	COARSE GRAVEL	18.59	21.95

Well ID: 1916860
Construction Date: 12/29/2003

Easting: 639736
Northing: 4895385

UTM Zone 17
Positional Accuracy: unknown UTM

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Su
Primary Water Use: Not Used

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 1917604
Construction Date: 7/5/2005

Easting: 638855
Northing: 4895132

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 23.5
Well Diameter (cm): 15.87
Water First Found: 23.0
Static Level: 2.00

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 378
Recommended Pump Rate: 26
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:

1	SAND	0.00	1.52
2	CLAY	1.52	5.18
3	CLAY	5.18	18.30
4	SAND	18.30	23.47

Well ID: 1917605
Construction Date: 7/5/2005
Easting: 638533
Northing: 4896213
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 54.3
Well Diameter (cm):
Water First Found: 54.0
Static Level: 10.67
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 37
Recommended Pump Rate: 26
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.04
	SAND		
2	CLAY	3.04	9.14
	CLAY		
3	LIMESTONE	9.14	11.28
	LIMESTONE		
4	SAND	11.28	15.24
	SAND		
5	CLAY	15.24	49.08
	CLAY		
6	LIMESTONE	49.08	54.26
	LIMESTONE		

Well ID: 1917606
Construction Date: 7/5/2005
Easting: 638615
Northing: 4896244
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 14.0
Well Diameter (cm): 15.87
Water First Found: 14.0
Static Level: 3.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 75
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.19
2	GRAVEL	5.19	9.15
3	CLAY	9.15	11.28
4	SAND	11.28	14.02

Well ID: 1917607
Construction Date: 7/5/2005
Easting: 638630
Northing: 4896246
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 14.9
Well Diameter (cm): 15.87
Water First Found: 14.0
Static Level: 3.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 40
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.19
2	CLAY	5.19	8.23
3	CLAY	8.23	12.50

4	SAND	12.50	14.94

Well ID: 1917609
Construction Date: 7/5/2005
Easting: 638724
Northing: 4896282
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 42.1
Well Diameter (cm): 15.87
Water First Found: 38.0
Static Level:
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 40
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
2	SAND		8.54
3	CLAY	8.54	36.58
4	SAND	36.58	38.41
5	LIMESTONE	38.41	42.07

Well ID: 1917618
Construction Date: 7/5/2005
Easting: 638740
Northing: 4896285
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 41.5
Well Diameter (cm):
Water First Found: 41.0
Static Level: 3.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 37
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.19
	SAND		
2	CLAY	5.19	35.05
	CLAY		
3	GRAVEL	35.05	38.41
	GRAVEL		
4	LIMESTONE	38.41	41.46
	LIMESTONE		

Well ID: 1917620
Construction Date: 7/5/2005
Easting: 638736
Northing: 4896214
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 41.2
Well Diameter (cm):
Water First Found: 41.0
Static Level: 0.47
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 37
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.50
	SAND		
2	CLAY	3.50	29.57
	CLAY		
3	SAND	29.57	34.14
	SAND		
4	LIMESTONE	34.14	41.15
	LIMESTONE		

Well ID: 1917621
Construction Date: 7/5/2005

Easting: 638696
Northing: 4896195

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 41.8
Well Diameter (cm): 15.87
Water First Found: 41.0
Static Level: 2.70

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 37
Recommended Pump Rate: 26
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	5.19
	SAND		
2	CLAY	5.19	29.57
	CLAY		
3	GRAVEL	29.57	36.58
	GRAVEL		
4	GRAVEL	36.58	38.40
	GRAVEL		
5	LIMESTONE	38.40	41.76
	LIMESTONE		

Well ID: 1917622
Construction Date: 7/5/2005

Easting: 638686
Northing: 4896193

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 42.1
Well Diameter (cm):
Water First Found: 42.0
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	4.58
	CLAY		
	CLAY		
2	CLAY	4.58	32.00
	CLAY		
	CLAY		
3	GRAVEL	32.00	36.57
	GRAVEL		
	GRAVEL		
4	CLAY	36.57	39.01
	CLAY		
	CLAY		
5	LIMESTONE	39.01	42.06
	LIMESTONE		
	LIMESTONE		

Well ID: 4602376
Construction Date: 7/12/1961

Easting: 638746
Northing: 4895147

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 6.1
Well Diameter (cm): 76.20
Water First Found: 3.0
Static Level: 1.52

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 9
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.05
2	STONES	3.05	6.10

Well ID: 4602379
Construction Date: 7/13/1967

Easting: 638512
Northing: 4895546

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 7.0
Well Diameter (cm): 76.20
Water First Found: 5.5
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 9
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.49
3	GRAVEL	5.49	7.01

Well ID: 4602380
Construction Date: 2/9/1968

Easting: 638467
Northing: 4895551

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 6.4
Well Diameter (cm): 76.20
Water First Found: 5.5
Static Level: 0.91

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 5
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.18
3	GRAVEL	5.18	6.40

Well ID: 4602397
Construction Date: 10/27/1961

Easting: 638804
Northing: 4895534

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 9.1
Well Diameter (cm): 86.36
Water First Found: 7.3
Static Level: 3.96

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 18
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	5.49
3	HARDPAN	5.49	7.01
4	CLAY	7.01	9.14

Well ID: 4602398
Construction Date: 10/28/1963
Easting: 638996
Northing: 4895704
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 7.6
Well Diameter (cm): 76.20
Water First Found: 4.6
Static Level: 3.05
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Livestock
Pump Rate (LPM): 14
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	4.57
2	MEDIUM SAND	4.57	7.62

Well ID: 4602399
Construction Date: 12/6/1963
Easting: 638749
Northing: 4895610
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 11.6
Well Diameter (cm): 76.20
Water First Found: 7.9
Static Level: 7.01
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 27
Recommended Pump Rate: 23
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	4.57
2	CLAY	4.57	7.92
3	COARSE SAND	7.92	11.58

Well ID: 4602400
Construction Date: 3/9/1964
Easting: 638813
Northing: 4895403
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 4.6
Well Diameter (cm): 76.20
Water First Found: 2.4
Static Level: 1.83
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 14
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	2.44
2	GRAVEL	2.44	4.57

Well ID: 4602401
Construction Date: 7/16/1964
Easting: 638803
Northing: 4895454
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 9.1
Well Diameter (cm): 86.36
Water First Found: 6.7
Static Level: 3.66
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 14
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	3.66
3	CLAY	3.66	6.71
4	GRAVEL	6.71	9.14

Well ID: 4602402
Construction Date: 2/15/1960
Easting: 638901
Northing: 4895810
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 8.5
Well Diameter (cm): 91.44
Water First Found: 8.5
Static Level: 1.83
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Public
Pump Rate (LPM): 18
Recommended Pump Rate: 18
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:

1	CLAY	0.00	8.53

Well ID: 4602403
Construction Date: 1/29/1962
Easting: 638805
Northing: 4895775
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 15.2
Well Diameter (cm): 15.24
Water First Found: 15.2
Static Level: 1.83
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Public
Pump Rate (LPM): 23
Recommended Pump Rate: 23
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	PREVIOUSLY DUG	0.00	9.14
2	CLAY	9.14	15.24

Well ID: 4603788
Construction Date: 9/26/1968
Easting: 638465
Northing: 4896073
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 9.8
Well Diameter (cm): 76.20
Water First Found: 9.1
Static Level: 3.05
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.49
3	CLAY	5.49	9.14
4	MEDIUM SAND	9.14	9.75

Well ID: 4603790
Construction Date: 1/30/1969
Easting: 639015
Northing: 4895903
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 12.2
Well Diameter (cm): 76.20
Water First Found: 11.3
Static Level: 2.44
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	5.18
3	CLAY	5.18	10.97
4	GRAVEL	10.97	12.19

Well ID: 4603792
Construction Date: 1/30/1969
Easting: 638465
Northing: 4895573
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 5.8
Well Diameter (cm): 76.20
Water First Found: 5.2
Static Level: 1.52
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM):
Recommended Pump Rate: 5
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	4.88
3	MEDIUM SAND	4.88	5.79

Well ID: 4603807
Construction Date: 12/30/1968

Easting: 638715
Northing: 4895593

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 6.4
Well Diameter (cm): 76.20
Water First Found: 2.4
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 23
Recommended Pump Rate: 23
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	MEDIUM SAND	0.30	2.44
3	COARSE SAND	2.44	4.57
4	CLAY	4.57	6.40

Well ID: 4603827
Construction Date: 2/3/1969

Easting: 638665
Northing: 4895443

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 5.2
Well Diameter (cm): 76.20
Water First Found: 3.7
Static Level: 1.83

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 9
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	2.44
3	MEDIUM SAND	2.44	5.18

Well ID: 4604169
Construction Date: 10/6/1969

Easting: 638415
Northing: 4896143

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 7.6
Well Diameter (cm): 76.20
Water First Found: 7.0
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.18
3	CLAY	5.18	7.01
4	MEDIUM SAND	7.01	7.62

Well ID: 4604171
Construction Date: 10/6/1969

Easting: 638765
Northing: 4895423

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 7.9
Well Diameter (cm): 76.20
Water First Found: 6.7
Static Level: 3.66

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.18
3	CLAY	5.18	7.92

Well ID: 4604172
Construction Date: 10/6/1969

Easting: 638465
Northing: 4896293

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 11.6
Well Diameter (cm): 76.20
Water First Found: 10.7
Static Level: 4.27

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	6.40
3	CLAY	6.40	10.67
4	COARSE SAND	10.67	11.58

Well ID: 4604173
Construction Date: 10/6/1969

Easting: 638465
Northing: 4896323

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 14.0
Well Diameter (cm): 76.20
Water First Found: 13.4
Static Level: 4.88

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	7.62
3	CLAY	7.62	13.11
4	COARSE SAND	13.11	14.02

Well ID: 4604178
Construction Date: 10/15/1969

Easting: 638885
Northing: 4895023

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 42.7
Well Diameter (cm): 12.70
Water First Found: 42.7
Static Level: 7.01

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 36
Recommended Pump Rate: 27
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	7.01
2	QUICKSAND	7.01	10.67
3	CLAY	10.67	22.86
4	SILT	22.86	23.47
5	CLAY	23.47	41.15
6	MEDIUM SAND	41.15	42.67

Well ID: 4604350
Construction Date: 2/10/1970

Easting: 638465
Northing: 4895873

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 6.1
Well Diameter (cm): 76.20
Water First Found: 5.8
Static Level: 3.35

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 5
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.79
3	MEDIUM SAND	5.79	6.10

Well ID: 4604351
Construction Date: 2/13/1970

Easting: 638745
Northing: 4895573

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 10.7
Well Diameter (cm): 76.20
Water First Found: 9.1
Static Level: 3.35

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 5
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	9.14
3	MEDIUM SAND	9.14	10.67

Well ID: 4604606
Construction Date: 1/20/1971

Easting: 638725
Northing: 4895573

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 19.8
Well Diameter (cm): 15.24
Water First Found: 18.6
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 18
Recommended Pump Rate: 18
Pumping Duration (h:m): 6 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	PREVIOUSLY DUG	0.00	4.88
2	CLAY	4.88	7.92
3	SILT	7.92	9.75
4	CLAY	9.75	18.59
5	GRAVEL	18.59	19.81

Well ID: 4604740
Construction Date: 6/4/1971

Easting: 638665
Northing: 4895458

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 27.7
Well Diameter (cm): 15.24
Water First Found: 25.0
Static Level: -0.61

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 114
Recommended Pump Rate: 18
Pumping Duration (h:m): 1 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	0.91
2	TOPSOIL	0.91	1.22
3	MEDIUM SAND	1.22	2.44
4	CLAY	2.44	17.07
5	SILT	17.07	17.98
6	CLAY	17.98	21.95
7	CLAY	21.95	24.99
8	GRAVEL	24.99	27.74

Well ID: 4604810
Construction Date: 7/27/1970

Easting: 638625
Northing: 4895523

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 10.7
Well Diameter (cm): 86.36
Water First Found: 5.5
Static Level: 4.57

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	2.13

2	CLAY	2.13	10.67

Well ID: 4604811
Construction Date: 7/27/1970

Easting: 638775
Northing: 4895773

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 5.8
Well Diameter (cm): 86.36
Water First Found:
Static Level: 2.44

Water Kind
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 14
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	5.49
3	CLAY	5.49	5.79

Well ID: 4604957
Construction Date: 1/4/1972

Easting: 638465
Northing: 4895923

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 35.7
Well Diameter (cm): 10.16
Water First Found: 35.7
Static Level: 2.13

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 36
Recommended Pump Rate: 27
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	9.14
2	MEDIUM SAND	9.14	10.36
3	CLAY	10.36	33.53
4	MEDIUM SAND	33.53	35.66

Well ID: 4605037
Construction Date: 2/8/1972

Easting: 638920
Northing: 4894898

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 7.6
Well Diameter (cm): 76.20
Water First Found: 6.7
Static Level: 4.57

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 9
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	6.71
3	COARSE SAND	6.71	7.62

Well ID: 4605263
Construction Date: 12/20/1972

Easting: 638525
Northing: 4895783

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.9
Well Diameter (cm): 12.70
Water First Found: 29.6
Static Level: 0.30

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 27
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.66
2	CLAY	3.66	9.14
3	SILT	9.14	10.97
4	CLAY	10.97	18.90
5	CLAY	18.90	24.38
6	GRAVEL	24.38	29.87

Well ID: 4605339
Construction Date: 1/16/1973

Easting: 638785
Northing: 4895783

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 19.2
Well Diameter (cm): 12.70
Water First Found: 19.2
Static Level: -1.52

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Public

Pump Rate (LPM): 32
Recommended Pump Rate: 32
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	GRAVEL	0.00	1.22
2	SAND	1.22	2.44
3	CLAY	2.44	14.63
4	GRAVEL	14.63	19.20

Well ID: 4605427
Construction Date: 5/9/1973

Easting: 638710
Northing: 4895654

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 28.0
Well Diameter (cm): 12.70
Water First Found: 28.0
Static Level: -2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 27
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	0.91
2	CLAY	0.91	18.90
3	GRAVEL	18.90	26.21
4	GRAVEL	26.21	28.04

Well ID: 4605531
Construction Date: 9/5/1973

Easting: 638686
Northing: 4895653

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 34.4
Well Diameter (cm): 12.70
Water First Found: 34.4
Static Level: 5.49

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 36
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	31.09
3	SAND	31.09	34.44

Well ID: 4605533
Construction Date: 9/5/1973

Easting: 638806
Northing: 4895159

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 34.4
Well Diameter (cm): 12.70
Water First Found: 34.4
Static Level: 6.10

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 32
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	31.39
3	SAND	31.39	34.44

Well ID: 4605903
Construction Date: 7/4/1974

Easting: 638496
Northing: 4895417

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 26.2
Well Diameter (cm): 12.70
Water First Found: 26.2
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 27
Pumping Duration (h:m): 2 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49
2	CLAY	5.49	14.02
3	CLAY	14.02	23.47
4	SAND	23.47	26.21

Well ID: 4606038
Construction Date: 12/9/1974

Easting: 639815
Northing: 4896148

UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 31.7
Well Diameter (cm): 15.24
Water First Found: 30.5
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 136
Recommended Pump Rate: 68
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	9.14
2	CLAY	9.14	28.96
3	FINE SAND	28.96	30.48
4	GRAVEL	30.48	31.70

Well ID: 4606047
Construction Date: 12/18/1974

Easting: 638613
Northing: 4895790

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 24.1
Well Diameter (cm): 15.24
Water First Found: 22.3
Static Level: 1.83

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 23
Recommended Pump Rate: 23
Pumping Duration (h:m): 4 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	0.61
2	CLAY	0.61	3.05
3	CLAY	3.05	5.18
4	GRAVEL	5.18	10.06
5	CLAY	10.06	16.76
6	GRAVEL	16.76	18.90
7	CLAY	18.90	22.25
8	GRAVEL	22.25	24.08

Well ID: 4606101
Construction Date: 1/13/1975

Easting: 638522
Northing: 4895431

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 28.4
Well Diameter (cm): 17.78
Water First Found: 18.6
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 36
Recommended Pump Rate: 36
Pumping Duration (h:m): 3 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.49

2	CLAY	5.49	9.14
3	CLAY	9.14	15.54
4	SAND	15.54	26.21
5	GRAVEL	26.21	27.43
6	SAND	27.43	28.35

Well ID: 4606356
Construction Date: 12/9/1975
Easting: 638615
Northing: 4895573
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 12.2
Well Diameter (cm): 12.70
Water First Found: 11.0
Static Level: 1.22
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 14
Recommended Pump Rate: 14
Pumping Duration (h:m): 6 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	1.22
2	CLAY	1.22	3.66
3	STONES	3.66	10.97
4	GRAVEL	10.97	12.19

Well ID: 4606369
Construction Date: 12/9/1975
Easting: 638665
Northing: 4895623
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 23.8
Well Diameter (cm): 15.24
Water First Found: 23.2
Static Level: 0.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 91
Recommended Pump Rate: 91
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	2.13
3	CLAY	2.13	9.14
4	CLAY	9.14	13.72
5	GRAVEL	13.72	23.16
6	GRAVEL	23.16	23.77

Well ID: 4606585
Construction Date: 9/1/1976
Easting: 638825
Northing: 4895653
UTM Zone 17
Positional Accuracy: margin of error : 100 m - 300 m

Well Depth: 21.3
Well Diameter (cm): 15.24
Water First Found: 20.7
Static Level: 0.00
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 114
Recommended Pump Rate: 91
Pumping Duration (h:m): 2 : 30

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.61
2	CLAY	0.61	7.01
3	CLAY	7.01	20.73
4	COARSE SAND	20.73	21.34

Well ID: 7134449
Construction Date: 11/19/2009

Easting: 638570
Northing: 4895273

UTM Zone 17
Positional Accuracy: margin of error : 10 - 30 m

Well Depth: 23.8
Well Diameter (cm): 15.88
Water First Found: 23.8
Static Level: 2.44

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.05
2	CLAY	3.05	5.18
3	SAND	5.18	12.19
4	CLAY	12.19	19.81
5	SAND	19.81	23.77

Well ID: 7145512
Construction Date: 5/28/2010

Easting: 638760
Northing: 4895356

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 1.8
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:
1		0.00	1.83

Well ID: 7167879
Construction Date: 8/30/2011

Easting: 638591
Northing: 4896134

UTM Zone 17
Positional Accuracy: margin of error : 10 - 30 m

Well Depth: 48.8
Well Diameter (cm): 15.24
Water First Found: 45.4
Static Level: 5.18

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 27
Recommended Pump Rate: 18
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	5.18
	CLAY		
2	CLAY	5.18	11.28
	CLAY		
3	CLAY	11.28	17.68
	CLAY		
4	CLAY	17.68	24.99
	CLAY		
5	GRAVEL	24.99	25.60
	GRAVEL		
6	CLAY	25.60	29.87
	CLAY		
7	CLAY	29.87	41.15
	CLAY		
8	STONES	41.15	45.42
	STONES		
9	LIMESTONE	45.42	48.77

9	LIMESTONE	45.42	48.77

Well ID: 7180199
Construction Date: 5/1/2012
Easting: 638439
Northing: 4895571
UTM Zone 17
Positional Accuracy: margin of error : 300 m - 1 km

Well Depth: 52.1
Well Diameter (cm): 15.88
Water First Found: 51.8
Static Level: 2.74
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 68
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	1.83
2	CLAY	1.83	4.57
3	GRAVEL	4.57	6.10
4	CLAY	6.10	9.14
5	CLAY	9.14	41.15
6	SAND	41.15	43.59
7	CLAY	43.59	51.82
8	GRAVEL	51.82	52.12

Well ID: 7182006
Construction Date: 6/4/2012
Easting: 638852
Northing: 4895544
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 31.1
Well Diameter (cm): 15.88
Water First Found: 31.1
Static Level: 8.36
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 32
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	CLAY	0.30	8.53
3	CLAY	8.53	24.69
4	SAND	24.69	29.87
5	COARSE SAND	29.87	31.09

Well ID: 7182007
Construction Date: 6/4/2012
Easting: 638945
Northing: 4895569
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 24.7
Well Diameter (cm): 15.88
Water First Found: 24.7
Static Level: 6.71
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 18
Recommended Pump Rate: 18
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.15
2	CLAY	0.15	6.40
3	CLAY	6.40	22.86
4	SAND	22.86	23.47
5	SAND	23.47	24.69

Well ID: 7182008
Construction Date: 6/4/2012
Easting: 638880
Northing: 4895648
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.0
Well Diameter (cm): 15.88
Water First Found: 29.0
Static Level: 4.93
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 455
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
2	SAND	0.30	3.66
3	CLAY	3.66	9.75
4	CLAY	9.75	21.03
5	CLAY	21.03	27.13
6	SAND	27.13	28.96

Well ID: 7184454
Construction Date: 7/24/2012
Easting: 638945
Northing: 4895569
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.6
Well Diameter (cm): 15.88
Water First Found: 29.6
Static Level: 7.01
Water Kind Untested
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 32
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	29.57

Well ID: 7193240
Construction Date: 12/11/2012
Easting: 638735
Northing: 4895607
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:
Water Kind
Final Status Abandoned-Ot
Primary Water Use:
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7199424
Construction Date: 3/27/2013
Easting: 638648
Northing: 4895551
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 23.8
Well Diameter (cm): 15.88
Water First Found: 23.8
Static Level: 0.91
Water Kind
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 45
Recommended Pump Rate: 27
Pumping Duration (h:m): 2 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	9.14
2	CLAY	9.14	21.64
3	SAND	21.64	23.77

Well ID: 7199429
Construction Date: 3/27/2013
Easting: 638564
Northing: 4895840
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 12.70
Water First Found:
Static Level:
Water Kind
Final Status Other Status
Primary Water Use:
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7199585
Construction Date: 3/28/2013

Easting: 639753
Northing: 4895437

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 21.3
Well Diameter (cm): 15.24
Water First Found: 21.3
Static Level: 1.37

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate:
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	4.57
	CLAY		
2	FINE SAND	4.57	7.62
	FINE SAND		
3	CLAY	7.62	8.53
	CLAY		
4	FINE SAND	8.53	13.72
	FINE SAND		
5	CLAY	13.72	16.76
	CLAY		
6	SAND	16.76	21.34
	SAND		

Well ID: 7201132
Construction Date: 5/2/2013

Easting: 638648
Northing: 4895551

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 15.88
Water First Found: 26.2
Static Level:

Water Kind
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7206974
Construction Date: 8/27/2013

Easting: 638782
Northing: 4895525

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 23.5
Well Diameter (cm): 20.95
Water First Found: 22.0
Static Level:

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Municipal

Pump Rate (LPM): 36
Recommended Pump Rate: 32
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.30
	TOPSOIL		
2	CLAY	0.30	4.88
	CLAY		
3	CLAY	4.88	7.92
	CLAY		
4	CLAY	7.92	15.85
	CLAY		
5	GRAVEL	15.85	19.20

5	GRAVEL	15.85	19.20
6	GRAVEL	19.20	22.86
	GRAVEL		
7	CLAY	22.86	23.47
	CLAY		

Well ID: 7206976
Construction Date: 8/27/2013

Easting: 638794
Northing: 4895749

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 13.97
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7209756
Construction Date: 10/15/2013

Easting: 638610
Northing: 4895618

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 91.44
Water First Found:
Static Level: 1.22

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7227594
Construction Date: 9/18/2014

Easting: 638556
Northing: 4896144

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7227602
Construction Date: 9/18/2014

Easting: 638648
Northing: 4896133

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7227603
Construction Date: 9/18/2014

Easting: 638585
Northing: 4896154

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7231885
Construction Date: 11/17/2014

Easting: 638454
Northing: 4895592

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 26.8
Well Diameter (cm): 15.88
Water First Found: 26.8
Static Level: 3.05

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 273
Recommended Pump Rate: 45
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	7.32
2	CLAY	7.32	17.98
3	CLAY	17.98	24.38
4	SAND	24.38	25.30
5	GRAVEL	25.30	26.82

Well ID: 7235971
Construction Date: 1/20/2015

Easting: 638473
Northing: 4895575

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7236751
Construction Date: 1/30/2015

Easting: 638641
Northing: 4896177

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 38.7
Well Diameter (cm): 15.20
Water First Found: 37.0
Static Level: 3.79

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 32
Recommended Pump Rate: 32
Pumping Duration (h:m): 3 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	8.50
	CLAY		
2	CLAY	8.50	21.30
	CLAY		
3	CLAY	21.30	35.30
	CLAY		
4	GRAVEL	35.30	38.70
	GRAVEL		

Well ID: 7236752
Construction Date: 1/30/2015

Easting: 638612
Northing: 4896164

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 15.20
Water First Found: 40.4
Static Level: 6.45

Water Kind
Final Status Abandoned-Su
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7261530
Construction Date: 4/18/2016
Easting: 638746
Northing: 4895426
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:
Water Kind
Final Status Abandoned-Ot
Primary Water Use: Not Used
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7261531
Construction Date: 4/18/2016
Easting: 638732
Northing: 4895412
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:
Water Kind
Final Status Abandoned-Ot
Primary Water Use: Not Used
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7263030
Construction Date: 5/18/2016
Easting: 638870
Northing: 4895534
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm): 5.08
Water First Found: 2.4
Static Level:
Water Kind
Final Status Monitoring an
Primary Water Use: Test Hole
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7263031
Construction Date: 5/18/2016
Easting: 638803
Northing: 4895624
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm): 5.08
Water First Found: 0.9
Static Level:
Water Kind
Final Status Monitoring an
Primary Water Use: Test Hole
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7263032
Construction Date: 5/18/2016
Easting: 638869
Northing: 4895601
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm): 5.08
Water First Found: 2.4
Static Level:
Water Kind
Final Status Monitoring an
Primary Water Use: Test Hole
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7272287
Construction Date: 9/26/2016
Easting: 638927
Northing: 4894856
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m
Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:
Water Kind
Final Status Abandoned-Ot
Primary Water Use:
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):
Layer: **Driller's Description:** **Top:** **Bottom:**

Well ID: 7276748
Construction Date: 12/12/2016

Easting: 638718
Northing: 4895660

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm):
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m):

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7293855
Construction Date: 8/30/2017

Easting: 638720
Northing: 4895666

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 91.44
Water First Found:
Static Level: 1.83

Water Kind
Final Status Abandoned-Su
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7314185
Construction Date: 7/6/2018

Easting: 639030
Northing: 4895426

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 21.0
Well Diameter (cm): 15.24
Water First Found: 21.0
Static Level: 8.00

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 10
Recommended Pump Rate: 20
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	1.83
2	CLAY	1.83	15.24
3	SAND	15.24	21.03

Well ID: 7314190
Construction Date: 7/6/2018

Easting: 638975
Northing: 4895482

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 29.6
Well Diameter (cm): 15.24
Water First Found: 29.6
Static Level: 6.15

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 55
Recommended Pump Rate: 91
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	7.62
2	CLAY	7.62	25.91
3	SAND	25.91	29.57

Well ID: 7314191
Construction Date: 7/6/2018

Easting: 638958
Northing: 4895261

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 23.2
Well Diameter (cm): 15.24
Water First Found: 23.2
Static Level: 1.07

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 45
Recommended Pump Rate: 91
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.05
2	CLAY	3.05	13.72

3	SAND	13.72	23.16

Well ID: 7367755
Construction Date: 9/14/2020
Easting: 638455
Northing: 4895913
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 33.2
Well Diameter (cm): 13.97
Water First Found: 33.2
Static Level: 4.57
Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic
Pump Rate (LPM): 68
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1		0.00	0.91
2	SAND	0.91	5.18
	SAND		
3	CLAY	5.18	30.78
	CLAY		
4	GRAVEL	30.78	33.22
	GRAVEL		

Well ID: 7375713
Construction Date: 12/8/2020
Easting: 638645
Northing: 4895706
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 3.8
Well Diameter (cm): 5.00
Water First Found: 1.8
Static Level:
Water Kind Untested
Final Status Observation W
Primary Water Use: Monitoring
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.80

Well ID: 7375714
Construction Date: 12/8/2020
Easting: 638631
Northing: 4895702
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 3.8
Well Diameter (cm): 5.00
Water First Found: 1.8
Static Level:
Water Kind Untested
Final Status Observation W
Primary Water Use: Monitoring
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.80

Well ID: 7375715
Construction Date: 12/8/2020
Easting: 638619
Northing: 4895727
UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 3.8
Well Diameter (cm): 5.00
Water First Found: 1.8
Static Level:
Water Kind Untested
Final Status Observation W
Primary Water Use: Monitoring
Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.80

Well ID: 7375716
Construction Date: 12/8/2020

Easting: 638650
Northing: 4895713

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 3.8
Well Diameter (cm): 5.00
Water First Found: 1.8
Static Level:

Water Kind Untested
Final Status Observation W
Primary Water Use: Monitoring

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	3.80

Well ID: 7389338
Construction Date: 6/16/2021

Easting: 638426
Northing: 4896313

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 35.7
Well Diameter (cm): 15.88
Water First Found: 35.7
Static Level: 12.19

Water Kind FRESH
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM):
Recommended Pump Rate: 36
Pumping Duration (h:m): 1 :

Layer:	Driller's Description:	Top:	Bottom:
1	SAND	0.00	7.62
2	SAND	7.62	15.85
3	CLAY	15.85	29.87
4	CLAY	29.87	35.05
5	GRAVEL	35.05	35.66

Well ID: 7389489
Construction Date: 6/16/2021

Easting: 638427
Northing: 4896297

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth:
Well Diameter (cm): 15.24
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Su
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:

Well ID: 7390947
Construction Date: 6/29/2021

Easting: 638551
Northing: 4896063

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 52.4
Well Diameter (cm): 15.24
Water First Found:
Static Level:

Water Kind
Final Status Abandoned-Ot
Primary Water Use:

Pump Rate (LPM):
Recommended Pump Rate:
Pumping Duration (h:m): :

Layer:	Driller's Description:	Top:	Bottom:
1	CLAY	0.00	3.66
2	FINE SAND	3.66	7.32
3	CLAY	7.32	12.80
4	SILT	12.80	16.76
5	CLAY	16.76	46.33
6	LIMESTONE	46.33	52.43

Well ID: 7394265
Construction Date: 8/6/2021

Easting: 638591
Northing: 4896084

UTM Zone 17
Positional Accuracy: margin of error : 30 m - 100 m

Well Depth: 12.2
Well Diameter (cm): 15.24
Water First Found: 10.4
Static Level: 1.16

Water Kind Untested
Final Status Water Supply
Primary Water Use: Domestic

Pump Rate (LPM): 27
Recommended Pump Rate: 23
Pumping Duration (h:m): 1 : 0

Layer:	Driller's Description:	Top:	Bottom:
1	TOPSOIL	0.00	0.91
2	ROCK	0.91	6.71
3	CLAY	6.71	10.36
4	SAND	10.36	12.19

Appendix H

Conceptual Site Layout

HYDROGEOLOGICAL ASSESSMENT

CHINA CANADA JING XIN MIN INTL
309 Zephyr Road
Zephyr, Ontario

LEGEND

- Existing Well
- Potential Well Location
- 15m Well Setback
- 600 m² Area as per Region of Durham Lot Sizing Policy
- 750 m² Area as per Region of Durham Lot Sizing Policy
- Potential Structure
- 5m Structure Setback
- Lot Boundary
- 3m Lot Setback

Notes:
- This document contains information licensed under the Open Government License - Ontario.
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.

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APPENDIX H
CONCEPTUAL LAYOUT

Project No.:	Date:
18619-003	June 2025
Scale: 1:2,500	Projection: NAD 1983 UTM Zone 17N
Created by: TLC	Checked by: CM
Figure: H	

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